DEVELOPMENT AND VALIDATION OF A SCHOOL-BASED MENTAL HEALTH EDUCATION PROGRAMME FOR IN-SCHOOL ADOLESCENTS IN LAGOS, NIGERIA

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A thesis submitted to the Faculty of Health Sciences, University of the Witwatersrand, in fulfilment of the requirements for the degree

of

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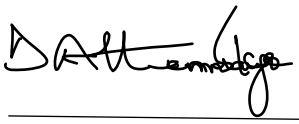
DECLARATION

I, Atinuke Oluwatoyosi Olowe, declare that this thesis is my own, unaided work. It is being submitted for the Degree of Doctor of Philosophy at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at any other university.



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This 27th day of July 2023

Committee for Research on Human Ethics (CRHS) number: M190802

DEDICATION

I dedicate this thesis to the Almighty God who kept me alive; to my beloved husband, Akintola Emmanuel Olowe and to our sons Aanuoluwatomilowo and Ireoluwatomilowo Olowe. Your support throughout the journey was second to none.

ABSTRACT

An increasing prevalence of mental health challenges among adolescents, with its onset identified in early/mid-adolescence, has called for global concern. Mental health disorders account for most of the leading causes of adolescent disease burden. Its impact, as measured by the financial cost and the overall risks on adolescents, families, and the community, cannot be overemphasized, especially among Low Middle-Income Countries like Nigeria.

The study aimed to determine adolescents' knowledge, attitude, and mental health status and explore stakeholders' perspectives as well as documented literature on school-based mental health programmes. Then, use the information to develop and validate a school-based mental health education programme for adolescents in the school setting.

A sequential, multi-method study design involving six objectives, all in three phases, was employed in this study. Phase one entailed baseline data identification involving a quantitative survey to determine the knowledge, attitude, and mental health status of in-school adolescents, qualitative exploration of stakeholders' perspectives through in-depth interviews and a scoping review to determine international literature on school-based mental health education programme. In phase two, the findings from phase one were merged to create overlapping themes. These themes identified domains from which the school-based mental health education programme was developed. In the third phase, a group of experts validated the programme's content for relevance and clarity through two rounds of Delphi. A pool of 50 items under six domains was generated for the second round of the school-based mental health education programme after the content validity was carried out.

Evidence from the scoping review revealed that a theoretical framework is optional in developing a school-based mental health education programme. Also, most programmes reviewed used the universal level of intervention for comprehensive coverage. Although not all mental health programmes were part of the school curriculum, break time and after-school hours were used by some facilitators in delivering mental health education programmes. In determining the knowledge, attitude, and mental health status of in-school adolescents in Nigeria, the findings showed that only a quarter of the in-school adolescents had high knowledge of mental health. The age of in-school adolescents ($p=0.005$) and their class ($p<0.001$) were the socio-demographic information significantly associated with the attitude of in-school adolescents. Five themes and

fifteen subthemes emerged from the in-depth interviews that explored stakeholders' perspectives. Overlapping themes from the scoping review, data sources from the quantitative survey, and qualitative interviews generated the domains for the designed school-based mental health education programme for adolescents. The school-based education programme was subjected to validation by a group of experts to ensure the relevance and clarity of the items in the programme. The overall scale level content validity index (S-CVI) for the second round of Delphi was 0.90.

The school-based mental health education is designed based on evidence, with good content validity as regards relevance and clarity. Hence, the programme can improve adolescents' knowledge and attitude towards mental health.

Keywords: Adolescents, School-based, Mental Health, Education Programme, Development, and Validation.

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LIST OF ABBREVIATIONS

ADHD	Attention Deficit Hyperactivity Disorder
APA	American Psychological Association
CD	Conduct Disorder
CI	Confidence Interval
CDRS-R	Children's Depression Rating Scale - Revised
CINAHL	Cumulative Index to Nursing and Allied Health
CSV	Comma Separated Value
ESPS	Ersae Stress Prosocial
iHEART	Innate Health Education and Resilience Training
IQ	Intelligence Quotient
LMICs	Low middle income countries
LSE	Life Skill Education
MeSH	Medical Subject Headings
ODD	Oppositional Defiant Disorder
PRISMA	Prevention and Recovery Information System for Monitoring and Analysis
PRP	Penn Resilience Programme
PSTD	Post Traumatic Stress Disorder
RCT	Randomized Controlled Trial
RIS	Research Information Systems
RSES	Rosenberg Scale of Self-Esteem
SDQ	Strength and Difficulties Questionnaire
SMHPP	School-based Mental Health Promotion Programme
UNICEF	United Nations Children's Fund
WHO	World Health Organization
YAM	Youth Aware Mental Health

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CHAPTER ONE

OVERVIEW OF THE STUDY

1.1 Background

Adolescence is an essential phase of development that every human being goes through. The phase encompasses development in all spheres of life – physically, socially, emotionally and intellectually (Dahill et al., 2021). Being able to manage all these areas of development provides a sense of purpose, personal identity and appropriate preparation for adulthood. At this pivotal period of life, physical, emotional, and social changes cause adolescents to struggle with their identity and render them vulnerable to mental health challenges. The ambience of the environment to keep adolescents safe from harm or injury is essential for their physical and mental well-being as they transit from childhood to adulthood. This covers the protective and supportive environment in the home, at school, and in the community at large.

Mental health can be defined as a state of optimal well-being that brings an individual to the known of one's abilities, survive the common stresses of existence, maintain cordial relationship with others and contribute meaningfully to the community where one lives (Schor, 2021). Mental health is at optimal level when adolescents realize their own abilities, can cope with stressful activities of daily living, can manage behavior and relationships well and can function efficiently within the community (Nobre et al., 2021). A deficit in achieving the roles and expectations of individuals to be able to function optimally, relate well with everyone in society and contribute productively within the system. results in mental health illnesses or disorders (Schor, 2021). In another words, mental health is believed not only to be the absence of mental illness but circumscribes happiness, life satisfaction, emotions, positive functioning, sense of purpose and self-acceptance (Lombardo et al., 2018).

Mental health disorders had been the leading cause of the world's disease burden over the years above cardiovascular diseases and cancer (Santomauro et al., 2021). The outbreak of COVID-19 has foregrounded most of the determinants of poor mental health, calling on an urgent need to fortify mental health systems worldwide. As it has been proven that war, natural disaster, and the prevalence of diseases around the world has its toll on the mental health of individuals, the

emergence of COVID-19 did not prove otherwise (Anjum et al., 2020). The global prevalence during COVID-19 pooled the estimate for depression, anxiety, and psychological distress to be 28%, 26.9% and 50% respectively thereby increasing the years lived with disability (Nochaiwong et al., 2021). Low income and middle-income countries (LMICs) particularly those without adequate mental health assessment services felt the brunt of the pandemic as evidenced by an increased incidence of psychological distress (Kola et al., 2021). Thus, shifting from a biomedical approach to the identification of social factors, individual thought and behaviour might go a long way in meeting the mental health needs of countries in this category.

One out of eight children have been diagnosed with mental health illness in high-income countries with the majority lacking access to mental health care (Barican et al., 2022).While in the LMICs, almost half of the population are children and adolescents with little or no resources to provide the needed mental health services needed (Simelane & De Vries, 2021; Xu et al., 2020). The ability to adapt to any form of stress is an important anchor to good health, socio-economic development, and psychosocial growth. Adolescence is a developmental period where individuals transit from childhood to adulthood laced with the onset of most mental health disorders in vulnerable adolescents (Carroll et al., 2021). Hence, it is imperative for adolescents to transit well in good physical and mental health to improve the quality of life of the present time, reduce the burden of mental diseases, and enhance a disease-free future (Carroll et al., 2021).

1.1.1 Adolescence and factors associated with mental health.

Adolescence is the second decade of life, where capabilities needed for smooth progression into adulthood are laid down (Dray et al., 2017). There are different age categories for adolescence. The three stages of adolescence include: early (10-12 years), middle (13-15 years), and late adolescence (16 years and above) (Whitbeck et al., 2008). Adolescents acknowledge the onset of behaviour that affects their health during this period, resulting in disorders that affect their future (Das et al., 2016). Individuals during this period are subjected to psychosocial change from relying on people to being independent, taking adult responsibilities, and other maturational changes (Fusar-Poli, 2019).

Adolescents walk the path of self-discovery, sharpening of identity and discovering how relationships in the social environment affect them bringing about the need to understand mental health (Pitchforth et al., 2019). According to Telzer et al., (2018), adolescence is characterized by

growth in peer relationships and increased complex socializing influences. These socializing influences include the rise of electronic media, social media use, and smartphones (O'Reilly, Dogra, et al., 2018). At this stage, mental health knowledge through education can be improved and promote access to mental health services.

Adolescents tend to grow rapidly, learning, adapting and developing in neurobiological and formational ways. Everyone passes through this stage, but the experiences are not the same. This developmental period entails a healthy transition from childhood to adulthood. However, being unable to cope well with the physical, social, mental and emotional changes puts adolescents at risk of mental health disorders (Borschmann & Patton, 2018). During this period, emotional challenges are common as adolescents pass through stressful situations (Dahl et al., 2018). These are the basic life skills needed to enhance psychosocial balance and acquire adaptive skills to life's challenges as they come. Remember that stressful life events are potent adverse environmental factors predisposing adolescents to mental disorders.

Other factors that could lead to mental health disorders are the determinants of mental health. The determinants had been identified to either positively or negatively impact adolescents' mental health. For instance, childhood experiences, poverty, parental mental health, race, ethnicity, and the role of family structure go a long way in influencing adolescents' mental health (Fitzsimons et al., 2017; Nguyen et al., 2018). In addition, family conflict, increased exposure to the internet and social media, the emergence of parenting styles that do not value obedience, and increased rates of single parenting have been established to cause a negative shift in adolescent mental health (Bor et al., 2014).

Late adolescence is marked by more psychological vulnerability because of the increased environmental changes like moving from home in search of higher learning or looking for work which never occurred in early and middle adolescence (Wang et al., 2017). The last years to be weaned off adolescence are laden with specific issues, such as critical changes in the brain and the stress associated with the transition into adulthood. This transition is often a developmental and situational transition for those receiving one form of mental service or another (Hill et al., 2019).

An imbalance evident between the rate of the vulnerability of adolescents and the mental health services available marked late adolescence with more challenges.

The social and economic changes, increased duration of depending on parents, delay in attaining autonomy, and the advent of social media are some factors that predispose adolescents to mental health disorders (Pitchforth et al., 2019). Adolescence is a developmental period where mental health disorders manifest because of exposure to alcohol, substance use, violence, and insecurity at home, in the family and community. Adolescents experience developmental changes from childhood to adulthood, pronounced emotional sensitivity and inconsistency (Eun et al., 2018). Further, adolescents encounter poor academic performance, ill social interactions, inability to gain employment, substance abuse and engaging in criminal activities when unable to sustain optimal mental health.

Family characteristics have been documented to be associated with adolescents' mental health. Self-reliance and closeness in a family where there are adolescents are associated with positive outcomes such as good self-esteem, good social interaction, and optimal productivity. The role of family socioeconomic status and family support cannot be over-emphasized (Nguyen et al., 2018). According to Eun et al., (2018), parental mental health, parenting practice and parent-child relationships are essential factors influencing the mental health of in-school adolescents. Parents who cannot deal appropriately with normal social relations tend to put psychological and physical stress on adolescents in the family. Adolescents can easily experience the psychological aftermath of a dysfunctional family depending on other factors such as age, gender, maturity, and the availability of a support system (Calhoun et al., 2019). High levels of family unity, certainty, and closeness foster optimal mental health and behavioural outcomes.

From another point of view, a family's socioeconomic position influences the development of adolescents' health inequalities. There are strata in socioeconomic status that have not given equal opportunities to adolescents to live healthy lives (Obimakinde et al., 2019). In addition, lower quality of life and loneliness have been related to poor mental health among adolescents. The advent of social media and the internet created a platform for more adolescents to be vulnerable in the sense of quick access to network sites that allow for social comparison (O’Reilly et al., 2019).

A higher prevalence of mental health disorders is associated with the family's low socioeconomic status in which parents' income, education and occupational levels are vital indices (Weinberg et al., 2019). Hence, adequate family and emotional support are needed during the transition from childhood to adulthood to attain optimal mental well-being.

1.1.2 Prevalence of mental health disorders among adolescents

Globally, mental health disorders are prevalent and can be long-lasting to adulthood (McGorry & Mei, 2018). Adolescents are more vulnerable to mental health challenges because of the physical, social, and emotional changes and exposure to traumatic situations (Chervonsky & Hunt, 2019; van Duin et al., 2019). The prevalence of mental health disorders has been increasing among adolescents, which greatly concerns the global community. The estimate of mental health disorders, the resources available to combat and the access to services vary across regions. Although the majority of the studies have similar demographic patterns and ranges of happenings, the most common disorders among the age group are anxiety, depression, behavioural problems and emotional problems.

The worldwide prevalence of mental health disorders for a pooled sample of children and adolescents below 18 years was estimated to range between 10%-20% (Chaulagain et al., 2019; Dray et al., 2017). According to Sashidharan et al., (2016), high-income countries construed mental health issues as limited to low-middle-income countries such as Nigeria. However, the health system's complexity created a recovery gap in the services to offer first.

Polanczyk et al., (2015) conducted a systematic review on the prevalence of mental health disorders among adolescents over thirty years across the globe. The result showed a prevalence rate of 13.4% around the world. Furthermore, anxiety disorder leads with 6.5%, followed by attention-deficit hyperactivity disorder with 3.4%. In another review, O'Reilly, Svirydzenka, et al., (2018), established an increase in the prevalence of mental health disorders in adolescents with the range of 10-20% globally. The overall prevalence of mental health disorders among adolescents in sub-Saharan Africa was 14.5% (Cortina et al., 2012). However, no difference was noted in the prevalence of both girls and boys, with values of 12.3% and 12.5%, respectively.

According to Yatham et al., (2018), the prevalence of depression and anxiety disorder is highly significant among adolescents. The result of the systematic analysis showed a high prevalence of depression and anxiety disorder of 26.6% in Uganda, 14.1% in South Africa, Kenya at 12.7% and Lebanon at 13.1% in. In Nigeria, a handful of studies have been carried out nationwide, pointing out an increase in the prevalence of mental health disorders among adolescents. A study conducted in Lagos documented an overall prevalence of 18.2% among adolescents (Atilola, et al., 2017). The prevalence rate of other mental health disorders also indicates that measures must be implemented to halt its rise. The prevalence of depression and anxiety disorders has been on a steady rise from 2007, 2017 and 2018, respectively, with these rates of 15%, 18.2%, and 16.3% (Adewuya et al., 2007; Atilola et al., 2017; Oderinde et al., 2018).

1.1.3 Knowledge and attitude of adolescents on mental health

Equipping in-school adolescents with first-hand information about mental health and the ability to seek help regarding mental health issues improves mental health outcomes (O'Reilly, Svirydzenka, et al., 2018). Mental health knowledge of adolescents is germane to an optimal level of mental health well-being. The knowledge focuses on maintaining positive mental well-being by developing competencies and positive help-seeking behaviour when there is any deviation from the normal way of life. As Coles et al., (2016) documented, good knowledge of mental health, mental disorders and stigma reduction goes a long way in ensuring optimal mental health well-being.

Further, the development of programs to improve mental health, which is known as mental health literacy, encompasses understanding and maintaining the concept of mental health, being able to recognize mental health disorders and treatments, reducing stigma and increasing help-seeking behaviours regarding mental health (Bjørnsen et al., 2019). Mental disorders are often not diagnosed because of poor knowledge of mental health and low level of help-seeking behaviour (Kutcher et al., 2016). Hence, for suitable preventive measures and early identification of symptoms suggestive of mental health disorders, intervention programmes targeting mental health literacy must be implemented to avert the complications associated with mental health disorders later in life (Bjørnsen et al., 2017).

A broader concept emerged known as mental health literacy. The concept entails more than knowing about mental health or disorders; it helps an individual prevent, detect early, apply practical self-help approaches to manage mental health disorders, and acquire first-aid prowess to assist others with mental health distress (Kutcher et al., 2016). Many adolescents hesitate to seek help from others, including professional personnel leading to the potential for more significant harm with grievous implications on mental health in adulthood. According to Kutcher et al., (2016), mental health literacy is comprised of four components, which include: understanding how to achieve and maintain good mental health, mental disorders and treatment, decreasing stigma associated with mental health disorders, alongside increase the effectiveness of help-seeking behaviour.

Describing or labelling adolescents with mental health challenges as worthy of disgrace or great disapproval discourages them from speaking out or seeking help (Oduguwa et al., 2017). Stigma causes damage and dispossession of confidence to speak up. The impact of mental health disorders among adolescents considering the financial cost, morbidity and mortality, cannot be over-emphasized (Lanfredi et al., 2019). Stigma and discrimination are barriers to seeking quality mental health care among in-school adolescents. Moreover, the stigma associated with mental health disorders is rooted in adolescents alone and almost everyone in society, making it difficult for adolescents to seek help (Coles et al., 2016). Hence, the need to increase the knowledge of adolescents on mental health is essential to enable adolescents to seek help at the needed time without the fear of being labelled (Bjørnsen et al., 2017).

Good knowledge of mental health is fundamental for mental health promotion, prevention, management, and reduction of stigma (Ojio et al., 2020). According to Oduguwa et al., (2017), labelling or passing derogatory remarks on individuals with mental health challenges starts from childhood. That is why social distance and negative attitude are metered to mentally challenged people. Adolescents with psychological challenges are not spared from this in their various schools. From Bella-Awusah et al., (2019), in-school adolescents intensely disliked addressing mental health in schools because of the ridicule, name-calling, and social distancing associated with mental health disorders. Being identified as potential agents of change, adolescents with the

appropriate knowledge and positive attitude can help reduce stigmatization among in-school students.

Further, interventions on mental literacy have shown positive outcomes and significant changes in the knowledge and attitude of in-school adolescents towards mental health (Bella-Awusah et al., 2019). Supported by Bowers et al., (2013), a lack of knowledge about mental health and the services available, along with stigma, impedes help-seeking behaviour among adolescents. However, the solution proffered is to build the knowledge of both in-school adolescents and teachers to reduce stigma and strengthen appropriate help-seeking efforts (Wei et al., 2015).

1.1.4 Mental health services, accessibility and unmet needs.

Recent evidence suggests that adolescents need mental health services based on the statistics that 25% of adolescents experience mental health disorders before fourteen years spreading across regions and clans (Bradford & Rickwood, 2014; O'Reilly, Adams, et al., 2018). Even high-income countries are not spared the increased prevalence of mental health disorders among adolescents (Sashidharan et al., 2016). There is an unmet need for mental health services due to the failure to recognize early symptoms of mental health challenges, the unavailability of services to help in early detection and prevention or adolescents not utilizing the available services because of stigma (Skokauskas et al., 2018). Most adolescents in need of mental health services do not receive them, with the highest rate of adolescents with unmet health needs among low-income families (Nguyen et al., 2018). The cost of treatment and the availability of both human and financial resources create a substantial fiscal burden on the global economy. This points to the need for vital early preventive interventions if poor mental health among adolescents is to be reduced drastically.

Factors identified resulting in imbalanced access to mental health services among in-school adolescents include family situation, socioeconomic level, and the availability of mental health professionals (Skokauskas et al., 2018). In developed countries, ethnicity and migration status are determinants for accessing mental health services. In addition, long waiting time for treatment is another factor to be considered when accessing mental health services, except for families that can afford private therapy.

1.2 Statement of the Problem

The literature shows that there is an increasing prevalence of mental health disorders among adolescents with fewer than half not receiving mental health care services (Banwell et al., 2021; Bohnenkamp et al., 2019; Khanal et al., 2021). Mental health disorders tend to begin in mid-late adolescence since living reality differs from who they think they should be resulting in various unhealthy mental health. Factors that contribute to the development of mental problems in this age group are associated with problems related to the transition from childhood to adulthood. In addition, factors related to childhood experiences, poverty, parental mental health, race, ethnicity, and the role of family structure had been observed to have either a positive or negative impact on in-school adolescents' mental health status. Also, availability, accessibility and affordability of mental health services play significant roles in the prevalence of mental disorders among adolescents.

According to the World Health Organization, (2022), adolescents have the right to information and services to help them survive, develop knowledge, and explore their full potential. However, not all adolescents have access to their right to good mental health. To address the gap, (O'Reilly, Svirydzenka, et al., 2018) assert that schools are positioned to be at the forefront of promoting positive mental health in adolescents through targeted mental health programmes. Several systematic reviews have shown that there is a paucity of school-based mental health programmes on the African continent since most programmes are developed and implemented in Europe and other developed countries (Sutan et al., 2018). Although there have been several attempts to develop school-based programmes for adolescents in Africa, these were not evidence-based and not in the field of mental health education. The gap in the available studies in Africa is that these focus on interventions to reduce risky sexual behavior among female adolescents in South Africa and to improve the mental health of orphaned female adolescents in Uganda (Carney et al., 2019; Kivumbi et al., 2019). Other studies focused on the effect of school support intervention on mental health among adolescents in Kenya and in South Africa (van de Water et al., 2018). All studies were mental health disease-oriented, and none focused on a comprehensive strategy on prevention and promotion of mental health.

In Nigeria there is a national school health policy, to guide the process of executing school health programme across the country. However, mental health issues are neither addressed in this policy

nor in a separate programme or policy (Ezeonu et al., 2022; Olabimpe et al., 2022). Few studies have been carried out in Nigeria on adolescent mental health amounting to a poor evidence base programmes for mental health promotion. None of these studies focused on school-based mental health education programme using the universal level of the mental health intervention. The only study carried out in Nigeria in this review adapted an intervention developed in the United Kingdom for the study (Bella-Awusah et al., 2016) targeting depressed in-school adolescents only. Hence, the need to develop and validate a school-based mental health programme with the view to scaling up in the school system in Nigeria. The following research questions were formulated in developing such a programme:

- What is the level of knowledge and attitude of in-school adolescents towards a mental health education programme?
- What is their mental health status as assessed using the Strength and Difficulties Questionnaire?
- What should be included in a mental health education programme from the perspective of stakeholders?
- What does the body of knowledge and evidence suggest about mental health education programmes globally?
- How do data sets contribute to designing a contextually relevant mental health education programme for in-school adolescents?
- Based on expert opinion, would the developed mental health programme be acceptable regarding content validity?

1.3 Study Purpose

The purpose of the study was to develop and validate an evidence-informed school-based mental health education programme for in-school adolescents in Lagos, Nigeria.

1.4 Study Objectives

To achieve this purpose and address the research questions, the study was conducted in three (3) phases. These include the baseline data identification phase, the programme development phase, and the programme validation phase.

Phase One: Baseline data identification phase

1. To determine the knowledge, attitude, and mental health status of in-school adolescents in Lagos, Nigeria.
2. To explore the perspectives of stakeholders regarding content for a school-based mental health education programme in Nigeria.
3. To conduct a scoping review on school-based mental health education programmes, globally.

Phase Two: Programme development phase

4. To identify the concepts for designing a mental health education programme through data triangulation.
5. To develop an evidence-informed programme for adolescents' mental health education in schools.

Phase Three: Programme validation phase

6. To determine the content validity of a school-based mental health education programme using the Delphi technique.

1.5 Significance of the Study

The novelty of this study is the development and validation of an evidenced-based mental health education programme for in-school adolescents in Nigeria, the first of its kind in the whole country. All the intervention studies on adolescent mental health carried out in Nigeria adapted existing programmes from the western countries. None was developed and validated within the context of the country.

Involving the stakeholders in the development of the programme by exploring their opinions, putting into consideration the cultural context of the environment will allow for the sustenance of the programme. From another point of view, this study has a high potential to improve in-school adolescents' access to quality mental health education and services, allowing for a healthy transition from childhood to adulthood. It is cheaper and easier to promote mental health rather than to spend limited resources on treatment and rehabilitation when the disorder has occurred.

Furthermore, the researcher will work in collaboration with the Ministries of Health and Education to sustain the school-based mental health programme specially tailored towards personal, social

and life skills of in-school adolescents. The school environment has been identified as the most appropriate medium for prevention and early identification of mental health disorders among in-school adolescents irrespective of their personal circumstances, family status or background in a protected and familiar environment. This promotes positive mental health, improves psychological well-being, academic excellence, efficient and productive connection with teachers and peers, and builds positive social and emotional capabilities.

The development of a school-based mental health education programme is aimed at promoting, maintaining or restoring psychological well-being among in-school adolescents. Adolescents being equipped with the needed skills and information needed to manage situations of life reduces the global burden of mental health disorders across all levels. When adolescents transit seamlessly from being childhood to an adulthood with no or less incidences of mental disorders; years of life lost to premature mortality relating to mental health challenges reduce, as well as years of life lost to the disability or in states of less than full health decline. The time spent in a healthy life automatically increases productivity and efficiency. The immediate effect can be seen in terms of good interaction with peers, good academic performance, good family relationships and the development of psychosocial skills. The long-term effect on having a healthy workforce for the nation and less financial spending on the treatment and rehabilitation of individuals with mental disorders can be evident.

1.6 Rationale of the Study

The reasons why the development of a school-based mental health education programme is needed include:

- The age of onset for close to 50% of all cases of mental health disorders is during the period of adolescence.
- The increase in the prevalence of mental health disorders among adolescents calls for a quick and practical solution.
- The impact of COVID-19 on the mental health of adolescents cannot not be disregarded.
- In Nigeria, though there is a written school health service policy with little or no focus on adolescent mental health. Moreover, the few school-based mental health education

research adapted programmes developed from the western countries. Hence, the need to develop a school-based mental health education programme for adolescents in Nigeria.

1.7 Theoretical Perspectives

Nursing theories reflect concepts, relationships and processes that contribute to the development of a body of knowledge (LoBiondo-Wood, 2014). A theory supplies the basis of the link between the ideas or elements that describes a concept, providing a guide to achieve the anticipated outcome of the study. The theoretical perspectives of this study focus on paradigmatic assumptions, meta-theoretical assumptions, theoretical assumptions and methodological assumptions.

1.7.1 Paradigmatic assumptions

The fundamental attributes of knowledge, and its state of existence show how the researcher's thoughts permeate the interpretation of information. Paradigm is a general view of the real world's complexities (Polit & Beck 2010). The view is believed to be true without proof or verification. From another point of view, Creswell (2012) stated that all thoughts, actions, and human behaviour are guided by a set of beliefs. The use of paradigms characterized by epistemological approach helps in conceptualization of phenomenon and building scientifically grounded body of knowledge (Weaver & Olson, 2006). Primarily, theory is generated as an outcome of a research study and as a research framework to expatiate the context for a study (LoBiondo-Wood, 2014). In the pursuit of knowledge, the researcher acknowledges that reality exist within the context and the voices of everyone participating in this study are important to understand the concept of mental health among in-school adolescents with an individualized approach.

1.7.2 Theoretical assumptions

The emphasis of the theoretical assumption for this study is that adolescence is a crucial period of development that serves as a foundation for a productive, healthy and fulfilling adulthood. The schools have been identified as one of the strongest interrelated systems of social roles, norms, organized around achieving basic social needs or function. Presupposing that schools are the most appropriate platform to promote mental health of in-school adolescents; Hendren et al., (1993); proposed an intervention Model for School Mental Health Programmes, outlined below.

Promotion of psychosocial competence: The potential of dealing constructively with the challenges of day-to-day activities and maintaining a state of mental health while interacting with others is germane to psychosocial competence. A strong association has been established between psychological well-being and adolescent social relationships (Gómez-López et al., 2022). A good understanding of emotions, being responsible and caring, exercising sound judgement, and the ability to make accurate decisions propel adolescents to optimal functionality. There is a need to establish a natural process to gain comprehensive knowledge on how to adjust positively to a life situation as it unfolds (O'Reilly, Adams, et al., 2018). According to Cavioni et al., (2020), a positive attitude towards self and others was recorded among adolescents who participated in social and emotional learning programmes.

Mental health education: Mental health education is essential to help adolescents acquire basic information on mental health and its associated disorders, including the need for adolescents to be empathetic with peers with mental health difficulties (Quinlan-Davidson et al., 2021). Mental health education entails both formal educational programmes and informal approaches to promote mental health among adolescents in their various schools. It requires teaching adolescents about mental health and ways to maintain positive mental health. Being aware of mental health also helps reduce stigma. Undesirable and widely believed negative view about mental health is common among adolescents (Choudhry et al., 2016). Mental literacy is a concept that focuses on acquiring knowledge and beliefs about mental health disorders, which encompass recognition, management, or prevention (Ng et al., 2021). Lack of knowledge on mental health among adolescents has placed restrictions and caused a tailback to early interventions provided (Lindow et al., 2020). It also affects their ability to seek help, make the right treatment decision, and adhere to the treatment regime.

Psychosocial interventions: According to Forsman et al., (2011), psychosocial interventions emphasize psychological themes, health education, or social elements such as social support rather than biological themes. From a literature search, most psychosocial interventions are disease-specific to meet specific needs across all age groups. It has been documented that for some mental health disorders, such as posttraumatic stress disorders, prolonged grief disorders, and depression, psychosocial interventions are more efficient compared to medications (Kounou et al., 2022). With an inadequate proportion of trained mental health providers evident in LMICs, relying on non-

medical personnel to deliver psychosocial interventions will worsen the impact of such inadequacies.

Professional treatment: An increased prevalence of mental health disorders among adolescents calls for measures to deal with it sensibly based on the evidence around us. It is evident that mental health personnel are inadequate, but there must be a way to attend to the needs of adolescents' intervention more than psychosocial intervention. Radez et al., (2021) state that less than two-thirds of adolescents with mental health disorders call for professional help. These authors further stated that a lack of knowledge of mental health problems, costs, waiting time, trust and confidence in the professionals were some barriers hindering adolescents from seeking professional treatment.

1.7.3 Meta-theoretical assumptions

Ideas or theories with conceptual elements that depend on one another though not based on empirical evidence is an important base to guide the research study. Meta-theory is a broad view that lay claims on the nature of reality (Allana & Clark, 2018). A meta-theory is a logical perspective that shows clear and sound reasoning of related assertions about the philosophical intent for undertaking a study (Castelló et al., 2021). The meta-theoretical assumptions that represent the intent of this study on the premise of the central concept of nursing include: the person, environment, health, and nursing as applicable to mental health nursing. Interaction among the four identified meta-theories is enhanced through health promotion interventions to achieve optimal health outcomes. Each meta-theory upholds the researcher's objective to explore adolescents' mental health with an individualized approach considering the period of adolescence a major life transition time.

The period of adolescence is challenging and critical, hence health promoting behavior should be at its best to enhance smooth transition in the body, soul, and spirit. According to McEwen and Wills (2019), health promotion interventions are essential for improving the health of everyone, across all ages that can benefit from health promotion care. The health promotion model is essential to explore the biopsychosocial processes that motivate individuals to embrace activities that improve the quality of health.

1.7.3.1 Person

A person is viewed holistically as a biopsychosocial organism (Pender, 2011). From other theorists, a person can be seen as a being growing in the dynamics of the mind, body and soul fit to function biologically and socially (McKenna et al., 2014). Adolescents attending school are the people discussed in relation to the theoretical framework. Adequate measures must be in place to ensure healthy development from childhood to adulthood. Adolescents are viewed holistically as individuals in the process of developing from being a child into an adult. This process encompasses physical, psychosocial, cognitive, moral, spiritual and moral development. Being fully grounded in all these spheres of development produces a mature entity with a niched identity, ready to take responsibility and shoulder the consequences of any decision made.

1.7.3.2 Environment

This is the social, cultural, and physical context that influences and is always in constant interaction with the person. According to Pender (2011), it can be controlled by the person to create a beneficial milieu that facilitates behavior that improves health. The school environment has been proven to be a platform through which healthy behaviors can be promoted. Preventive health care services, early detection of any deviation from healthy life and encompassing rehabilitation can be attained effectively and efficiently in schools.

Adolescents spend quantifiable amounts of time within the school environment, thus increasing the opportunity it offers for implementing education programmes to improve mental health among school going adolescents (Long et al., 2021). The school is a platform to increase the knowledge of adolescents as well as promote mental health among them (Ojio et al., 2020; O'Reilly, Svirydzenka, et al., 2018). Likewise, the school environment provides a medium to access a large proportion of adolescents at once shedding the burden of transportation difficulties, struggling to keep up with hospital appointments to mention a few (Waters et al., 2014). The school environment ideally should be safe, healthy, and nurturing to promote optimal mental health functioning (Xu et al., 2020). However, when the ideal situation cannot be attained, the school environment becomes a source of stress with an unwelcoming influence on attending adolescents leaving them unsettled and disgruntled.

1.7.3.3 Health

Health is an evolving life experience because of the realization of inherent and acquired possibilities that can be achieved through conscious effort and positive interaction with the environment (Pender, 2011). Health is the state of existence by which a person can function independently, have a quality life, and contribute meaningfully to personal and community living.

For this study, mental health is a state of well-being in which a person, the adolescent, realizes own limitations, cope with the stress associated with daily activities of living, can be efficient and effective at workplace and can contribute meaningfully wherever the person goes (Galderisi et al., 2015). Videbeck, (2017) also defined mental health as a state of emotional, psychological, and social wellness as seen by healthy interpersonal relationships, effective behavior and coping, positive self-concept, and emotional stability.

1.7.3.4 Nursing

From Henderson's perspective, Nursing is described as a profession that helps people, sick or well, in the performance of those activities that contribute to health or recovery or even to a peaceful death that they would have performed unaided if they have the necessary strength will or knowledge (McKenna et al., 2014). Nursing is a collection of people that create the most favourable conditions for the expression of optimal health and high-level of wellness (Pender 2011). In the context of this study, nursing as a profession focuses on the art and science of promoting, protecting, preserving, and improving the health of individuals within the community. In other words, the major focus is to avert health problems and disorders before occurring.

1.8 Operational Definitions

In-school Adolescents: In this study, any male or female between the age range of 10 – 18 years attending schools either in the junior or senior secondary school in Lagos.

Mental health: It is the constructive state of the mind and body that empowers an individual to feel safe, cope with the stresses of life, interact efficiently with people, realize one's abilities, and contribute meaningfully to community at large.

Mental health attitude is a way of thinking or feeling about mental health, mental disorders, or anyone diagnosed with mental disorders that reflect our behaviour towards them. This will be determined using a questionnaire made up of items in Likert scale option 1- 3 ranging from 'agree' to 'disagree'. Responses were weighted for each item on the scale of one to three based on the correctness of the response.

Below 50% percentile	-	'negative'
50% to 74% percentile	-	'positive'
Above 75%	-	'very positive'

Mental health conditions: These are a wide range of mental health disorders that affect the mood, thinking, and how to behave within the accepted context of normality. According to World Health Organization (2022), some mental health conditions are peculiar to adolescents. They include emotional disorders, childhood behavioral disorders, eating disorders, psychosis, risk-taking behaviors, suicide, and self-harm.

Mental health knowledge: It is the ability to understand what mental health is, ways to promote and sustain mental health and understand when there is a shift from good to poor mental health. Further, it is the ability to identify and use the facts, information, and skills acquired through education and other means to promote mental health and prevent mental disorders. In this study, the tools measuring knowledge of adolescents contains 29 items with a Yes or No response. The knowledge responses were scored one or zero based on whether the responses were appropriate. The responses to all items will be summed for each respondent, and individual score will be expressed in percentage.

Below 50% percentile	-	'low'
50% to 74% percentile	-	'moderate'
Above 75%	-	'high'

Mental health Status: For this study, mental health status will be seen as the presence or absence of mental health difficulties or strength. The mental health strength is prosocial behaviour, while the mental health difficulties include conduct problems, hyperactivity, peer problem and emotional symptoms. The Strength and Difficulties Questionnaire (SDQ) will be used to determine the

mental health status of adolescents. The SDQ is a behavioural screening tool that can be used to detect mental health difficulties (Goodman, 1997). The tool is made of five subscales. The mental health strength is one subscale, while the four mental health difficulties represent one subscale, each comprising five subscales. Each subscale is made of five items making a total of 25 items answered on a scale of 'not true', 'somewhat true' and 'certainly true'. The responses will be weighted based on the appropriateness of the responses on a score of 0 – 2. Each subscale has a total score of 10. The mental health difficulties score 40 for the four subscales, while the prosocial subscale has 10.

Total difficulty scores	0 - 15 'no risk of clinically significant problem'
	16 – 19 'slightly at risk clinically significant problem'
	20 – 40 'substantially at risk clinically significant problem'
Strength score (Prosocial)	6 – 10 'no risk of clinically significant problem'
	5 'slightly at risk clinically significant problem'
	0 – 4 'substantially at risk clinically significant problem'

School-based mental health education programme: In this study, it is an organized set of activities and teaching of adolescents about mental health, the brain and its functions, ways of identifying signs that are not normal in terms of thinking process, behaviour, and relationships with others. These activities can be incorporated into the school curriculum or administered to adolescents during break time or after school hours. The programme can be facilitated by a school nurse or any mental health worker. Also, teachers can be trained to be facilitators in the absence of a school nurse.

Stakeholders: In the context of this study, they are a collection of people who are at the forefront of fostering positive mental health among in-school adolescents. They include adolescents, school nurses, psychiatrists, psychiatric nurses, social workers, teachers, policymakers (a representative from the Ministry of Health and Education respectively).

1.9 Methodological Assumptions

Methodological assumptions consider the researcher's presuppositions about describing the research process. The researcher believes that the mental health of adolescents is the bedrock of healthy adulthood. Mental well-being can be sustained by promoting activities that will improve adolescents' mental health knowledge and fortify them with the needed skills to prevent the onset of mental health disorders through mental health education.

For the course of this study, which is a multiphase mixed method research, data from the qualitative and quantitative designs would merge, integrated, and linked together to develop a school-based mental health educational programme. This is to build on the strengths of both the qualitative and quantitative data (Creswell, 2012) The research process aims to provide a comprehensive and deeper understanding of adolescent mental health from the adolescents' perspective, the major stakeholders and evidence from the literature. In other words, it is concerned with the nature of knowledge and how the researcher can generate a body of knowledge through the development of a school-based mental health educational programme.

1.10 Overview of Research Design and Methods

This study utilized a multimethod design to develop and validate a school-based mental health education programme among in-school adolescents in Lagos, Nigeria. Table 1.1 presents a summary of the overview of the research design and methods.

Table 1.1: Overview of research design and methods

Phases	Objectives	Designs/Approaches	Sample and sampling	Data collection tools and process		Data analysis
One	To determine the knowledge, attitude, and mental health status of in-school adolescents in Lagos, Nigeria	Survey	Adolescent male and female 10-18 years old N=148	Self-report using questionnaire on knowledge.		Descriptive & Inferential statistics
		Survey		Self-report using questionnaire on attitude.		
		Survey		Self-report using Strength and Difficulties Questionnaire (SDQ).		
	To explore the perspectives of stakeholders regarding content for a school-based mental health programme in Nigeria.	Qualitative exploratory design	N= 16 Parents (n=2) Adolescents (n=2) Nurses (n=2) Doctors (n=3) *MOE (n=2) **MOH (n=2) Psychologists (n=2) Social Worker (n=1)	Face-to-face In-depth interview using semi-structured interview guide.		Thematic content analysis
	To conduct a scoping review on school-based mental health programmes globally.	Scoping review	Qualitative and quantitative articles	Search Engines-CINAHL, PubMed, Proquest, Scopus, Ebscohost, & Psych Info.		Thematic content analysis
Two	To identify the concepts for designing a health education programme through data triangulation.	Converging the data from studies 1, 2 and 3				
	To develop an evidence-informed programme for adolescent mental health education in schools.					
Three	To determine the content validity of a school-based mental health education programme.	Delphi technique	Panel of experts Purposive sampling Sample size: (n=9) (Mental health Nurses, Public/Community health nurses, and Academics).	Email of developed programme and checklist to experts	Self-developed checklist to measure content validity index	Calculation of Content validity index, its description, and summary of experts' recommendations.

1.11 Thesis Outline

The thesis is organized into eight chapters.

Chapter one: Overview of the study.

Chapter two: Research methods.

Chapter three: Scoping review.

Chapter four: Quantitative Descriptive study.

Chapter five: Exploratory Qualitative study.

Chapter six: Development and Validation of a school-based mental health education programme.

Chapter seven: Summary, Limitations, Conclusion and Recommendation.

1.12 Summary

This chapter presented an overview of the whole study. In this chapter, the background of the study, research objectives, the problem statement and the significance and rationale of the study were detailed. The theoretical background, research methods and the operational definitions of terms were discussed to clarify concepts used in the following chapters of the thesis. The following chapter describes the research methods and processes applied to the study.

CHAPTER TWO

RESEARCH METHODS

2.1 Introduction

The intention of this chapter is to orientate the reader to the research methods used to execute the study that led to the development of a school-based mental health education programme for adolescents. The context and research settings are described to enhance an understanding and appreciation of the geographic and local circumstances associated with this study. This chapter further presents the research methods and procedures that were used to achieve the study aim and objectives according to the set phases of the study. It includes a description of the research design that informed how participants were selected, and how data were collected and analyzed. Measures to ensure rigor and adherence to ethical rules and principles are outlined at the end of the chapter.

2.2 Study Context

The study was conducted in Lagos State, located in the South-Western part of Nigeria, with a population of over 21 million population in 2015 and 32.4% of the population are between 0 – 14 years (Lagos State Government, 2016). It is located on longitude 20 42'E and 32 2'E respectively, and latitude 60 22'N and 60 2'N. It is bordered by Ogun to the north and east, the Bight of Benin to the south and the Republic of Benin to the west. Lagos state is controlled by the islands, sandbars, Lagoon, and mainland systems. The noticeable vegetation of Lagos State is the swamp forest of the fresh water and mangrove swamp forest. The major water bodies are the Lagos and Lekki Lagoons, Yewa, Ogun, Oshun and Kweme Rivers. The other water bodies are Ologe lagoon, Kuramo Waters Badagry, Five Cowries and Omu creeks respectively. The mainland is connected to the islands through bridges, and it remains the economic seat of Nigeria. It has a territorial land area of 358,862 hectares and it is made up of five (5) administrative divisions namely: Ikeja, Bagadary, Ikorodu, Lagos city (Eko), and Epe (Lagos State, 2022). Lagos State is a Yoruba inhabited environment with other immigrants settling down in the metropolis. It is a global centre for socio-cultural convergence, attracting both foreigners and indigenes.

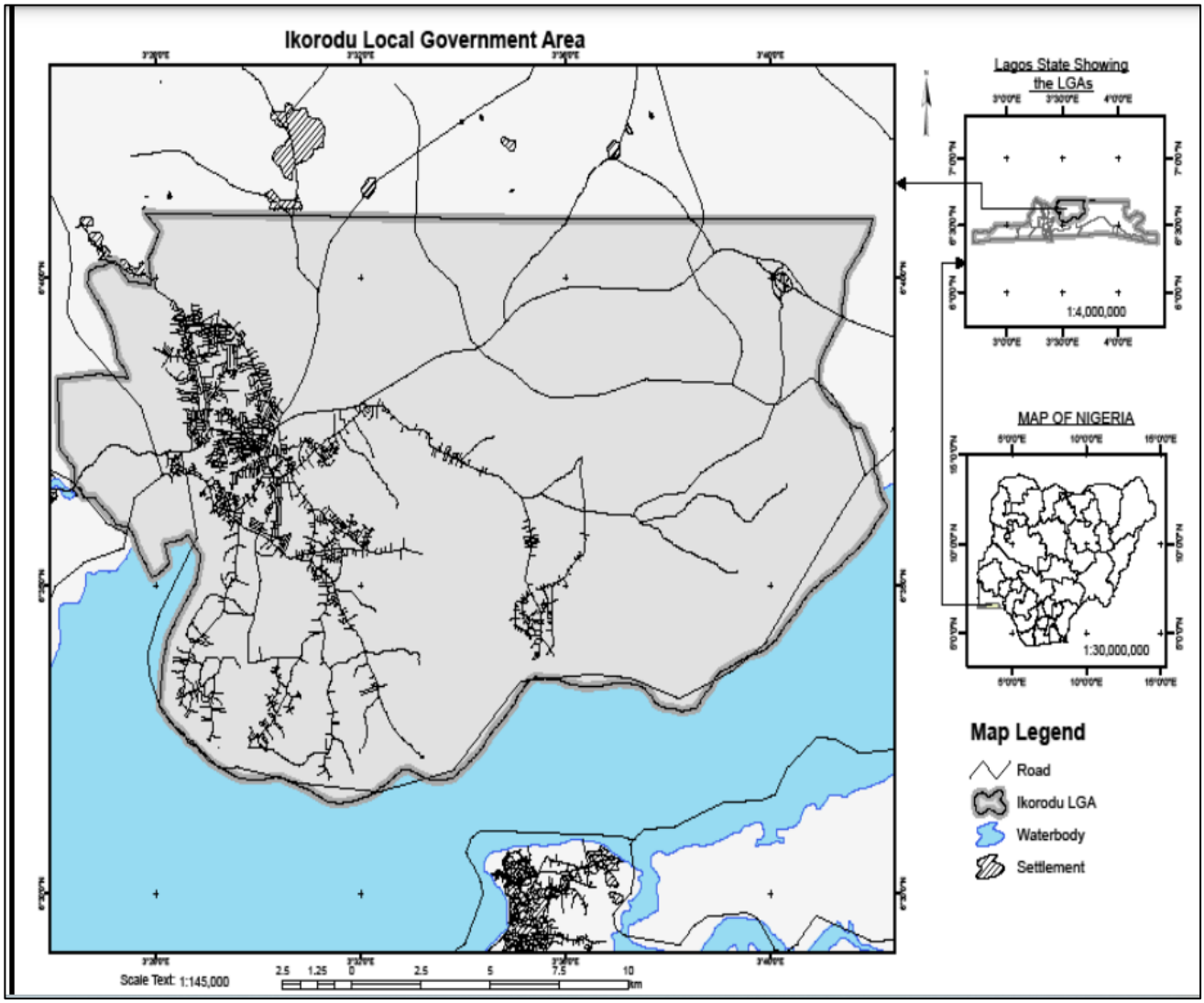

Figure 2. 1 Geographical map of Ikorodu Local Government Area, Lagos, Nigeria

The state is divided into three senatorial districts namely Lagos Central, Lagos East, and Lagos West. Each of the senatorial districts is divided into five, five, and ten Local Government Areas respectively. For this study, a simple random sampling method was used to pick Lagos East out of the three districts.

The Local Government Areas are made up of both public and private schools registered with the State Ministry of Education. The system is such that the recipient of education will spend six years in primary school, three years in junior secondary schools, three years in senior secondary school and four years for tertiary education, 6-3-3-4 system (Ajewole et al., 2021). Each secondary school is made up of both the junior and the senior schools following the standard system in Nigeria.

2.3 Research Settings

With the study being a multimethod design, the quantitative data were collected solely among in-school adolescents in two purposively selected secondary schools. The schools are in the rural Ikorodu Local Government Area (LGA) in Ikorodu West Local Council Development Area (LCDA) of Lagos State. School A has a total of 411 students (189 females and 222 males), while School B has a total number of 621 students (335 males and 286 females respectively). Both schools are in the same compound, the classrooms are big with an average size of 8.4m in length and 6.8m in breadth, well-ventilated and the school environment very clean and tidy with a school clinic in each school.

The qualitative research was conducted in the natural settings of the stakeholders (Creswell, 2014; LoBiondo-Wood, 2014). Adolescents being part of the stakeholders were also interviewed in the school premises, specifically in the school hall, away from noise and distractions. Appointments were made beforehand for participants working in offices such as the representative of the ministries of Health and Education respectively. The interviews were conducted in their offices with a notice stating that an interview was in session placed outside the door to minimize noise. The parents were interviewed in their various homes to provide a set of circumstances that makes it possible to generate cues that can be gleaned from the interview content. There were no psychiatrists, psychologists, and social workers attached to schools, hence the health professionals were interviewed within the hospital settings in which they work. All health professionals were interviewed at their place of work in Federal Neuro-psychiatric hospital, Yaba, Lagos apart from the school nurses who were interviewed in the school clinics. For all the stakeholders interviewed, the researcher ensured that data were collected in their natural settings.

2.4 Research Design

The research design is a systematic plan aimed to answer the research questions in a meaningful way without bias and likewise give direction on how to conduct the study (Nieswiadomy & Bailey, 2018). A detailed research process and design gives a structured guide in conducting research (Creswell, 2012). The multimethod research design was applied for the study. The action of showing the multi-method being suitable for this study is to have diversity of methods through a complementary approach that maximizes strengths of each method. A good comprehension of the

need for a wide range of approaches using multiple research designs guided the development and validation of the school-based mental health educational programme.

The quantitative research design makes it possible to gather data from many adolescents at school and make statistical inferences from the results generated. The qualitative aspect allowed an in-depth exploration of stakeholders' perspectives regarding adolescent mental health.

The study started with concurrently determining the knowledge, attitude, and mental health status of in-school adolescents as well as the exploratory qualitative study on the perspectives of stakeholders on what a school-based mental health education programme must entail, alongside a scoping review of relevant literature. Equal priority was given to the quantitative, qualitative data and scoping review, done simultaneously. The first phase consisted of the aspect wherein three quantitative surveys among adolescents, interviewing of stakeholders and scoping review were conducted concurrently. In the second phase, the results from the quantitative, qualitative and scoping review data sources were merged to develop the school-based mental health programme. In the third phase, the school-based mental health programme was validated by a panel of experts through determining the Content Validity Index using the Delphi technique. The phases are described in detail under section 2.5.

2.5 Phase One: Baseline Data Identification

The baseline data identification for the development of a school-based mental health education programme comprised three design components. The first were three surveys, conducted concurrently to determine the knowledge, attitude and mental health status of adolescents. The second design component entailed interviewing stakeholders on what should be included in a school-based mental health education programme, and the third design component was to conduct a scoping review on school-based mental health education programmes. The methods used in Phase one are described below.

2.5.1 Knowledge, attitude, and mental health status of in-school adolescents

2.5.1.1 Research design

Quantitative study is a formal, objective systematic process in which numerical data are used to obtain information as well as to describe and test relationships between variables. To determine

the knowledge, attitude and mental health status of in-school adolescents, a descriptive research design was used to provide information about the knowledge, attitude and determine the mental health status of school-going adolescents. The research design enabled the researcher to identify gaps through the explanation of trends and description of the relationship among the variables in this study. The use of a representative sample obtained through participants having equal chances to be picked and collection of numeric data that can be measured using appropriate tools are the major reasons for using this design. Though minimal control can be exerted, randomly selecting participants enhances generalization of findings from the study as well as reduces potential for bias.

2.5.1.2 Study population and sample

School A and School B were purposively selected because they had school clinics managed by a school nurse. In addition, the eligibility for school-going adolescents to participate in the study was to be between 10 – 18 years, with consent and assent forms duly signed by parents and intending participants respectively. Approval was given by the Human Research Ethics Committee of the University of Witwatersrand South Africa after the researcher had met all the requirements needed to carry out the study (Appendix A). Afterwards, approval was sought and given to carry out the study in Nigeria by the Health Research Ethics Committee of the Federal Neuro-psychiatric Hospital, Nigeria (Appendix B). These approvals were taken to the office of the head of service, public service Lagos State to obtain a letter of introduction to the permanent secretary of the education district (Appendix C). Letters of permission to carry out the study in the selected secondary school were issued by the permanent secretary to the principals of each school (Appendices D and E). This allowed for the preliminary visits to the schools before the data collection process. During one of the visits, preliminary review of school registration records was undertaken by the researcher during her initial visits to both schools in January 2021 for that academic year. Ideally, the academic year starts in September. However, COVID-19 pandemic shifted the commencement of the academic year to January. The total number of one thousand and thirty-two (N = 1, 032) students were registered for the academic year for both schools (Table 2.1).

Table 2.1: List of schools, grade level and population of students (N = 1032)

Name of school/grade level	Boys	Girls	Total
School A			
Junior School 1	76	65	141
Junior School 2	72	61	133
Junior School 3	74	63	137
Total	**222**	**189**	**411**
School B			
Senior School 1	120	103	223
Senior School 2	115	94	209
Senior School 3	100	89	189
Total	**335**	**286**	**621**

The purposively selected schools were stratified according to the grade levels from Junior to Senior school to ensure that all levels were adequately represented in the sample. The sample size estimation was done using this formula by (Charan & Biswas, 2013) putting into cognizance the p-value of the study is 0.05, precision of 5% for type 1 error, and the expected proportion based on a previous study carried out by (Atilola, Ola, Abiri, Sahid-Adebambo, Odukoya, Adewuya, Coker, et al., 2017). Assuming a 20% non-response rate (Balegha et al., 2021) the sample size was estimated to be 160.

$n = Z_{1-\alpha/2}^2 \, p \, (1 - p) \, / d^{2.}$

$n = 1.96^2 \times 0.096 \, (1-0.096)/0.05^2$

n = 133 + 27 (20% attrition).

n = 160

For this study, proportional stratified random sampling was applied. The total population for both schools was stratified into six units according to their grade levels Junior School one, two, three and Senior School one, two and three respectively. The sample recruited from each grade level was in proportion to the number of students in the total population. That is, the population for each grade level multiplied by the sample size calculated, divided by the total population of both schools.

$$\frac{\text{Grade level population} \times \text{sample size}}{\text{Total population}}$$

Table 2.2: Grade level, proportionate final sample (n = 160)

Grade level	Proportionate sample
Junior School 1	$141 = \frac{141}{1032} \times 160 = 22$
Junior School 2	$133 = \frac{133}{1032} \times 160 = 21$
Junior School 3	$137 = \frac{137}{1032} \times 160 = 21$
Senior School 1	$223 = \frac{223}{1032} \times 160 = 35$
Senior School 2	$209 = \frac{209}{1032} \times 160 = 32$
Senior School 3	$189 = \frac{189}{1032} \times 160 = 29$

The sampling interval is the standard distance which measurements elements chosen for the sample. In this study, a sample of 160 (n = 160) participants was sampled from a population of 1,032 (N = 1,032), then the sampling interval was calculated as follows:

$$Kth = \frac{1{,}032}{160} = 6.5$$

The first element was selected randomly using a table of random numbers which is 3. Hence, the 3rd student on each grade level record was the first, then followed by every 7th student until the required sample was met for each grade level was achieved; 3, 10, 17, 24, 31, 38, 45……

Proportionate stratified random sampling was the most appropriate method for this quantitative study. The sampling method increased the probability of sample being representative of the total population, gave all participants an equal chance of being selected, and assured adequate number of participants from each grade level.

2.5.1.3 Data collection instrument

One data collection instrument was used which comprised of four sections (Appendix F). The first section elicited the socio-demographic information of the participants. The second and third sections of the data collection instrument was used to determine the knowledge and attitude of

adolescents related to mental health, while the fourth section was used to determine the mental health status of in-school adolescents who participated in the study.

Section A: The first section of the data collection tool was self-developed, comprising of 12 items designed to elicit the socio-demographic characteristics of each respondent. It entailed the age, gender, class, number of children in the family, and position of the respondent. Further, the parent's employment status, the average family income and the parents' level of education was also elicited. Sedentary behaviour as well as their level of physical activities in minutes per week was assessed.

Section B: A Knowledge and attitude survey from the updated and revised version of the original edition of the Mental Health and High School Curriculum was adapted for the study (Kutcher & Wei, 2015). The updated edition curriculum Guide for high school students consists of six modules. Each module has a survey that evaluates learning. All the surveys have been validated and have psychometric properties. For this study, only the understanding of mental health (knowledge) and the brain functions and experiences of mental health (attitude) were used.
Item-specific knowledge on mental health among adolescents is made up of twenty-nine items with a response of "Yes" or "No." Correct responses were assigned a score of one while incorrect responses were assigned zero to give a total obtainable score of 29. The responses to all the items were summed up for each respondent, and the individual's scores expressed as a percentage of the total obtainable score. Scores of less than 50% were categorized as 'low' knowledge, 50 - 74% as 'moderate,' while 75% and above 'high' knowledge.

Permission was sought and obtained to use the instrument (Appendix G). The authors of the Mental Health Curriculum guide applied Cronbach's Alpha Statistical test to ensure reliability of both knowledge and attitude of secondary school students. The Cronbach's Alpha for internal consistency for knowledge and attitude respectively for the study is 0.637 and 0.652 (Kutcher et al., 2015).

Section C: Consists of 12 items to describe the attitude of adolescents towards mental health. Responses are answered in Likert scale options ranging from (1-3) "Disagree" to "Agree". Both sections were adapted from the updated version of the Mental Health and High School Curriculum

Guide (Kutcher & Wei, 2015). Approval to use the instrument was obtained from the developer of the instrument. The section to determine the attitude of adolescents was measured on a 3-Likert scale of ‘disagree’ (1) to ‘Agree’ (3), with a total obtainable score of 36. Likewise, the responses to all the items were summed up for each respondent, and the individual’s scores expressed as a percentage of the total obtainable score. Scores of less than 50% were categorized as ‘negative’ attitude, 50 – 74% as ‘positive’ while 74% and above ‘very positive’ attitude. Approval to use the instrument was obtained from the developer of the instrument (Appendix G).

Section D: The data collection instrument that was used to assess the mental health status of adolescents is the Strength and Difficulties Questionnaire (SDQ). The SDQ is a standardized tool developed by Goodman (1997) consists of five subscales of psychological attributes. Four attributes assess difficulties (emotional symptoms, conduct problems, hyperactivity problems and peer relationship problems), while the last attribute assesses prosocial behaviour, which is a psychological strength. All the subscales are made up of five items each, giving a total of 25 items answered on a Likert scale of "not true", "somewhat true," and "certainly true". Each item is scored 0 for "not true," 1 for "somewhat true", and 2 for "certainly true." The scores for each of the five scales were generated by summing the score from the response on each item generating a subscale score from 0 to 10. Hence, the total difficulties score is the sum of the four subscales from 0 to 40. A subscale with an average score of 0 – 15 was categorized as "no risk of clinically significant problem," 16 – 19 as "slight risk of clinically significant problem", and 20 - 40 as "substantial risk of clinically significant problem." The prosocial subscale being the positive assessment was categorized as 6 -10 as "no risk of clinically significant problem," 5 as "slight risk of clinically significant problem", and 0 - 4 as "substantial risk of clinically significant problem." Each respondent’s responses were summed up and expressed as a percentage of the total possible score. Approval to use the instrument was obtained from the developer of the instrument (Appendix H).

Validity is the degree to which an instrument measures what it is supposed to measure order to claim the truthfulness and accuracy of the findings (Polit & Beck, 2014), while reliability is the consistency of the measurement (Grove et al., 2015). In this study, the instrument was subjected to reliability testing by pre-testing it among 16 in-school adolescents in a different secondary school with similar characteristics to ensure the items in the questionnaire measure what they are

expected to measure. Initial visits were made to the school to ensure that it had similar characteristics to the targeted population. Permission was obtained from the principal of the school and adolescents willing to participate in the pre-test were given the questionnaire to fill. The reliability test of the indicators of knowledge about mental health with Cronbach Alpha (α = 0.617), attitude to mental health issues (α = 0.617) and mental health state (α = 0.617) of the adolescents indicated that the measures were acceptable. A reliability test with alpha values of 0.60-0.79 are acceptable in exploratory research (Taber, 2018; Ursachi et al., 2015).

2.5.1.4 Data collection process

In-school adolescents aged 10- 18 years in both schools were eligible to participate in the study based on the availability of a signed consent form by their parents as well as their individually signed assent form to affirm the willingness to participate in the study. Prior visits were made to the schools to ensure that the requirements for picking the school are met. Permission was obtained from the school principals as well. The principals and vice principals were briefed about the purpose, aims and objectives of the study.

A new day was set for the researcher to meet with the in-school adolescents and other teachers. An interactive session for the purpose of clarification and explanation was held with students and teachers. Detailed explanation was given on basic information as written on the information sheets. The importance of their parents signing the consent form as well as the students assenting to participate in the study are equally important. Information sheets and assent forms were given to in-school adolescents after a verbal explanation on the research study (Appendices I and J). Information sheets and consent forms were given to the parents of in-school adolescents (Appendices K and L) to enable their child to participate in the study. The eligibility of an in-school adolescent to participate depended on the parents giving their consent and the in-school adolescent assenting to participate in the study. Data was collected during the break period from all the eligible adolescents three times a week for the period of two months. Data were collected between February – April 2021 by the researcher only. This period was after the gradual ease of COVID-19 lockdown. For the safety of in-school adolescents during this period, there were restrictions of visit to limit exposure. All other COVID-19 safety protocols such as the use of face mask, physical distancing, frequent hand, and respiratory hygiene were strictly adhered to.

Then, a proportionate sampling was used to select the number of in-school adolescents needed from each grade level, and lastly, simple random sampling was used to select 160 in-school adolescents across all grade levels.

2.5.1.5 Data Analysis

Data were entered on a Microsoft Excel spreadsheet and imported into Statistical software package known as "STATA" version 15. Descriptive statistics such as frequency, percentage, and charts were used to present the interpretation of the socio-demographic data such as: age, gender, class, religion, number of children in the family, position of the respondent, family income, parents; educational level, parents' employment status, level of physical activities as well as sedentary behaviour among respondents. Frequency distribution, and measures of central tendencies such as mean, median, and standard deviation were used to summarize the data.

Cross tabulation, and joint frequency distributions were used to achieve associations between variables. To be specific, Chi Square was used to explore the nature of relationship between the sociodemographic data and the knowledge of school going adolescents, their attitude and mental health status. The level of significance was at 0.05 ($p = 0.05$) with a 95% Confidence Interval (CI). Another means used by the researcher to draw conclusions from the in-school adolescents and generalizing results on a larger population was the use of binary logistic regression. This gave room for the analysis of multiple factors to predict the relationship between independent (categorical) variables by selecting the predictive model for dichotomous dependent variables.

2.5.2 Perspectives of stakeholders on school-based mental health programme

2.5.2.1 Research design

A qualitative, exploratory research design was used to explore stakeholders' perspectives on what should be included in a school-based mental health education programme for adolescents using individual in-depth interviews. The qualitative design was used to explore the concept of a School-Based Mental Health Programme from those directly involved in adolescents' developmental processes, including the peers, caregivers, those implementing the programme and the adolescents exposed to the intervention programme. Using the qualitative research design helped explore more detailed insight into what should be included in a mental health education programme from the stakeholders' perspective, thereby describing and explaining events in day-to-day living contexts based on their various experiences. From the context of this study, a need to understand the

conversation and interaction among the stakeholders is essential in developing a school-based mental health programme. Face-to-face interview gave an in-depth understanding of the social situation and inquired into the importance of adolescent mental health, offering an incredible view of adolescent mental health and behaviours in real-world conditions representing stakeholders' views. This gave the researcher more insights into existing or emerging concepts that may help to explain adolescents' mental health behaviour using multiple sources of evidence.

2.5.2.2 Study population and sample

The population consisted of parents, in-school adolescents, nurses, doctors, representatives from the Ministry of Education, representatives from the Ministry of Health, psychologist and social workers who were purposively selected to be included in the study. The characteristics all the participants had in common was to be either directly or indirectly involved in the promotion of adolescent mental health. Parents, nurses, doctors, psychologists, and social workers are directly involved in the promotion of adolescent mental health at home, in school and in the hospital settings respectively. The representatives of the Ministries do not have direct contact with adolescents in schools, but their roles, responsibilities, and level of expertise can go a long way in impacting positively on the mental health of adolescents in schools. Aside these reasons, the researcher intentionally identified and selected participants based on availability, and willingness to participate in the study as well as their involvement in the mental health of adolescents.

The sample size is made up of parents (n = 2), in-school adolescents (n = 2), nurses (n = 2), doctors (n = 3), representatives from the Ministry of Education (n = 2), representatives from the Ministry of Health (n = 2), psychologist (n = 2), and social worker (n = 1).

2.5.2.3 Data collection instrument

A semi-structured interview guide was used to collect data from the stakeholders (Appendix M). The main question for the face-to-face in-depth interview was “In your opinion, what would you say mental health represents” and “do schools have a key role to play in improving mental health care among adolescents?” The researcher probed further during the one-on-one interview to obtain in-depth information and clarify aspects related to the content of educational intervention for school adolescents, the possible impact, and those that can be involved in the execution of such programmes. Participants’ demographic data were documented at the start of the interview.

2.5.2.4 Data collection process

The interviews were conducted by the researcher. The conversation was purposeful, meaningful, and logical to reflect each stakeholder's view. A written interview guide to ensure there are no omission of vital questions during the interview was drafted. The semi-structured interview guide contained open-ended questions with probes where the stakeholders were given the opportunity A trial run was done on the interview guide to make the researcher to be conversant with the guide, have an estimate of the time to be spent and allow for corrections to be needed in the interview guide. Before the interview, in-school adolescents that participated in the qualitative exploratory study were given the information sheets, and the assent forms to fill in to be able to participate in the study (Appendices J, and N). Likewise, information sheets were given to their parents with a consent form that was filled in and duly signed (Appendices K and N). All participants who agreed to participate in the in-depth interview were given the information sheets and consent form to fill in and sign as evidence of their consent to participate in the study (Appendices N and O). The interviews were recorded after the respondents had read the information letter, as well as having signed their consent to both participate in the interview. All participants of the interview signed the consent form for audio recording of the sessions (Appendix P). Field notes made through researcher's observations and reflections were evaluated to inform the write up of the methodological approach.

2.5.2.5 Data Analysis

After a verbatim transcription of the interview and the field notes, the MAXQDA qualitative software was used for the data analysis. The transcripts in the Microsoft Word format were imported into the software and an iterative process of going backward and forward was used as data analysis was done concurrently with on-going interviews (Braun & Clarke, 2012). The thematic analysis approach was used to analyze the transcribed interviews. The researcher got to know the data very well by reading the transcripts repeatedly. Labels or short phrases were used to connote ideas that became codes. This is called inductive coding – a means of generating codes which are smaller units as it relates to the content being represented (Polit & Beck, 2018). Topic codes were also generated from the study objectives – deductive coding because it came from the review of relevant literature relating to adolescent mental health in the school setting. The codes were grouped to generate subthemes, and the subthemes were grouped into themes. The researcher and the supervisors reviewed emerging subthemes and themes; similar ideas under various

subthemes were further coalesced to reduce presenting the opinions of interviewed stakeholders in fragments.

Segments of the data that appropriately described the identified themes were used to corroborate findings of the study using direct quotes with inverted commas.

2.5.2.6 Methodological rigour

Trustworthiness is the way of assessing the quality of the measurement procedure for collecting data in a qualitative study. It includes credibility, transferability, dependability, and confirmability, which are the basic qualities needed in a qualitative study (Korstjens & Moser, 2018).

- **Credibility**: It allows for the plausible representation of data drawn for respondents to be interpreted in their original view. The researcher has spent quality time conversing with the settings; using different data sources to gather information and giving feedback to the stakeholders for further strengthening of the information obtained from them (member check). This is done to ensure confidence in the data and the researcher's interpretation of the interview to be conducted on the stakeholders (Polit & Beck, 2010).
- **Transferability:** With increased recognition of the valuable contribution of qualitative research, transferability cannot be overlooked. This gives room for the study to be transferred to another context or situation like the setting the qualitative research was initially conducted; yet preserving the meaning and inferences (Houghton et al., 2013). A clear description of the procedure for participant selection, detailed presentation of the process as well as the analysis must be done to make a study transferable. The researcher ensured that the originality of the data collected from the stakeholders through a robust description was maintained so that intending readers could make informed choices on applying the findings to other situations and populations.
- **Dependability:** Dependability includes the aspect of consistency. This is the stability of the data over time and findings generated from the result be repeated if the inquiry were to be replicated with the similar participants, within similar context (Polit & Beck, 2010). The researcher needs to check whether the analysis process is in line with the accepted standards for a particular design. It simply means the level at which the data is stable, being consistent over time. The researcher documented a detailed report of the processes involved to ensure dependability in fostering quality and transparency of the research method and the process

of analysis in the qualitative inquiry. The same semi-interview structured guide was used in the study to guide the interview.

- **Confirmability:** The degree to which the findings of the research can be confirmed by other researchers shows confirmability. It entails audit trail and flexibility (Houghton et al., 2013). It ensures that the recording of activities is done over time, followed over time to confirm the study. The transcripts and coded data were shared with the supervisors to determine confirmability. Also, an audit trail that entailed the recordings of all activities over time was documented to highlight the research pathway. The audit trail aimed to demonstrate the systematic and scientific processes that led to the results generated from the study.

2.5.3 Scoping review school-based mental health programmes

The literature search was guided using the Population, Concept and Context questions recommended by the Joanna Briggs Institute (Peters et al., 2015).

2.5.3.1 Review Question

The overall review question for the scoping review is to explore "what is known from existing literature about the concept and context of the development and implementation of school-based mental health education programme among in-school adolescents"? Other sub-questions were generated (Refer 3.2.1), to map the key concepts that supported the exploration of existing literature.

2.5.3.2 Research Methodology

The identification of the review questions was guided by the Participants, Concept and Context elements for compatibility. Relevant articles were identified through the university libguide with the help of the medical librarian. The databases searched include: Pubmed, Scopus, Proquest Complete, Ebscohost covering CINAHL (Cumulative Index to Nursing and Allied Health), Global Health, Medline and APA PsycInfo complete. Search strategy was developed, search terms generated, and articles were sourced from electronic databases, through manual search from reference lists and key journals relating to psychosocial health.

All articles generated were imported into Covidence, a web-based application for title/abstract screening, full-text review and data extraction. Data were charted using the PRISMA flowchart.

Data were also extracted through Covidence by developing a template to summarize information extracted. Detailed discussion can be seen in Chapter Three.

2.5.3.3 Data Analysis

This scoping review employed the thematic analysis approach to analyze the data from reviewed literatures. Details of the data collection and analysis process are presented in Chapter Three.

2.6 Phase Two: Programme Development

In this phase, a school-based mental health education programme was developed based on data triangulation of findings from the knowledge and attitude of adolescents relating to mental health, their mental health status, report on the perspectives of stakeholders about what should be included in a mental health education programme, and evidence from the body of knowledge through scoping review.

2.6.1 Research method

The triangulation of results from the summary of each objective in the baseline data identification phase was used to develop the school-based mental health programme. Overlapping themes from the quantitative, qualitative and scoping review data sources were identified. This generated the domains for the school-based mental health education programme as well as informing the content, mode of delivery, duration and how often the programme should be delivered to the adolescents.

Data merging, which is synonymous with data triangulation, entails converging of evidence from different sources (Creswell, 2014). It is the combination of two or more theories, designs, methods, data sources or analysis in the study of the same phenomenon (Grove et al., 2015). A single approach to a study may not be adequate to justify the measurement of the variables. Hence, the combination at various stages of the research process is needed to increase the overall validity as well as strengthen the reliability of the study. In the context of this study, quantitative and qualitative data collection was done concurrently with the scoping review. The data from the quantitative, qualitative, and scoping review were analyzed separately and then brought together using a side-by-side comparison (Creswell, 2014). Both quantitative and qualitative methods have equal priority, and the stage of integration is at the discussion stage where overlapping themes form the content of the school-based mental health education programme. The mental health status of in-school adolescents was assessed, major stakeholders were interviewed and documented facts

from the literature was explored to build a conception on an educational programme that sustains the mental health status of the age group. The approach used is illustrated in Chapter six.

2.6.2 Steps in programme development

The process for the development of the school-based mental health education programme adopted the steps used in designing a school-based health education programme for female in-school adolescents in the prevention of anaemia (Hossain & Khan, 2017). Table 2.3 outlines the stepwise approach to developing a school-based mental health education programme.

Table 2.3: Stepwise approach to developing a school-based mental health education programme

S/N	Steps	Description
1.	Collection of baseline data and information	The starting point for the process of designing a school-based mental health education programme entailed gathering information that can be used to identify potential and actual problems of in-school adolescents' challenges on mental health. For this study, data were collected through the quantitative survey, one-on-one interview with stakeholders and the exploration of literature. The socio-demographic characteristics of the participants also provided information that served as a baseline for comparison
2.	Identification of health problems and health education needs	Findings from the data pointed out mental health challenges in-school adolescents come across in their activities of daily living.
3.	Establishment of goals and objectives	Measurable actions were drawn to resolve the identified mental health challenges among in-school adolescents.
4.	Define the content	The content of a school-based mental health education programme was developed in line with the established goals and objectives in the previous stage.

5.	Identify the target group	The identified target group for the school-based mental health education programme are the in-school adolescents.
6.	Decide appropriate method and media	Materials, media, and methods that can be used in the school to support teaching and facilitate learning such as instructional manual, board, markers, laptop, and projectors.
7.	Develop a detailed plan of action	The content drawn in line with identified goals and objectives were outlined in a comprehensive manner displaying the sessions, the specific objectives for each session, the required methods, media and resources and lastly the minimum degree of knowledge and skills to be acquired by each in-school adolescent exposed to the programme
8.	Determine the time and techniques for evaluation	Review to assess the efficiency of school-based mental health will be done. As the programme is being administered, on-going evaluation will be carried out with each session. Likewise, at the end of the whole programme, a formative evaluation will be done using the same instrument used at the commencement of the programme. However, this stage of the development will be carried out at the post-doctoral level.

2.7 Phase Three: Programme Validation

2.7.1 Research Design

The Delphi technique was used to verify the suitability of the developed school-based mental health programme through the opinion of experts. Clinicians and academia were believed to have a great deal of knowledge about the implementation of school-based mental health education programme. Hence, these group of professionals were the only ones who participated in the validation process. For this study, the panel of experts was made up of nine members: four nurses from the academics, and five clinical nurses. Each content of the guideline for reporting evidence-

based practice interventions and teaching framework was rated in a Likert scale of 1- 4, {ranging from not relevant (1) to highly relevant (4)} by the panel of experts. This is to allow for a consensus on the content of the school-based mental health education programme. The school-based mental health programme was circulated in two (2) rounds to determine its content validity using both the Item and Scale Content Validity Index. Information sheets and consent forms were sent to experts who volunteered to participate in the study (Appendices Q and R). In the first round, the first draft of the school-based mental health programme was circulated among the experts for evaluation. Before the second round of Delphi was carried out, feedback and corrections would have been effected to make the second draft of the school-based mental health education programme. During the second round, evaluations generated from the responses of the experts in the first round were analyzed.

2.8 Ethical Considerations

Ethical guidelines and principles are essential to govern the actions of researchers to protect respondents while carrying out the research work (Nieswiadomy & Bailey, 2018). Ethical practice must be adhered to following the principles of moral values and conduct throughout the whole research process (LoBiondo-Wood, 2014).

Institutional

- Ethical approval was obtained from the Human Research Ethics Committee (Medical) of the University of the Witwatersrand, Johannesburg, South Africa (M190802) (Appendix A).
- Ethical approval was obtained from the Health Research Ethics Committee (HREC) at Federal Neuro-Psychiatric Hospital, Yaba, Lagos, Nigeria (FNPH/HREC/19/18) (Appendix B).
- Permission was granted by the office of the Head Service, Public Service Lagos State to conduct research, including a letter of introduction to Education District II (Appendix C).
- Permission was granted by the Education District II to conduct research in Government Junior and Senior Model Colleges, Ikorodu, Lagos, Nigeria (Appendix D and E).

Data collection instrument

Permission was granted to use:

- Mental Health and High School curriculum Guide: Understanding Mental Health and Mental Illness (Updated version) (Appendix G)
- Strengths and Difficulties Questionnaire (Appendix H)

Participants

- Information sheet for minors (Appendix I).
- Assent for Minors (Appendix J).
- Information sheet for parents (Appendix K).
- Consent form for parents (Appendix L).
- Semi-structured interview guide (Appendix M).
- Information sheet for interview (Appendix N).
- Consent to participate in the interview (Appendix O).
- Consent for audio recording (Appendix P).
- Information sheet for expert review (Appendix Q).
- Consent to participate as a reviewer (Appendix R).
- Content validation of a school-based mental health education programme (Appendix S).

Participants have the freedom and right to voluntarily take part in the study. Information sheets were provided according to the principle of autonomy to inform the participants in all the studies about their right to refuse to participate or even withdraw from the study. Also, because in-school adolescents whose ages are less than 18 years are involved in the study, their parents were also provided information sheets for comprehensive briefing about the research process. Overall, information sheets were provided for in-school adolescents who completed the questionnaire and those interviewed, their parents, stakeholders who were interviewed, and the panel of experts that validated the designed school-based mental health education programme (Appendices I, K, N, & Q).

The information sheets provided adequate and detailed information about the study on which participants made informed choices to participate or not. With the peculiarity of the study

involving minors, the parents proved their consent for their adolescents to participate in the study (Appendix N) as well as the adolescents themselves assenting to participate. Hence, the eligibility of each in-school adolescent to participate entailed duly signed consent form from parents and duly signed assent forms by the adolescents (Appendices J & L).

Other stakeholders that participated in the face-to-face interview had their consent forms signed (Appendix O) and their consent to have the interview recorded signed (Appendix P). In addition, all panel of experts for the validation of the school-based mental health education programme voluntarily signed the consent forms (Appendix R).

Anonymity and confidentiality were maintained throughout the study. Research codes were used during the data collection process to ensure that the information provided were not identified by their names. In situations where a label was required, pseudonyms were used instead of the real names of participants. Information provided such as the hard copies of the questionnaire was inputted into the excel sheet and the transcribed interview was saved on a password protected computer. Hard copies of documents were kept under lock and key. Hard copies of questionnaires, transcripts and audio records would be destroyed two years after the publication of the findings.

Participants were informed that the study did not involve any risk or pain. However, the choice not to answer any question that could make them uncomfortable was explained and allowed. Further, the right to refuse to participate or withdraw from the study at any time was explained to all participants. No direct and immediate benefit was attached to the participants of the study. Nevertheless, a long-term benefit is the development of a school-based mental education programme that will help improve and sustain the mental health of in-school adolescents.

2.9 Summary

This chapter provided detailed information on the research design, study context and research settings, study population, sampling techniques, and the procedure for data collection for each phase of the study. The methodological rigour and ethical considerations were also comprehensively discussed. The next chapter will discuss the exploration of literature and evidence on school-based mental health education programme.

CHAPTER THREE

SCOPING REVIEW

3.1 Introduction

A scoping review was conducted to map out the available evidence around previously developed mental health education programmes for school-going adolescents. The review results displayed complete information for developing a mental health education programme tailored towards school-going adolescents in Nigeria. The purpose was to identify critical issues to be included in developing a mental health education programme applicable to adolescents in their school environment in Nigeria. From another point of view, the broad areas in school-based mental health programmes were explored to clarify key concepts in terms of duration, frequency, content, and mode of delivery of already developed interventions. The scoping review allowed for the identification of ways to bridge the gaps within the Nigerian context. In this chapter, the scoping review questions and the relevant studies that were screened based on the inclusion and exclusion criteria were identified. Eligible studies were collated, summarized, reported, and discussed in line with the identified review questions.

3.2 Method

A scoping review was chosen to gain a broader understanding of the evidence of mental health educational programmes among adolescents in school settings. The methodological framework developed by Arksey and O'Malley (2005) guided the scoping review. A computer software named Covidence was used to screen and extract data after a thorough search had been conducted in selected databases (Manietta et al., 2022). The presentation of the findings was guided by the Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) flow diagram (Page et al., 2021).

3.2.1 Identifying the review question.

The overall review objective was to explore existing school-based mental health education programmes to identify gaps, content, and context of these programmes. The primary review question was as follows: What is known from the existing literature about the concept and context

of implementation of school-based mental health educational programmes among adolescents? The sub-questions were:

1. Are school-based mental health educational programmes/interventions guided by theoretical frameworks or models?
2. What are the aspects of implementing (what, when, how, who) a school-based mental health educational programme among adolescents? The 'what' covers the content (level of intervention), the 'when' covers the time it was implemented (during school hours, at break time, after school hours, or if incorporated into the school curriculum); the 'how' covers the frequency and the duration, while the 'who' covers the facilitators of the programmes.
3. How are the intervention/programme outcomes measured in terms of effectiveness after implementation?

The researcher ensured that the measurable factors defining the scoping review process were well articulated and clearly stated. Though a broad approach was ensured to generate wide coverage of studies, checks were also in place to ensure manageable numbers of references. To ensure a broader scope with fewer restrictions, the researcher formulated a review question guided by the Population, Concept and Context elements as documented by Peters et al., (2015) in the Joanna Briggs Institute reviewer's manual.

- Participants: articles focusing on adolescents with the age range of 10 – 18 years.
- Concept: both research-based and non-research-based literature on educational programmes or interventions, or schemes aimed at promoting the mental health status of in-school adolescents
- Context: literature targeting school-going adolescents within a school setting without restriction to the intervention, delivery mode and geographical location.

3.2.2 Identifying relevant studies.

The databases were assessed electronically through Libguide with the input of a librarian and information scientist who gave irreplaceable support to build the search algorithms peculiar to each database. Databases searched were selected because they are rich in citations across multidisciplinary in psychology related behavioural, social science, life science, with quality web sources. The databases included: PubMed, Scopus, ProQuest complete, and Ebscohost housing

CINAHL (Cumulative Index to Nursing and Allied Health), Global Health, Medline, and APA PsycInfo complete.

The Boolean search operators AND, OR, and NOT that define relationships between search terms were used during the search process. Wildcards were used to properly identify words with variations. No filter or limiter was applied during the search in all the databases until the last stage when language and year ranges were applied from January 2006 to June 2022. The aim of having a full search strategy is to cover empirical, published and grey areas of the topic. The search strategy was developed from the review questions and key variables were defined from the broad objective of the review. A two-step search strategy was applied during the review in accordance with the methodological framework of Arksey and O'Malley, (2005). An initial search strategy was carried out using the PubMed database where MeSH (Medical Subject Headings) terms were identified. The second search was performed using other identified keywords across all databases in their titles only using the appropriate Boolean phrases (Table 3.1). A manual search of reference lists and hand-searching of key journals were also carried out to identify studies that were missed in the database.

Table 3.1: Search terms used in PubMed

S/N	Search Terms
1.	"mental health services" [mesh] OR "mental health care" [mesh] OR "psychiatric services" [mesh] OR "mental health education" [mesh] OR "mental health literacy" [mesh] OR "psychosocial intervention" [mesh]
2.	("mental health services" [mesh] OR "mental health care" [mesh] OR "psychiatric services" [mesh] OR "mental health education" [mesh] OR "mental health literacy" [mesh] OR "psychosocial intervention" [mesh]) AND (program*[title] OR module*[title] OR package*[title] OR manual*[title] OR intervention*[title] OR plan*[title] OR scheme*[title] OR curricul*[title])
3.	("mental health services" [mesh] OR "mental health care" [mesh] OR "psychiatric services" [mesh] OR "mental health education" [mesh] OR "mental health literacy" [mesh] OR "psychosocial intervention" [mesh]) AND (program*[title] OR module*[title] OR package*[title] OR manual*[title] OR intervention*[title] OR plan*[title] OR scheme*[title] OR curricul*[title]) AND (school*[title] OR institution*[title] OR college*[title] OR universit*[title])
4.	("mental health services" [mesh] OR "mental health care" [mesh] OR "psychiatric services" [mesh] OR "mental health education" [mesh] OR "mental health literacy" [mesh] OR "psychosocial intervention" [mesh]) AND (program*[title] OR module*[title] OR package*[title] OR manual*[title] OR intervention*[title] OR plan*[title] OR scheme*[title] OR curricul*[title]) AND (school*[title] OR institution*[title] OR college*[title] OR universit*[title]) AND (Education*[title] OR learning*[title] OR teaching*[title] OR training*[title] OR stud*[title])
5.	("mental health services" [mesh] OR "mental health care" [mesh] OR "psychiatric services" [mesh] OR "mental health education" [mesh] OR "mental health literacy" [mesh] OR "psychosocial intervention" [mesh]) AND (program*[title] OR module*[title] OR package*[title] OR manual*[title] OR intervention*[title] OR plan*[title] OR scheme*[title] OR curricul*[title]) AND (school*[title] OR institution*[title] OR college*[title] OR universit*[title]) AND (Education*[title] OR learning*[title] OR teaching*[title] OR training*[title] OR stud*[title]) AND (adolescent*[title] OR "young adult*[title] OR teen*[title])

3.2.3 Study selection

Inclusion and exclusion criteria were identified, and studies were screened independently by two reviewers using the Covidence software (Safari et al., 2021). The inclusion criteria included mental health intervention studies on adolescents in the school settings, studies outlining the content and concepts of adolescent mental health education programmes, studies conducted from January 2006 to June 2022, and studies only published in English Language. Reviews, protocols, studies whose target population are not in-school adolescents, whose education programmes/interventions are not on mental health, studies not reported in English Language, protocol studies, and studies before 2007 were excluded from the search. Covidence is a web-based software that serves as a systematic review tool integrating the use of several reviewers at a time. One of the reviewers was the principal investigator with an advanced beginner's level of expertise while the other reviewer was a statistician and a public health researcher with a proficient level of expertise in social statistics. Discordance in the selection of studies was resolved by the principal investigator. The basic features of Covidence include title/abstract screening, full-text review extraction of study characteristics, and the ability to export data at each level of functionality.

Data retrieved from databases were imported into Covidence in the "RIS" format. It is the recognized format that supports importation of references from the different databases into Covidence. The researcher established the review and other features especially the inclusion and exclusion criteria, which is a crucial step before the commencement of the review. Also, the number of reviewers required for title/abstract and full text screening was set up. Duplicated titles and abstracts were removed.

Fifty-five studies were imported for screening through the database, reference lists and manual searching relevant journals; 16 duplicates were removed, 39 screened for title and abstract from which 9 studies were excluded. After reading the title and abstract, nine articles were excluded because the stated objectives were not in line with the review questions for this study. This led to a total of 30 studies been eligible for full-text screening. After a thorough reading of the complete text, 14 articles were further excluded leaving 16 articles. Covidence was used to export the data in the PRISMA flowchart format (As seen in Figure 3.1).

3.2.4 Charting the data.

Data extraction was conducted independently by two reviewers using Covidence. The data retrieved was verified by each reviewer for consistency and accuracy throughout the whole process. Both reviewers discussed what should be included in the data extraction template in Covidence. The data extracted were exported from the application in a Comma-Separated Value (CSV) file.

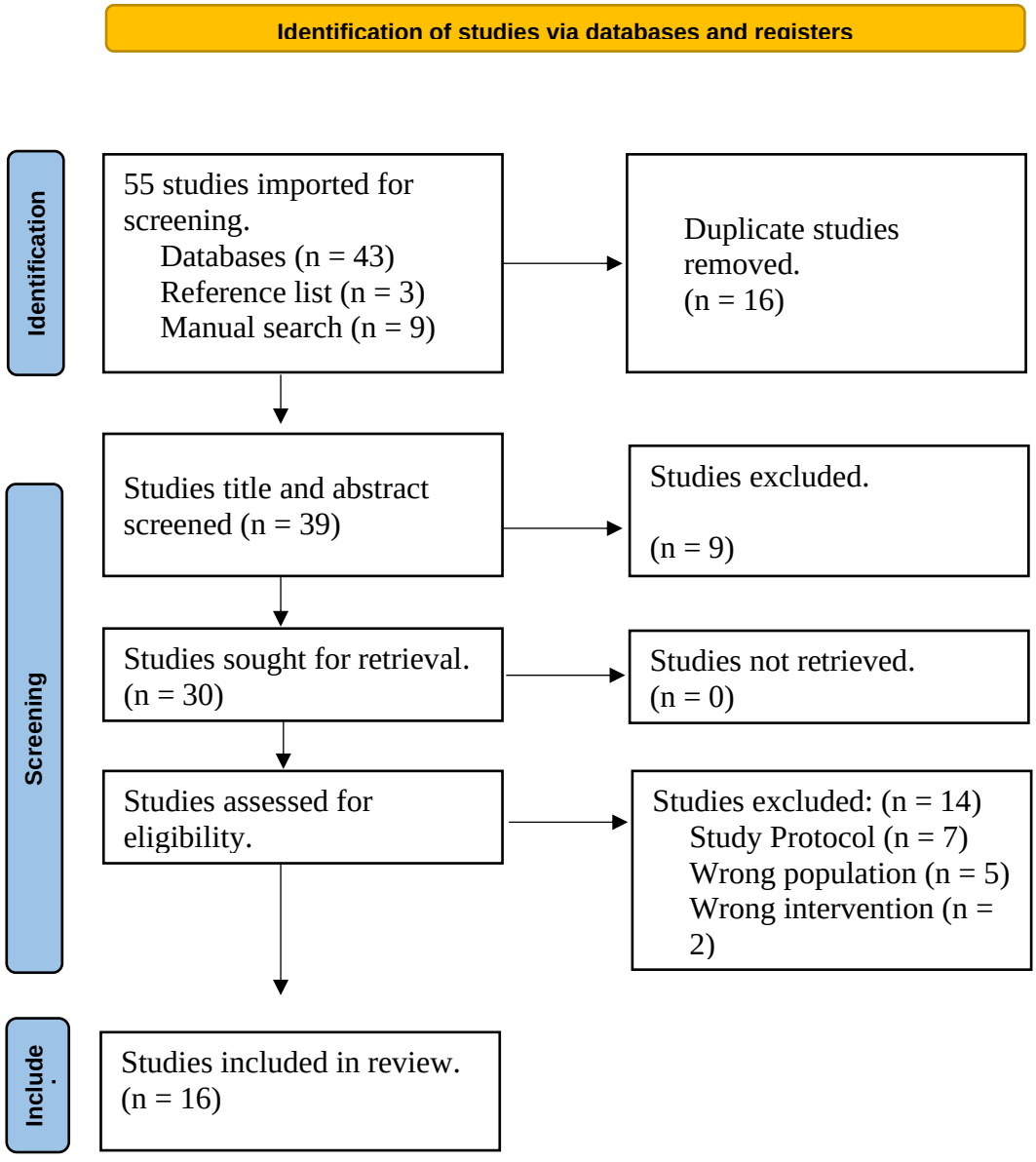

Figure 3. 1 The PRISMA flowchart

3.2.5 Collating, summarizing and reporting the results

Data were extracted through Covidence. The data extraction template was developed by the researcher for the collection of pertinent information from literature. This is to organize the data in a way for easier analysis and synthesis. Key information used to develop the template are names of authors, country where the study was carried out, aim of the study, theoretical framework used to develop the school-based mental health interventions, study design, facilitator of the interventions, level of intervention delivered, mode of delivery and the outcome of the study. A summary of the studies reviewed can be seen in Table 3.2

Table 3.2: Summary of studies included

Author and Year	Country	Aim of the study	Study design	Theoretical Framework	Facilitator	Level of intervention and component of mental health	Mode of Delivery	Outcome measured
Berger et al, 2018	Tanzania	The study appraised the effectiveness of a universal school-based intervention on resilience among in-school adolescents.	RCT	None	Teachers	Universal, Resilience	Didactic	The primary outcome was functional impairment, somatic complaints, mental health problems including and anxiety problems. Academic achievements, disciplinary problems and adversity were the secondary outcomes as identified from the study.
Winther et al, 2014	Australia	The study determined the effect of an intervention on Oppositional defiant disorder/Conduct disorder at three levels of delivery over the period of four years.	Non-randomized experimental study	Parent management Program The systemic models	Mental health program psychologist, a schoolteacher and a school welfare staff member	Other: A combination of three--tiered level of intervention-universal, targeted and indicated domain. Knowledge; Attitude (Stigma)	Didactic	Primary outcome: Oppositional defiant disorder (ODD) or Conduct disorder (CD). Academic difficulties Cognitive abilities Satisfaction with the intervention
Waters et al, 2015	Australia	The study aimed at implementing a Cognitive-Based Intervention among school children and measuring the outcome	RCT		Registered psychologist, administrator and clinical psychology student.	Targeted Knowledge; Attitude (Stigma)	Didactic	Anxiety Depression Social skills

		for anxiety symptoms as well.						
Klontz et al, 2015	United States	The aim of the study is to determine the effectiveness of a school-based mental health intervention among adolescents.	Non-randomized experimental study	None was mentioned, but consideration was put into the cultural practice in the community where it was developed.	Psychologist and Family Support Workers	Targeted Other: Behavioral aspect of mental health	Didactic	Behavioural problems
Gillham et al, 2007	United States	The aim of the study is to determine the efficacy of the resilience intervention among school-going adolescents comparing it with another program in a different group.	RCT	The intervention was developed by the university of Pennsylvania. No theory was mentioned.	School teachers school counselors Graduate students in psychology, education	Other: Resilience	Didactic	Depressive symptoms
Lindow et al, 2020	United States		Non-randomized experimental study	Certified facilitators who do not work in the school.		Universal knowledge; Attitude (Stigma); Other: Help seeking behaviours on Suicide	Didactic	Help seeking behavior Mental health literacy (Knowledge) Mental illness stigma
Baskaran et al, 2016	India	The study aimed to evaluate the effectiveness of mental health programme on mental health among school-going adolescents.	Non-randomized experimental study; Other: The study participants were recruited using stratified random sampling.	Not mentioned	Not mentioned	Not mentioned	Didactic	There was an improvement in the overall mental health dimensions of in-school adolescents

Kelley et al, 2021	UK	The study aimed at assessing the mental well-being and the resilience of secondary school adolescents after administering a school based mental health education.	Non-randomized experimental study; Other: Mixed method	Model of the three principles of mental health education	Individuals from different disciplinary backgrounds	Universal Mental Health well-being and resilience	Didactic and Online	Mental health well-being and resilience.
Srikala & Kishore Kumar, 2010	India	The study aimed at assessing the impact of the life skills education program	RCT; Other: it is a multi-informant study. it means data was gotten from both the teachers and in-school adolescents.					Self-esteem, coping strategies, perceived self-efficacy and general adjustment.
Gonsalves et al, 2021	India	The study assesses the effect of a school-based mental health intervention on the ability of adolescents to report mental health symptoms, prioritize the symptoms and any other thing that can affect their mental health negatively.	Other: Mixed-methods pre-post cohort design	Counselor	Universal		Mobile app	The clinical outcomes assessed in the study include psychosocial problem severity, mental health symptoms, perceived stress and well-being. The secondary outcome which is the satisfaction was measured.
Johnson & Wade 2021	Australia	The study focused on the effect of mindfulness-based programmes on common mental health disorders among school adolescents.	RCT		The program was facilitated by a mindfulness facilitator.	universal Mindfulness training for adolescents	Didactic	The only difference between the intervention and control groups was in the aspect mindfulness covering decentering and non-reactivity

								which became poorer in the intervention group at 3 months.
el Bouhaddani et al, 2019	Netherlands	The study determined how conveniently and successfully will implement a school-based intervention for adolescents.	RCT				Didactic	Risk for psychiatric disorders, distress and low self-esteem which reduced at follow-up
Dray et al, 2017	Australia	This study assessed the level at which the universal intervention focusing on resilience based in the school settings can improve the mental health status of in-school adolescents.	RCT	The intervention was developed based on the framework of health promoting school's domain.	Teachers	Universal Resilience	Didactic	The primary outcome were mental health problems while the secondary outcomes included the internal and external protective factors of the adolescents.
Heizomi et al, 2020	Iran	The study aimed at determining the effect of a school-based mental health promotion program among female adolescents.	Non-randomized experimental study		Clinical Psychologist	Universal Stress management	Didactic	Life satisfaction
Morgado et al, 2021	Portugal	The study assessed the effectiveness of psychoeducational intervention on adolescents; knowledge, skills and behavioral intentions as regards anxiety disorder.	RCT	The Medical Research Council Framework was used to develop the intervention.,	the researcher, Specialist nurses, and a trainer	Universal Knowledge Attitude Help seeking behavior	Didactic	Mental health Literacy

Bella-Awusah et al, 2016	Nigeria	The study aimed at determining the effect of a school-based cognitive behavioral therapy programme on depressed in-school adolescents.	Non-randomized experimental study	None	Psychiatrist	Targeted Cognitive behavioural Therapy	Didactic	The primary outcome is Depression The secondary outcomes were mood and feelings, other mental health conditions and adolescents' satisfaction with the intervention.

3.3 Results

The search through the databases, reference lists, and manual searching of relevant journals located 55 articles. The removal of duplicates and the application of all processes in Covidence, 16 articles were obtained in all. The articles included in the review were published from January 2007– June 2022. Four articles were published in 2021, two articles in 2020, two articles in 2015, and one article each in 2007, 2010, 2014, 2017, 2018, and 2019 respectively. Australia had the highest number of articles with four studies included in the review, this is followed by United States of America and India being on par with three articles each. While the United Kingdom, Tanzania, Iran, Nigeria, and Portugal had one article each selected for the review. Of the 16 articles included in the review, nine were Randomized Controlled Trial (RCT), five non--randomized control trials while two were mixed studies.

3.3.1 Participant characteristics

Out of the sixteen articles reviewed, the participant population were in-school adolescents between the age ranges of 10-18 years except for two studies with participants' ages ranging between 4 and 11 years. These studies were included because the upper limit for the age range fell into the operational definition of an in-school adolescent for this study (Klontz et al., 2015; Winther et al., 2014).

Eligibility criteria for in-school adolescents' participation for all reviewed studies were as follows: being within the stipulated age range, grade level, returned informed consent forms, duly signed duly signed by parents, participants assent forms because all participants were below the age of 18 years. A study carried out by Gonsalves et al. (2021) based the eligibility of participants on their ability to read and write both in English and the native language (Gonsalves et al., 2021).
Exclusion of participants from some of the studies reviewed entailed those whose parents did not sign their consent form, and those who had already been diagnosed with a condition on which the intervention is based such as Autism, Suicide, and depression (Gillham et al., 2007; Gonsalves et al., 2021; Klontz et al., 2015). One study excluded participants who had been exposed to the intervention to be administered in the past three years (Heizomi et al., 2020) while another

excluded participant with special educational needs (Morgado et al., 2021) The total number of participants ranged from 30 to 8546, all voluntarily recruited for the studies.

3.3.2 Theoretical framework

Although there are no strict rules on the type of framework to adopt for any type of intervention; it is of great importance to apply a framework to maintain integrity and standard. In addition, theoretical frameworks give rise to evidence-based interventions that will be easier to implement and sustain (Strifler et al., 2018). Only three articles (n=3) mentioned the theoretical framework that guided the development of the intervention used. The framework includes: the Medical Research Council framework (Morgado et al., 2021) the Systemic model (Winther et al., 2014) and the framework of Health Promoting School's Domain (Dray et al., 2017). One article did not mention any theoretical framework, but the researchers mentioned putting into consideration the cultural practice in the community where the intervention was developed. Eleven articles (n=11) did not include a theoretical framework that guided the development of the intervention.

3.3.3 Types of intervention, facilitators, and duration

Two programmes out of the sixteen articles were without names. One of the studies carried out by Bella-Awusah et al., (2016) focused on improving the cognitive behaviour of in-school adolescents to reduce depressive symptoms. The intervention was facilitated by a psychiatric consultant using a manual developed by one of the researchers based on other cognitive behavioural treatment used in the United Kingdom and United States. Although the intervention incorporated measures to adjust for negative realities of life using cultural and religious strategies, there are other factors that must be considered when an individual-level behavioural change is expected with the implementation of the programme. For acceptance and sustainability, the major stakeholders should have their voice when an intervention is being developed for them. This aspect is found wanting in the intervention creating a huge gap for the programme. The other one was carried out by Baskaran et al., (2016) with the aim of evaluating the effectiveness of mental health characteristics among in--school adolescents discussed nothing about the intervention used.

Fourteen articles (n=14) were specific with the names of their interventions. None of the interventions were used twice.

School-Based Mental Health Promotion Programme (SMHPP)

As documented by Heizomi et al., (2020), stress had resulted in bad behaviour, negative emotional responses, pathological anxiety, frustration, depression, and even suicidal attempts. To reduce the burden of poor mental health among in-school adolescents, the school-based mental health Promotion Programme (SMHPP) was developed. The programme was divided into six sessions on a weekly basis, lasting 45-60 minutes. The major strength of this study is that interventions were tailored to meet the needs of the in-school adolescents and there was a control group to measure the impact of the programme. However, no framework was used to guide the development of the interventions.

Mastermind Intervention

According to el Bouhaddani et al., (2019) developing an intervention to identify the standard cognitive, emotional, and behavioural process is germane to mental well-being. The mastermind programme was a targeted level of intervention for in-school adolescents with reported psychiatric symptoms. The programme occurred once a week, eight times after the regular school hours, with each session lasting 90 minutes. However, the observable shortcoming of the intervention is the use of a single study group without control or waitlist.

ERSAE-Stress-Prosocial (ESPS)

ERSAE-Stress-Prosocial (ESPS) is a school-based intervention facilitated by teachers. This is a universal level of prevention programme implemented in the school setting for Tanzania adolescents. The ESPS programme was adapted by mental health professionals that modified the intervention to suit the needs of the adolescents based on their cultural perspective. Teachers facilitating the programme gave it the added advantage of providing effective intervention that can enhance resilience and promote the mental health of in-school adolescents. According to Berger et al., (2018), the needs of the students were assessed through a survey, and one-on-one interviews were conducted with the teachers and school principals to identify the challenges pertinent to this group of students.

Resilience Protective Factor Programme

The curriculum, teaching, learning, environment, partnership, and services are the significant health-promoting school domains as identified by Dray et al., (2017). Based on these domains, sixteen intervention strategies were developed. The intervention spanned three years, with eligible in-school adolescents enrolled for the study in grade seven. The content of the intervention included administering resilient teachings in designated periods embedded within the school curriculum encompassing the major learning subjects. Also, the intervention was incorporated into school periods, making it easier to implement. Likewise, every extra-curricular activity was tailored towards building resilience in adolescents. The teachers facilitating the intervention were trained to develop emotional and social skills and mental health training during staff meetings.

Child and Adolescent Mental Health Service and School Early action Program

The Royal Children's Hospital Child and Adolescent Mental Health Service and School Early action Program is a multi-level and multi-approach intervention facilitated by a mental health programme psychologist, a schoolteacher and a school welfare member in the prevention of oppositional defiant disorder/conduct disorders (ODD/CD) (Winther et al., 2014). The programme entailed a combination of all the levels of intervention to minimise the onset of conduct disorders among in-school adolescents. The concept of the intervention is a multi-approach when parents of students identified with a challenge in their behaviour are involved in a series of intervention sessions. This approach involves multiple screenings and consistent progress monitoring, which might make it stressful. However, it is one of the most guaranteed practical approaches.

Mokihana

Mokihana is a teacher behavioural health rating intervention delivered to in-school adolescents by psychologists and family support workers (Klontz et al., 2015). The programme was developed in collaboration with the department of health and education. It is a programme developed at the universal level of prevention to make available a high-quality mental health service taking into consideration the cultural practice of the community. The unique part of the intervention is that a complete mental health clinic is being opened in every school to cover extensively mental health issues from the primary to the tertiary level of care that covers rehabilitation.

Penn Resilience Programme (PRP)

The Penn Resilience Programme (PRP) is a group cognitive-behaviour intervention developed by the University of Pennsylvania and delivered by teachers, counsellors, and graduate students in psychology and education (Gillham et al., 2007). The programme, held weekly after the regular school hours, lasted for 12 sessions running for 90 minutes. Aside from teaching the in-school adolescents about ~~u~~sing intellectual activities, empowering them with essential life skills further strengthens the therapy.

Youth Aware of Mental Health (YAM)

The Youth Aware of Mental Health (YAM) is an intervention delivered by facilitators trained by those who developed the intervention, and they do not work in the school (Lindow et al., 2020). The intervention focused on reaching out to the largest number of in-school adolescents to promote mental health and prevent suicide. The researcher was silent about it being or not being incorporated into the school curriculum; the intervention comprised-five sessions that spanned 50 minutes each. The intervention was disseminated through role-play sessions and interactive discussions guided by an information manual for the participants.

Innate Health Education and Resilience Training (iHEART)

iHEART is a multiple-level intervention facilitated by individuals from different disciplinary backgrounds (Kelley et al., 2021). It was delivered in a logical order, 50 minutes for each session running for ten weeks. The major themes discussed were how the mind operates, comprehending the psychological system, and being able to grasp and apply how the mind works with life experience in age-related life events such as ~~s~~chool work and managing social media. The intervention was delivered by engaging the in-school adolescents in practical group-based activities, watching video clips centred on mental health, and engaging in physical activities. In like manner, the facilitators were also planned for by providing resources to make the programme impactful.

POD adventures

A counsellor-guided intervention called POD adventures is another intervention administered by school counsellors to in-school adolescents with the aid of a mobile application reviewed

(Gonsalves et al., 2021). The intervention was delivered in four sessions over 2-3 weeks, each lasting 30- 40 minutes. POD adventures stood out in the sense that the plight of low-income settings was considered when developing the intervention. The application was designed to work without internet connectivity, and a trained counsellor is readily available to help the in-school adolescent navigate the application seamlessly. However, restricting the mobile application to devices in the school and only to the time allotted for the sessions might significantly limit utilization.

Mindfulness-based programme

The mindfulness-based program facilitated by a mindfulness facilitator with a manual guide was also added to the articles to be reviewed (Johnson & Wade, 2021). The programme applied the universal level of intervention to meet in-school adolescents' mental health needs. The intervention was administered to in-school adolescents for eight weeks every week, with each session lasting 75 minutes with one break. The intervention was delivered majorly by practical sessions conflating the formal and informal practices. Provision was given for participants to pull out while the session was ongoing, take a break during meditations, or seek assistance from the school counsellor or seek external support. Maintaining a long attention span without a break for the younger participants can reduce their concentration and assimilation. Another gap identified was that only one instructor delivered the intervention due to the numerical strength of the research team.

ProLisMental Psychoeducational Intervention

This is a universal intervention aimed at promoting mental health literacy among in-school adolescents. A didactic teaching method was used in delivering the weekly sessions of the intervention to the in-school adolescents lasting 45 minutes for eight consecutive weeks (Morgado et al., 2021). The principal investigator and nurses facilitated the intervention with specialized training in school, mental, child, and community health nursing.

NIMHANS Model

The NIMHANS model was developed to provide a structure to reach out to in-school adolescents via the existing resources of the schools and teachers for implementation. The model focused on incorporating basic life skills into all developmental stages of adolescents to improve mental

health. The NIMHANS model assessed the impact of Life Skill Education (LSE) on selected in-school adolescents regarding coping, self-esteem, adjustment to various life changes and psychopathology (Srikala & Kishore Kumar, 2010).

The implementation of the intervention was detailed, starting with translating all resource materials into the native language, involving the district education department, training master trainers, organising awareness workshops for all heads of schools and education officers, training class teachers, and disseminating the training to the participants. This implementation process is logical and involves the principal officers from the broad district level to the classroom teachers. Involving the department of education ensures sustainability and standard. Also, making the model part of the whole school curriculum solved the issue of time restriction or needing more time to execute the project. Another advantage this model has over the other is capacity building for the teachers. Teachers must be knowledgeable about mental health issues to identify, provide support and teach the basic life skills that promote mental health (Srikala & Kishore Kumar, 2010; Yamaguchi et al., 2021).

Take action Programme

The quest for an evidence-based intervention and its sustainability resulted in the developing of the programme "Take Action". The university and the department of education conflated to offer two platforms for interventions both in the classroom and in the psychology clinic to promote mental health among in-school adolescents within the school settings (Waters et al., 2014). Each session was according to the manual drawing for the intervention. A classroom teacher and a postgraduate psychology intern were always available to assist with the class-based phase to ensure that the activities outlined in the manual were covered. In-school adolescents referred by the school counsellor with parental consent were attended to in the clinic.

3.3.4 Levels of intervention and components of mental health covered

The key component of mental health promotion is prevention. To achieve this, there is a need for evidence-based programmes. While developing the interventions, it is essential to work within the available resources to ensure optimal mental well-being among in-school adolescents. Although the school has being identified as the most appropriate platform to promote mental health (Berger et al., 2018). A greater proportion of countries are yet to integrate this view into educational and

mental health services especially in the LMICs (Berger et al., 2018). Some schools might have this view, but are not well equipped in terms of finances, skills, and manpower to identify and implement programmes to promote mental health among in-school adolescents. Levels of intervention came into play to ensure a large coverage of school children as well as not leaving those with special mental health needs.

Basically, the three major levels of intervention as adopted by the school of psychology are the universal, selective/targeted and indicated levels of intervention (Kratochwill et al., 2004) According to Fenwick-Smith et al., (2018) mental health programmes administered to all students in the school settings are called universal intervention/programme. Universal interventions could address important mental health topics in adolescents at a large population level (Dray et al., 2015). The selective or targeted level of intervention focuses on in-school adolescents whose mental health needs were not met when exposed to the universal intervention while indicated interventions are meant for in-school adolescents who showed no improvement after being exposed to both universal and targeted interventions (Kratochwill et al., 2004).

Twelve of the articles reviewed focused on the universal coverage of intervention giving every in-school adolescent the opportunity to assess the programme developed, while two studies targeted a group of in-school adolescents who were significantly at the risk of developing mental health conditions like autism and self-harm (Klontz et al., 2015; Waters et al., 2014). The remaining articles had a combination of intervention coverage such as universal and targeted intervention in a single study (Gillham et al., 2007; Winther et al., 2014).

3.3.5 Follow-up

School-based mental health programmes are carried out to give practical understanding and a shift in behaviour to either promote mental health, prevent the onset of mental health disorders or worsen in already diagnosed in-school adolescents. Three studies did not give information about the baseline and follow-up assessment. However, the thirteen remaining articles had the baseline assessment and follow-up time ranging from immediate post-intervention to 36 months after the intervention. Immediate post-intervention follow-up (n=6), two weeks (n=2), four weeks (n = 2), two months (n=1), three months (n=4), six months (n= 2), eight months (n=1), nine months (n=1), 12 months (n=3), 18 months and above (n=4). For all the studies, follow-up were conducted with the use of surveys from the time adolescents were exposed to the intervention.

Follow-up is an essential aspect of intervention studies that measure the degree to which the research effort gave the desired result. Although finance, logistics and other factors might set limitations to the follow-up of participants, the importance cannot be overruled (Fitzsimons et al., 2017)). The benefit of follow-up includes but is not limited to identifying long-term harm to participants, identifying potential benefits of intervention, and assessing the effectiveness of an intervention (Fitzsimons et al., 2017; Llewellyn-Bennett et al., 2016). A Randomized Controlled Trial (RCT) is the best design to assess the effectiveness of any intervention and also serve as reference point of standard in measuring the effect of an intervention (Giovanazzi et al., 2022; Llewellyn-Bennett et al., 2016).

Nine of the 16 articles included in the review were RCTs. This means that nine articles on school-based mental health programmes had the participants selected randomly, giving each eligible in-school adolescent a chance to be picked into the treatment or control arms. The significant reasons for randomization include preventing bias, to find the cause-effect relationship between the intervention and the desired result (Bhide et al., 2018). Hence, the quality of evidence generated from school-based mental health interventions can be reckoned with.

The expected change in the behaviour with the administration of intervention might take a long time; hence follow-up assessment taken too early might not measure its full effect. Further, assessment at different times post-intervention help to determine the rate of increase or decrease in the expected outcomes. From this review, the PRP intervention had the longest follow-up time of 3 years (Gillham et al., 2007). As documented, a sustained level of reduction in the symptoms of depression was recorded in the treatment group compared to the control group throughout follow-up.

A significant level of effectiveness was documented in keeping track of adolescents' mental health in most articles reviewed. The level of effectiveness was measured using surveys after the adolescents were exposed to the interventions. From the articles reviewed, some of the interventions made a significant difference which was sustained eight months afterwards. After the adolescents were exposed to the mental health education programme, the assessment revealed

that pro-social behaviour improved with a decline in social difficulties, hyperactivity, somatization, and anxiety (Berger et al., 2018). Another study revealed a decrease in parent and teacher-reported internalizing and externalizing symptoms among school-going adolescents exposed to ESPS programmes in Tanzania (Winther et al., 2014). There was a drastic reduction in children's self-reported anxiety symptoms with improved coping abilities in the intervention group immediately after the programme. However, the improvement cannot be sustained at 12 months follow-up (Waters et al., 2015).

3.3.6 Outcomes and instruments used in measuring.

Outcomes measures by the articles selected for the scoping review include functional impairment, somatic complaints, mental health problems, academic achievements, oppositional defiant disorders, anxiety, depression, help-seeking behaviour, stigma, self-esteem, resilience, coping, negative attention bias and life satisfaction.

The SDQ measured the risk for mental health problems in three articles. Anxiety was measured with different validated instruments in three articles. The names of the instruments were: Spence Anxiety Scale, Anxiety and Stress Scale and generalized anxiety disorder scale. Self-esteem was measured in two articles by the Rosenberg Scale of Self-Esteem (RSES) (el Bouhaddani et al., 2019; Srikala & Kishore Kumar, 2010) and one article by Inside-Out resilience Questionnaire (Kelley et al., 2021) The behaviour of in-school adolescents was measured with different instruments in different studies. One study used the child behaviour checklist, while the other used the behaviour assessment system. In two studies, the short Warwick-Edinburgh mental well-being Scale measured mental well-being among in-school adolescents (Gonsalves et al., 2021; Kelley et al., 2021). Depression was measured in three different scales in different articles. Depression Anxiety and Stress Scale, Children’s Depression Inventory and Children’s Depression Rating Scales – Revised (CDRS-R) were used respectively for the studies. The Perceived Stress Scale was used to measure stress in two articles. In contrast, the parent version of Kiddie Schedule for Affective Disorders and schizophrenia was used to conduct disorders among in-school adolescents in the selected articles reviewed. Two studies identified that a proportion of parents did not give consent for school children who had been identified by the school counsellor to be experiencing anxiety symptoms (Lindow et al., 2020; Waters et al., 2014). Another barrier identified is the need

for more facilitators for the intervention Gillham et al., (2007) and that most interventions needed to be incorporated into the school curriculum. As such, the time was insufficient to cover the stipulated exposures to the intervention (Johnson & Wade, 2021).

3.4 Discussion

Out of the 16 articles selected, only two studies were carried out in Africa. Notably, over 2.5 billion of the world's total population are children and adolescents, with a more significant proportion living in low-income and middle-income countries (LMICs) (Chaulagain et al., 2019). However, this region needs more information on mental health promotion strategies. This finding was supported by Barry et al., (2013), stating the paucity of data from low-income and middle-income countries.

Incorporating mental health promotions into the school setting is germane to the optimal mental health of adolescents. Likewise, identifying that more of their time is spent in school gives them an immense opportunity to reach out to many simultaneously. With the increase in the prevalence of mental health disorders among adolescents, evidence-based processes must be employed to identify needed school-based mental health components (Kutcher & Wei, 2018). The mental health school-based intervention participants identified in this review were primarily adolescents between the ages of 10 and 18, except for two studies whose participants' lower age limit was less than ten years. This finding shows the appropriateness of the age of participants because it was documented that over 50% of mental health disorders emerge around the 14th year of age (Long et al., 2021; Sanchez et al., 2018). This aligns with the findings from Nobre et al., (2021) in a scoping review on promoting mental health literacy in adolescents.

The primary review question intended to explore the concept and context of school-based mental health programmes worldwide. It is evident from the results that other components aside from mental literacy were discussed. These include resilience, self-esteem, coping with stress, and mindfulness. The other interventions assessed knowledge and attitude with a minor focus on help-seeking behaviours. Findings from this review identified other mental health components critical to mental health promotion and mental health disorder prevention. According to Srikala and Kumar (2010), life skills are primary adaptive and positive behaviours individuals need to weather

the storm of life. Like the findings from a systematic review of the effectiveness of mental health promotion interventions for youths, life skills were one of the major components identified alongside reproductive health, physical health and prosocial behaviour (Barry et al., 2013).

A significant proportion of interventions was administered by the schoolteachers, intervention trainers, school administrators, graduate students (in education and psychology) and counsellors. This was supported by Sanchez et al., (2018) in a meta-analysis on the effectiveness of school-based mental health services for school children. These authors acknowledged the shortage of mental health professionals within school settings; however, concerns were raised about the limitation of applying evidence-based mental health practices (Sanchez et al., 2018). Only one study indicated that nurses facilitated the delivery of the school-based mental health education programme for in-school adolescents. A significant proportion of the interventions were presented by classroom teachers, clinical psychologists, specific trainers of the invented intervention and a few by the school administrator and family welfare officers. This result is in accordance with the findings from Nobre et al., (2021). Skundberg-Kletthagen and Moen (2017) documented that school nurses are better equipped to confidently relate to and manage adolescents facing mental health challenges through high-quality service delivery. Granrud et al., (2019) stated that nurses in school health services play an essential role in promotion, prompt detection, early intervention, and treatment. According to Bjørnsen et al., (2017), mental health education thus cannot be separated from school health services delivered by school nurses. The unique function of the school nurse is to collaborate with other healthcare professionals in sustaining and promoting health, focusing on the approach that examines factors contributing to maintaining physical and mental health (Nobre et al., 2021). Thus, building mental health through an approach that only investigates the factors contributing to promoting and maintaining mental well-being rather than the disease condition. With nurses on the frontline of ensuring optimal mental health among adolescents in school settings, they are also able to train teachers to administer the intervention in the absence of a school nurse (Bjørnsen et al., 2019).

The primary mode of delivery of education programmes identified by most articles included in the review was the didactic one. The didactic teaching method was identified to promote the needed knowledge, skills, values, and attitude in most school-based mental health education programmes

reviewed. The results showed that most authors used the strategies of direct instructions like physical teaching, interactive instructions such as role-play, and the use of vignettes often guided by an instructional guide. According to Sanchez et al., (2018), the duration of delivering an intervention could make it more effective. Short interventions recorded comparable effects to the programmes that ran for a long time. Hence, the frequency and intensity determine the overall level of effectiveness of any intervention (Sanchez et al., 2018). This finding is contrary to other scholars' findings that interventions carried out for an extended period should enhance the level of effectiveness of an intervention. (Barry et al., 2013).

3.5 Conclusions

Adolescents been the target age group for this study is appropriate. The reason has been that there is an increase prevalence of mental health disorders among the age group and there is evidence that half of the incidences begin in early adolescence. It is also believed that it is at this developmental stage of life that adolescents learn and imbibe healthy practices to improve their mental health now and also in the future.

In a few instances, a theoretical framework was used to guide the development of mental health education programmes. Ideally, theoretical framework put together constructs held on proposed explanation to guide researchers in the execution of an intervention. However, there are indications from the findings of the scoping review that the context of an intervention programme is equally important for its effectiveness. Concluding from the review, a theoretical framework is not mandatory for the development of a school-based mental health education programme.

Few schools incorporated school-based mental education programmes into the school curriculum while the majority did not as evidence by the scoping review results. For the schools who do not incorporate the programme into the school curriculum, adolescents were either exposed to intervention during the break time or after school hours. The time at which in-school adolescents were exposed to the various intervention ranged from 30 – 90 minutes, every week running from 4 – 10 sessions, apart from the resilience programme administered over three years.

The schoolteachers and the school counsellors facilitated most of the school-based mental health education programmes reviewed after being trained by the intervention developer. As shown by the scoping review, other facilitators included clinical psychologists, graduate students,

postgraduate psychology interns, school welfare officers, and mental health professionals. It can be concluded that a school-based mental health education programme should be incorporated into the school curriculum, with a minimum of 45 minutes exposure to the programme weekly for an average of 5 sessions and facilitated by a school nurse.

In conclusion, evidence garnered from the scoping review that will inform the development of the school-based mental health education program include incorporating the programme into the school curriculum for all adolescents in the school, not using a theoretical framework to underpin the development of the programme, the researcher facilitates the programme in collaboration with other members of the health team, and also train the schoolteachers and counsellors in the absence of a school nurse. A baseline assessment will be carried out at the beginning of the programme, a summative assessment at the end of the programme, and a follow-up assessment at the predetermined period at one, three, and six months respectively, post-exposure to the programme.

3.6 Summary

The chapter presented a scoping review to explore documented school-based mental health programmes. Arksey and O'Malley's (2005) framework guided the review to enhance clarity and rigour. Since the review aimed to explore and provide a map to the development of a school-based mental health educational programme, a formal assessment of the quality of the methodology in selected articles was not performed (Arksey & O'Malley, 2005). Sixteen studies met inclusion in the review. The scoping review showed that school-based mental health interventions targeted at in-school adolescents are a tool to attain optimal positive mental health outcomes. The next chapter will present the quantitative survey results that determined adolescents' knowledge, attitude and mental health status. A discussion of the significant findings will follow this.

CHAPTER FOUR

RESULTS AND DISCUSSION: KNOWLEDGE, ATTITUDE AND MENTAL HEALTH STATUS OF IN-SCHOOL ADOLESCENTS

4.1 Introduction

In this chapter, the profile of knowledge, attitude and mental health status of in-school adolescents in Lagos, Nigeria is presented. The aim of obtaining this baseline data was to use the findings to inform the development of a school-based mental health education programme. The target population included all in-school adolescents in two selected government secondary schools in Ikorodu Local Government Area of Lagos State, Nigeria. A sample size of 160 (n=160) was calculated using a sample formula and in school adolescents were recruited through a systematic random sampling for the study. Data were collected by way of a questionnaire comprising four self-contained sections (Appendix F); data were analyzed by the means of descriptive and inferential statistics at a level of significance set at $p<0.05$. Towards the close of the chapter, the findings are discussed and integrated into the existing body of literature.

4.2 Presentation of results

One hundred and sixty questionnaires were distributed, but only 148 were properly filled in and returned giving a response rate of 92.5%. The tool used to determine adolescents' knowledge, attitude and mental health status was in four sections. The first section was a self-designed collection of variables that elicited the socio-demographic characteristics of the respondents. The second section comprised 29 items that assessed the level of knowledge of adolescents on mental health based on the 'Yes' or 'No' response option. The third section consisted of 12 items describing in-school adolescents' attitudes. The fourth section comprised 25 items on psychological attributes answered on a Likert scale of 'not true', 'somewhat true' and 'certainly true'. The degree of agreement to determine the level of knowledge, attitude and mental health status has been discussed under Chapter two (refer to 2.5.1.4).

4.2 1 Characteristics of the respondents

The mean age of the respondents was 14.43 Standard Deviation [SD] =1.95. More than half of the participants (n = 77; 52%) were in their advanced adolescent age of 16-19 years, largely males (n

= 92; 62.2%) and of Christian religion (n = 111; 75%). More than half (n = 84; 56.8%) of the participants were in the senior classes (senior secondary classes 1-3) while the rest were in the junior classes. The largest proportion (n = 122; 82.4%) of the respondents were ranked second or higher in terms of their position in the family. This implies that the majority had one or more siblings older whom they could relate with, learn from or lean on.

Considering the adolescents' family characteristics, the majority had a father with tertiary education (n = 116; 78.4%) or/and a mother with tertiary education (n = 91; 61.5%). Less than half (n = 69; 46.6%) reported having both parents employed while (n = 12; 8.1%) had parents who were both unemployed. Good employment in the family enhances healthy family relationships and contributes to good mental health.

Most respondents' families were high income families in Nigerian context. More than half (n = 58; 59.5%) of the respondents reported their family monthly income as N500,000 and above (about USD$1,000 or more). The rest (n = 60; 40.5%) reported less than N500,000 per month as their monthly family income. However, more than half of the families (n = 79; 53.4%) have large family size, more than four children in the family while the rest have fewer than four children. Table 4.1 summarizes the sociodemographic and family characteristics of respondents.

Table 4.1: Sociodemographic and family characteristics of respondents (n = 148)

Respondents' Characteristics		
	Frequency (n)	Percent (%)
Age (Mean = 14.43 ± 1.95)		
10-12 (Early Adolescence)	22	14.9
13-15 (Mid Adolescence)	49	33.1
16-19 (Advanced Adolescence)	77	52.0
Gender		
Female	56	37.8
Male	92	62.2
Religion		
Christian	111	75.0
Islam	37	25.0
Class		
Junior class (JSS 1-3)	64	43.2
Senior class (SSS 1-3)	84	56.8
Child's Position in the Family		
First	26	17.6
Second	53	35.8
Third or higher	69	46.6
FAMILY CHARACTERISTICS		
Father's Education		
None	3	2.0
Primary	1	0.7
Secondary	28	18.9
Tertiary	116	78.4
Mother's Education		
None	7	4.7
Primary	7	4.7
Secondary	43	29.1
Tertiary	91	61.5
Parents' Employment Status		
Both Employed	69	46.6
Both Unemployed	12	8.1
One Employed (Father)	46	31.1
Single Parent Employed (Mother)	18	12.2
Single Parent Unemployed	3	2.0
Number of Children		
1 – 4	69	46.6
More Than 4 Children	79	53.4
Household Income		
Below ₦500,000	60	40.5
₦500,000 – ₦1,000,000	58	39.2
₦1,000,000 or above	30	20.3

4.2.2 Sedentary behaviour and physical activities of in-school adolescents

As illustrated in Figure 4.1, the majority (n = 81; 55%) of adolescents spent between one and three hours on study per week, (n = 37; 25%) spend less than one hour while (n = 30; 20%) spend more than three hours on study per week. About 60% reported that they spend one to three hours on the phone, (n = 15; 10%) spend less than one hour, and (n = 44; 30%) spend more than three hours on the phone per week. Information on time spent on a computer per week reveals that most of the adolescents (n = 64; 43%) spend less than one hour on it, (n = 62; 42%) spend between one to three hours while the remaining (n = 24; 16%) spend more than three hours on computer per week.

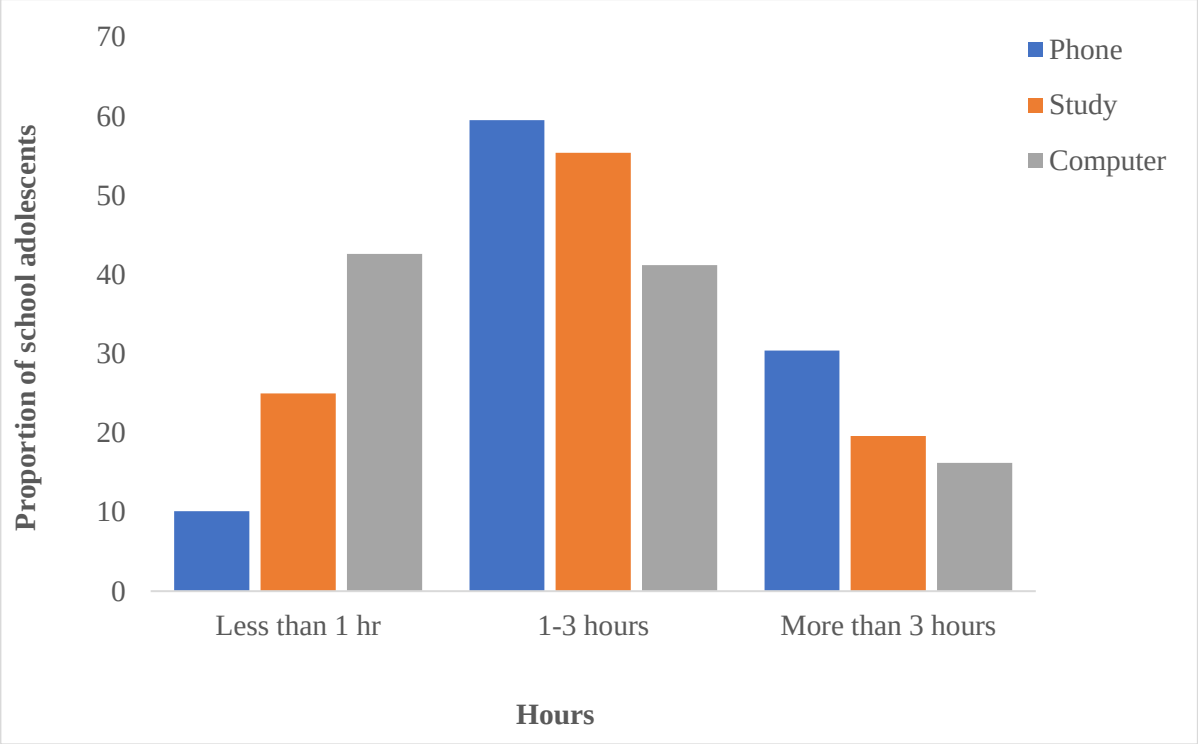

Figure 4.1: Weekly duration of sedentary behaviour (n =148)

The results on weekly physical activities show that the majority (n = 112; 76%) spend less than 30 minutes on vigorous activities while (n = 36; 24%) spend more than 30 minutes on such activity per week. Fewer than half (n = 65; 44%) of the adolescents spend less than 30 minutes on moderate physical activity, and (n = 83; 56%) spend more than 30 minutes per week; mild activities for less than 30 minutes per week are carried out by two-thirds (n = 99; 66.9%) of in-school adolescents. Figure 4.2 shows the time spent on various levels of physical activities per week.

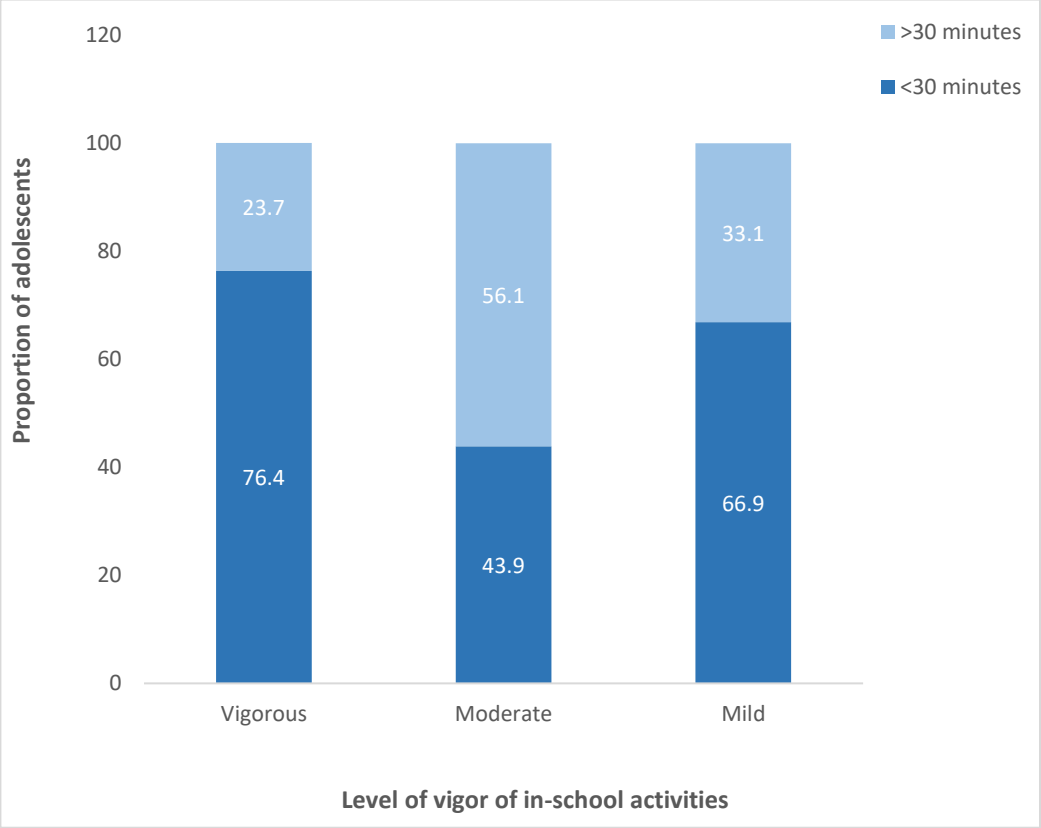

Figure 4.2: Weekly time spent on physical activities in school (n = 148)

4.2.3 Assessment of in-school adolescents' knowledge of mental health

Adolescents were required to identify items on the second section of the tool that best describe their knowledge about a specific mental health aspect. Table 4.2 presents the self-reported knowledge of school adolescents on a range of item-specific mental health issues. Approximately six out of ten adolescents report that a mark of disgrace or looking down on the mentally ill is not common in Nigeria (n = 101; 68.2%); and that the most common mental disorders in teenage girls are eating disorders (n = 89; 60.1%). Only a few (n = 20; 13.5%) in-school adolescents knew that working on the mind and emotional state as well as taking medications are useful interventions for adolescent mental health disorders. In like manner, (n = 23; 15.5%) of in-school adolescents were able to identify the major risk factors for teen suicide.

Table 4.2: Item-specific knowledge on mental health of in-school adolescents (n=148)

S/N	Items	Yes n(%)	No n(%)
1	Phobia is an intense fear about something that might be harmful	12(8.1)	136(91.9)
2	Working on the mind, emotional state and taking medication are useful interventions for adolescent mental disorders	20(13.5)	128(86.5)
3	Mental distress can occur in someone who has a mental disorder.	39(26.4)	109(73.6)
4	A mark of disgrace or looking down against the mentally ill is uncommon in Nigeria	101(68.2)	47(31.8)
5	Taking illegal drugs is commonly paired with a mental disorder.	55(37.2)	93(62.8)
6	The most common mental disorders in teenage girls are eating disorders.	89(60.1)	59(39.9)
7	The stresses of being a teenager are a major factor leading to suicide	57(38.5)	91(61.5)
8	Three of the strongest risk factors for teen suicide are: romantic breakup, conflict with parents, and school failure.	23(15.5)	125(84.5)
9	split personality is a serious mental disorder of interpreting reality abnormally	58(39.2)	90(60.8)
10	A depressed mood that includes a drop in school grades and lasts for a month or longer in a teenager is very common and should not be confused with a clinical depression that may require professional help	40(27.0)	108(73)
11	A mental disorder characterized by persistent and excessive worry about several different things usually arises from being burned out by stressful events.	46(31.1)	102(68.9)
12	Diet, exercise and establishing a regular sleep cycle are all effective treatments for many mental disorders in teenagers.	44(29.7)	104(70.3)
13	An eating disorder characterized by low weight, food restriction and fear of gaining weight is very common in teenage girls	32(21.6)	116(78.4)
14	A mental health condition that causes mood shift and extreme alterations in energy and activity levels is also known as manic depressive illness.	49(33.1)	99(66.9)
15	The panic attacks that occur as part of panic disorder usually come “out of the blue”.	59(39.9)	89(60.1)
16	Obsessions are thoughts that are unwanted and known to be incorrect.	66(44.6)	82(55.4)
17	Mental disorders may affect between 15-20 percent of Nigerians.	52(35.1)	96(64.9)
18	Youth who have the fear of being judged, negatively evaluated or rejected in a social performance situation do not get well with treatment.	50(33.8)	98(66.2)
19	Depression affects about 2 percent of people in Nigeria	70(47.3)	78(52.7)
20	A psychiatrist is a medical doctor who specializes in treating people with mental illness.	31(20.9)	117(79.1)
21	A mental health condition that affects attention ability to sit still and have self-control is equally common in boys and girls.	36(24.3)	112(75.7)
22	A feeling of having seen, heard, tasted, touched something that wasn’t actually there is known as hallucination	39(26.4)	109(73.6)
23	Panic Disorder is characterized by reoccurring unexpected panic, palpitations, sweating, shaking, shortness of breath, or feeling that something terrible is going to happen	42(28.4)	106(71.6)
24	Medications are helpful in treating some of the symptoms of mental disorder in which people interpret reality in an abnormal way.	43(29.1)	105(70.9)
25	A delusion is defined as seeing something that is not real.	36(24.3)	112(75.7)
26	Lack of pleasure, hopelessness and fatigue can all be symptoms of a clinical depression.	58(39.2)	90(60.8)
27	Nobody with mental disorder in which people interpret reality in an abnormal way ever recovers to the point where they can live a positive life.	65(43.9)	83(56.1)
28	People with mania may experience strange feelings of unrealistic sense of superiority	52(35.1)	96(64.9)
29	Mental disorders are problems of the mind and emotion that are often caused by poor nutrition.	67(45.3)	81(54.7)

The summary of in-school adolescents' knowledge of mental health showed that only a quarter (n = 37; 25%) reported high knowledge level, (n = 19; 12.8%) reported moderate knowledge while about two-thirds (n = 92; 62.2%) reported that they had low knowledge.

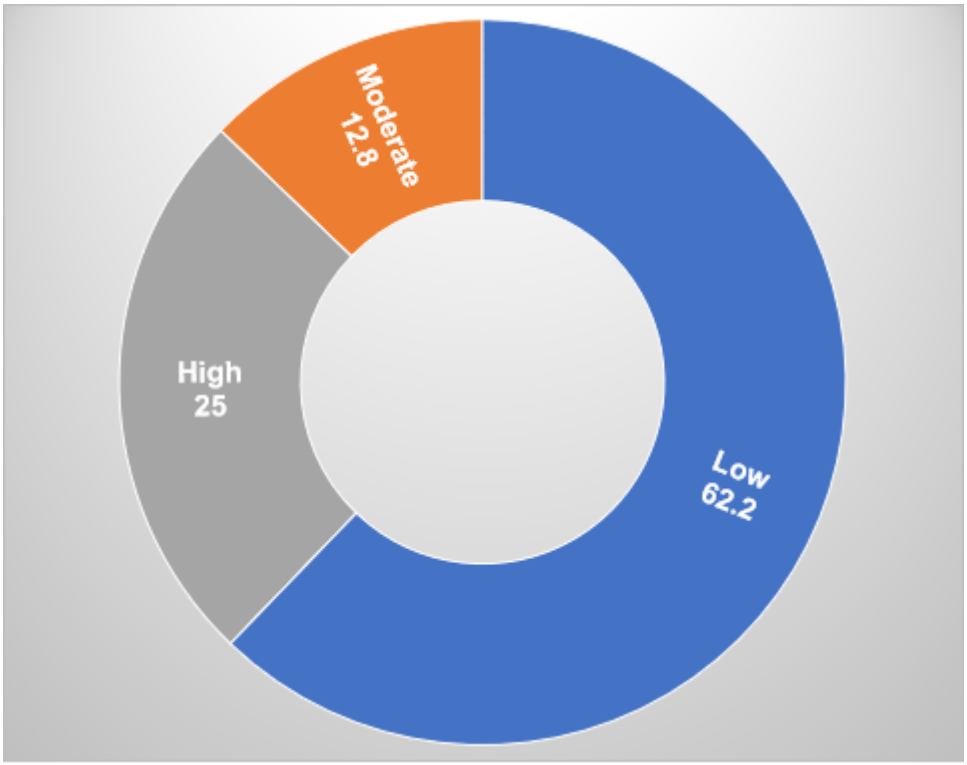

Figure 4. 3: Summary of in-school adolescents' knowledge of mental health

4.2.4 Association between knowledge levels and socio-demographic characteristics of in-school adolescents

In relation to the association between the socio-demographic characteristics with knowledge of mental health among in-school adolescents, it was found that age (p=0.272), gender (p=0.223), religion (p=0.891), class in school (p=0.174), parents' education (p=0.384), parents' employment status (p=0.291), and household income (p=0.083) of respondents were not statistically associated with mental health knowledge at the level of significance p<0.005 (Table 4.3).

Table 4.3: Mental health knowledge of in-school adolescents by socio-demographic characteristics

	Knowledge about mental health			
Respondents' Characteristics	Low	Moderate	High	Chi-square
Age				
10-12 (Early Adolescence)	13 (59.1)	5 (22.7)	4 (18.2)	5.153 p=0.272
13-15 (Mid Adolescence)	46 (66.7)	9 (13.0)	14 (20.3)	
16+ (Late Adolescence)	33 (57.9)	5 (8.8)	19 (33.3)	
Gender				
Female	36 (64.3)	4 (7.1)	16 (28.6)	2.998 p=0.223
Male	56 (60.9)	15 (16.3)	21 (22.8)	
Religion				
Christian	68 (61.3)	15 (13.5)	28 (25.2)	0.2249 p=0.891
Islam	24 (64.9)	4 (10.8)	9 (24.3)	
Class in school				
Junior class (JSS 1-3)	37 (57.8)	12 (18.8)	15 (23.4)	3.497 p=0.174
Senior class (SSS 1-3)	55 (65.5)	7 (8.3)	22 (26.2)	
Child's Position in the Family				
First	16 (61.5)	5 (19.2)	5 (19.2)	2.899 p=0.575
Second	35 (66.0)	7 (13.2)	11 (20.8)	
Third or higher	41 (59.4)	7 (10.1)	21 (30.4)	
FAMILY CHARACTERISTICS				
Parents' Education				
Both has no tertiary education	15 (60.0)	3 (12.0)	7 (28.0)	4.162 p=0.384
One has tertiary education	20 (51.3)	8 (20.5)	11 (28.2)	
Both has tertiary education	57 (67.9)	8 (9.5)	19 (22.6)	
Parents' Employment Status				
Both Employed	45 (65.2)	7 (10.1)	17 (24.6)	4.967 p=0.291
One/single parent employed	40 (62.5)	7 (10.9)	17 (26.6)	
Both Unemployed	7 (46.7)	5 (33.3)	3 (20.0)	
Household Income				
Below ₦500,000	35 (58.3)	10 (16.7)	15 (25.0)	8.232 p=0.083
₦500,000 – ₦1,000,000	40 (69.0)	8 (13.8)	10 (17.2)	
₦1,000,000 or above	17 (56.7)	1 (3.3)	12 (40.0)	

4.2.5 Attitude of in-school adolescents towards mental health

To determine adolescents' attitude towards mental health, they were asked to indicate their level of agreement with responses using a 3- point Likert scale. Table 4.4 depicts item-specific attitude of in-school adolescents towards mental health. A large proportion (n = 96; 64.9%) of in-school adolescents agreed that most people with mental illnesses are too disabled to work which is a

display of negative attitude. A little above have of in-school adolescents self-reported that they cannot rely on people with mental illness (n = 79; 53.4%); opined that people with mental illness tends to bring it on themselves (n = 75; 50.7%) and claimed not to date anyone who has mental illness (n = 75; 50.7%). Although a substantial proportion (n = 96; 64.9%) said no to being close friends with someone with mental disorder, a little above (n = 79; 53.4%) claimed not avoid someone with mental illness.

More than half (n = 87; 58.8%) claimed that they would tutor a classmate who gets behind in his/her studies because of mental illness with a fewer proportion (n = 65; 43.9%) not worried to live next door with someone diagnosed to have mental illness.

Table 4.4: Item-specific attitude responses towards mental health of in-school adolescents

Items	Disagree	Not sure	Agree
	n(%)	n(%)	n(%)
Most people with mental illness are too disabled to work.	46(31.1)	6(4.1)	96(64.6)
People with mental illness tend to bring it on themselves	56(37.8)	17(11.5)	75(50.7)
People with mental illness do not try hard to get better	81(54.7)	20(13.5)	47(31.8)
You cannot rely on people with mental illness	51(34.5)	18(12.2)	79(53.4)
Most violent crimes are committed by people with mental illness	67(45.3)	12(8.1)	69(46.6)
Would be upset if someone with mental illness always seat next to me in class	74(50.0)	13(8.8)	61(41.2)
Would not be close friends with someone I knew with mental illness	46(31.1)	6(4.1)	96(64.9)
Would not want to be taught by a teacher who had been treated for mental illness	74(50.0)	11(7.4)	63(42.6)
Would tutor a classmate who get behind in their studies because of mental illness	46(31.1)	15(10.1)	87(58.8)
If I know someone who has mental illness, I will not date them	54(36.5)	19(12.8)	75(50.7)
Wouldn’t mind if someone with mental illness lived next door to me	64(43.2)	19(12.8)	65(43.9)
Would avoid someone with a mental illness	79(53.4)	18(12.2)	51(34.5)

Figure 4.4 summarizes the attitude of in-school adolescents towards mental health, pointing to a negative attitude for the majority of the participants (n = 81; 54.7%); about one-third (n = 50; 33.8%) reported positive attitude while 11.5% (n= 17) reported a very positive attitude towards mental.

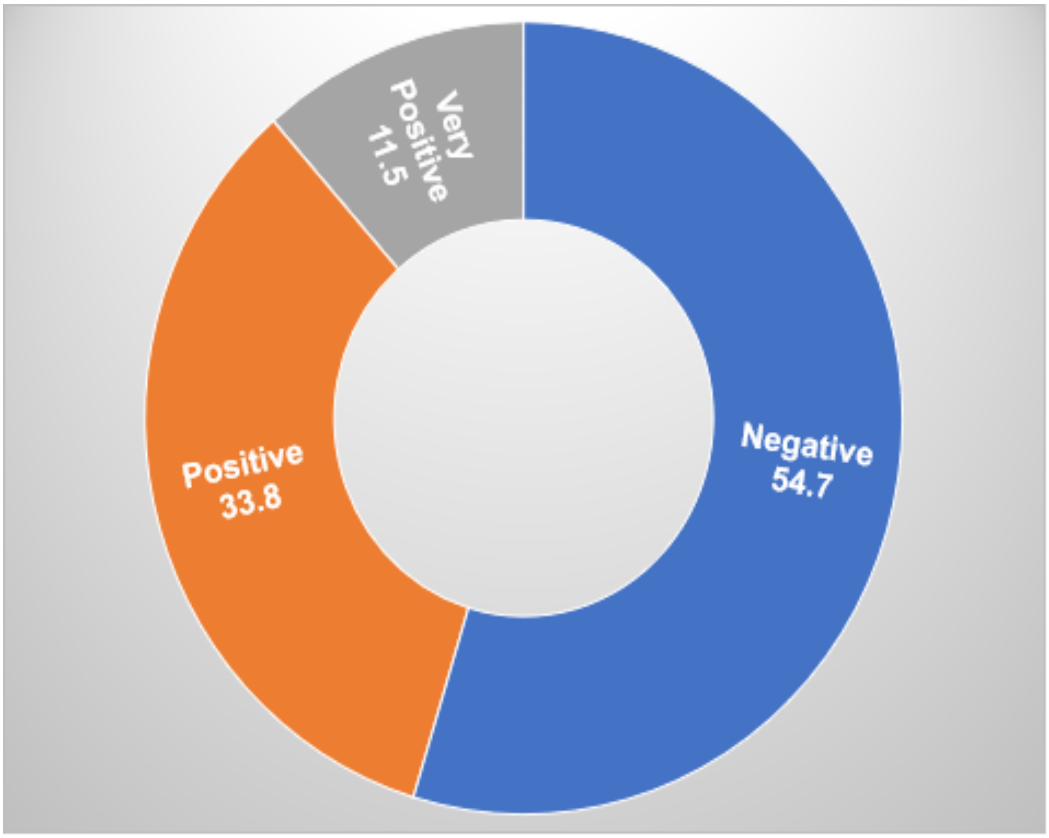

Figure 4.4: In-school adolescents' attitude to mental health

4.2.6 Association between attitude towards mental health and socio-demographic characteristics of in-school adolescents

There were only two socio-demographic characteristics that were significantly associated with the attitude of in-school adolescents towards mental health. The study revealed that there was a

significant association between in-school adolescents' age (p=0.005), and class (p<0.001) and their attitude towards mental health. However, no statistically significant association is seen in gender, religion, respondents' position in the family, parents' education, parents' employment status and household income.

Table 4.5: Attitude of in-school adolescents by socio-demographic characteristics

	Attitude towards mental health			
Respondents' characteristics	Negative	Positive	Very Positive	Chi-square
Age				
10-12 (Early Adolescence)	13 (59.1)	9 (40.9)	0 (0.0)	15.078
13-15 (Mid Adolescence)	35 (50.7)	29 (42.0)	5 (7.3)	p = 0.005
16+ (Advanced Adolescence)	33 (57.8)	12 (21.1)	12 (21.1)	
Gender				
Female	31 (55.4)	19 (33.9)	6 (10.7)	0.054
Male	50 (54.4)	31 (33.7)	11 (12.0)	p = 0.973
Religion				
Christian	58 (52.3)	40 (36.0)	13 (11.7)	1.184
Islam	23 (62.2)	10 (27.0)	4 (10.8)	p = 0.548
Class				
Junior class (JSS 1-3)	35 (54.7)	28 (43.7)	1 (1.6)	15.470
Senior class (SSS 1-3)	46 (54.8)	22 (26.2)	16 (19.0)	p < 0.001
Child's Position in the Family				
First	15 (57.7)	9 (34.6)	2 (7.7)	0.734
Second	28 (52.8)	19 (35.9)	6 (11.3)	p = 0.947
Third or higher	38 (55.1)	22 (31.9)	9 (13.0)	
Family characteristics				
Parents' Education				0.380
Both has no tertiary education	14 (56.0)	8 (32.0)	3 (12.0)	p = 0.984
One has tertiary education	22 (56.4)	12 (30.8)	5 (12.8)	
Both has tertiary education	45 (53.6)	30 (35.7)	9 (10.7)	
Parents' Employment Status				
Both Employed	37 (53.6)	22 (31.9)	10 (14.5)	3.369
One/single parent employed	34 (53.1)	25 (39.1)	5 (7.8)	p = 0.498
Both Unemployed	10 (66.7)	3 (20.0)	2 (13.3)	
Household Income				
Below ₦500,000	30 (50.0)	19 (31.7)	11 (18.3)	7.592
₦500,000 – ₦1,000,000	30 (51.7)	23 (39.7)	5 (8.6)	p = 0.108
₦1,000,000 or above	21 (70.0)	8 (26.8)	1 (3.3)	

4.2.7 Mental health status of in-school adolescents

The Strength and Difficulties Questionnaire assessed adolescents' mental health status by responding to 25 items on psychological attributes using the Likert scale. A lower proportion of respondents of 40% had emotional symptoms of mental health problems, with about 21% (n = 31) having a substantial risk of clinically significant emotional problems and 14.2% (n = 21) with a slightly raised risk of the problem, while the majority (n = 96; 64.9%) were at no risk of emotional symptoms. Compared with other variables used to assess the mental health status of in-school adolescents, (n = 55; 37.2%) were found to have substantial risk for clinically significant conduct problems. The proportion of in-school adolescents with hyperactivity problems revealed that the vast majority (n = 102; 69.4%) have no risk of having clinically significant hyperactivity problems. Similarly, summing the proportion that reported having slight risk (n = 43; 29.1%) and those with substantial risk (n = 38; 25.7%), more than half (n = 81; 54.8%) had peer problems (Table 4.6). Overall, 43.5% (n = 64) of the adolescents were not at risk for a psychological problem, 23.8% (n= 35) reported being slightly at risk, while the remaining proportion (n = 48; 32.7%) were substantially at risk of having a psychological challenge.

Table 4.6: Mental health status of in-school adolescents (n= 148)

	No risk of clinically significant problem	**Slight risk of clinically significant problem**	**Substantial risk of clinically significant problem**	**Total (n)**
Emotional symptoms	96 (64.9)	21 (14.2)	31 (21.0)	148
Conduct problems	54 (36.5)	39 (26.4)	55 (37.2)	148
Hyperactivity	102 (69.4)	22 (15.0)	23 (15.7)	147
Peer problem	67 (45.3)	43 (29.1)	38 (25.7)	148
Overall difficulty score	**64 (43.5)**	**35 (23.8)**	**48 (32.7)**	**147**
Prosocial behaviour (Strength)	118 (79.7)	13 (8.8)	17 (11.5)	148

4.2.8 Variations in mental health condition by adolescents' knowledge and attitude

This section showed how the spread out of respondents' knowledge levels and attitude allowed the researcher to describe the mental health status according to the categorization of 'not at risk',

'slightly at risk' and 'substantially at risk'. It is expected that adolescents with low (n = 46; 30.8%) and moderate (n = 16; 10.5%) knowledge levels about mental health will be substantially at risk. However, the self-report showed that a considerable proportion (n = 72; 48.7%) of adolescents with high knowledge levels are substantially at risk (Figure 4.5). This implies that their knowledge has not improved their mental health.

Figure 4.5 also showed that substantial risk of clinically significant mental health problem was highest among in-school adolescents with slightly positive (n = 59; 40.0%) and negative attitude (n = 48; 32.5%) to mental health issues, whereas it was lowest among those with very positive attitude (n = 17; 11.8%). However, slightly raised risk was highest among those with very positive attitude (n = 61; 41.2%) compared to negative (n = 33; 22.5%) and slightly positive (n = 30; 20.0%) attitudes If the categories to assess the mental health status are collapsed into those at risk (slightly and substantial) and those not at risk, it can be concluded that the majority of adolescents are at risk regardless of their attitude.

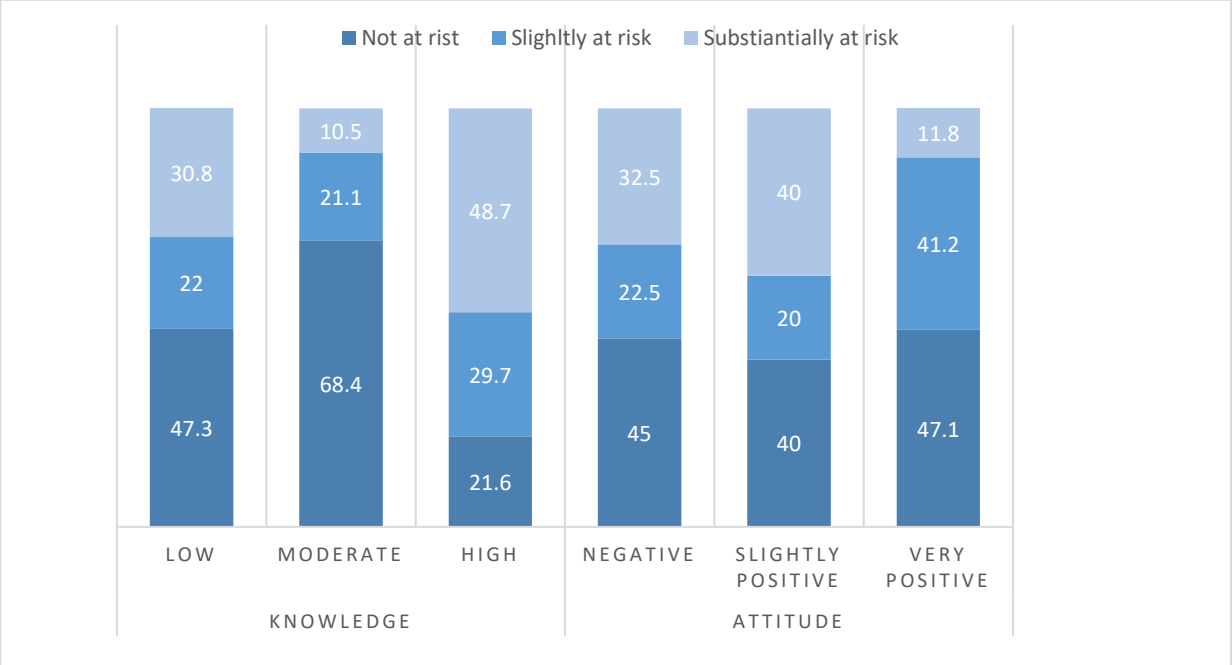

Figure 4. 5: Variations in mental health condition by adolescents' knowledge and attitude

4.2 9 Association between mental health status and socio-demographic characteristics, knowledge, and attitude

There was a statistically significant association between mental health status and knowledge (p=0.005) as well as the position of the respondent among other children in the family (p=0.040) (refer to Table 4.7). There was no statistically significant association between attitude (p=0.187), age (p=0.952), class (p=0.117), and gender (p=0.819). Also, there was no statistically significant association between religion (p=0.463), household income (p=0.882), parents' education (p=0.860) and parents' employment status as well (p=0.663).

Table 4.7: Association between sociodemographic characteristics, knowledge, attitude, and mental health status.

	Mental health status			
	No risk	Slightly risk	Substantially at risk	Chi-Square
Knowledge				
Low [R]	43 (47.2)	20 (22.0)	28 (3.8)	14.793 **p=0.005**
Moderate	13 (68.4)	4 (21.0)	2 (10.5)	p=0.005
High	8 (21.6)	11 (29.7)	18 (48.7)	
Attitude				
Negative [R]	36 (45.0)	18 (22.5)	26 (32.5)	6.169 p=0.187
Positive	20 (40.0)	10 (20.0)	20 (40.0)	p=0.187
Very positive	8 (47.1)	7 (41.2)	2 (11.8)	
Students' Socio-demographics				
Age				
10-12 years [R]	11 (50.0)	5 (22.7)	6 (27.3)	0.697 p=0.952
13-15 years	30 (43.5)	17 (24.6)	22 (31.9)	p=0.952
16+ years	23 (41.1)	13 (23.2)	20 (35.7)	
Class				
Junior class [R]	30 (46.9)	10 (15.6)	24 (37.5)	4.295 p=0.117
Senior class	34 (41.0)	25 (30.1)	24 (28.9)	p=0.117
Gender				
Female [R]	23 (41.1)	13 (23.2)	20 (35.7)	0.399 p=0.819
Male	41 (45.1)	22 (24.2)	28 (30.8)	p=0.819
Child's position in the family				
First [R]	17 (65.4)	5 (19.2)	4 (15.4)	9.799 **p = 0.040**
Second	23 (43.4)	9 (17.0)	21 (39.6)	p=0.040
Third or higher	24 (35.3)	21 (30.9)	23 (33.8)	
Religion				
Christianity [R]	49 (44.5)	28 (25.5)	33 (30.0)	1.541

				p=0.463
Islam	15 (40.5)	7 (19.0)	15 (40.5)	p=0.463
Family socio-economic				
Household Income				
Below N500,000 [R]	25 (42.4)	15 (25.4)	19 (32.2)	1.174 p=0.882
N500,000 – N999,999	27 (46.6)	14 (24.1)	17 (29.3)	p=0.882
N1,000,000 or above	12 (40.0)	6 (20.0)	12 (40.0)	
Parents' education				
Both no tertiary education [R]	10 (41.7)	6 (25.0)	8 (33.3)	1.309 p=0.860
One with tertiary education	20 (51.3)	8 (20.5)	11 (28.2)	p=0.860
Both tertiary education	34 (40.5)	21 (25.0)	29 (34.5)	
Parents' employment				
Both employed	29 (42.0)	18 (26.1)	22 (31.9)	2.401 p=0.663
One/single parent employed	26 (41.3)	14 (22.2)	23 (36.5)	p=0.663
Both Parents unemployed	9 (60.0)	3 (20.0)	3 (20.0)	

4.2.10 Knowledge and attitude as predictors of mental health status of in-school adolescents

The results in Table 4.8 present the binary logistic regression analysis of the association between adolescents' knowledge and attitude and the possibility of having clinically significant mental health problems. The unadjusted odds ratio (OR) in Model 1 shows that adolescents who reported high knowledge have three-fold higher odds of being at risk of a clinically significant mental health condition (OR=3.25; $p<0.05$; 95% C.I.=1.34-7.86) compared to their counterparts who had low knowledge – the reference group. Their counterparts who had moderate knowledge were not significantly different from the reference group. Adjusting for other factors including the adolescents' involvement in physical activity, socio-demographics and family characteristics in Model 2, the associations remain consistently significant.

None of the adolescents' physical activity status, socio-demographics and family characteristics was significantly associated with having clinically significant mental health problem except their birth order in the family. Adolescents who are in the third or higher birth order (OR=3.46; $p<0.05$; 95% C.I.=1.34-8.94) had more than three-fold higher odds of being at risk of clinically significant mental health problem compared to those who were the first born in the family. This association was consistent after adjusting for other factors in Model 2.

Table 4.8: Knowledge and attitude as predictors of mental health of in-school adolescents

	Model 1		Model 2	
	Unadjusted OR (95% C.I.)	Std. Err.	Adjusted OR (95% C.I.)	Std. Err.
Knowledge				
Low [R]	1.00		1.00	
Moderate	0.41 (0.14-1.18)	0.222	0.40 (0.13-1.28)	0.237
High	3.25 (1.34-7.86) **	1.465	3.88 (1.45-10.42) **	1.956
Attitude				
Negative [R]	1.00		1.00	
Positive	1.23 (0.60-2.51)	0.449	1.58 (0.70-3.59)	0.662
Very positive	0.92 (0.32-2.63)	0.493	0.77 (0.23-2.54)	0.469
Physical activity				
Active [R]	1.00		1.00	
Moderately active	0.84 (0.37-1.90)	0.351	0.58 (0.20-1.67)	0.313
Less active	1.22 (0.49-3.04)	0.569	1.05 (0.34-3.22)	0.601
Students' Socio-demographics				
Age				
10–12-year [R]	1.00		1.00	
13-15 years	1.39 (0.72-2.70)	0.470	2.65 (0.67-10.48)	1.860
16+ years	1.84 (0.16-21.20)	2.293	1.46 (0.07-30.63)	2.266
Class				
Junior class [R]	1.00		1.00	
Senior class	1.27 (0.66-2.45)	0.427	0.60 (0.15-2.48)	0.435
Gender				
Female [R]	1.00		1.00	
Male	0.85 (0.43-1.67)	0.292	0.91 (0.42-1.95)	0.353
Position among other children in the family				
First [R]	1.00		1.00	
Second	2.46 (0.93-6.52)	1.224	3.18 (1.05-9.59) *	1.791
Third or higher	3.46 (1.34-8.94) *	1.676	3.80 (1.25-11.57) *	2.158
Religion				
Christianity [R]	1.00		1.00	
Islam	1.18 (0.55-2.51)	0.455	1.31 (0.48-3.62)	0.679
Family socioeconomic				
Income				
Below N500,000 [R]	1.00		1.00	
N500,000 – N999,999	0.84 (0.41-1.75)	0.314	0.83 (0.33-2.08)	0.389
N1,000,000 or above	1.10 (0.45-2.70)	0.503	0.51 (0.15-1.76)	0.321
Parents' education				
Both no tertiary education [R]	1.00		1.00	
One with tertiary education	0.68 (0.24-1.89)	0.355	0.63 (0.19-2.08)	0.383
Both tertiary education	1.05 (0.42-2.64)	0.494	1.34 (0.43-4.16)	0.775

** p<0.01; * p<0.05; R reference category; C.I. Confidence Interval

4.3 Discussion

This study aimed at determining the knowledge, attitude and prevalence of mental health disorders among in-school adolescents in Lagos, Nigeria. As documented by Anderson and Priebe (2021), adolescence is a crucial time of human development that makes way for individual growth and development for the rest of life, characterized by cognitive, biological, and social changes. Numerous factors make the emergence of mental health disorders common during this period, which may result in adverse outcomes (Milin et al., 2016). The adverse outcomes begin by affecting adolescents involved, later spreading its tentacles to families and society (Barican et al., 2022).

The mean age of in-school adolescents that participated in the study was 14.43, indicating the age-appropriateness of the study. It has been documented that half of the mental health challenges emerge during adolescents' development, and three-quarters emerge before 25 years (Hendrickx et al., 2020; Ng et al., 2021; Nobre et al., 2021; Patafio et al., 2021).

For the course of the study, the sociodemographic data of in-school adolescents, including some variables to assess the socioeconomic status of their parents, such as the level of education, occupation, family income and the number of children in the family, were described. There are varying results from studies across regions regarding the effect of socioeconomic status on adolescents' mental health. Invariably, the socioeconomic status of the parents determines that of the adolescents. These include the educational level, occupation and family income. In addition, mental health inequities among adolescents due to their socioeconomic factors, recurrent exposure to discrimination and racism had been documented to have a negative effect on the mental health of adolescents (Harris et al., 2020; Weinberg et al., 2019).

Birth order is a variable that researchers rarely investigate; however, it is a significant variable that comes to play in adolescents' development. This study revealed that in-school adolescents with higher birth order had almost three times more association than the firstborn in the family. In line with this result, an association between adolescents with higher birth order and an increased risk of psychiatric disorders in a study in the United Kingdom (Easey et al., 2019).

Most studies assessed the knowledge and attitude of in-school adolescents on disease-specific conditions rather than the general knowledge of mental health (Al Omari et al., 2022). Others

conducted intervention studies emphasizing the results after the intervention (Lindow et al., 2020; Milin et al., 2016). The reason cannot be far-fetched because of the increased prevalence of these conditions among adolescents. Depression is the primary cause of disability among adolescents, and suicide is the third most common cause of death among this age group (Velasco et al., 2020). Most in-school adolescents who participated in this study reported low knowledge levels regarding mental health. This is similar to an Omani study of adolescents' knowledge and attitude towards mental health illness in which 60% and 80% of students reported poor knowledge and negative attitude, respectively (Al Omari et al., 2022). In a quasi-experimental study carried out among in-school adolescents in Italy, the baseline information showed that the respondents' reported level of knowledge and attitude was extremely poor, with only 5.33% of adolescents reporting positive knowledge on general mental health issues (Lanfredi et al., 2019). The result aligns with this study's findings that most adolescents reported poor knowledge. However, the contrary finding was reported in Chile and India. In a systematic review of the awareness rate of mental health knowledge among China adolescents, 66% had good awareness about mental health, which is very high compared with studies from this study, Italy and Omani (Guo et al., 2020). Also, in Tumkur, India, 60% of adolescents reported their knowledge level at the average level, with only 12% with good knowledge (Honnappa & Omkarappa, 2021).

More than half of adolescents (54.7%) showed poor attitudes in in-school adolescents. The findings from this study corroborated another study among in-school adolescents in Italy. Concerning their attitude score, a little above 10% had a positive attitude towards mental health. Although the study was quasi-experimental, the baseline data revealed that almost all the in-school adolescents had a negative attitude towards mental illness (Lanfredi et al., 2019). In contrast, studies conducted among in-school adolescents in Tumkur, India, through a descriptive survey design, reported that all adolescents who participated in the study reportedly had positive attitude (Honnappa & Omkarappa, 2021). The need to create awareness of mental health and embrace acceptance of those diagnosed with mental health challenges goes a long way in relieving the burden of mental health disorders with an emphasis on adolescents (Oduguwa et al., 2017).

The overall level of risk at the clinically significant level for an adolescent to develop mental health condition is about one-third of the total population of in-school adolescents. Conduct problems had the highest level of risk, followed by peer problems, then the emotional problem and lastly, hyperactivity problems. The findings from this study showed that 32.7% are substantially at risk

of mental health problems. In accordance with a study using the Strength Difficulties Questionnaires in Ghana carried out by (Addy et al., 2021), a little over half of the adolescents suggested a higher tendency for clinical mental health problems. This is relatively high compared with the findings from this study. From the study by Addy and colleagues, peer problem was the leading mental health disorder identified, which is contrary to this study, with conduct problem emerging as the leading mental health problem. With a large proportion of the respondents displaying good prosocial behaviours, the study in Ghana only showed that 5.4% of the students were at risk of prosocial behaviours. In line with the findings from this study, hyperactivity has the lowest score compared with other studies carried out in the southwest of Nigeria and Ghana (Addy et al., 2021; Obimakinde et al., 2019).

According to the findings of this study, close to half of the in-school adolescents with good knowledge are substantially at risk of having any of the three categories of mental health problems using the strength and difficulties questionnaire, such that adolescents whose knowledge about mental health was four times higher compared to those at risk of clinically significant mental health condition. Thus, suggesting that the adolescent's knowledge did not translate to mental health improvement.

4.4 Conclusions

From this study, most adolescents reported insufficient knowledge of mental health. Further, a considerable proportion reported negative attitudes towards mental health as well. Adolescents also reported that a significant proportion is at risk of conduct disorder, followed by peer problems and emotional problems, with hyperactivity in the minuscule proportion.

4.5 Summary

In this chapter, the profile of knowledge, attitude and mental health status of school-going adolescents was presented. The conclusions drawn for the quantitative survey were used as evidence from the quantitative data source to design a school-based mental health education programme for in-school adolescents. The next chapter focuses on the exploration of the perspectives of stakeholders on school-based mental health programme in Nigeria.

CHAPTER FIVE

RESULTS AND DISCUSSION: INDIVIDUAL STAKEHOLDER INTERVIEWS

5.1 Introduction

Stakeholder interviews were conducted to enhance intersectoral teamwork that promotes adolescents' mental health and fosters the delivery of quality mental health services. It is important to involve stakeholders at the baseline to help make informed decisions and provide the support needed for the long-term sustainability of the school-based mental health education programme. This chapter presents the qualitative findings from interviews with purposively selected stakeholders regarding their perspectives of content to be included in a mental health education programme for in-school adolescents in keeping with the study's second objective. The objective was achieved using a qualitative research design to elicit stakeholders, views of the adolescent mental education programme. One-on-one interviews were conducted with participants (n = 16) to understand the basic concepts in-depth. Thematic analysis was used to analyze data gathered using MAXQDA qualitative analysis software. The findings are presented in three sections; the participants' characteristics, the themes and subthemes that emerged from the data, and a discussion. The main findings were summarized at the end of this chapter.

5.2 Participant characteristics

The qualitative phase of the study included 16 individual interviews with the participants drawn from parents, doctors, adolescents, school nurses, psychologists, social workers, and representatives of the Ministry of Health and the Ministry of Education. These participant categories form the core of people involved in Adolescent Mental Health in Lagos and thus provide contextual perspectives on the study. The minimum age was 14 years (adolescent), and the maximum was 56 years (parent). To ensure anonymity, alphanumeric codes were attached to a participant's name in each category. For example, a parent was coded as parent A or B, a doctor as Dr. A, and the Ministries were coded using their abbreviation with a numeric value (MOE1, MOE2, MOH1, and MOH2, respectively). The characteristics and codes of the participants are shown in Table 5.1.

Table 5.1: Participants' demographic characteristics

Participants (Code)	Gender	Age (years)
Parent A	Male	56
Parent B	Female	43
Adolescent 1	Male	14
Adolescent 2	Female	17
Doctor I (Dr. A)	Female	37
Doctor II (Dr. B)	Male	32
Doctor III (Dr. C)	Male	40
Representative of Ministry of Education (MOE1)	Female	41
Representative of Ministry of Education (MOE2)	Male	37
Representative of Ministry of Health (MOH1)	Female	51
Representative of Ministry of Health (MOH2)	Female	45
Psychologist A	Male	29
Psychologist B	Female	25
Social Worker	Male	50
Nurse A	Female	35
Nurse B	Female	48
Total number of participants-16		

5.3 Themes and Subthemes

The qualitative thematic analysis produced five themes and 15 sub-themes. Theme 1: Concepts in Adolescent Mental Health, Theme 2: Influences on adolescent mental health, Theme 3: Being mentally healthy, Theme 4: Components of mental health education, and Theme 5: Sustaining adolescent mental health. The themes and their sub-themes are presented in Table 5.2.

Table 5.2: Themes and subthemes

Themes	Subthemes
Theme 1: Concepts in adolescent mental health	Subtheme 1: Understanding of adolescent mental health
	Subtheme 2: Mental health curriculum
	Subtheme 3: Mental health education platform
Theme 2: Influences on adolescent mental health	Subtheme 1: Parental and family influence
	Subtheme 2: Peer influence
	Subtheme 3: Professional influence
	Subtheme 4: School influence
Theme 3: Being mentally healthy	Subtheme 1: Benefits of being mentally healthy
	Subtheme 2: Consequences of not being mentally healthy
Theme 4: Components of a mental health education programme	Subtheme 1: Adolescent counselling and role modelling
	Subtheme 2: Mental health training
	Subtheme 3: Mental health screening
Theme 5: Sustaining adolescent mental health	Subtheme 1: Stakeholder collaborations
	Subtheme 2: Funding and resources for mental health
	Subtheme 3: Advocacy

5.3.1 Theme 1: Concepts in adolescent mental health

The concept of adolescent mental health encompasses an understanding of how adolescents relate and interact with others to be productive. It also entails the provision of educational instruments and media to enhance comprehension within the school setting. In this theme, three subthemes emerged from the data to illuminate participants' perspectives on the concepts that are embedded in adolescent mental health. The subthemes include understanding adolescent mental health, mental health curriculum, and mental health education platform.

5.3.1.1 Subtheme 1: Understanding of adolescent mental health.

Participants offered various understandings of adolescent mental health. One of the participants illustrated that adolescent mental health could be viewed as a complete state of emotional, mental, and social well-being where the adolescent can relate and interact well with others to be productive

and to function optimally (Dr C). From another participant's explanation, mental health entails the adolescent's totality of functioning, social well-being, and ability to cope with everyday stresses and contribute effectively to society (Psychologist B). The extracts below illuminate participants' conceptualization of adolescent mental health:

> *"…a state of complete emotional, mental, and social well-being and not merely the absence of physical illnesses or infirmities…" (Dr. A)*

> *"…is a state of mental wellness, where anyone can relate and interact well with others and be productive and function optimally… is a state of mind in which an individual can make certain decisions without much intervention". (Dr. C)*

Other participants added that understanding of mental health entails the ability to reason appropriately in all situations and being able to cope with activities of daily life.

> *"… a state of well-being of an individual whereby the individual can think appropriately, to feel appropriate, and to be able to cope adaptively with a normal day-to-day stressful event and being able to contribute effectively to their society". (Psychologist A)*

> *"Mental health is all about the totality of functioning of a human being… (Nurse A)*

> *"Mental health is a state of emotional social wellbeing and an individual's ability to cope with normal stresses of life and identify their potential in life". (Psychologist B).*

5.3.1.2 Subtheme 2: Mental health curriculum

In response to a question about having a structured, systematic and intentional education on mental health in schools, participants felt that educating adolescents about mental health should be introduced and incorporated into the secondary school curriculum. According to the participants, mental health education should have been incorporated into the secondary school's curriculum long ago. However, being introduced now will bring about good practice and positive

change. According to adolescents, incorporating mental health education will enable them to know the right way to live. In the process, in-school adolescents will be taught the essentials of mental health. This will assist adolescents in coping with regular daily stressors and improve their mental health through knowledge of appropriate coping strategies mediated through a school curriculum.

> *"It is very important to introduce school-based mental health curriculum into the secondary school's curriculum for adolescents to know the right way to live.". (Adolescent 1)*

> *"I believe it is something that should have been done before and I feel it coming now is a good change, positive change, hopefully, good practice as well. .... So mental health programs should be incorporated into our school curriculum..." (Dr. A)*

> *"It should entail the coping strategies to make them cope with their mental health when they are faced with different situations…" (MOE2)*

> *"… draw up programs, it will not be a bad thing if we have a curriculum where adolescents are exposed to the basics of mental health". (Psychologist A)*

5.3.1.3 Subtheme 3: Mental health education platform

Various activities provide in-school adolescents opportunities to support and enhance mental health education in school settings. These activities can be offered on education platforms that may or may not be part of their academic coursework. This can be seen in a study by Dray et al., (2017), in which mental health education contents were embedded in activities inside and outside the classroom. One participant, a social worker, emphasized that it should be compulsory for all schools to have mental health groups or clubs to facilitate mental health education for adolescents.

> *"The first thing I will suggest is that probably we should make it compulsory in all our schools to have a mental health club. ". (Social Worker)*

In cases where mental health education is not incorporated into the school curriculum, the early morning assembly can be a platform outside academic content to disseminate information on

mental health. As elaborated by two participants, the school assembly can serve as an education platform to disseminate mental health information to in-school adolescents.

> *"I think in every assembly, there should be 10-20 minutes moral talk planned for each week" (Psychologist A)*

> *".... probably during the assembly to just talk to the adolescents for 10-15 minutes about mental health". (Social worker)*

It was added that brain teasers and other brain-tasking games in schools would engage adolescents' thinking prowess outside the usual academic route and that these could be given to them before classes. This mainly sharpens their problem-solving ability using an indirect and creative approach through logical reasoning.

> *"Brain training exercises can also be included to help the adolescents get into the mood for the class, and I encourage class participation as well". (Psychologist B)*

> *"Activities that are brain tasking and refreshing like chess .... that make them to be mentally alert" .... (Parent B).*

In addition, teachers are to be trained to identify signs of mental health challenges for quick intervention and referral, depending on the severity. Also, the training of teachers will equip them with overall knowledge of adolescent mental health that may be applicable in their own homes. The mental health education platforms will also help conduct follow-up interactions with the adolescents to help ascertain their psychological needs. Ultimately, such platforms will form part of the school system to train the teachers. The following elucidates their view on the subtheme.

> *"... teachers should be trained, I think it should be part of their training, it should be mandatory that they should have some form of training in identifying students with psychological challenges...". (Dr. A)*

> *"The lectures given to teachers will be applicable at their own homes, to their families and their friends and their students as well, so, teachers need to be trained". (MOE2).*

Education on mental health exposes adolescents to activities that will improve their mental health status. The activities include basic life skills, such as teaching them to be assertive, improving their ability to adjust adequately and appropriately to life situations, and problem-solving skills.

"Activities that can include occupational therapy assessment…vocational training… preventing maladaptive coping skills, problem-solving strategies, assertiveness training which just involve them being assertive with their intention ". (Psychologist B)

The importance of having mental health education for adolescents in school settings cannot be overplayed. One of the points laid out by one of the participants is that it is an avenue to identify warning signs of mental health challenges early in life, provides a platform for continuous care and monitoring for identified cases, and improves the physical, academic and interpersonal relationships of adolescents.

"…student will benefit from continuous care and monitoring which will not be feasible if such students must come to a clinic outside the school…" (Dr. A).

"…you can pick and identify some certain forms of mental challenges very early in life that might have not even been identified by the parents. ". (Dr. B)

Another participant was of the view that mental health education can be a good platform to discourage adolescents from social vices such as substance abuse, which can be controlled so that it does not increase.

"Adolescents start all the social vices from; like going into substance abuse, going into some delinquencies that you may not imagine that adolescents are doing. So that is where you control their behaviour before it escalates". (Adolescent 1).

5.3.2 Theme 2: Influences on adolescent mental health

Many factors influence the mental health and well-being of adolescents. The family encompassing the parents and other siblings of the adolescents, colleagues and friends, experts in various walks of life and the school environment can affect the character, development, or behaviour of adolescents. From the interview, participants emphasized four sources of influences: parents and family, peers, professionals and the school environment. The subthemes that embody these influences are described below.

5.3.2.1 Subtheme 1: Parental and family influence

The bond that family members have towards one another has been identified to protect against stress among adolescents. Ideally, the relationship between adolescents and parents should be the one that cares for and protects them as they transition from childhood to adolescence. Hence, the importance of family influences the developmental trajectory of mental disorders among in-school adolescents. The period of transition is characterized by changes occurring continuously until adulthood. Often, physical, psychosocial or emotional changes result in the adolescent being insecure or unsure about self. It is noteworthy that the whole family is affected when an adolescent experiences a mental health challenge. If the situation is not well managed, the whole family feels the heat of great disturbance, confusion or uncertainty.

However, some parents have not been readily available for their adolescents, while some parents being separated exposes the family to dysfunction. From some participants' views, an adolescent with a mental health challenge can also make the family dysfunctional. The frequent hospital visits and financial obligations further strain family relationships. This can lead to parents being overwhelmed, resulting in the neglect of the adolescent being involved or too much concentration and attention on the adolescent to the detriment of other members of the family.

> *"And probably maybe their parents are not always around to actually study or observe the adolescent." (Dr. C).*

> *"Maybe the parents are separated or there is a form of family discord, this might lead to the adolescents not being mentally healthy." (Dr. B).*

> *"Where the interaction between the two parents is not good enough, definitely it will affect the adolescents, the parents, and even their mental well-being too". (MOE2).*

> *"Parents will obviously without knowing it love the child who behaves well more and start neglecting the one with weird behaviour." (Nurse B)*

> *If an adolescent in the house takes drug, the family relationship cannot remain the same because all the energy and resources will now be concentrated on that adolescent having problem." (Social worker)*

Parenting styles have a massive influence on adolescents' psychological and behavioural development. Some participants emphasized how relationships between parents and good family relationships influence mental health. Some participants have these to say:

> *"An adolescent from a family with good mental health will have the education impacted. You will see that she will behave far differently from an adolescent from another family that is not well informed". (Adolescent 1).*

> *"The parents also, the relationship with their adolescents. Parents should not be too aggressive. We always talk about the different types of parenting styles: authoritative, authoritarian, permissive, and negligence". (Dr. B)*

> *"Family plays a lot of roles and interaction among family many times affects the mental health of adolescents". (Psychologist A).*

A good relationship between parents and adolescents is essential, and it has to be strengthened by keen observation as adolescents grow. Observation helps the parent understand adolescents better and know their interaction with peers at home and in school. One of the participants believed that parents must observe adolescents' behaviour and attitude in the home and report to the teachers for comprehensive action (s).

> *"At times parents have made their observations and interactions with the teachers and school counselors." (MOE2).*

5.3.2.2 Subtheme 2: Peer influence

Peers play a significant role in the developmental process of adolescents. It strengthens the social, psychological and emotional development of in-school adolescents within the school settings. Following nature, a man is a social being; man cannot exist alone. In other words, social interaction is integral to human survival and essential to maintaining mental health. Hence, it is expected, healthy, and necessary for adolescents to mix and interact with peers during daily activities. Peer influence is a persuasive act of encouraging others to act accordingly, which happens most often unconsciously, with less chance of losing self-identity. The excerpt below indicates the perspective of one of the stakeholders:

".....so, peer influence is the essence in which adolescents try to copy their friends in doing what they are doing ....." (Social Worker).

However, it must be understood that the effect of this can be either positive or negative. Positive peer influence during adolescence has been connected to positive health outcomes such as the ability to build good interpersonal relations. The participants illuminated that being mentally healthy produces healthy and strong relationships with peers without yielding to pressures and intimidation.

"... Adolescent is mingling with the peers; the behavior will always tell that the adolescent has good psychological behavior". (Adolescent 1)

"Adolescents who are mentally sound seem to have healthy relationships with their mates, they won't easily succumb to peer pressure". (Dr. A).

"..... good mental health will reflect in their interpersonal relationship with their peers in school." (MOH1)

Social connection is one of the advantages of interacting with peers and colleagues. However, some adolescents are influenced by peer pressure into social vices, including substance abuse. With peer pressure, adolescents are often forced to conform to a group's standard. Often, individual identity is lost as adolescents are forced to follow others. This might be a result of low self-esteem or not being able to be assertive. The excerpts below present some perspectives of the participants:

"Some are doing it because of peer pressure, some are doing it to suppress or calm themselves – I mean different reasons for doing that". (MOE2)

"We hear about peer pressure, peer pressure is everywhere, but some people are highly susceptible to peer pressure". (Psychologist A).

"... due to peer pressure or curiosity, adolescents start to take psychoactive substances...." (Social worker).

“Adolescents are lured into drug abuse as a result of peer group influence” (Nurse A).

5.3.2.3 Subtheme 3: Professional influence

Professionals have an essential role in optimizing mental health among in-school adolescents. The level and approach of engaging adolescents go a long way in openness and help-seeking among them. Aside from the home unit, the schoolteachers are the following primary guardian of adolescents in school. It should also be noted that school-going adolescents spend more of their active time in school. Their experience with schoolteachers, school nurses, and other professionals determines if they are returning. As submitted by Zabek et al., (2022), mental health promotion is enhanced when adolescents are in contact with a caring adult aside from their parents. The trusted adults are often the professionals who have taken a special interest in them.

The teachers as the first critical contacts for adolescents in their respective schools and, as such, should be able to observe and report any changes in their behaviour during school hours, especially during academic activities and their interactions with peers. Teachers are significant for continuously disseminating mental health prevention strategies to adolescents and early identification and referral to the other mental health team members in the school. Teachers are significant for the continuous dissemination of mental health education to adolescents and early identification and referral to the other mental health team members in the school. Two of the participants intimated this:

"...the teacher might even be the first to observe that there is an issue with this adolescent, ... early identification, especially by the teachers, might help to curtail this illness". (Dr. B)

"They are the first point of contact to some of these young ones. Their mind is still flexible, an environment where you can imprint certain things on, and it will stay. It is a very good ground for them to start and it will be one of the perfect platforms to start". (Psychologist A)

Nurses are vital providers of mental health care for adolescents attending school. School nurses are the major personnel category that manages students’ health needs and mediates with other professionals in the school mental health team. Some roles of school nurses include conducting

regular psycho-educational screenings and appropriate referral to the mental health facility when needed, implementing interventions, and teaching adolescents' life skills to withstand stressful situations. Hence, their roles cannot be overstated. The following extracts illuminate the participants' perspectives:

> *"I agree that nurses should be involved in mental health care of in-school adolescents". (Dr. A).*
>
> *"It is very important to involve the school nurses in the mental care needs of adolescents because basically they are major personnel that actually manage students' mental health" (Adolescent 2).*

The availability and involvement of school nurses are germane in addressing adolescent mental health concerns. Ideally, schools should not be set up without a school nurse because a substantial time was documented addressing adolescents' mental health. The ripple effect of positive mental health of in-school adolescents on the family, other peers in the school, and the family cannot be overemphasized. Participants affirmed that school nurses play a vital role in the mental health care of in-school adolescents. Most participants felt every school should have a clinic with a school nurse.

> *"I agree that nurses should be involved in mental health care of in-school adolescents" (Dr. A)*
>
> *"Nurses are the key players when it comes to mental health, the role of nurses is important.....school nurses should be made available in each school with a school clinic" (Social worker).*

Attributes that enhance the school nurses' ability to perform duties and connect more easily with adolescents were emphasized in the interview. These attributes include being able to care, empathetic, and easy to confide in. The Nursing profession is caring, and because nurses are approachable and willing to help, the presence of school nurses should not be taken with levity. Stakeholders identified several importance of having school nurses placed in schools. The first importance attributed to having school nurses is the effective referral of in-school adolescents with mental health challenges. Another importance of school nurses, as identified by the participants, is the ability to assess, sensitize, conduct early screening, and psycho-educate school adolescents

on mental health issues. Participants elaborated that it should be the duty of school nurses to train in-school adolescent lifesaving skills and other educational programs.

> *"That is why you see a nurse everywhere and they are willing to render care. And because they are approachable, it is easier for adolescents to relate with them" (Nurse B)*

> *"School nurses will be able to refer appropriately to the mental health facility if need be" (Dr. B).*

> *"Training them for life saving skills and other educational programme should be the work of the nurses too" (MOE2)*

School nurses were recognised to anchor and coordinate mental health services, among other disciplines, for in-school adolescents. School nurses play a pivotal role in achieving optimal mental health; they care for adolescents and coordinate activities of other professionals in delivering mental health services for adolescents within the school settings; adequate training for nurses who work with school-aged adolescents is needed to improve health and well-being and reduce vulnerability. Although school nurses would have had some professional training and a degree of expertise in mental health, further training is still required to meet the mental health demands of adolescents in schools (Anttila et al., 2020).

> ..... *"Serve as an anchor to bring together other health professionals" (Psychologist B).*

> *".....but the nurses will stay on the neck of every other professional to have their job done" (Psychologist A)*

> *"Not to work with the normal hospital setting but have school-based training to deal with adolescents" (Nurse A).*

Although most participants affirmed the importance of having school nurses in schools, most public schools do not have them except for boarding schools. For private schools as well, not all could employ a registered school nurse because of the cost implications. School nurses meet with in-school adolescents continuously with numerous mental health needs in settings where they are available (Bohnenkamp et al., 2019). Hence, a gap is left unattended in public schools without school nurses.

"Going through Lagos state, no public school has a school nurse except those that are boarders" (Dr. A).

"I don't know how many schools can afford school nurses.... but if it is something the government and ministry of health applaud, maybe the nurses can be stationed in the schools" (Parent B)

The synergistic view of the participants was that nurses are to be well equipped with the needed skills and resources to recognise mental health problems, build trusting relationships and provide appropriate mental health services for in-school adolescents. One of the participants submitted that though a psychiatric nurse might be in the best position to attend to the mental health needs of adolescents in the school setting, a school nurse can fill in the gap in the absence of one. Further, it was illuminated that nurses can also be given additional training to meet the mental health demands of in-school adolescents. From another perspective, it was submitted that nurses could train schoolteachers on preventing mental health disorders, identifying subtle signs of mental disorders, and the intervention that can be given or referral can be made when necessary. This bridges the gap between the mental health needs of in-school adolescents and the availability of the school nurses that will provide the services.

5.3.2.4 Subtheme 4: School influence

The influence of the school environment on adolescent mental health cannot be neglected. The participants intimated that schools must be aware that their influence plays a significant role in assisting adolescents in optimizing their mental health. The school environment helps prevent mental illness by identifying cases and provides physical space for interaction between adolescents, peers, schoolteachers, and non-teaching staff. The school environment takes a critical lead second to the home in encouraging the promotion of mental health. School is the first social environment for adolescents where they spend more time in school than at home.

Some of the participants had this to say:

"*Schools have a major role because that is where young people come together to learn" (Adolescent A)*

"The school has a long role to play because adolescents spend so much time in school than at home" (Dr. C)

"School is an environment, and you know we are human being; we want to connect with people" (MOH2)

The school environment influences adolescent mental health positively. The school environment is a protective factor that promotes protection from danger, improved mental health, inspiration, and interpersonal relationships for positive outcomes such as good academic grades, good behaviour, and good interaction among siblings and parents. A good school environment facilitates physically and emotionally safe and supportive settings for the adolescent to thrive.

"The school environment enhances academic performance altogether (Dr. A)

"School plays a vital role in mental health improvement" (Dr. B)

"School have to be aware that there is something called mental health and that is very important in the life of the adolescent". (Psychologist A)

5.3.3 Theme 3: Being mentally healthy

Being mentally healthy is the optimal goal of existence. A good understanding of being mentally healthy goes a long way in optimizing mental well-being. With participants' understanding of being mentally healthy, two sets of ideas emerged: one, around the benefits of being mentally healthy and the second, around the consequences of not being mentally healthy. The participants' perspectives on this theme are presented below.

5.3.3.1 Subtheme 1: Benefits of being mentally healthy.

There are several benefits of being mentally healthy in adolescents. These include building self-confidence, interactive skills, good academic performance, problem-solving, and affirmative skills. A well-planned mental health education for an adolescent will offer these full benefits from the continuous care and monitoring of adolescent mental health activities. Good mental health positively impacts adolescents' emotional state, builds self-confidence in adolescents, develops their interactive skills, build confidence, enhances good academic performance, and improves interaction with peers, as explained by participants:

"Having good mental health will build self-confidence, interactive skills, they will be able to interact with colleagues and all that they will be able to develop and build empathy. It

will also build competence, problem-solving skills, and affirmative skills where they will be able to say no to harmful practices". (Dr. C)

"... mentally healthy, you will be able to function optimally in all spheres of life both academically, occupation, interaction with peers, and even in school" (Dr. B)

"An adolescent with good mental will have good performance academically, will be able to relate well with peers in class, will relate well with teachers in class, will not bully in school, will not also bully even at home". (MOH1)

Other benefits of being mentally healthy are the building of communication skills beyond the walls of schools:

"... being able to communicate appropriately in society, and also to be educated about the general wellbeing" (Parent A).

5.3.3.2 Subtheme 2: Consequences of not being mentally healthy.

Several problems can emerge as negative consequences of poor adolescents' mental health. Some problems include deficiencies in school performance, poor peer interaction, negative attitudes, conduct problems and impaired communication. These problems may affect how adolescents process and understand information. The sources of the problems could be biological problems or personality changes.

"If mental health is being affected, school performance will be deficient, there will be a deficiency in interaction with peers, interaction at home with other siblings and parents". (MOE2).

"…is either the teacher says he is always troublesome or with other negative attitudes further causing distance between them. (Dr. C)

"The problems are all emerging from some unhealthy mental health of some adolescents. Some adolescents engage in risk-taking behaviors, some engage in criminal tendencies, conduct problems, impair communication," (Psychologist A).

Participants further illuminated that adolescents not being mentally healthy might also strain the relationship with parents. There is a tendency for neglect and isolation, which compound the situation if prompt help is not sought. Describing or labelling adolescents with mental health challenges as worthy of disgrace or great disapproval discourages them from speaking out or seeking help (Oduguwa et al., 2017). The neglect and rejection come not only from parents and family members but also from friends and colleagues who display negative attitudes, name calling and labelling of adolescents with mental health difficulties.

> "*..... the relationship with the parents will also be something else. The parent will start neglecting the one with weird behaviour, and that is when the problem gets compounded. (Social Worker)"*
>
> *"Because of the fear of being called names, most adolescents will not ask for help" (MOE1).*
>
> *"Most parent would rather hide their children with mental health challenge because of what neighbors will say" (Parent A)*

5.3.4 Theme 4: Components of a mental health education programme

The question about what mental health education should entail solicited the view from participants that a mental health education programme for adolescents in school should be tailored towards counselling and modelling, mental health training, and mental health screening. Three subthemes emerged from the data to illuminate their perspectives.

5.3.4.1 Subtheme 1: Adolescent counselling and role modelling

Mental health education provides a platform for counselling and role-modelling adolescents in schools. A role model is a person whose character, behaviour and personality motivate and inspire others for greatness. As reported by the participants, school nurses, teachers, and school counsellors are potential role models that can influence the behaviour of adolescents. Professional help and advice are needed to help in-school adolescents resolve personal and psychological challenges during day-to-day activities through a certified counsellor. Hence, counselling and role-modelling are significant components of adolescents' mental health education programmes. Ideally, there are units for guidance and counselling in schools that focus on adolescents' emotions, affirmation, and assertiveness. It was documented that school counselling is the second most used

mental health service besides outpatient settings (Mojtabai & Olfson, 2020). Hence, counselling adolescents in schools must be leveraged to promote adolescents' mental health. Participants affirmed the presence of the guidance and counselling unit in schools, suggested having a period on their timetable for counselling, and how teachers can make referrals to the counselling team.

> *"…we have guidance and counselling in schools. When my child was going into secondary school, they gave us forms to fill and, in the form…" (Parent B)*

> *"……the teachers, nurses and school counselors are people adolescents look up to and emulate in their way of live". (MOE1).*

> *"..... like making referrals to the counselling team.... and each class should have a period on their timetable for counselling." (Psychologist A).*

> *"Every school should have at least a mental health counselor". (Parent A).*

The main aim of school guidance and counselling is to prepare adolescents for intellectual, academic, psychosocial, and emotional development. Appropriate counselling prepares adolescents for challenging periods of transition from childhood to adulthood. If this opportunity is missing, it gives room for mental health challenges. One of the participants intimated this:

> *"When you explore the reasons for doing all these, you find out there is no counselling and these young adults do not know the consequence of that thing they are taking". (Parent A)*

First impressions can ensure continuity of visits to the counsellor's office. The environment should be welcoming and comfortable, with no distractions. The environment includes a physical approach to communication between in-school adolescents and the counsellor.

> *"The counsellor's office should be decorated with things to remind the students. It could be about emotions, affirmation, and assertiveness...". (Psychologist B)*

5.3.4.2 Subtheme 2: Mental health training

Mental health capacity building for in-school adolescents is essential in preventing and reducing the severity of mental health challenges. Mental health education should expose adolescents to activities that will improve their mental status, centered on health education, advocacy and

training. In the process of promoting mental health through training, the teachers who are the executors need to be trained to instill the right training for adolescents. The extracts below describe the participants' perspectives on this:

> *"... teachers should be trained, I think it should be part of their training, it should be mandatory that they should have some form of training in ". (Dr. A)*

> *"It goes a long way to train teachers to be able to identify these emotional and behavioral issues. By the time this is identified, a quick target for treatment can be made and help the adolescent to become a whole person". (MOH2).*

> *"There should be training and retraining of members of staff on mental health-related topics; maybe largely about adolescents and all, but generally on mental health". (Psychologist A)*

Considering adolescents with developmental delays and intellectual impairments, school social skill training has been documented to improve social behaviour and self-management (Arbesman et al., 2013). Occupation-based treatment is recommended to improve mental health with the best support services among school adolescents (Cahill & Beisbier, 2020). In addition, coping skill training is encouraged to enhance mental well-being and foster positive behaviour and social participation in school activities. Also, enlightening in-school adolescents on behavioural issues results in behavioural risk reduction. Coping skills entail methods to deal with stressful situations and the ability to manage responses to emotional experiences effectively.

> *"…. training is one of the major ways that the schools can help". (Psychologist A).*

> *"For behavioral issues, it will help to notice that this adolescent has this certain behavioral issue, and you wouldn't let it affect other students."*

Problem-solving strategies encompass finding a solution to a challenge or complex issue. The ability to identify problems, brainstorm, analyze answers and implement the most appropriate solutions have been associated with reducing psychological disorders among in-school adolescents (Ranjbar et al., 2017). Assertiveness is the ability to confidently stand for oneself and hold an affirmative position on issues. This is a germane skill that emphasizes adolescents' ability to

express their opinion, thought and ideas in a socially acceptable way that will promote mental health.

> *"…. assertiveness training which just involve them being assertive with their intention." (Adolescent 1)*

5.3.4.3 Subtheme 3: Mental health screening

Mental health screening is a process of identifying adolescents at risk of developing a mental condition. In some instances, mental health screening can be carried out to determine the quantity of substances an adolescent takes. This can be done to confirm the diagnosis or evaluate the treatment progress of mental health conditions, including substance abuse among in-school adolescents. The primary aim of mental health screening is for early detection, prompt treatment and possible referral to a higher level of care. The mental health screening can be in the form of a procedure or questionnaires to be completed by adolescents.

Two participants intimated that procedures such as urine toxicology could help screen adolescents for substances like alcohol, cannabis, cocaine and tramadol. The extract below provides the participants' perspectives.

> *"… a urine test which helps to identify whatever substance the adolescent is using. It may be alcohol, cannabis cocaine, or tramadol". (Dr. B)*

> *"...there is a screening tool which we use to identify that which is urine toxicology" … (MOE2)*

The mental health screening questionnaires are tools to evaluate adolescents based on scores and guidelines derived from a series of statistically validated questions and answers. The questionnaires are often quick and easy for adolescents to complete. One of the participants illustrated that:

> *"They can also take a questionnaire that can guide them …. from there you can depict whether there is an alteration in the behavior of the child or not.". (MOH1).*

The participants elaborated that it is essential to incorporate mental health screening at regular intervals, maybe at the beginning of each session or term. This was illustrated by the quotation below:

> *"Mental health screening at the resumption of every term will help in early detection of any mental health issue, help in the prevention of futuristic issues" …. (MOE2)*

5.3.5 Theme 5: Sustaining adolescent mental health

Promoting mental health among adolescents was seen as a critical step that optimizes mental health by the participants. Three subthemes emerged from the data, encompassing the stakeholder's collaboration, funding and resources, and mental health activities.

5.3.5.1 Subtheme 1: Stakeholder collaborations

It is essential for the increased participation of different professionals in identifying the psychological, emotional and social needs of in-school adolescents. The participants expressed the need for stakeholder collaboration to foster growth, development, and sustenance of physical and mental well-being among adolescents in school settings. Since mental health involves different spheres, stakeholder collaboration should be a multidisciplinary teamwork approach where all the key players are involved. Thus, the multidisciplinary approach will ensure teamwork and promote and develop adolescents mentally, physically, and socially. Stakeholders working together will prevent breaking mental health care into separate segments that will not foster holistic care. Two of the participants intimated this:

> *"In mental health, we talk about the multidisciplinary approach". Dr. C)*

> *"It is needful for collaboration among school nurses, psychiatrists, psychologists, all these people come together and not just deliver their services in bits and isolation" (MOH2)*

The participants offered several benefits of collaboration. These included having a pivot to coordinate care and services rendered to in-school adolescents. With the stakeholders collaborating, there will be the integration of services and resources, as well as evident teamwork and cooperation that promotes progress in care.

"With the set of professionals, they can reduce fragmentation of services to reduce mental Illness and promote mental health in every adolescent." (Adolescent 2)

"If we happen to work as a team, to ensure the adolescent is healthy mentally, physically, and socially, long-term complications can be forestalled". (Dr. B)

In addition to the benefits mentioned earlier, one participant stated that there is a feeling of reassurance, access to holistic care, and safety when everyone is working together to meet their mental health needs, despite challenges that might surface.

"You want the students to also see that the team is working together, I feel save with them" (Psychologist A).

"By so doing, adolescents can be given a holistic care" (Nurse B)

"It is important we work as a team, no doubt there are challenges, things that will make that is not possible. But we can keep pushing and look for ways and activities that will make professionals come together" (Nurse B)

5.3.5.2 Subtheme 2: Funding and resources for adolescent mental health

The participants identified funding as necessary for mental health education's success. Both financial and human resources are needed to promote adolescent mental health. The participants want the government to fund adolescents' mental health education programmes so that professionals can be brought together. The money can be used to plan the delivery of mental health education and pay allowances for the mental health team. The participants highlighted specific resources as critical in implementing the mental health education programme. The resources include a psychological instrument for determining IQ level, urine test kits, space, and psychological stress assessment.

"*I think the government should put more money. There is a need to push money into the mental health of adolescents; (Psychologist A)*

"…use test kits, even if it is the use of simple urine test kits for them, a psychological instrument that is used in measuring their IQ level". (MOE2)

"You want to screen physical, screen for it, you want to screen for adjustment, you might need some certain scale or questionnaires.". (Psychologist A)

A parent illuminated that having enough funds and resources is germane to positive mental health among in-school adolescents. The participant encouraged other parents to engage professionals in mental health-related issues, and the professionals should also make themselves available. He further stated that the few professionals available are not affordable for most parents.

> *"Let our professionals make themselves... the few ones that are available, the charges are too much. Some parents are struggling to feed, how will they afford exorbitant consultation fees" (Parent A).*

5.3.5.3 Subtheme 3: Advocacy

There is a need for increased access to and promotion of in-school adolescents' mental health. Mental health advocacy was developed to promote the fundamental human rights of individuals, including adolescents with mental health disorders, to reduce bad labelling and unjust attitude towards them. Mental health advocacy entails planning to meet health needs, create awareness, and disseminate information relating to mental health education to adolescents. Participants suggested that a routine programme on mental health advocacy should be carried out, and it is one of the ways schools can help promote mental health among adolescents. Their views are illustrated in the following excerpts:

> *"Some of these programs should entail advocacy" (Psychologist A)*
>
> *"Usually, advocacy and training are one of the major ways schools can help"*
>
> *(Psychologist A).*

Raising awareness concerning mental health among in-school adolescents builds skills in perceiving, facilitating, and understanding the essence of promoting mental health. Active engagement and involvement of all and sundry to enrich mental health knowledge foster universal change in behaviour towards healthy lifestyles. A respondent illustrated:

> *"If mental health advocacy can be started early, it will help a lot" (Social worker).*

5.4 Discussion

The increase in the prevalence of mental health disorders among adolescents has called for individuals at the forefront of giving mental health care and services to come together to ensure

optimal mental health. The stakeholders' perspectives across their areas of expertise, knowledge and experience are germane to implementing developed interventions for adolescents in school. Adolescents, parents, and health personnel are all responsible for ensuring good mental health among adolescents (O'Reilly, Adams, et al., 2018). Also, adequate support beyond the school from the health and education sectors is pertinent for mental health promotion and prevention of mental disorders.

Concepts in adolescent mental health

Optimizing the mental health of in-school adolescents is crucial to understanding what mental health is among the key players of health. Mental health is a widely used term with different meanings for individuals. The stakeholders expressed their understanding of mental health, what the structured, systematic and intentional education on mental health education in school entails, and the diverse platforms that make it possible to know more about mental health while in school. How stakeholders conceptualize mental health is germane to understanding the mental health needs of in-school adolescents and the age-appropriate mental health education programme for their care (Willenberg et al., 2020). Mental health was recognized as a state of mental wellness in which people relate, interact, and be productive with optimal functionality. A good understanding of adolescent mental health enlightens stakeholders on numerous avenues where mental health education can be taught within the school setting. Participants from this study encouraged having a mental health club, sparing sometime during the school assembly to discuss mental health, and involving adolescents in brain-stimulating activities. These activities can be included in the school curriculum or as extra-curricular activities, following a study carried out in Australia among secondary school students (Dray et al., 2017).

Influences on adolescent mental health

Parental influence and the pattern of interactions within the family go a long way in optimizing adolescent mental health. The family dynamics surrounding adolescents' growth and development often form the basis for positive mental health behaviours throughout life. Supporting the view of participants from this study, inter-parental discord, parental divorce, reduced parental care, and bad parenting styles and practices were significantly associated with adolescent mental disorders (Eun et al., 2018; Obeid et al., 2021; Olatunji & Idemudia, 2021). Understanding the parental

influence and family relationship with adolescents in the family being a two-way structure promotes mental well-being. In other words, families with higher functioning relationships, good care, and appropriate parenting styles will cushion any challenging life situations. In contrast, families with poor family relationships and inappropriate parenting styles and practices put adolescents in the family at risk of having mental health disorders. Corroborating the result from this study, positive parenting styles shield adolescents from mental health disorders (Kingsbury et al., 2020). A well-bonded family with suitable parenting styles brings out adolescents' best behaviour and attitude. Contrarily, the weight of parents' neglecting roles, responsibilities, and family conflict have also negatively influenced adolescent mental health, resulting in mental health difficulties. Fostering social development and maturation among adolescents entails interacting with peers. However, engaging with individuals of good mental health status influences peers to conform to things because they want to be like peers, they admire without being forced. The influence can move to pressure if there is coercion to do things that would not have been done just for acceptance and for feelings to belong to a group.

Participants in this current study illuminated the necessity of having school nurses in each school with an emphasis on their roles and responsibilities. It was affirmed that school nurses should be involved in the mental health care of in-school adolescents, coordinate with other professionals in rendering their services, teach lifesaving skills, and promptly refer cases that may require hospital facilities. Similarly, Bohnenkamp et al., (2019) documented the significant role school nurses play in attending to the mental health concerns of in-school adolescents. However, providing adequate training to enable school nurses to use the skills learnt is imperative for quality mental health services for school adolescents (Anttila et al., 2020; Bohnenkamp et al., 2019; Skundberg-Kletthagen & Moen, 2017).

Various professionals and the school environment adolescents stay the capacity to impact their mental health. The schoolteachers, school nurses, psychiatrists, psychologists, and even the non-teaching staff of schools’ influence adolescents' mental health through observation, interaction, and dissemination of information. Hence, the school and its environment must be structured to enhance the adolescents' mental health and well-being.

Being mentally healthy

Mental health is essential at every stage of life, from childhood and adolescence through adulthood. It goes beyond the absence of mental illness, but it entails knowing one's capability and contributing to the community in which one is living (Galderisi et al., 2015). There are advantages to staying healthy, and unpleasant results can be seen when one is not mentally healthy. Being mentally healthy equips one with the ability to contribute meaningfully to existence and to be productive as an adolescent (Inchley et al., 2021). Understanding the process of keeping oneself mentally healthy by quickly identifying stressors and managing the stressor using the appropriate life skills (such as problem-solving skills and affirmative skills) is germane to optimal mental well-being (Heizomi et al., 2020). According to participants, in-school adolescents need good mental health to have self-confidence, interact with colleagues, and build other life skills.

On the other hand, not being mentally healthy too has its consequences. These include poor academic performance, being troublesome, having negative attitudes, engaging in risk-taking behaviours, neglect and isolation due to being stigmatized by associates, thus decreasing the tendency of the parents to seek help at the right place and being susceptible to emotional challenge. Stigma and discrimination have been identified as barriers to seeking quality mental health care among in-school adolescents (Quinlan-Davidson et al., 2021). Moreover, the stigma associated with mental health disorders is rooted in adolescents alone and almost everyone in society, making it difficult for adolescents to seek help (Ojio et al., 2020). The growing prevalence of adolescent mental health disorders threatens the education and healthcare systems worldwide (O'Reilly et al., 2019). Evidence shows that poor mental health negatively impacts academics (Wei et al., 2020). Most studies relied on self-reported academic performance, yet mental health disorders contribute to college dropout (Bruffaerts et al., 2018; Mousteri et al., 2019). In addition to the emotional distress and lower educational achievements, adolescents with mental health challenges are more likely to engage in health-risk behaviours and higher rates of self-harm and suicide (Dray et al., 2017).

Components to be included in a mental health education programme

From the stakeholders' perspectives, counselling, modelling, mental health training and screening are the components to be included in a mental health education programme. This aligned with

Wang et al., (2022) submission that people who have the most contact with adolescents other than their parents are the ones they tend to imitate as role models. Participants affirmed that the guidance and counselling unit is an integral part of the school system required to prepare in-school adolescents for mental stability, including referral of adolescents that require extensive mental health support (Zabek et al., 2022). Also, mental health training was viewed from the perspective of developing and strengthening the skills of in-school adolescents and improving teachers' skills to impact the students (Yamaguchi et al., 2021). To support the course, periodic mental health screening can quickly identify adolescents at risk of developing mental health disorders, including substance abuse. Mental health screening uses a systematic tool or process to identify the strengths and needs of adolescents, especially those at risk for or those going through mental health distress (Moore et al., 2023). Therefore, including mental health screening as a component to be added in a school-based mental health programme provides a medium for early detection, prompt diagnosis, treatment and prevention of mental disorders (Mangal et al., 2020).

Sustaining adolescent mental health education programmes

Mental health education programmes must be supported and strengthened to foster continuity of mental health care for in-school adolescents. From this study, participants identified three significant areas that promote the sustenance of mental health education programmes: collaboration among stakeholders, funding, and advocacy. The main aim of collaboration among stakeholders of adolescent mental health is to judiciously make use of the sparse professionals and integrate various services being rendered to prevent service fragmentation from achieving quality mental health services (Zabek et al., 2022). Hence, it is inevitable for professionals only to work together to meet adolescents' mental health needs. Sustaining good mental health for in-school adolescents requires both financial and personal investment. With appropriate funding, detailed plans can be made to create awareness to meet the mental health needs of in-school adolescents at all levels. Advocacy in mental health entails a series of actions to change systemic barriers and barriers relating to people's attitudes towards achieving positive mental health outcomes (Saha, 2021). Mental health advocacy for adolescents is important because it raises awareness of mental health issues and improves government policies and practices to protect and promote the rights and interests of persons with mental health disorders. With the concerted effort on collaboration,

adequate funding and great advocacy power, the sustenance of a school-based mental health education programme is guaranteed.

5.5 Conclusions

The stakeholders interviewed accentuated the significance of understanding mental health, incorporating mental health into the school curriculum and engaging in educational activities that promote adolescent mental health. The impact of parents, family members, peers and professionals on adolescents' mental health is critical for the needed growth and development. Good relationships in the family, at home and among peers cushion the effect of stress adolescents go through in their activities of daily living. Thereby minimizing the effect of stress on adolescents. School nurses are active providers of mental services and care for adolescents; however, in the absence of a school nurse, teachers can be trained to identify basic signs of mental distress, give essential first aid services, and refer as appropriate. Negative consequences were identified for adolescents not being healthy. These include deficiencies in school performance, poor peer interaction, negative attitudes, conduct problems, impaired communication, neglect and isolation, risk-taking behaviours, criminal tendencies, labelling and name calling and not seeking help. From all these negative consequences, specific needs will be identified to form the content of the school-based mental health education programme.

5.6 Summary

This chapter explored the stakeholders' perspectives on what should be included in the mental health education programme. The themes that emerged from the data were concepts in adolescent mental health, influences on adolescent mental health, being mentally healthy, components of mental health education and sustaining adolescent mental health. Understanding stakeholders' perspective on adolescent mental health goes a long way to optimizing mental health among in-school adolescents. From the participant's perspective, adolescent mental health influence spans the parent and family, peers, professionals and school environment. The ability of in-school adolescents to positively manage all these influences goes a long way in promoting mental health. Stakeholders' collaboration, adequate funding and appropriate resource allocation, and advocacy are ways to sustain adolescent mental health in schools. With appropriate funding, detailed plans can be made to create awareness to meet the mental health needs of in-school adolescents at all

levels. The findings from this qualitative study have captured stakeholders' views and contributed to the development of a school-based mental health education programme described in the next chapter.

CHAPTER SIX

DEVELOPMENT AND VALIDATION OF A SCHOOL-BASED MENTAL HEALTH EDUCATION PROGRAMME

6.1 Introduction

This chapter describes developing and validating a school-based mental health education programme for in-school adolescents in Nigeria. There is a need to bridge the gap among adolescents with psychosocial problems not clinically diagnosed as mental health disorders (Gonsalves et al., 2021; Nobre et al., 2021). The essence of using an evidence-informed approach is to develop a credible and reliable mental health education programme that meets adolescents' mental health needs in Lagos, Nigeria, based on scientific principles. In view of this, schools have been identified as one of the best mediums to bridge the gap and provide mental health education to a large group of adolescents simultaneously. The rationale for a mental health education programme stems from three main findings: three quarters (75%) of in-school adolescents have low to moderate levels of knowledge about mental health, and more than half (54.7%) display a negative attitude towards mental health disorders. Data from the mental assessment indicate that almost two-thirds (63.6%) of adolescents in the study population are at high risk for being diagnosed with a mental health disorder that could significantly disrupt their lives. The Delphi technique validated the draft school-based mental health education programme. A checklist was drawn up based on the content of the school-based mental health education programme. The checklist was sent to a group of practitioners of mental health who were purposely selected because of their expertise and experience as either a mental healthcare clinician or an academic. The programme was validated following two rounds of Delphi.

6.2 The Process for Programme Development

The steps used in designing a school-based health education programme to prevent nutritional anaemia among female adolescents were adopted to develop this mental health education programme (Hossain & Luies, 2017). The broad matching aim of the education programme was the motivation to adopt the eight sequential steps to be followed in developing an effective health education programme.

The steps included the collection of baseline data and information, identification of health problems and health education needs, the establishment of goals and objectives, defining the content of the mental health education programme, identifying the target group, deciding on the most appropriate method, developing a detailed plan of action, and lastly, determining the timing of and the techniques for evaluation. Figure 6.1 is a schematic diagram of planning a health education programme. A discussion of the steps in developing a mental health education programme for in-school adolescents follows below.

6.2.1 Collection of baseline data and information

For the stage of collecting baseline data and information, a quantitative survey, an exploratory qualitative method as well as a scoping review were research activities carried out. A starting point is required as a point of reference for any evidence-informed study. There was no exception for this study as information and data were obtained from participants and the literature. It is essential to have baseline data documented because it provides information for planning an effective health education programme. Likewise, it allows comparing before and after implementing and evaluating a programme in future work. In this study, the baseline information included participants' socio-demographic data regarding age, gender, class, and parental socio-economic status measured by the average income of parents per month, marital status, and the parents' educational attainment. In addition, information about the level of physical activities and sedentary lifestyles was solicited from in-school adolescents. The status of mental health knowledge, attitude and status was determined at the beginning of the study using a quantitative survey, reported in Chapter four.

Aside from in-school adolescents providing information, stakeholders were also involved to complement the information that in-school adolescents had given. The stakeholders included parents, school nurses, psychologists, doctors, representatives from the Ministries of Health and Education, and social workers, as reported in Chapter five. Data were collected through face-to-face interviews guided by a semi-structured interview guide. The use of existing literature – empirical and grey, formed part of baseline information. This was achieved by the conduct of a scoping review reported in Chapter three.

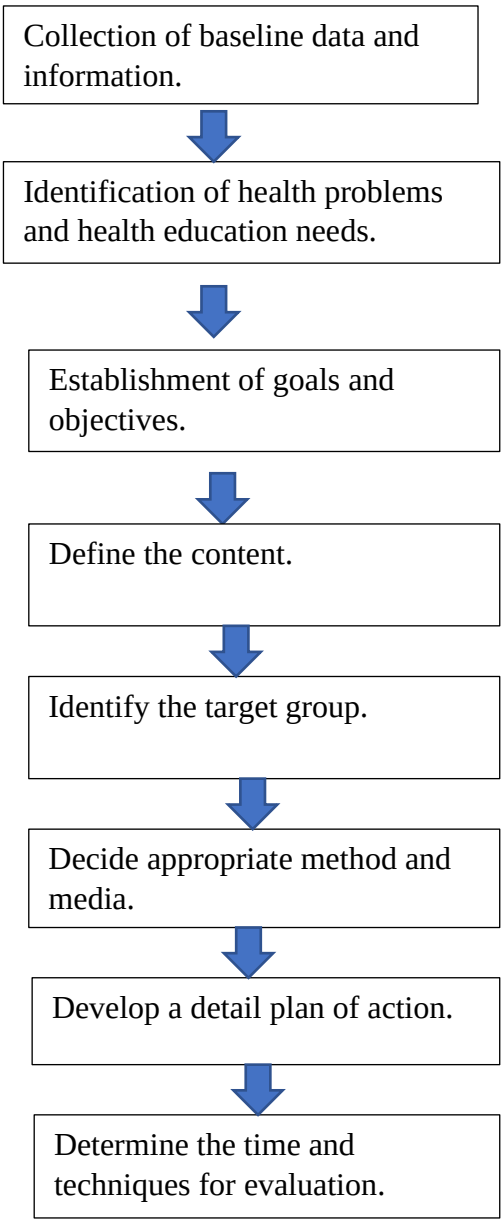

Figure 6.1: Steps in planning a health education programme (Adapted from Hossain & Luies, 2017)

6.2.2 Identification of health problems and health education needs

The mental health needs and challenges of in-school adolescents were identified from the three data sources and discussed in detail in Chapters two, three, and four. From the quantitative survey that determined in-school adolescents' knowledge, attitude and mental health status it was found that:

- The greater proportion of in-school adolescents (62.2%) had a low level of knowledge. Results from this study further showed that a quarter of the study sample who reported high knowledge levels were at risk of mental disorders. This implies that the knowledge base of all in-school adolescents should be improved, not leaving any group behind.
- The majority of in-school adolescents reportedly have a negative attitude towards mental health. This result points to a need for measures to cultivate a more positive frame of mind towards mental health.
- Adolescents' mental health status is such that the majority (63.6%) are at risk of conduct disorders (either substantially or slightly at-risk), which may cause them to breach societal norms and rules. More than half of adolescents are at risk for peer problems, while approximately a third of in-school adolescents are at risk for emotional problems and hyperactivity in each instance.

From the exploratory qualitative interviews with stakeholders, the major health challenges to be addressed include:

- Deficiencies in interaction with peers are evidenced by lack of good interactive skills.
- Negative attitudes towards peers with mental health challenges, evidenced by neglect, isolation, labelling and name-calling, are known as stigmatization.
- Behavioural challenges include conduct problems, risky behaviour and troublesome acts.
- Decreased communication with peers and at home with other siblings and parents.

The scoping review findings revealed that:

- Mental health disorders such as anxiety, depression, suicide, suicidal ideations, and substance and conduct disorders are commonly seen among adolescents.
- Over half of the adolescents presenting with these disorders have their first incident in early- or mid-adolescence.

- Adolescents do not have good knowledge of the signs and symptoms of these mental disorders, making it difficult for them to identify the symptoms earlier and seek help before complications set in.
- Due to inadequate knowledge, adolescents display negative attitudes towards others with mental health difficulties. This further decreases the ability of these adolescents to seek help as the need arises.
- Developing life skills, building prosocial behaviours and being resilient enable adolescents to deal effectively with the demands and challenges of day-to-day activities, thus, optimizing mental health among adolescents.

Conclusions drawn from the scoping review questions that informed the content of the school-based mental education programme developed included:

- A theoretical framework did not underpin the development of health education programmes in most articles reviewed. Thus, no theoretical framework was used to develop this health education programme.
- Facilitators implementing most school-based mental health education programmes are schoolteachers, clinical psychologists, nurses and psychiatrists. Resource persons such as clinical psychologists, social workers, a psychiatrist, and nurses in specialities like substance abuse are also involved in the implementation.
- Most of the reviewed literature showed that the most frequently used level of intervention is the universal level. Thus, this school-based mental health education programme focuses on meeting the basic needs of all in-school adolescents.

From the scoping review, the needs that a school-based mental health education programme can address may include the following:

- Mental health and the functionality of the brain.
- Definition, signs and symptoms of common mental disorders.
- Maintaining a positive attitude towards peers with mental health challenges and reduction of stigma
- Prosocial behaviours.
- Life skills.

- Health-seeking behaviour
- Resilience.

6.2.3 Establishment of goals and objectives

This stage entailed creating achievable outcomes and measurable actions to reach the desired long-term aim. Based on the two steps above, the overall programme goals are to:

- Improve the knowledge of in-school adolescents on mental health and mental disorders.
- Educate in-school adolescents on stigma and how to maintain positive attitude towards peers with mental health challenges.
- Provide information for in-school adolescents on prosocial behaviour, life skills and ways to quickly recover from difficult life situations.

6.2.4 Define the content

The content of the school-based mental health education programme was developed from the conclusions generated from the scoping review, the quantitative survey, and the qualitative exploration of the stakeholders' opinion. A draft of a school-based mental health education programme was developed based on the overlapping themes derived from the three data sources identified earlier (refer Figure 6.2).

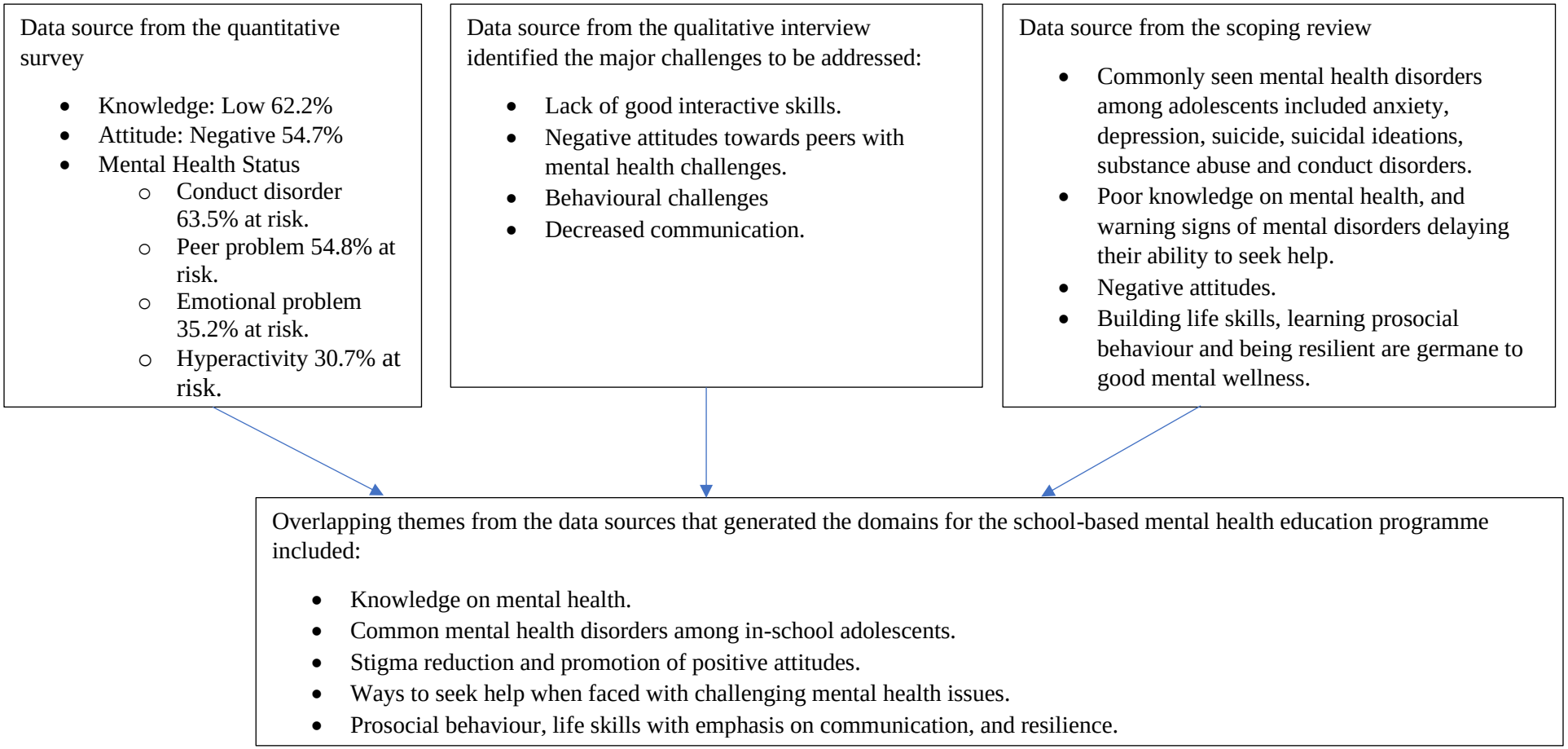

Figure 6.2: Data sources and themes deduced

The programme is presented in a written format in English to serve as a guide for the facilitator. However, the school-based mental education programme will be administered to in-school adolescents through face-to-face sessions. The first session contains an introductory section that defines the significant concepts of mental health for easy comprehension by in-school adolescents. The second session would discuss common mental health disorders, including depression, anxiety, conduct disorders, hyperactivity, substance abuse, mood disorders, suicide and suicidal ideations. The third session would focus on developing an appropriate attitude towards mental health and reducing stigma. Help-seeking behaviours follow this in the fourth session. The last session entails a comprehensive discussion that combines prosocial behaviours, life skills and resilience (Table 6.1).

Table 6.1: Content for a draft of school-based mental health education programme

Domains/ Sessions	**Content**
1	Definition of mental health, importance of mental health education programme for optimal adolescent mental well-being, the brain, its function, role of the mind, thought process and consciousness in promoting mental health and lastly the relationship between mental distress, mental health problem and mental disorders.
2	Definition and signs and symptoms of some common health disorders, disorders relating to mood, behaviour, perception, and cognition. Identification of common substances commonly abused among adolescents and the consequences of abusing such substances
3	Stigma reduction and developing a positive attitude towards mental health
4	Help-seeking in adolescent mental health, factors influencing help-seeking behaviours among in-school adolescents.
5	Prosocial, life skills and resilience Definition of prosocial behaviours, life skills and resilience, how prosocial behaviours can be motivated, the types of life skills, resilience, and its factors.

6.2.5 Identify the target group

Findings from the scoping review showed that over half of adolescents presenting with mental disorders had their first symptoms between early and mid-adolescence. However, school-goers in their late adolescence will not be exempted from the study. The decision to target adolescents in school was because of evidence seen in literature that almost half of the incidents of mental health disorders has their onset before the 14th birthday. According to Lindow et al., (2020), putting in preventive structures in place decreases the progression of mental health disorders and improves the quality of life of in-school adolescents as well. Also, the school provides a broad platform to be able to reach so many adolescents at once (Harris et al., 2020).

6.2.6 Decide appropriate method and media

From the scoping review, the most used method is a didactic one. This entailed facilitator presenting a lecture directly to the in-school adolescents. However, for the development of this programme, a variety of teaching methods aside from the didactics method was proposed, which include open discussion, role-playing, group activity, and video demonstration. This array of methods supports adolescent-centred learning, reduces rote learning, improves adolescents' interest in the programme, encourages participation, enhances critical thinking skills, and reinforces memory. Teaching aids and instructional materials to facilitate each session include the instructional manual, laptop and projectors, and flipcharts. Most of the writers of reviewed articles used didactic teaching methods with little emphasis on the teaching aids used.

6.2.7 Develop a detailed plan of action

The action plan for the school-based mental health education programme contains an outline of processes to be followed in achieving the identified specific objectives. It entails the objectives for each session, content, platform and methods to disseminate information to adolescents, required resources, and minimum attainment achieved after each session (refer to Table 6.2). In this programme, quantitative key performance indicators expressed in percentages were proposed to measure the degree of attainment for each domain. The key performance indicators include attendance and active participation by adolescents in all activities, such as open discussions, group activities, and individual assignments. Attendance attracts 40%, and participation in group

activities, open discussions and individual assignments attracts 20%. The maximum obtainable score is 100%, while the minimum degree of attainment is 90%.

6.2.8 Determine the time and techniques for evaluation

Evaluation of adolescents will be carried out by first administering standardized instruments to measure the significant concepts in the domains to be taught. The tool is administered at the beginning of the programme development to serve as baseline information. On-going assessments, including short quizzes, assignments and group activities, will be evaluated during each session throughout the programme. Summative evaluation will be done immediately at the end of the programme. At the same time, follow-up evaluation will be carried out at predetermined period post-exposure at one month, three months and six months, respectively. The standardized instrument for the baseline assessment will be used for the summative and follow-up evaluation.

The feedback from the on-going evaluation can benefit both the facilitator and the in-school adolescents. The facilitator improves the teaching methods while the in-school adolescents identify their capacity and areas to work on. The on-going, summative and follow-up assessment of the school-based mental health education programme will be carried out as part of the postdoctoral level when the school-based mental health education programme is being implemented.

Table 6.2: Detailed programme plan

Sessions and Objectives	Content	Method and media	Resources	Attainment
Session 1 **Objectives:** On completing this section, the learner should be able to: I. Demonstrate understanding of mental health. II. Appreciate explanations about the brain and how it functions. III. Make clear the part of the mind and intentional mental actions that promote mental health.	• Introduction to mental health • The period of adolescence and reasons why adolescents are vulnerable. • Definition of mental health terms such as mental health, mental distress, mental health disorders and mental health problems. • The nervous system • The brain, its function. • The role of the mind thought process and consciousness in promoting mental health.	Lectures Participatory open discussion Role play, Group activity	Facilitator, Other Resource persons such as a psychologist	90%
Session 2 **Objectives:** On completing this section, the learner should be able to: I. Recognize warning signs of common mental health disorders. II. Point out the impact of substance abuse on mental health.	• Definition and signs and symptoms of some common health disorders such as anxiety, panic state, suicide and suicidal ideation. • Disorders relating to mood, such as bipolar and depression Disorders of behaviour such as disruptive behaviours, conduct disorders. • Disorders relating to perception and cognition such as schizophrenia. • Identification of common substances commonly abused among adolescents and the consequences of abusing such substances.	Lectures Participatory open discussions, role play, group activity	Facilitator, Other Resource persons such as a substance abuse nurse, a psychiatrist, and a social worker	90%
Session 3 **Objectives:** On completing this section, the learner should be able to: I. Describe what stigma is in their own words. II. Talk about ways of maintaining a positive attitude to reduce stigma.	• Brief introduction to stigma • Types of stigmas. • Stereotypes, prejudice, and discrimination • Maintaining a positive attitude towards individuals with mental health disorders	Lectures Participatory open discussions, role play, group activity	Facilitator, Other Resource persons such as a psychologist, a public health nurse	90%
Session 4 **Objectives:** on completing this section, the learner should be able to:	• Introduction to ways help can be sought concerning mental health issues.	Lectures	Facilitator, Other Resource persons	90%

I. Demonstrate understanding on how to seek help concerning mental health issues. II. Talk through factors that have the capacity to have an effect on help-seeking behaviour among in-school adolescents.	• Factors influencing help-seeking behaviours among in-school adolescents. • Sources of help that can be easily accessed.	Participatory open discussions, role play, group activity	such as a psychologist,	
Session 5 **Objectives:** on completing this section, the learner should be able to: I. Talk through reasons why it is important to engage in prosocial behaviour. II. Demonstrate understanding of the different types of life skills encompassing communication and stress management. III. Develop ways to strengthen resilience. IV. Understand the impact of positive communication.	• Introduction to appropriate behaviour that benefits others. • Types of life skills such as decision-making, problem-solving skills, creative thinking, and critical thinking • Resilience and recognizing factors that strengthen it. • Principles of effective communication • Importance of good communication	Lectures Participatory open discussions, role play, group activity	Facilitator and psychiatrist.	90%

6.3 Methods of validation

Content validity is the extent to which the items that make up the content of an instrument in a satisfactory way sample the research domain of interest when measuring a phenomenon (Polit & Beck, 2006). It evaluates the dimensions of the idea intended to be measured and reflects the appropriateness of each domain (Asaye et al., 2021). The validation of the school-based mental health education programme was informed by the work of Lynn (1986), which was used to determine content validity. The validation approach included the development stage and the judgement and quantification phase. The first stage is domain identification and item generation. All of these are assembled into the checklist sent to the panel of experts (Appendix S). The development stage used multimethod research designs (quantitative, qualitative and scoping review) to identify similar themes and generate specific items under each domain. The judgement and quantification stage entailed using an expert panel that focused on the relevance and clarity of the items generated and the statistical calculation of the content of the draft of the school-based mental health education programme. The content validation process targeted nurses in clinical practice or academia in specializations such as mental health nursing, community health nursing or public health nursing.

6.3.1 Participants and sampling

Purposive sampling was used to choose participants to serve on the panel of experts. Ten experts were selected, but only nine agreed to take part in the content validity process. This is in accordance with Lynn's (1986) submission that a panel of experts with five or more members provide sufficient level of control for chance agreement. The inclusion criteria for selected experts who are academia is to have a minimum of Master's degree in their specialty with publications in high impact journals while the clinical nurse should have a minimum of five years' experience as a practicing nurse. The profile of the panel of expert is presented in Table 6.3.

Table 6.3: Profile of panel of experts (n = 9)

Expert Code	Academic Qualification	Rank	Specialty	Field
E01	RN, RM, RAHM, B.Sc. (Nursing), M. Sc (Nursing), PhD.	Professor	Community Health Nursing (Nursing Education)	Academia
E02	RN, RPN, B.Sc. (Nursing), M.Sc. (Nursing), PhD	Senior Lecturer	Mental Health Nursing (Nursing Education)	Academia
E03	RN, RPN, B.Sc. (Nursing), M.Sc. (Nursing)	Lecturer	Mental Health Nursing (Nursing Education)	Academia
E04	RN, RPN, B.Sc. (Nursing), M.Sc. (Nursing)	Lecturer	Community Health Nursing (Nursing Education)	Academia
E05	RN, RPN, B.Sc. (Nursing), M.Sc. (Nursing)	Chief Nursing Officer	Mental Health Nursing	Clinical Nurse
E06	RN, RPN, B.Sc. (Nursing),	Senior Nursing Officer	Community Health Nursing	Clinical Nurse
E07	RN, RPN,	Nursing Officer	Mental Health Nursing	Clinical Nurse
E08	RN, RPN,	Nursing Officer	Mental Health Nursing	Clinical Nurse
E09	RN, RPN,	Nursing Officer	Mental Health Nursing	Clinical Nurse

6.3.2 Data collection techniques

The Delphi technique is dependable in measuring the ability of the panel of experts to achieve consensus regarding the school-based mental health education programme (Bain et al., 2022). The Delphi technique was used to achieve a minimum level of agreement between the experts during two rounds of survey. The content of the programme was structured into a checklist, which is made up of domains, sub-domains and items. The researcher contacted the experts in person and telephonically to request their participation in the validation process. The information sheet, consent form and the checklist for content validation (Appendices R, S, & T) were sent via mail to each member of the group after agreeing verbally to participate in the study. During round one of Delphi the checklist was emailed to the experts for evaluation and returned to the researcher.

There was no meeting among the members of the panel, and they were anonymous to each other. Consent forms were signed and returned electronically through mail as well. The responses from each expert were analyzed and summarized. Amendments were made to the mental health education programme based on the various comments of the group of experts. A new checklist that accommodated all the points raised was sent back to the panel of experts for their evaluation. This constituted the second round of Delphi.

6.3.3 Content Validity Index (CVI)

The mental health education programme for in-school adolescents was designed to optimize the mental health of adolescents within school settings. However, it is essential to ascertain the extent to which the content of the draft educational programme has the required sample of items to represent each content of domain. The Content Validity Index (CVI) is the degree to which an instrument has an appropriate sample of items for the conceptual element being measured (Polit & Beck, 2006). There are various approaches to the evaluation of content validity such as interrater agreement, multi-rater Kappa coefficient, alpha coefficient, and averaging experts' ratings of acceptability (Polit & Beck, 2006). However, putting into average experts' rating of items and using a pre-established recommended value and the use of modified Kappa coefficient to assess the degree of agreement beyond chance, were adopted for this study. This method was selected because the content validity of each item as well as the overall scale can be determined. The draft school-based mental health educational programme was structured into a checklist format (Appendix T). The panel of experts reviewed the content of the draft programme for clarity and relevance. The checklist had all items from the first draft of the programme. Each item in the checklist was evaluated for clarity and relevance on the 4-point Likert scale. Starting from 1 = not clear/not relevant to 4 = very clear/very relevant (Table 6.4).

Table 6.4: Criteria for assessing content validity of a draft mental health education programme

Clarity	**Relevance**
1 = Not clear	1 = Not relevant
2 = Somewhat clear	2 = Somewhat relevant
3 = Clear	3 = Relevant but needs moderate alteration
4 = Very Clear	4 = Very relevant

6.3.4 Analysis of the Content Validity

During analysis, for easy labeling and identification of the item construct, each was named in an alpha-numeric style, with the Arabic number representing the domain, the alphabet representing the sub-domain and the Roman numeral representing the item number. For example: 1ai represents domain one, sub-domain and item one. That is, the first item in the first sub-domain, in the first domain.

The degree to which an assessment instrument or instructional guide is relevant to and representative of the targeted construct it is designed to measure, is usually done by calculating the content validity. Three CVIs were estimated with ratings from the panel of experts. This included the item-level CVI (I-CVI), the scale-level CVI (S-CVI) and the modified Kappa's coefficient to rule out the degree of agreement beyond chance.

The I-CVI was calculated dividing the number of experts that rated items with 3 or 4 scores by the total number of experts in each of the attributes for the content validity (clarity and relevance). The CVI was calculated for each item under clarity, as well as for each item under relevance, and the average I-CVI was also calculated per item (I-CVI average per item). The minimal value standard for a group of experts that is greater than six validating an instrument is 0.78 for I-CVI (Lynn, 1986; Polit & Beck, 2006).

The S-CVI was estimated by finding the average of items scored 3 or 4 in each domain for each of the criteria (clarity and relevance). That is summing each I-CVI and dividing by the total number of items in each domain. Hence, there is S-CVI for clarity and for relevance. Likewise, the average S-CVI for each domain (S-CVI average per domain). The recommended standard of acceptability for S-CVI should at least be 0.8 to reflect an excellent value for content validity (Asaye et al., 2021).

Although the CVI is extensively used to estimate content validity, it does not consider the possibility of inflated values due to chance agreement (Asaye et al., 2021). To rule out a degree of agreement among experts beyond chance, Kappa coefficient in addition to the CVI was calculated. Kappa provides the degree of agreement beyond chance, and it is calculated using the following formula: $K = (I\text{-}CVI - Pc)/ (1- Pc)$, where $Pc = [N/A (N-A)] \times 0.5^N$. In this formula, Pc refers to

the probability of chance agreement; N = number of experts; and A = number of experts that agree the item is relevant. The Kappa coefficient was calculated with Microsoft Excel (Microsoft Corporation, 2018), and the results can be seen in Table 6.5. The acceptable standard documented in the literature includes values greater than 0.75 for an excellent level of agreement, 0.6 -0.74 for a good level of agreement, and 0.4 - 0.59 for a fair level of agreement (Asaye et al., 2021; Halek et al., 2017; Warne et al., 2018).

6.4 Results

6.4.1 Round One Delphi survey

Nine experts validated the content of the school-based mental health education programme in the first round of Delphi. The I-CVI according to the two criteria – clarity and relevance ranged from 0.67 to 1 as seen in Table 6.

Table 6.5: Item Content Validity Index (I-CVI) – Round 1 Delphi

	Clarity					**Relevance**					
Item	Number of experts	Experts in agreement	I-CVI	Pc	K	Number of experts	Experts n agreement	I-CVI	Pc	K	Average I-CVI
1a	9	7	0.78	0.070	0.76	9	9	1.00	0.002	1.00	0.89
2ai	9	8	0.89	0.018	0.89	9	9	1.00	0.002	1.00	0.94
2aii	9	9	1.00	0.002	1.00	9	9	1.00	0.002	1.00	1.00
2aiii	9	8	0.89	0.018	0.89	9	9	1.00	0.002	1.00	0.94
2aiv	9	8	0.89	0.018	0.89	9	9	1.00	0.002	1.00	0.94
2bi	9	9	1.00	0.002	1.00	9	8	0.89	0.018	0.89	0.94
2bii	9	8	0.89	0.018	0.89	9	8	0.89	0.018	0.89	0.89
2biii	9	8	0.89	0.018	0.89	9	9	1.00	0.002	1.00	0.94
2biv	9	7	0.78	0.070	0.76	9	9	1.00	0.002	1.00	0.89
2ci	9	6	0.67	0.164	0.60	9	9	1.00	0.002	1.00	0.83
2cii	9	6	0.67	0.164	0.60	9	9	1.00	0.002	1.00	0.83
3ai	9	8	0.89	0.018	0.89	9	9	1.00	0.002	1.00	0.94
3aii	9	7	0.78	0.070	0.76	9	8	0.89	0.018	0.89	0.83
3aiii	9	8	0.89	0.018	0.89	9	7	0.78	0.070	0.76	0.83
3aiv	9	8	0.89	0.018	0.89	9	7	0.78	0.070	0.76	0.83
3av	9	7	0.78	0.070	0.76	9	7	0.78	0.070	0.76	0.78
3bi	9	7	0.78	0.070	0.76	9	8	0.89	0.018	0.89	0.83
3bii	9	8	0.89	0.018	0.89	9	7	0.78	0.070	0.76	0.83
3biii	9	7	0.78	0.070	0.76	9	7	0.78	0.070	0.76	0.78
3biv	9	8	0.89	0.018	0.89	9	7	0.78	0.070	0.76	0.83

3bv	9	7	0.78	0.070	0.76	9	8	0.89	0.018	0.89	0.83
4ai	9	7	0.78	0.070	0.76	9	8	0.89	0.018	0.89	0.83
4aii	9	8	0.89	0.018	0.89	9	8	0.89	0.018	0.89	0.89
4aiii	9	8	0.89	0.018	0.89	9	8	0.89	0.018	0.89	0.89
4aiv	9	8	0.89	0.018	0.89	9	8	0.89	0.018	0.89	0.89
4av	9	7	0.78	0.070	0.76	9	7	0.78	0.070	0.76	0.78
4bi	9	7	0.78	0.070	0.76	9	8	0.89	0.018	0.89	0.83
4bii	9	7	0.78	0.070	0.76	9	8	0.89	0.018	0.89	0.83
5ai	9	8	0.89	0.018	0.89	9	8	0.89	0.018	0.89	0.89
5aii	9	7	0.78	0.070	0.76	9	7	0.78	0.070	0.76	0.78
5bi	9	7	0.78	0.070	0.76	9	8	0.89	0.018	0.89	0.83
5bii	9	6	0.67	0.164	0.60	9	8	0.89	0.018	0.89	0.78
5biii	9	8	0.89	0.018	0.89	9	7	0.78	0.070	0.76	0.83
6ai	9	7	0.78	0.070	0.76	9	9	1.00	0.002	1.00	0.89
6aii	9	7	0.78	0.070	0.76	9	8	0.89	0.018	0.89	0.83
6aiii	9	8	0.89	0.018	0.89	9	9	1.00	0.002	1.00	0.94
6bi	9	8	0.89	0.018	0.89	9	9	1.00	0.002	1.00	0.94
6bii	9	8	0.89	0.018	0.89	9	7	0.78	0.070	0.76	0.83
6ci	9	7	0.78	0.070	0.76	9	8	0.89	0.018	0.89	0.83
6cii	9	7	0.78	0.070	0.76	9	8	0.89	0.018	0.89	0.83
6di	9	7	0.78	0.070	0.76	9	8	0.89	0.018	0.89	0.83
6dii	9	7	0.78	0.070	0.76	9	8	0.89	0.018	0.89	0.83
6diii	9	7	0.78	0.070	0.76	9	8	0.89	0.018	0.89	0.83

Note: Kappa (modified Kappa) = the degree of agreement beyond chance; Pc = the probability of chance agreement.

The experts (n = 9) rated forty-three items on two criteria (clarity and relevance). On the item level, 83(96.5%) of the ratings had an I-CVI greater than or equal to 0.78, while only three items had an I-CVI value of less than 0.78. The item labelled 2ci and 2cii in the second domain had the value 0.67 under the clarity criterion, which is below the standard of acceptability in I-CVI. However, having the value of 1 under "relevance" gave the average I-CVI per each item to be 0.86. Hence the items cannot be expunged. Use parentheses in all places where you refer to the criteria for example "clarity."

The value for the S-CVI for each criterion – clarity, relevance, the average S-CVI per domain and the overall S-CVI ranged from 0.80 - 0.92 (Table 6.6). Referencing Asaye et al., (2021), the values reflected an excellent score for S-CVI.

Furthermore, observations from the group of experts reviewed firstly, the overall programme goals should be assessed individually, not together and under a separate domain. Hence for this checklist, there should be three items under it. Secondly, under the content domain, sub-domain 2a, it was observed that the word "demonstrate" is not appropriate to be used to describe an introduction of mental health to adolescents, the brain, its functions, the role of mind, thought process and consciousness in promoting mental wellness. The word "demonstrate" is used in the psychomotor domain of Bloom's taxonomy. Lastly, in the content domain - the third domain, it was agreed that each of the common mental health disorders and its warning signs should be discussed separately.

These comments led to the modification of the draft programme. The overall programme goal was to have a domain with three sub-domains, the common mental health disorders were separated, and the first objective under the first subdomain was changed. Afterwards, a revised checklist was distributed to the group of experts for the second round of Delphi.

Table 6.6: Scale-level Content validity index (S-CVI) – Round 1 Delphi

Domains	Clarity	Relevance	Average S-CVI per domain	Overall S-CVI
Domain 1	0.86	0.98	0.92	0.86
Domain 2	0.83	0.83	0.83	
Domain 3	0.83	0.87	0.85	
Domain 4	0.80	0.84	0.82	
Domain 5	0.81	0.91	0.86	

6.4.2 Round Two Delphi survey

Round two of Delphi took place after revisions to the initial checklist, which contains the content of the draft mental health education programme for in-school adolescents to determine the final version. The same experts (n = 9) in the first round participated in the second round of survey. In this second round of Delphi survey, the panel of experts evaluated fifty (50) items based on their clarity and relevance. For clarity, 11(22%) items garnered total agreement from all the experts (I-CVI =1); 27 items (54%) saw eight experts out of nine (89%) agreeing, while in 12 items (24%) seven (78%) experts agreed to the clarity of these items. In terms of relevance, 17 items (34%) obtained total agreement, followed by 25 items (50%) achieving agreement of eight out of nine experts on "relevance", with seven out of nine experts agreeing on 8 items (16%) the relevance of these items. The I-CVI and the average I-CVI ranged from 0.78-1 as can be seen in Table 6.7.

Table 6.7: Items Content Validity Index (I-CVI) – Round Two Delphi

	Clarity					Relevance					
Item	Number of experts	Experts in agreement	I-CVI	kappa	Pc	Number of experts	Experts in agreement	I-CVI	kappa	Pc	Average I-CVI
1ai	9	9	1.00	1.00	0.002	9	9	1.00	1.00	0.002	1.00
1bi	9	9	1.00	1.00	0.002	9	8	0.89	0.89	0.018	0.94
1ci	9	8	0.89	0.89	0.018	9	9	1.00	1.00	0.002	0.94
2ai	9	8	0.89	0.89	0.018	9	9	1.00	1.00	0.002	0.94
2aii	9	9	1.00	1.00	0.002	9	9	1.00	1.00	0.002	1.00
2aiii	9	8	0.89	0.89	0.018	9	9	1.00	1.00	0.002	0.94
2aiv	9	8	0.89	0.89	0.018	9	9	1.00	1.00	0.002	0.94
2bi	9	9	1.00	1.00	0.002	9	8	0.89	0.89	0.018	0.94
2bii	9	8	0.89	0.89	0.018	9	8	0.89	0.89	0.018	0.89
2biii	9	8	0.89	0.89	0.018	9	9	1.00	1.00	0.002	0.94
2biv	9	8	0.89	0.89	0.018	9	9	1.00	1.00	0.002	0.94
2ci	9	7	0.78	0.76	0.070	9	9	1.00	1.00	0.002	0.89
2cii	9	7	0.78	0.76	0.070	9	9	1.00	1.00	0.002	0.89
3ai	9	8	0.89	0.89	0.018	9	9	1.00	1.00	0.002	0.94
3aii	9	8	0.89	0.89	0.018	9	8	0.89	0.89	0.018	0.89
3aiii	9	9	1.00	1.00	0.002	9	7	0.78	0.76	0.070	0.89
3aiv	9	8	0.89	0.89	0.018	9	8	0.89	0.89	0.018	0.89
3av	9	8	0.89	0.89	0.018	9	7	0.78	0.76	0.070	0.83
3avi	9	8	0.89	0.89	0.018	9	9	1.00	1.00	0.002	0.94
3avii	9	9	1.00	1.00	0.002	9	9	1.00	1.00	0.002	1.00
3aviii	9	8	0.89	0.89	0.018	9	9	1.00	1.00	0.002	0.94
3aix	9	9	1.00	1.00	0.002	9	8	0.89	0.89	0.018	0.94
3ax	9	9	1.00	1.00	0.002	9	8	0.89	0.89	0.018	0.94
3bi	9	7	0.78	0.76	0.070	9	8	0.89	0.89	0.018	0.83
3bii	9	8	0.89	0.89	0.018	9	7	0.78	0.76	0.070	0.83
3biii	9	7	0.78	0.76	0.070	9	7	0.78	0.76	0.070	0.78
3biv	9	8	0.89	0.89	0.018	9	7	0.78	0.76	0.070	0.83
3bv	9	7	0.78	0.76	0.070	9	8	0.89	0.89	0.018	0.83
4ai	9	7	0.78	0.76	0.070	9	8	0.89	0.89	0.018	0.83
4aii	9	8	0.89	0.89	0.018	9	8	0.89	0.89	0.018	0.89
4aiii	9	8	0.89	0.89	0.018	9	8	0.89	0.89	0.018	0.89
4aiv	9	8	0.89	0.89	0.018	9	8	0.89	0.89	0.018	0.89
4av	9	7	0.78	0.76	0.070	9	7	0.78	0.76	0.070	0.78
4bi	9	7	0.78	0.76	0.070	9	8	0.89	0.89	0.018	0.83
4bii	9	7	0.78	0.76	0.070	9	8	0.89	0.89	0.018	0.83
5ai	9	8	0.89	0.89	0.018	9	8	0.89	0.89	0.018	0.89
5aii	9	7	0.78	0.76	0.070	9	8	0.89	0.89	0.018	0.83

5bi	9	7	0.78	0.76	0.070	9	8	0.89	0.89	0.018	0.83
5bii	9	7	0.78	0.76	0.070	9	8	0.89	0.89	0.018	0.83
5biii	9	8	0.89	0.89	0.018	9	7	0.78	0.76	0.070	0.83
6ai	9	8	0.89	0.89	0.018	9	9	1.00	1.00	0.002	0.94
6aii	9	8	0.89	0.89	0.018	9	8	0.89	0.89	0.018	0.89
6aiii	9	9	1.00	1.00	0.002	9	9	1.00	1.00	0.002	1.00
6bi	9	9	1.00	1.00	0.002	9	9	1.00	1.00	0.002	1.00
6bii	9	9	1.00	1.00	0.002	9	7	0.78	0.76	0.070	0.89
6ci	9	8	0.89	0.89	0.018	9	8	0.89	0.89	0.018	0.89
6cii	9	8	0.89	0.89	0.018	9	8	0.89	0.89	0.018	0.89
6di	9	8	0.89	0.89	0.018	9	8	0.89	0.89	0.018	0.89
6dii	9	8	0.89	0.89	0.018	9	8	0.89	0.89	0.018	0.89
6diii	9	8	0.89	0.89	0.018	9	8	0.89	0.89	0.018	0.89

Note: Kappa (modified Kappa) = the degree of agreement beyond chance; Pc = the probability of chance agreement.

The S-CVI (average) for the six domains was found to be 0.96, 0.93, 0.89, 0.85, 0.84, and 0.92 respectively (Table 6.8). The overall S-CVI for the revised school-based mental health education programme is 0.90, which indicates an excellent level of agreement.

Table 6.8: Scale-level Content validity index (S-CVI) – Round Two Delphi

Domains	**Clarity**	**Relevance**	**Average S-CVI per domain**	**Overall S-CVI**
Domain 1	0.96	0.96	0.96	0.90
Domain 2	0.89	0.98	0.93	
Domain 3	0.90	0.88	0.89	
Domain 4	0.83	0.87	0.85	
Domain 5	0.82	0.87	0.84	
Domain 6	0.92	0.91	0.92	

6.5 Discussion

The content validity of the school-based mental health education programme was determined in two rounds of Delphi technique. Based on the results obtained from validation of the school-based mental health education programme, the values are considered acceptable going by the

recommended cut-off. This 50-item school-based mental health education programme, to the best of the researcher's knowledge, is the first universal intervention programme to be validated in Nigeria.

The content validity of a draft mental health education programme is a major factor in adequate documentation with statistical findings that the stated goals, and content attained the minimum standard mark for relevance and clarity. Testing of content validity was done quantitatively to ensure the programme contains and measures improved mental health status of in-school adolescents. Based on results obtained from the validation; it is justifiable to say that the developed mental health education programme measured the targeted construct. With the content having been validated, this mental health education programme can be used to make substantial contribution to mental health and wellbeing among in-school adolescents.

Subjecting the draft mental health education programme to validation allowed the researcher to garner evidence concerning the relevance and clarity of the overall programme goal and five other domains. According to Dinnesen et al., (2020), evaluating the content validity of programmes ensure the relevance and clarity of items drafted from the content relate with their definition, relevant to purpose and typical of the construct being rated. The content validity of the school-based mental health education programme is interpretive of the expected outcome when administered to the targeted audience. This is to inform the quality of the programme being trusted, accepted, being able to generalize findings, and to clearly define the application of the outcome of the programme (Dinnesen et al., 2020).

The school-based mental health education programme was developed to improve the knowledge of in-school adolescents on mental health and warning signs of the common mental health disorders among adolescents, to educate them on positive attitudes towards peers with mental health challenges, and to educate them on ways to seek-help, prosocial behaviour, life skill and resilience. The content validity of the programme proved its relevance and clarity. This led to the validation of the content of a school-based mental health education programme with fifty items, six domains and overall S-CVI of 0.90 content validity that can be administered to in-school adolescents to promote healthy mental and prevent the mental health disorders among them.

6.6 Conclusions

Data sources from the quantitative, qualitative and scoping review were merged to develop the school-based mental health education programme. Five domains/sessions of content emerged from the whole process written in the form of an instructional guide.

6.7 Summary

The school-based mental health education programme was developed to improve knowledge, attitude, and the mental health status of in-school adolescents. This goal was achieved by adapting the sequential steps used in developing a nutritional health education programme in Bangladesh. The steps were logically followed and adapted to the outcomes of the first three objectives of this thesis. The content of the school-based mental health education programme was validated using the I-CVI, and the S-CVI. A modified Kappa coefficient was also calculated for each item because the CVI does not adjust for agreement beyond chance. The validation process was carried out over two rounds of Delphi completed by nine experts in the field of mental health, public health or community health nursing both in clinical practice and academia. After the first round of Delphi, the experts made some recommendations that led to the revision of the mental health education programme. Adjustments were made, and the revised version of the programme was returned to the experts for final evaluation. The overall S-CVI was 0.90 following the second round of Delphi, which indicates an excellent level of agreement for the content being validated. The next and final chapter of the thesis presents the conclusions, recommendations, and limitations of the study.

CHAPTER SEVEN

SUMMARY, LIMITATIONS, RECOMMENDATIONS AND CONCLUSION

7.1 Introduction

Recognizing that schools are positioned to be at the forefront of promoting mental health among in-school adolescents through targeted mental health programmes, has set the researcher on a journey of reflection and discovery in pursuit of this thesis. An increasing prevalence of mental health disorders among adolescents with fewer than half not receiving mental health care services, coupled with the absence of preventive and promotive interventions in the Nigerian context, informed the direction this thesis was to take. The purpose of the study was to develop and validate a school-based mental health education programme for in-school adolescents in Lagos, Nigeria. This was achieved in three phases with a total of six objectives. p

The baseline identification phase was the first with three objectives. The first objective was to determine the knowledge, attitude, and mental health status of in-school adolescents in Lagos, Nigeria. This was carried out using a questionnaire with four sections. The first section was made up of in-school adolescents' socio-demographic data, the second and third section was adapted from the mental health curriculum developed by Kutcher et al, (2015) to determine the knowledge and attitude of in-school adolescents towards mental health while the fourth section determined their mental health status using the Strengths and Difficulties Questionnaire.

The second objective explored the perspectives of stakeholders on school-based mental health programme in Nigeria using an in-depth one-on-one interview. A scoping review was conducted to examine documented literature and evidence on school-based mental health programmes around the world. The second phase of the study led to the development of the school-based mental health programme. This was achieved by identifying the concepts for designing a health education programme through data triangulation to develop the first draft of an evidence-based mental health education programme. The validation phase aimed at validating the designed mental health education programme for in-school adolescents through a Delphi technique using two rounds of nine expert reviewers.

This chapter presents a summary of the main results and findings of the study, conclusions drawn from these, and recommendations for education, practice and future work in this area. The limitations of the study are outlined to appreciate the context in which the results may be applied and to guide the design of future studies.

7.2 Summary of Main Findings

7.2.1 Adolescents' knowledge, attitude and mental health status

One hundred and sixty questionnaires were distributed but only one hundred and forty-eight were duly filled in and returned. More males participated in the study compared to females, and nearly half had the birth order of three and above, having older siblings to relate with and learn from. The overall level of knowledge of in-school adolescents on mental health revealed that about a quarter reported high knowledge, a little above one-tenth reported moderate knowledge while others reported low knowledge.

The summary of in-school adolescents' attitude towards mental health showed that only a few had very positive attitude towards mental health, about one-third had positive attitude, and a little above average reported negative attitude. Age and class were the only socio-demographic characteristics significantly associated with the attitude of in-school adolescents in the study.

Concerning the mental health status of in-school adolescents, mental health difficulties were determined in terms of the emotional symptoms, conduct problems, hyperactivity, and peer problems. In summary, about three-fifth of adolescents were both slightly and substantially at risk of mental health disorders with conduct disorders taking the lead of the psychological attributes being at risk for.

Association between mental health status, socio-demographic characteristics, knowledge, and attitude of in-school adolescents revealed that only knowledge and birth order were statistically significant. Further analysis on knowledge and attitude as predictors of mental health status of in-school adolescents predicted that adolescents with high knowledge are three times higher of being at risk of a clinically significant mental health condition compared to the reference group – those with low knowledge. Also, participants in the third or higher order of birth are predicted to be more than three times higher of being at risk compared to the first born.

7.2.2 Stakeholder Perspectives

Five themes emerged: concepts in adolescent mental health, influences on adolescent mental health, being mentally healthy, components to be included in a mental health education programme and sustaining adolescent mental health. Stakeholders intimated that comprehension of adolescent mental health through developing quality curricula and interactive education platforms optimizes adolescent mental health. Parental, family, peer, and professional influences were considered evidence that informed involving professionals from different health specializations to encourage collaboration and defragmentation of services and care rendered to adolescents. The mental health challenges revealed by stakeholders, such as poor knowledge, negative attitudes, engaging in risk-taking behaviour, neglect, isolation and stigmatization, served as evidence that informed the identification of domains that made the content of the school-based mental health education programme. Other salient factors that sustain the promotion of adolescent mental health included adequate funding, advocacy, mental screening, and mental health training of other professionals not related to health in the absence of a school nurse were illuminated by the stakeholders.

7.2.3 Scoping review evidence

A scoping review was carried out to identify the pertinent concepts to be included in developing a school-based mental health education programme that can be administered to in-school adolescents in Nigeria. The scoping review shows that incorporating mental health education programmes in schools is crucial to reducing the prevalence of mental health disorders among adolescents. This is because adolescents spend most of their time in school, and a large population can be attended to through the universal level of intervention at once.

The theoretical framework did not underpin most of the studies reviewed, yet the studies documented positive outcomes. Thus, the theoretical framework will not inform the development of the school-based mental health education programme for adolescents attending schools. The researcher facilitates the programme with the collaboration of other professionals specialized in mental health care. However, teachers and counsellors can be trained to facilitate the programme in the absence of a school nurse.

7.2.4 Development of the school-based mental health education programme

The development of the draft of the school-based mental health education programme was based on merging overlapping themes from a quantitative survey to determine adolescents' knowledge, attitude and mental health status, perspectives of stakeholders of the mental health education programme and scoping review of the literature. Domains were identified from the overlapping themes, and items were generated from the objectives of the identified domains. The process of development entailed eight sequential steps. The first is collecting baseline information and identifying mental health problems and education needs. Goals and objectives for the programme were drawn, and the contents were defined. The fifth step entailed identifying the target group for the intervention and deciding the appropriate method and media for administering the mental health education programme within the school setting. A detailed action plan was drawn up, and the last evaluation stage will be done at the postdoctoral level. From the above process, a school-based mental health education programme was designed as an instructional manual to guide its implementation. The school-based mental health education programme's content comprises five domains at this stage. Using an evidence-informed approach to meet the mental health needs of adolescents through the education programme ensures the credibility and reliability of the intervention.

7.2.5 Programme Content Validity

The validation phase aimed at validating the content of the designed school-based mental health education programme for in-school adolescents. The programme content of the programme was made into five (5) domains, 13 sub-domains and 43 items in a checklist format. The validation was carried out through two (2) rounds of the Delphi technique by a 9-membered group of experts. The experts were purposively selected because of their experience and level of expertise as either a clinician or academia. The content validity indices used were the item-level content validity index, the scale-level content validity index and the modified kappa coefficient. The two criteria used were the clarity and relevance of each item at the item and scale levels. For clarity and relevance, the lowest average I-CVI was 0.78, the cut-off points acceptable for agreement (Lynn, 1986; Polit & Beck, 2006). This calculation expunged no item; however, the content was revised based on the recommendation of the panel of experts. The overall programme goal was made a separate domain, and other items were added to the programme's content in the second

domain. Thus, revised content with six domains, 16 sub-domains and 50 items was sent for the second round of Delphi. In the second round of Delphi, the average I-CVI ranged from 0.78-1, and the S-CVI (average) for the six domains was found to be 0.96. 0.93. 0.89. 0.85, 0.84, and 0.92, respectively.

There was substantial evidence supporting the content validity of the school-based mental health education programme, with the evaluation by the panel of experts providing some practical relevance and clarity, contributing to a better presentation of the items. The mental health education programme is a new resource to help school nurses who work in school settings meet the mental health needs of adolescents.

7.3 Strengths of the Research

The strength of the study lies in the evidence-informed approach to developing and validating the first-of-its-kind mental health education programme for adolescents in the Nigerian context. The researcher involving all stakeholders, including representatives from the Ministries of Health and Education, ensures the sustenance and continuity of the programme. The development and validation of the school-based mental health education programme provide a quick and practical way of promoting, maintaining, and restoring psychological well-being among adolescents. Overall, assess to quality mental health education and services enhances a healthy transition from childhood to adulthood.

Using two or more research designs for this study provided a robust capacity to gain an accurate and deep understanding of adolescent mental health and what it takes to develop an evidence-informed mental health education programme that can be utilized within the school settings for adolescents. Furthermore, the desired advantage of using the qualitative research design in the study balances the weakness in the quantitative research design and vice versa. That is, the qualitative design explores the perceptions of stakeholders interviewed, which brought about their personal views and uniqueness in identifying multiple information about adolescent mental health. The outcome from this cannot be generalized; however, findings from the quantitative approach can be generalized so that statistical inferences can be made about some variables in the study, such as mental health, knowledge and attitude, and the mental health status of in-school adolescents that help to predict their risk for clinically significant mental health problems.

Data sources from the quantitative, qualitative and scoping review created the platform where evidence from this study was integrated with in-school adolescents' preferences in designing a school-based mental health education programme. A significant strength is that the programme's content was not based on assumptions but on evidence. The information gathered was used assiduously to make optimal decisions about in-school adolescents' mental health to improve mental health quality and practice in the Nigerian context.

The face-to-face interviews with stakeholders are a vital strength of the study because firsthand information was collected from them in their natural settings. The data collected were integrated to develop a mental health education programme that is applicable in schools being scientifically cogent, context-appropriate and relevant to the needs identified from the collection of baseline information. Also, involving the major stakeholders always provides support for long-term sustainability.

Finally, having two rounds of the Delphi technique allowed for the revision of the content of the school-based mental health education programme based on the recommendation of the group of experts. Also, adding the modified Kappa coefficient to the indices to measure the content validity ascertained the degree of agreement of experts beyond chance.

7.4 Limitations

The scoping review carried out in the study was limited to search engines including PubMed, Scopus, ProQuest complete, and Ebscohost housing CINAHL (Cumulative Index to Nursing and Allied Health), Global Health, Medline, and APA PsycInfo complete. These databases mostly contain articles in behavioural, social science, and life science. However, some relevant articles might be missed in other databases not directly involved in health-related themes. Also, it is worthy to note that limiting the search to studies written in the English language might have excluded relevant studies that could have provided useful data for the review.

Another limitation of this current study is that the researcher only relied on the content validation of the developed school-based mental health education programme by nurses from clinical practice and academia. Though the nurses involved in the content validation process were experts in areas of specialties in Nursing Science, input from other professionals could have given a diverse range

of opinions to validate the developed school-based mental health education programme. Future research should involve experts in education, psychology, nursing, psychiatry, and social work experts. Parents and in-school adolescents can also be involved in the validation process.

This study was carried out to develop a school-based mental health education programme among in-school adolescents in Nigeria. As a result, the content was based on information obtained from in-school adolescents and other stakeholders as concerning adolescent mental health in the country. This might not have international relevance since it is only meant for in-school adolescents within the school settings. The researcher tends to carry out construct validity test and other psychometric measurement to meet international standard and relevance. Lastly, the sample size for the qualitative exploration of stakeholders' perspective might be too small to enable the researcher reach saturation. This is due to the limited time, and financial constraints.

7.5 Recommendations

7.5.1 School health nursing

It was affirmed by the stakeholders during the interview that school nurses play a significant role in optimizing adolescents' mental health in the school settings. School nurses are specialists in community health nursing that work with school-aged children and adolescents to improve health and ensure that they have access to mental and physical health services when in school. Further, the stakeholders stated that the best practice is to have school nurses allocated to each school with special training on how to care for in-school adolescents. Community nursing practice is evolving, and the gap must be bridged between research, practice, and theory. The health needs of in-school adolescents are enormous, and it takes the nurse that is well equipped with the required knowledge and skill to provide holistic care for in-school adolescents in the school settings. It is recommended that at least, a registered nurse must be employed in the absence of school nurses to be able to assist in promoting the mental health of adolescents. In-service training should be provided to registered nurses who are working in school settings. It is recommended that each school should have a school clinic to provide the primary physical and mental health care needed by in-school adolescents. Nurses can work in collaboration with the schoolteachers to arrange mental health outreach activities for students as well as their parents during the parent-teachers meeting. Nurses

can also offer mental health consultation and seminars to teachers, other members of staff and parents to help achieve optimal mental health among them as well.

7.5.2 Health policy and implementation

Policies must also be in place to ease accessibility to mental health services at the primary, secondary and tertiary level of healthcare for children and adolescents. Given that scoping review evidence revealed incorporating mental health education into school curriculum, further efforts can be made to inculcate the school-based mental health education programme into the school curriculum to rule out insufficient time in its implementation. Incorporating mental health education into the curriculum will result in training the schoolteachers and other members of staff about mental health. The schoolteachers might be the ones to implement the education programme; however, other members of staff should be trained as well because they too have contact with in-school adolescents directly or indirectly. When the whole staff of the schoolwork together towards the goal of optimizing mental health among in-school adolescents, their knowledge on mental health will improve, they will display positive attitude towards mental health, and will be willing to seek for help any time they are facing challenging situation without the fear of being stigmatized. It is recommended that the Ministry of Education partners with the Ministry of Health in a formal and structured way to make the teachers grounded in mental health education and knowledge through training and re-training of all members of staff.

Findings from the interview revealed that most stakeholders are of the opinion of incorporating mental health screening in schools as part of the school health policy. Medical screening should include mental health screening at the beginning of every session to serve as fundamental information and a yardstick to quickly identify any deviation from normal.

7.5.3 Further research

At the postdoctoral level, it is recommended that the validated school-based mental health education programme be pilot tested to ensure that the set goals of the programme are met. A randomized control trial could be used to provide a true measure to ascertain that the set goals were achieved and to eliminate bias with other study designs. Also, the use of a wait list control group can be adapted to give those in the control group equal exposure to the school-based mental health education programme though after the main study.

The scoping review revealed that there is dearth of information about adolescent mental health in Nigeria. There is need for more research in adolescent mental health intervention programme that is applicable to Nigerian's context and peculiarities. Psychometric measurement, validity and reliability should be carried out on adopted or adapted tools of assessment to be able to ascertain that tools demonstrate their ability to measure the constructs that are meant to be measured and that the tool is relevant for the context. Results from the assessment could provide baseline information for further studies.

Being the first study to develop and validate a school-based mental health education programme in Nigeria, a follow-up on this study must include a bigger population of in-school adolescents across the six geo-political zones of the country so that the results could be more generalizable. Lagos is a state in one of the geo-political zones, and it is noteworthy that each zone has different ethnic groups, languages, and cultural background. This research was carried out in only two secondary schools, so involving more secondary schools in further studies is highly recommended. This study can also be replicated in other West African countries with a similar economic and social background.

A similar study can be carried out to develop mental health education for adolescents who are not attending formal structured schools such as vocational training outside the structured educational system, and those in correctional facilities to mention a few. Majorly, these groups of adolescents are challenged by unequal access to health services. Poverty, lack of food, economic instability, war, and lack of good family support put them at a greater risk of mental health disorders. Hence, their mental health should not be neglected.

7.6 Conclusions

The mental health and well-being of in-school adolescents is germane to their ability to function optimally in society; however, an increasing prevalence of mental health disorders is poised to jeopardize the prospects of in-school adolescents enjoying good mental health. To forestall this, a school-based mental health education programme was developed and validated. The school-based mental health education programme was developed with statistical evidence from in-school adolescents, literature, and face-to-face interviews with stakeholders and validated.

Developing and validating a school-based mental health education programme is a valuable resource promoting psychosocial competence among adolescents. Adolescents maintain a state of mental well-being and portray positive behaviour while interacting with peers, colleagues and staff members within the school premises and others in the community. With exposure to education programmes on mental health within the school, adolescents acquire formal and informal teaching on the needed skills to deal with the demands of daily life. In addition, the education helps adolescents understand mental health, increases awareness of mental health, allows for early recognition of signs that are deviating from normal in a way that is worrying, and steps to be taken to prevent such. Also, the validated programme will enlighten adolescents on the importance of not neglecting or isolating anyone with mental health difficulties but giving all the support individuals can have. The school-based mental health education programme is an evidence-informed programme that accentuates the importance of promoting adolescents' adaptation to stress by optimizing social elements like social support and prosocial behaviours to sustain mental health. Likewise, the validated school-based mental health education programme will provide professional involvement and collaboration among stakeholders for early detection, prevention and commencement of treatment, leverage for every adolescent to assess mental health care and services consistently.

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APPENDICES

APPENDIX A: Human research ethics committee (medical) clearance certificate

UNIVERSITY OF THE WITWATERSRAND JOHANNESBURG

R14/49 Ms AO Olowe

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)
CLEARANCE CERTIFICATE NO. M190802

NAME: (Principal Investigator)	Ms AO Olowe
DEPARTMENT:	School of Therapeutic Sciences Department of Nursing Education Medical School University
PROJECT TITLE:	Development and pilot testing of a school-based mental health educational programme among in-school adolescents in Lagos, Nigeria
DATE CONSIDERED:	2019/08/30
DECISION:	Approved unconditionally
CONDITIONS:	
SUPERVISOR:	Dr A Tshabalala
APPROVED BY:	Dr CB Penny, Chairperson, HREC (Medical)
DATE OF APPROVAL:	2020/07/06

This clearance certificate is valid for 5 years from the date of approval. Extension may be applied for.

DECLARATION OF INVESTIGATORS

To be completed in duplicate and **ONE COPY** returned to the Research Office Secretary on the 3rd Floor, Phillip Tobias Building, Parktown, University of the Witwatersrand, Johannesburg.
I/we fully understand the conditions under which I am/we are authorized to carry out the above-mentioned research and I/we undertake to ensure compliance with these conditions. Should any departure be contemplated, from the research protocol as approved, I/we undertake to submit details to the Committee. **I agree to submit a yearly progress report**. When a funder requires annual re-certification, the application date will be one year after the date when the study was initially reviewed. In this case, the study was initially reviewed in **August** and will therefore reports and re-certification will be due early in the month of **August** each year. Unreported changes to the application may invalidate the clearance given by the HREC (Medical).

Principal Investigator Signature Date

APPENDIX B: Health Research Ethics Committee (HREC) - Federal Neuro-Psychiatric Hospital, Nigeria

FEDERAL NEURO-PSYCHIATRIC HOSPITAL, YABA - LAGOS

8, Harvey Road, P.M.B. 2008 Yaba, Lagos, Nigeria. Tel: 0906 000 1907, 0815 517 0000
E-mail: enquiries@fnphyaba.gov.ng neuropsychiatrichospitalyaba@yahoo.com
Website: www.fnphyaba.gov.ng

DR. CHUKWUKELU J. OKAFOR	DR. OLUWAYEMI C. OGUN	DR. O. A. OWOEYE	ADEYINKA ANTWI
MD, FICS, Ph.D	MBBS, M.Sc., APD (Hosp. Mgt.), FWACP, MNIM, FCGP	MBChB, MSc, MPhil, FMCPsych, Ph.D	BA (Hons), MBA, PGD (Hosp. Mgt.), MMP (Managerial Psych), ANIM, FIHSAN, FPMN
CHAIRMAN, MANAGEMENT BOARD	MEDICAL DIRECTOR	HEAD OF CLINICAL SERVICES	DIRECTOR OF ADMINISTRATION

Ref: FNPH/HREC/19/18 22nd November, 2019

Ms Atinuke Olowe,
Department of Nursing Service,
Faculty of Clinical Services,
College of Medicine,
University of Lagos,
Idi -Arada,
Lagos

Dear Ms Olowe,

RE: FOCUS GROUP DISCUSSION ON THE DEVELOPMENT AND PILOT TESTING OF A SCHOOL - BASED MENTAL HEALTH PROGRAMME AMONG ADOLESCENT IN LAGOS, NIGERIA.

The Health Research Ethics Committee (HREC) of this hospital has evaluated your research proposal and granted you approval to conduct a Focus group discussion among selected members of staff of this hospital.

The National code for Health Research Ethics requires you to comply with all institutional guidelines, rules and regulations as well as the tenets of the code. Specifically, you are required to adhere with the following:

i. Conduct the research strictly in accordance with the proposal submitted and approved by this committee.

ii. Inform the committee immediately of any issues which may warrant review of the ethical approval.

iii. Provide final report when the research has been concluded.

Kindly note that no changes are permitted in the research without prior approval by this committee except in circumstances outlined in the code. Furthermore, this committee reserves the right to conduct compliance visits to your research site without previous notification.

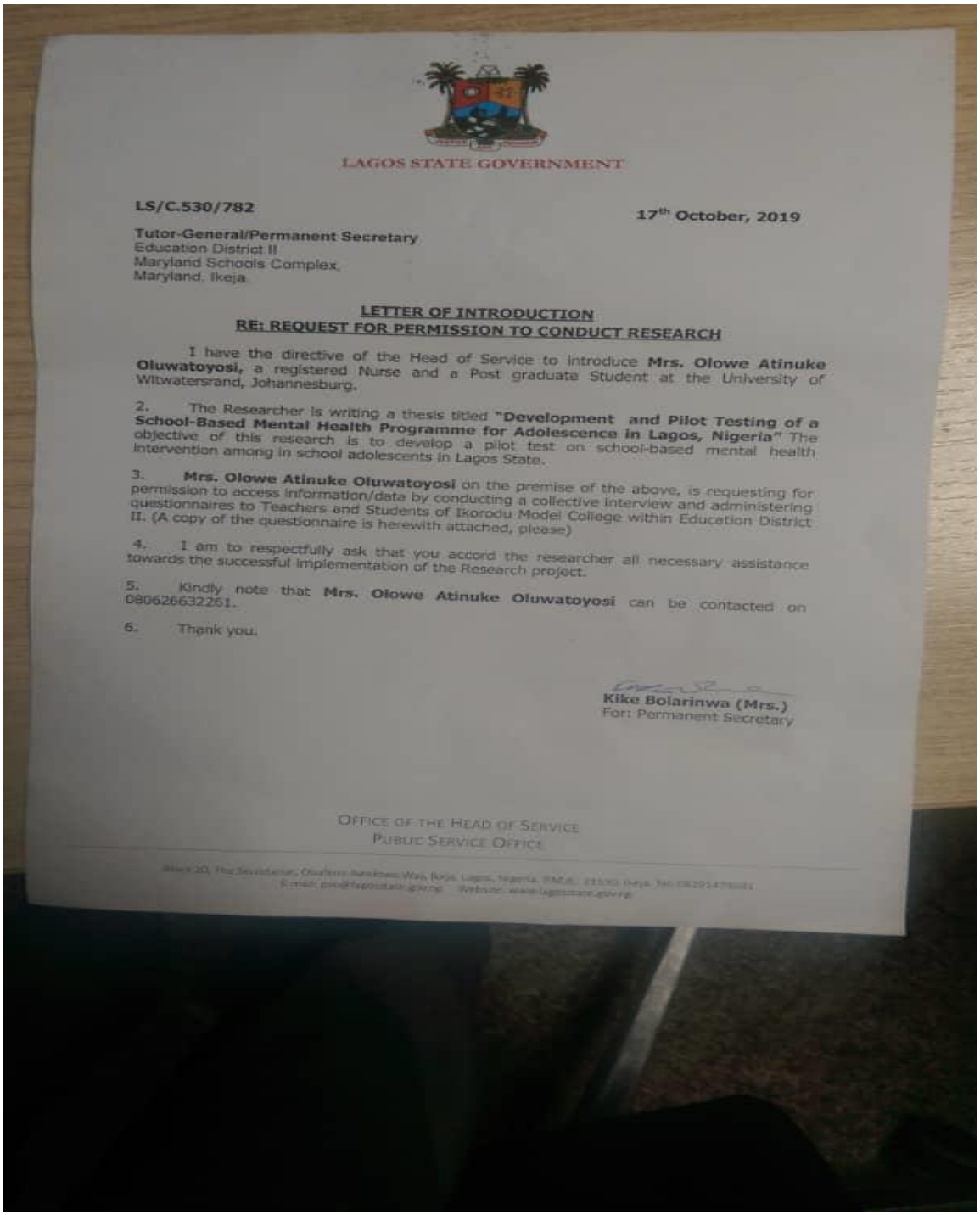
Thank you.

Chairman,
Health Research Ethics Committee.
FNPH Yaba.

DR. S. O. OLUWANIYI
Consultant Psychiatrist (S. G. I)
Fed. Neuro-Psychiatric Hospital,
Yaba.

Mental Health Service Provider since 1907
Towards 110 years Anniversary

APPENDIX C: Permission from Office of the Head Service, Public Service, Lagos State



LAGOS STATE GOVERNMENT

LS/C.530/782

17th October, 2019

Tutor-General/Permanent Secretary
Education District II
Maryland Schools Complex,
Maryland. Ikeja

LETTER OF INTRODUCTION
RE: REQUEST FOR PERMISSION TO CONDUCT RESEARCH

I have the directive of the Head of Service to introduce **Mrs. Olowe Atinuke Oluwatoyosi,** a registered Nurse and a Post graduate Student at the University of Witwatersrand, Johannesburg.

2. The Researcher is writing a thesis titled **"Development and Pilot Testing of a School-Based Mental Health Programme for Adolescence in Lagos, Nigeria"** The objective of this research is to develop a pilot test on school-based mental health intervention among in school adolescents in Lagos State.

3. **Mrs. Olowe Atinuke Oluwatoyosi** on the premise of the above, is requesting for permission to access information/data by conducting a collective interview and administering questionnaires to Teachers and Students of Ikorodu Model College within Education District II. (A copy of the questionnaire is herewith attached, please)

4. I am to respectfully ask that you accord the researcher all necessary assistance towards the successful implementation of the Research project.

5. Kindly note that **Mrs. Olowe Atinuke Oluwatoyosi** can be contacted on 080626632261.

6. Thank you.

Kike Bolarinwa (Mrs.)
For: Permanent Secretary

OFFICE OF THE HEAD OF SERVICE
PUBLIC SERVICE OFFICE

APPENDIX D: Permission from the Education District for Government Junior Model College

LAGOS STATE GOVERNMENT

31ST October, 2019

The Principal
Government Junior Model College,
Ikorodu, Lagos

LETTER OF INTRODUCTION

I have the directive of the **Tutor General/Permanent Secretary** to introduce to you **Mrs. Olowe Atinuke Oluwatoyosi**, a Post Graduate Student of Witwatersrand, Johannesburg.

She is conducting a Research on "**Development and Pilot testing of a School-Based Mental Health Programme for Adolescent in Lagos, Nigeria**".

The researcher has been granted permission by Head of Service to have access to information and Data by conducting a collective interview and administering Questionnaires to Teachers and students in your school.

Please accord him the necessary assistance.

Thank you for your anticipated cooperation

Yours Faithfully

Okereke M. M. (Mr.)
For: Tutor General/Permanent Secretary.

MINISTRY OF EDUCATION
EDUCATION DISTRICT II

Maryland Schools Complex, Maryland - Ikeja, Lagos, Nigeria. 08159794011
E-mail: educationdistrict2@yahoo.com, educationdistrict2@gmail.com

APPENDIX E: Permission from the Education District for Government Senior Model College

LAGOS STATE GOVERNMENT

31ST October, 2019

The Principal
Government Senior Model College,
Ikorodu, Lagos

LETTER OF INTRODUCTION

I have the directive of the **Tutor General/Permanent Secretary** to introduce to you **Mrs. Olowe Atinuke Oluwatoyosi**, a Post Graduate Student of Witwatersrand, Johannesburg.

She is conducting a Research on "**Development and Pilot testing of a School-Based Mental Health Programme for Adolescent in Lagos, Nigeria**".

The researcher has been granted permission by Head of Service to have access to information and Data by conducting a collective interview and administering Questionnaires to Teachers and students in your school.

Please accord him the necessary assistance.

Thank you for your anticipated cooperation

Yours Faithfully

Okereke M. M. (Mr.)
For: Tutor General/Permanent Secretary.

MINISTRY OF EDUCATION
EDUCATION DISTRICT II

Maryland Schools Complex, Maryland - Ikeja, Lagos, Nigeria. 08159794011
E-mail: educationdistrict2@yahoo.com, educationdistrict2@gmail.com

APPENDIX F: Knowledge Attitude and Mental Health Status Questionnaire Tool

DEVELOPMENT AND VALIDATION OF A SCHOOL-BASED MENTAL HEALTH EDUCATIONAL PROGRAMME AMONGST ADOLESCENTS IN LAGOS, NIGERIA

SECTION A: SOCIO-DEMOGRAPHIC CHARACTERISTICS

<table>
<tr><td colspan="2">Age (as at last birthday)</td><td>Class:</td></tr>
<tr><td colspan="2">Gender:</td><td>Religion:</td></tr>
<tr><td colspan="2">Number of Children in the family:</td><td></td></tr>
<tr><td colspan="2">Position in the family:</td><td></td></tr>
<tr><td colspan="2">Parents' employment status:
(Kindly tick as appropriate)</td><td rowspan="5">Family Income (In Naira per year)</td></tr>
<tr><td>Both unemployed</td><td></td></tr>
<tr><td>One employed (Indicate)</td><td></td></tr>
<tr><td>Single parent employed</td><td></td></tr>
<tr><td>Single parent unemployed</td><td></td></tr>
<tr><td colspan="2">Sedentary behavior</td><td rowspan="4">Father's level of education:</td></tr>
<tr><td>Behavior</td><td>Duration (minutes) per week</td></tr>
<tr><td>T.V time</td><td></td></tr>
<tr><td>Phone time</td><td></td></tr>
<tr><td>Computer time</td><td></td><td rowspan="5">Mother's level of education:</td></tr>
<tr><td colspan="2">Physical Activity</td></tr>
<tr><td>Activity</td><td>Duration (minutes) per week</td></tr>
<tr><td>*Vigorous</td><td></td></tr>
<tr><td>**Moderate</td><td></td></tr>
<tr><td>***Physical education in school</td><td></td></tr>
</table>

*Vigorous activity: Activity that made you sweat and breathe hard such as basketball, soccer, running, swimming laps, fast cycling

**Moderate activity: activity that did not make you sweat and breathe hard such as mopping floors, slow bicycling, skating, pushing a lawn mower.

***Physical education: The physical education classes you participated in while in school.

SECTION B: KNOWLEDGE OF IN-SCHOOL ADOLESCENTS ON MENTAL HEALTH
INSTRUCTION: For each of the following statements, please mark X in the appropriate box that you feel best describes your knowledge toward the statement. Select only one answer for each statement.

S/N	Items	Yes	No
1	Phobia is an intense fear about something that might be harmful		
2	Working on the mind, emotional state and taking medication are useful interventions for adolescent mental disorders		
3	Mental distress can occur in someone who has a mental disorder.		
4	A mark of disgrace or looking down against the mentally ill is uncommon in Nigeria		
5	Taking illegal drugs is commonly paired with a mental disorder.		
6	The most common mental disorders in teenage girls are eating disorders.		
7	The stresses of being a teenager are a major factor leading to suicide		
8	Three of the strongest risk factors for teen suicide are: romantic breakup, conflict with parents, and school failure.		
9	split personality is a serious mental disorder of interpreting reality abnormally		
10	A depressed mood that includes a drop in school grades and lasts for a month or longer in a teenager is very common and should not be confused with a clinical depression that may require professional help		
11	A mental disorder characterized by persistent and excessive worry about several different things usually arises from being burned out by stressful events.		
12	Diet, exercise and establishing a regular sleep cycle are all effective treatments for many mental disorders in teenagers.		
13	An eating disorder characterized by low weight, food restriction and fear of gaining weight is very common in teenage girls		
14	A mental health condition that causes mood shift and extreme alterations in energy and activity levels is also known as manic depressive illness.		
15	The panic attacks that occur as part of panic disorder usually come “out of the blue”.		
16	Obsessions are thoughts that are unwanted and known to be incorrect.		
17	Mental disorders may affect between 15-20 percent of Nigerians.		
18	Youth who have the fear of being judged, negatively evaluated or rejected in a social performance situation do not get well with treatment.		
19	Depression affects about 2 percent of people in Nigeria		
20	A psychiatrist is a medical doctor who specializes in treating people with mental illness.		
21	A mental health condition that affects attention ability to sit still and have self-control is equally common in boys and girls.		
22	A feeling of having seen, heard, tasted, touched something that wasn’t actually there is known as hallucination		

23	Panic Disorder is characterized by reoccurring unexpected panic, palpitations, sweating, shaking, shortness of breath, or feeling that something terrible is going to happen		
24	Medications are helpful in treating some of the symptoms of mental disorder in which people interpret reality in an abnormal way.		
25	A delusion is defined as seeing something that is not real.		
26	Lack of pleasure, hopelessness and fatigue can all be symptoms of a clinical depression.		
27	Nobody with mental disorder in which people interpret reality in an abnormal way ever recovers to the point where they can live a positive life.		
28	People with mania may experience strange feelings of unrealistic sense of superiority		
29	Mental disorders are problems of the mind and emotion that are often caused by poor nutrition.		

SECTION C: ATTITUDE OF IN-SCHOOL ADOLESCENTS TOWARDS MENTAL HEALTH

INSTRUCTION: For each of the following statements, please mark X in the appropriate box that you feel best describes your attitude toward the statement. Select only one answer for each statement.

Items	Disagree	Not sure	Agree
Most people with mental illness are too disabled to work.			
People with mental illness tend to bring it on them selves			
People with mental illness do not try hard to get better			
You cannot rely on people with mental illness			
Most violent crimes are committed by people with mental illness			
I would be upset if someone with mental illness always seat next to me in class			

I would not be close friends with someone I knew with mental illness			
I would not want to be taught by a teacher who had been treated for mental illness			
I would tutor a classmate who get behind in their studies because of mental illness			
If I know someone who has mental illness, I will not date them			
I would not mind it if someone with a mental illness lived next door to me			
I would avoid someone with a mental illness			

SECTION D: STRENGTH AND DIFFICULTIES QUESTIONNAIRE TO ASSESS MENTAL HEALTH STATUS OF IN-SCHOOL ADOLESCENTS

INSTRUCTION: For each item, please mark the box for Not True, Somewhat True or Certainly True. It would help us if you answered all items as best you can even if you are not certain, or the item seems daft.

ITEM	NOT TRUE	SOMEWHAT TRUE	CERTAINLY TRUE
I try to be nice to other people. I care about their feelings			
I am restless, I cannot stay still for long			
I get a lot of headaches, stomach-aches or sickness			
I usually share with others (food, games, pen e.t.c)			
I get very angry and often lose my temper			
I am usually on my own. I generally play alone or keep to myself			
I usually do as I am told			
I worry a lot			
I am helpful if someone is hurt, upset or feeling ill			
I am constantly fidgeting or squirming			
I have one good friend or more			

I fight a lot. I can make other people do what I want			
I am often unhappy, down-hearted or tearful			
Other people my age generally like me			
I am easily distracted, I find it difficult to concentrate			
I am nervous in new situations. I easily lose confidence			
I am kind to younger children			
I am often accused of lying or cheating			
Other children or young people pick on me or bully me			
I often volunteer to help to help others (parents, teachers, children)			
I think before I do things			
I take things that are not mine from home, school or elsewhere			
I get better with adults than with people my own age			
I have many fears, I am easily scared			
I finish the work I'm doing. My attention is good.			

APPENDIX G: Approval for Mental Health and High School Curriculum Guide

From: **Atinuke Olowe** <atinukeolowe96@gmail.com>
Date: Mon, Mar 18, 2019 at 10:06 AM
To: <stan.kutcher@dal.ca>

My name is Atinuke Olowe, I am a Registered Nurse and a lecturer at the University of Lagos. I am currently registered for a PhD at the faculty of Health Sciences of the University of the Witwatersrand, South Africa. I am required to complete a study under the guidance of a research supervisor as part of fulfilling the requirements for the PhD degree.

I am currently conducting a study entitled Development and validation of a School-based Mental Health Educational Programme among In-school Adolescents in Lagos, Nigeria under the supervision of Dr. Amme M. Tshabalala of the above-named institution. I therefore, request permission to use the questionnaire to assess the level of knowledge and attitude of adolescents on Mental Health.

From: **Kutcher, Stanley** <Stanley.Kutcher@iwk.nshealth.ca>
Date: Mon, Mar 18, 2019 at 10:57 AM
To: Atinuke Olowe <atinukeolowe96@gmail.com>
Cc: stan.kutcher@dal.ca <stan.kutcher@dal.ca>

You certainly can do so. Good luck in your work

Sent from my iPhone

APPENDIX H: Approval for Strengths and Difficulties Questionnaire

From: **Youthinmind** <youthinmind@gmail.com>
Date: Sat, Jul 6, 2019 at 2:23 PM
To: Atinuke Olowe <atinukeolowe96@gmail.com>

Dear Atinuke,

Thank you for your interest in the SDQ.

If you want to collect data using the paper questionnaires (pen and paper method), you are welcome to download them from our website:
http://sdqinfo.org/py/sdqinfo/b0.py

provided you register for scoring paper versions of the SDQ directly via this email:
sdq.scoring@gmail.com

Our online scoring is not free (US$ 0.25 per SDQ scored) but tried and tested, with a track record of accurately scoring well over half a million SDQs per year.

You would need to register for scoring SDQ via our scoring website to register and then score the SDQ using our scoring system in English.

For more information see: https://admin.sdqscore.org

If you would like to make your own electronic versions, then you would need to buy a license from us to create your own online version of the SDQ and get your own IT people to develop a web-based system for administering and scoring SDQs. Let me know if you want to find out more about our online licensing.

Best wishes,
Helena Hamilton

Youth*in*Mind

APPENDIX I: Information Sheet for Minors

DEVELOPMENT AND VALIDATION OF A SCHOOL-BASED MENTAL HEALTH EDUCATIONAL PROGRAMME AMONG IN-SCHOOL ADOLESCENT IN LAGOS, NIGERIA.

Good day All,

My name is Atinuke Olowe. I am doing a research study as part of my PhD degree at the department of Nursing Education, University of Witwatersrand. This research study will help me gain knowledge on in-school adolescents' knowledge and attitude as it relates to mental health as well as their mental health status. The purpose of this study is to develop and validate a school-based mental health education.

Invitation to participate: I am requesting that you participate in this study. Your parent/s will also be asked for permission. You can only participate if permission has been granted.

What is involved in the study: You will be requested to fill a questionnaire that **will be used to describe the knowledge, attitude, and assess mental health status of in-school adolescents in Lagos, Nigeria.**

You will be given a questionnaire only if you have granted permission and signed the consent form and your parent/parents have also agreed that you can participate in the research.
The questionnaires will be distributed in class during the break time and will be collected before the commencement of the next class.
Only questions relating to mental health will be asked and approximately fifteen minutes will be needed to fill in the questionnaire.

Risk of being involved in the study: This study does not involve taking any risks or pain.

Benefits of being in the study: There is no direct benefit to you or your parent/s. However, the longer-term benefit is the development of a school-based mental health educational programme that will hopefully help improve and sustain the mental health of all school children.

Participation is voluntary: No one will be angry at you or punish you if you say no you don't want to be part of this study.
If you had said yes and you change your mind at any time of the study, you can stop participation. No one will be angry at you. You do not have to answer questions that you do not want to answer. Nothing will happen to you.

Reimbursement for 'out of pocket' expenses: You and your parent/s will not be paid or asked to pay for participation.

Confidentiality and anonymity: Your name will not be written on the questionnaire since they are only going to be numbered. Your parents, myself and the supervisor will know that you participated in the study, but we will not be able to know which one your information is.

Contact details of researcher: If you have any question, you may ask now or later even after the study has started. You may contact me:

Atinuke Olowe, Department of Nursing Education, the University of the Witwatersrand, South Africa/+234 806 266 3261. Email address: atinukeolowe96@gmail.com
My supervisor Dr. A. M Tshabalala +27 711 488 4269 amme.tshabalala@wits.ac.za.
Contact details of HREC administrator and chair:

Thank you for taking time to read this study Information Sheet.

Date: January 2020

APPENDIX J: Assent for Minors

DEVELOPMENT AND VALIDATION OF A SCHOOL-BASED MENTAL HEALTH EDUCATIONAL PROGRAMME AMONG IN-SCHOOL ADOLESCENT IN LAGOS, NIGERIA.

1. I have been given an Information Sheet, which explains what this study is about;
2. The study was explained to me and I understand what will happen if I take part;
3. I was given time to ask any questions I wanted to and was happy with the answers I was given;
4. I understand that I will not benefit from the study, should I agree to take part. I also understand that I will not be paid to take part in the study; taking part will not cost me anything either;
5. I have been given a range of contact details, repeated below, should I require further information at a later stage, or have any cause for concern over anything which is done to me during the study; and
6. I understand that even if I agree to take part in the study, I can change my mind later and stop being a part of the study
7. My parent(s) or guardian(s) know that I have been invited to take part in the study. They agree that I may do so, but the decision to take part is also mine.

Contact details

Principal Investigator: Olowe Atinuke O; +234 806 266 3261; atinukeolowe96@gmail.com

Supervisor: Dr. A.M Tshabalala; +27 711 488 4269; amme.tshabalala@wits.ac.za

Professor CB Penny, Chairperson of the Human Research Ethics Committee (Medical) at the University of Witwatersrand, on telephone number. 011 717 2301, or by e-mail at Clement.Penny@wits.ac.za.
Ms. Z Ndlovu or Mr Rhulani Mkansi, Committee Secretariat, telephone numbers.: 011 717 2700 or 1234, or by e-mail at: Zanele.Ndlovu@wits.ac.za or Rhulani.Mkansi@wits.ac.za

Name: _____
Date: _____
Place: _____
Signature or mark of Adolescent _____

APPENDIX K: Information Sheet for Parents

DEVELOPMENT AND VALIDATION OF A SCHOOL-BASED MENTAL HEALTH EDUCATIONAL PROGRAMME AMONG IN-SCHOOL ADOLESCENT IN LAGOS, NIGERIA.

Good day Parents,

My name is Atinuke Olowe. I am doing a research study as part of my PhD degree at the department of Nursing Education, University of Witwatersrand. This research study will help me gain knowledge on in-school adolescents' knowledge and attitude as it relates to mental health as well as their mental health status. The purpose of this study is to develop and validate a school-based mental health education.

Invitation to participate: I am asking for your permission to include your child in this study.

What is involved in the study: The involvement of in-school adolescents will entail filling a self-report questionnaire that **will be used to describe the knowledge, attitude, and assess mental health status of in- school adolescents in Lagos, Nigeria.**

Your child will be given a questionnaire only if you have granted permission and signed the consent form for participation and your child has also agreed to participate and has signed.

The questionnaires will be distributed in class during the break time and will be collected before the commencement of the next class.

Only questions relating to mental health will be asked and approximately fifteen minutes will be needed to fill in the questionnaire.

Risk of being involved in the study: There are no risks anticipated in this study.

Benefits of being in the study: There is no direct benefit to you or your child. However, the longer-term benefit is the development of a school-based mental health educational programme that will hopefully help improve and sustain the mental health of all school children.

Participation is voluntary: You will not be penalized for not giving permission for your child to participate in the study. Your child may discontinue participation at any time and there is no requirement to provide a reason for withdrawing. Any data collected on such a person will in default be destroyed unless you have given special permission for it to be used.

Reimbursement for 'out of pocket' expenses: There is no payment or cost associated with participation.

Confidentiality: Your child's name will not be written on the questionnaire. The questionnaire will be numbered. Personal information will be treated in the strictest confidence and will only be available to me the researcher and my supervisor.

All data and back-ups will be kept in password protected folders on the computer and papers kept in a locked cupboard. All data collected during the study will be securely retained for two years if a scientific publication arises from the study and six years if there is no publication.
Anonymity: Means that your child's personal details will not be recorded anywhere. It will not be possible for me or anyone else to identify your child's response as the permission slip is separated from the questionnaires.

Contact Researcher: If you have any questions, you may ask now or later even after the study has started. You may contact me:
Atinuke Olowe, Department of Nursing Education, the University of the Witwatersrand, South Africa/+234 806 266 3261. Email address: atinukeolowe96@gmail.com
My supervisor Dr. A. M Tshabalala +27 711 488 4269 amme.tshabalala@wits.ac.za.
Contact details of HREC administrator and chair:

Also, should there be any problem or complaints with the research process please contact:
Professor CB Penny, Chairperson of the Human Research Ethics Committee (Medical) at the University of the Witwatersrand, on telephone number 011 717 2301, or by e-mail on Clement.Penny@wits.ac.za.
Ms Z Ndlovu or Mr Rhulani Mkansi, Committee secretariat
Telephone numbers 011 717 2700/1234 or by e-mail at Zanele.Ndlovu@wits.ac.za and Rhulani.Mukansi@wits.ac.za
Thank you for taking your time to read this study Information Sheet.

Date: January 2020

APPENDIX L: Consent Form for Parents

DEVELOPMENT AND VALIDATION OF A SCHOOL-BASED MENTAL HEALTH EDUCATIONAL PROGRAMME AMONG IN-SCHOOL ADOLESCENT IN LAGOS, NIGERIA.

I have been asked to give consent for my child to participate in this study, which will involve being interviewed. I have read the information; have had the opportunity to ask questions about it and my questions have been answered to my satisfaction. I consent voluntarily for my child to participate in this study.

Name: ----------
Signature of the Parent: ----------
Date: ----------
If illiterate

A literate witness must sign (if possible, this person should be selected by the participant and should have no connection to the research team). Participants who cannot read nor write should include their thumbprint.

I have witnessed the accurate reading of the consent form to the parents of the potential participant, and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely.

Thumbprint of Parent/Guardian

Signature of Witness: ----------

Date: ---------- (Day/Month/Year)

I confirm that the parent was given an opportunity to ask questions about the study, and all the questions asked by Him/her have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

Contact details:

Principal Investigator: Olowe Atinuke O; +234 806 266 3261; atinukeolowe96@gmail.com

Supervisor: Dr. A.M Tshabalala; +27 711 488 4269; amme.tshabalala@wits.ac.za

Also, should there be any problem or complaints with the research process; you can contact the Professor CB Penny, Chairperson of the Human Research Ethics Committee (Medical) at the University of Witwatersrand, on telephone number. 011 717 2301, or by e-mail at Clement.Penny@wits.ac.za. Ms. Z Ndlovu or Mr Rhulani Mkansi, Committee Secretariat, telephone numbers.: 011 717 2700 or 1234, or by e-mail at: Zanele.Ndlovu@wits.ac.za or Rhulani.Mkansi@wits.ac.za

APPENDIX M: Semi-Structured Interview Guide

Probes:

- In your opinion, what would you say mental health represents?
- Do schools have a key role to play in improving mental health care among adolescents?

APPENDIX N: Information Sheet for the Interview

DEVELOPMENT AND VALIDATION OF A SCHOOL-BASED MENTAL HEALTH EDUCATIONAL PROGRAMME AMONG IN-SCHOOL ADOLESCENT IN LAGOS, NIGERIA.

Good day All,
My name is Atinuke Olowe. I am doing a research study as part of my PhD degree at the department of Nursing Education, University of Witwatersrand. This research study will help me gain knowledge on in-school adolescents' knowledge and attitude as it relates to mental health as well as their mental health status. The purpose of this study is to develop and validate a school-based mental health education.

Invitation to participate: I would like to request that you participate in a focus group discussion. The reason for having this interview is to explore the opinions of individuals directly involved in carrying out health policies, caregivers or parents, teachers, and adolescents on school-based mental health programme. I am requesting that you participate in this one-one interview.
The discussion will last for approximately one and a half hours. A convenient, quiet and comfortable venue will be used for the discussion. Only matters relating to mental health among adolescents will be discussed in the session.

Risk of being involved in the study: There are no risks anticipated in this study.

Benefits of being in the study: There is no direct benefit in being part of the focus group. However, the longer-term benefit is having a school-based mental health that will help improve and sustain their mental health at the optimal level.

Participation is voluntary: Refusal to participate will involve no penalty. In-school adolescents may discontinue participation at any time and there is no requirement to provide a reason for withdrawing. Any data collected on such a person will in default be destroyed unless there is a specific consent to its retention.

Reimbursement for 'out of pocket' expenses: There is no payment or cost associated with participation.
Confidentiality and anonymity: The information shared will only be used for the purpose of the research without mentioning your name or any identifying data. Transcriptions shall not contain information that would allow individuals to be linked to specific statements.

Contact details of researcher: If you have any questions, you may ask now or later even after the study has started. You may contact Olowe Atinuke O, Department of Nursing Education, the University of the Witwatersrand, South Africa/+234 806 266 3261. Email address: atinukeolowe96@gmail.com or my supervisor Dr. A. M Tshabalala +27 711 488 4269 amme.tshabalala@wits.ac.za.
Contact details of HREC administrator and chair: Also, should there be any problem or complaints with the research process please contact the Chairperson of this Committee who is Dr. Clement Penny, who may be contacted on telephone number 011 717 2301, or by e-mail on Clement.Penny@wits.ac.za. The telephone numbers for the Committee secretariat are 011 717

2700/1234 and the e-mail addresses are Zanele.Ndlovu@wits.ac.za and Rhulani.Mukansi@wits.ac.za

Thank you for taking your time to read this study Information Sheet.

Date: Month and Year only

APPENDIX O: Consent to Participate in the Interview

DEVELOPMENT AND VALIDATION OF A SCHOOL-BASED MENTAL HEALTH EDUCATIONAL PROGRAMME AMONG IN-SCHOOL ADOLESCENT IN LAGOS, NIGERIA.

I, ---------- have read and understood the content of the information sheet w hich invites me to take part in this interview. I understand that:

- Participation will involve me taking part in the interview.
- The interview will be audio taped, and no names are required.
- Participation is voluntary, and I may refuse to participate or withdraw my consent and sto p taking part in the study at any time without penalty.
- The information given will be confidential.

I hereby freely consent to participate in this research study.

---------- ----------

Signature Date

---------- ----------

Signature of Researcher Date

APPENDIX P: Consent for Audio Recording

CONSENT FORM FOR AUDIO RECORDING OF STUDY PARTICIPATION

DEVELOPMENT AND VALIDATION OF A SCHOOL-BASED MENTAL HEALTH EDUCATIONAL PROGRAMME AMONG IN-SCHOOL ADOLESCENT IN LAGOS, NIGERIA.

I hereby consent to audio recording of the interview session.
I understand that:

- The recording will be stored in a secure location (a locked cupboard or password protected computer) with restricted access to the researcher and the research supervisor.
- The recording will be transcribed and any information that could identify me will be removed,
- The recordings will be erased within either (a) two (2) years of the publication of the research findings, or (b) six (6) years, if no publications arise from this research.
- Anyone wishing to access this information in the future will first have to obtain the approval of the Human Research Ethics Committee (Medical) of the University of the Witwatersrand, Johannesburg
- Direct quotes from my interview, without any information that could identify me, may be cited in the research report or other write-ups of research.

Name of Participant: _____
Date: _____
Place: _____
Signature or mark _____

Witnessed by:

Name of Witness: _____
Signature: _____
Date: _____

APPENDIX Q: Information Sheet for Expert Review

Development and Validation of a School-Based Mental Health Educational Programme among in-adolescents in Lagos, Nigeria

Good day All,
My name is Atinuke Olowe. I am doing a research study as part of my PhD degree at the department of Nursing Education, University of Witwatersrand. This research study will help me gain knowledge on in-school adolescents' knowledge and attitude as it relates to mental health as well as their mental health status. The purpose of this study is to develop and validate a school-based mental health education.

The study will be conducted in three phases:
Phase 1: **Baseline data identification phase.** The first phase is made up of three aspects. The first aspect is the quantitative surveys, followed by an in-depth interview with the stakeholders and a scoping review of literature.
Phase 2: **Programme development phase.** The results from the first phase will be used to develop the school-based mental health educational programme.
Phase 3: **Programme validation phase.** In this phase, the developed programme will be validated by the group of experts.
What is involved in the study: I would like to request that you be part of the expert review panel. The panel of experts will be made up of 6 members, three clinicians and three academia. The reason for your inclusion in the expert review panel is that you have a psychiatry or psychology qualification. Secondly, you have vast teaching and/or or clinical experience in mental health.
You are requested to participate in a Delphi technique method will be used to verify the suitability of the developed school-based mental health programme. The process consists of using a questionnaire based on the guideline for reporting evidence-based practice interventions and teaching framework. This is rated in a 'Likert' scale of 1- 4, {ranging from not relevant (1) to highly relevant (4)} by the panel of experts. This is to allow for a consensus on the content of the school-based mental health programme.

The developed school-based mental health programme will be circulated in two (2) rounds to determine its content validity index. In the first round, the first draft of the school-based mental health programme will be circulated among the experts to be evaluated. During the second round, evaluations generated from the responses of the experts in the first round will be analyzed and circulated. In the third round, the school-based mental health programme amended based on the results and comments from round 2 will be circulated to all experts for comments and agreement on the final draft of the school-based mental programme.
Risk of being involved in the study: There is no risk of any kind attached to the research study. No physical discomfort, pain, and psychological stress. Confidentiality will be maintained all through the data collection process and afterwards to ensure anonymity.

Benefits of being in the study: There is no direct benefit to the in-school adolescents that will be involved in the study. However, the longer-term benefit is having a school-based mental health that will help improve and sustain their mental health at the optimal level.
Participation is voluntary: Refusal to participate will involve no penalty.

Reimbursement for 'out of pocket' expenses: There is no payment or cost associated with participation.

Confidentiality: Personal information will be treated in the strictest confidence and will only be available to the principal investigator and her supervisor. All data collected during the study will be securely retained for two years if a scientific publication arises from the study six if there is no publication.

Anonymity: Complete anonymity will be maintained by not linking the subject's identity with the information provided.

Contact details of researcher: If you have any question, you may ask now or later even after the study has started. You may contact Olowe Atinuke O, Department of Nursing Education, the University of the Witwatersrand, South Africa/+234 806 266 3261. Email address: atinukeolowe96@gmail.com or my supervisor Dr. A. M Tshabalala +27 711 488 4269 amme.tshabalala@wits.ac.za.
Contact details of HREC administrator and chair: Also, should there be any problem or complaints with the research process please contact the Chairperson of this Committee who is Dr. Clement Penny, who may be contacted on telephone number 011 717 2301, or by e-mail on Clement.Penny@wits.ac.za. The telephone numbers for the Committee secretariat are 011 717 2700/1234 and the e-mail addresses are Zanele.Ndlovu@wits.ac.za and Rhulani.Mukansi@wits.ac.za

Thank you for taking your time to read this study Information Sheet.

Date: January 2020

APPENDIX R: Consent to participate as an expert reviewer

DEVELOPMENT AND VALIDATION OF A SCHOOL-BASED MENTAL HEALTH EDUCATIONAL PROGRAMME AMONG IN-SCHOOL ADOLESCENT IN LAGOS, NIGERIA.

I, ---------- hereby confirm that I have read the information letter and I understand the purpose of the study, the research process and the possible positive health outcomes and improved mental health.

I therefore freely consent to participate in the panel of expert validation process. I understand that I may withdraw my consent and participation from the study anytime.

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Signature	Date
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Researcher	Date

APPENDIX S: Content Validation of a School-Based Mental Health Education Programme

Dear colleague,

Thank you very much for agreeing to serve as an expert for the development of an evidence-based Mental Health Education Programme for in-school adolescents in Lagos, Nigeria. You have been invited because of your knowledge, expertise, and interest in mental health.

This mental health education programme comprises the overall programme goals, five content domains, thirteen (13) sub-domains and forty-three (43) items, which you will be required to rate on a 4-point Likert scale on clarity and relevance.

Please, record your expert rating by ticking the appropriate boxes on the extent to which each item is clear and relevant to determine the validity of the developed school-based mental health education programme. Kindly write any comments/suggestions you might have in the spaces provided.

Thank you.

Degree of clarity of items/sub-domains:

1 =Not clear

2 =Somewhat clear

3 =Clear

4 =Very clear

Degree of relevance of item/sub-domains:

1 =Not relevant

2 =Somewhat relevant/unable to assess relevance without item revision

3 =Relevant but needs minor alteration

4 =Very relevant

1		**PROGRAMME GOAL**									
		Please indicate whether the overall goals of the programme are clear and relevant by circling the corresponding number									
			Clarity				**Relevance**				**Comments/Suggestions for revisions**
			1	**2**	**3**	**4**	**1**	**2**	**3**	**4**	
1a		a. Improve the knowledge of in-school adolescents on mental health and mental disorders. b. Educate in-school adolescents on stigma and how to maintain positive attitude towards peers with mental health challenges c. Provide information for in-school adolescents on prosocial behaviour, life skills and ways to quickly recover from difficult life situations.									
2		**CONTENT DOMAIN 1: Adolescent Mental Health**									
		Description: This domain entails the introduction of adolescents to mental health, the brain, its functions, the role of mind, thought process and consciousness in promoting mental health wellness									
		Sub-domain: Objectives and content 2a-2c	**Clarity**				**Relevance**				**Comments/suggestions for revisions**
			1	2	3	4	1	2	3	4	
2a	Objective	Demonstrate understanding of mental health									
	Content	Introduction to mental health									
		The period of adolescence and reasons why adolescents are vulnerable									
		Definition of mental health terms such as mental distress, mental health problems and mental disorders									
2b	Objective	Perceive the intended explanation about the brain and how it functions									
	Content	The nervous system									
		The brain and its functions									
		Ways the brain shows that it is not working well									
2c	Objective	Make clear the part of the mind and mental actions that promote mental health									
	Content	Role of the mind, thought process and consciousness in maintaining mental health									
3.		**CONTENT DOMAIN 2: Common mental health disorders**									
		Description: The domain gives brief explanation on the common mental disorders often seen among adolescents, and the warning signs that relate with each. Also, the adolescents would be able to talk about substances that can be easily abused and consequences of abusing substances									
		Sub-domain: Objectives and content 3a-3b	**Clarity**				**Relevance**				**Comments/suggestions for revisions**

			1	2	3	4	1	2	3	4	
3a	Objecti ve	Recognize warning signs of common mental health disorders									
	Content	Anxiety, levels, types, and warning signs									
		Mood disorders such as depression, bipolar, Suicide and self-harm. Recognizing warning signs from mental health disorders commonly seen in adolescence									
		Disruptive disorders including conductor and oppositional defiant disorders Recognizing warning signs of conduct disorders									
		Mental health disorders of behaviour such as Attention Deficit Hyperactivity Disorder (ADHD).									
3 b	Objecti ve	Point out the impact of substance abuse on mental health									
	Content	Substance use/misuse and other related disorders									
		List of substances that are commonly misused or abused									
		Addiction (Substances/Internet)									
		Consequences of abusing substances									
4.		**CONTENT DOMAIN 3: Stigma reduction and positive attitude in mental health**									
		Description: The domain focuses on the ways to develop positive attitude towards mental health to reduce stigma among in-school adolescents**.**									
		Sub-domain: Objectives and content 4a-4b	**Clarity**				**Relevan ce**				**Comments/suggestions for revision**
			1	2	3	4	1	2	3	4	
4a	Objecti ve	Demonstrate understanding of what stigma is									
	Content	Definition of stigma									
		Types of stigmas (Self and Social)									
		Effect of stigma on adolescents' mental health									
		Stereotypes, prejudice, and discrimination									
4 b	Objecti ve	Talk about ways of maintaining a positive attitude to reduce stigma									
	Content	Ways to maintain a positive attitude towards individuals with mental health disorders									
5.		**CONTENT DOMAIN 4: Help-seeking behaviour**									
		Description: In this domain, in-school adolescents were introduced to help-seeking, factors that influence help-seeking behaviour, and the readily available sources of help.									
		Sub-domain: Objectives and content 5a-5b	**Clarity**				**Relevan ce**				**Comments/suggestions for revision**
			1	**2**	**3**	**4**	**1**	**2**	**3**	**4**	
5a	Objecti ve	Demonstrate understanding on how to seek help concerning mental health issues									
	Content	Introduction to ways help can be sought on mental health related issues									

5 b	Objecti ve	Talk through factors that have the capacity to have an effect on the ability to seek help among adolescents.									
	Content	Factors influencing help-seeking behaviour									
		Sources of help that can be easily accessed									
6.		**CONTENT DOMAIN 5: Life skills, prosocial behaviour, and resilience**									
		Description: The domain focuses on defining prosocial behaviour, ways to promote age-appropriate prosocial behaviour, types of life skills, resilience, and principles to guide in ensuring effective positive communication.									
		Sub-domain Objectives and content 6a-6d	**Clarity**				**Relevan ce**				**Comments/suggestions for revision**
			1	**2**	**3**	**4**	**1**	**2**	**3**	**4**	
6a	Objecti ve	Talk through reasons why it is important to engage in prosocial behaviour									
	Content	Introduction to appropriate behaviour that benefits others.									
		Ways to promote prosocial behaviour									
6 b	Objecti ve	Demonstrate understanding of the different life skills									
	Content	Types of life skills such as decision making, problem solving, Creative thinking, Critical thinking,									
6c	Objecti ve	Tell about resilience and its impact on mental health									
	Content	Resilience and recognizing factors that strengthen it									
6 d	Objecti ve	Understand the impact of positive communication									
	Content	Principles of effective communication									
		Importance of good communication									

APPENDIX T: Transcript from individual interviews

AO: In your opinion, what would you say mental health represents and how would you define it?

Parent A: From my understanding, the lame man understanding of mental health might be radically different from the medical definition of it. When you say mental health, to me I will be talking of emotional health. Because I want to believe that the most major of all causes for mental imbalance or mental unhealthiness is emotion. (Giggles). So I want to look at a situation whereby a man is able to think properly, decide properly and live properly as what I will define as mental health. When you are able to think properly and decide properly. That is my lame man understanding. Because I think that immediately your thinking is impaired, your thinking is destroyed, you are no longer mentally balanced. There are a lot of people that will think that are mentally good, you know that they are mentally healthy but not until you discuss with them. A man you tell that look this thing will kill you, for instance cigarette. It is being said that smokers are liable to die young, yet you still find some of them will still pick cigar and still smoke. You want to wonder, is this one mentally, okay? So, it is not until you become the mad man on the street. Not until you become the mad man on the street. Of course, that is the height of it. But in a situation whereby you are unable to think properly despite warnings it shows that there is a level of mental issue involved in it. My understanding of mental health is when you are able to think properly and you are able to decide properly.

AO: Do schools have a good role to play in improving mental health among adolescents?

Parent A: 10 – 17 years, certainly that is secondary school. Certainly! Certainly! Schools have so many roles to play. It will shock you that what had never happened before are beginning to happen now. Things that do not happen in those days are happening now. There was a day I was going to the national computer village and I saw a girl, that girl should be around 15- 16 that girl should be around 15- 16, and she was walking nakedly, nakedly. I didn't even see her, I was just going and I just saw her. You know, and it was in the breast that showed me that this is still a young girl. I mean if she had already given birth before, the breast would have been flabby or that kind of a thing, or it would have fallen down. The breast was still up, it showed me that this girl is still a teenager walking nakedly, totally nakedly. That was not the first one. I have seen guys also. So now when you look at that age it fall into the age range. Certainly, schools have a role to play

because so many of them at that age they are going into drugs, they are going into cultism, they are going into so many things. So schools need to show them the repercussion of their actions or the possible or probable consequence of their actions. That if you do this, this is happening. Another thing that I noticed, is that earlier or those days they will tell you that start having blood pressure maybe when you are in your 40s or you are in your 50s. These days, pick a 12 year old, 13 year old, 14 year old, they will tell you the blood pressure is terrible. What are they doing? So schools have roles to play, not just in mental health, but even in the ramifications of health. There is a saying that says that when you catch them when they are young, it will be easy to keep them when they are old. So when you expose them to the realities of their lives, or what the likely consequences of their actions now will be when they are in their 20s, in their 30s and in their 40s, they will be careful. I was a smoker, heavy smoker. That is why this day when I find anybody smoking, I don't condemn them, when it time for them to leave, they will leave it. I don't condemn anybody (inaudible) as long as they know the consequence of what they are doing. Until I travelled to Burkina Faso, and we were we were at the airport, and then there was a kind of screen somewhere and they showed us the internal something. The heart and things, the lungs and it was colored something and I saw how black the lung was. In fact according to the thing they showed us, smoker between 1 and 5 years, 5 and 10 years, 10 and 15 years that kind of a thing. And at that time, I would have smoked for about close to like 10 years. I was like so is this how my lung will look like now (in a raised tone)?

(Laughter) That was the day I decided and stop smoking. Throughout my stay in Burbidalazo that was the town we stayed in Burkina Faso, I did not smoke. Every time that picture will come. You know every time that picture will come before me. Then I realized the consequences of what I was doing. If I didn't see that thing that very day, perhaps I will still be smoking till now. So schools must catch this children very young so that they can see the consequences of what their action will be later.

AO: What is the impact of a good mental health on adolescents on their school performance, interaction with peers, interaction at home with other family members?

On their school performance?

Parent A: First of all, you see, you can see what this generation has become. The mental health is good so that they cannot not just be physically balanced but to even to be intellectually balanced.

You know to be intellectually balanced and fit. When you show them the consequences of whatever they are doing now, it gives them a good stead. They know say o if I do this, in fact they know, once they know. I think one of the things that push them into drugs, you know. Because so many of them that is the stage they go into drugs. One of the things that push them into this type of habit is that they don't know they don't know the consequences, they don't know the consequences of it. It is just like o, how do you call it, it is just like we are feeling good, we are feeling good, feeling high, feeling among – the peer influence. They feel like we are the happening things you see. These are the things that happen to so many of them. So when they don't show them, when there is no mental health teaching or how do I call it? You don't show them all this sort of things there, they just go a wire. They go astray. And at the end of the day we lose them.

AO: Sir, what about the impact of good mental health on their interaction with peers?

Parent A: Exactly! When you find? You see mental health? The ramifications of mental health needs to be brought down to their level so that these children at home… for instance, I have my younger brother's son that is my son also. The guy came here, I never knew this boy was, they call this thing 'scrutchi' there is a kind of drink called "scrutchi". Whenever this guy come to this house, he will be alone from morning till night. (Inaudible) he will not talk to anybody. At a stage I was like, I will be thinking that what is wrong with this child. At times, he will just sit all by himself outside where a bench is placed, without talking to anyone. I now told my wife that it is likely this boy is taking something. At times, the boy will just say he is coming, by the time he comes back, his eyes would have been bloodshot. I had to call him one day, which drug/substance are you abusing? What is the issue? My brother is in Italy that is my younger brother. That is the only child, he is a love child. The mother is remarried to another man so the boy is lost, he doesn't know where he belongs. The mother doesn't want the boy to come to her house, the mother wants to push her to my place all the time. So this boy is now hanging out with friends that kind of a thing there. Whenever he comes over to my place, you find out that this place is about Christ, he doesn't fit in. Because I will wake him up) let us pray, at midnight I wake everybody up so that we can pray, he doesn't fit into this place. He doesn't fit into it. To him if I wake him up in the midnight, it seems as if I am disturbing him. He is not comfortable about my way of life. He felt that whenever he comes around I will just be giving him money to do whatever he wants. I don't do that with my children. You see, so that when these things happen, one the children will not be able to fit in to the family any longer. He is gradually becoming a delinquent, a liability on himself,

a liability on the family, a liability on the society. At that level of his life, the mental health, the mental challenge is still very low in a way, but then it starts from somewhere. That is where it starts. It will disturb his ability to think properly. At his age, he is now about 29, he cannot think about marriage, he cannot think about marriage. He is still like sleeping with girls is still the order of the day - that kind of a thing. He doesn't know that there is something beyond sleeping with girls. That is why back to my definition, inability to think properly.

AO: Do you think incorporating mental health assessment into schools at the resumption of every term will help in early detection of mental health disorder?

Parent A: Exactly! Exactly! Exactly! It is not just about mental health alone, a lot of things. I did a book, I have a book on mentoring and I have been telling people that look, there are so many things we need to bring to devolve so that these children may learn very early. Even it is not just about mental health, mentoring even, relationship. These are the things. When you catch them when they are young, it will be easy to keep them when they are old. Let us find a way, of doing a type of curriculum that would fit into their levels. You know, let us look at how can you destroy your mental health, how can you improve your mental health, how can you maintain it, things like that, you know. So that very early when they understand the consequences, they would be very careful about life. They will take life more seriously. You know, they will be careful about life, they will take life more seriously. It is one of the challenges we are having in this generation today is because of the lack of things like this. They are not properly mentored, so they do not know. They just wake up and they will just live their life in what do you call it, a trial by error bases. People like us, when I was young. I just told you the story of my daddy, is that kind of a man who could mentor his children? He couldn't mentor us. Any little thing that time, my daddy is off – anger

My daddy curses his children to reprimand them. Curses like you will not make it this child, it shall not be well with you this child, and you will be a chart pusher to mention a few. To him, he is correcting me. So a man who cannot think properly, how could he mentor me? And that is what we are saying that most things I realized that were not available in my parenting, in those years when I was growing up, I am trying to provide it for my children. Yes, fill in the gap. I sat them down and told them how I was raised, they were all crying. I told them the story of how I was raised. I told that I was raised in the midst of 'ija' fight and weeping. So those are the things there.

So if the government or the educational authorities anywhere would call the mental health practioner now and fashion out a kind of curriculum that would devolve mental health to their understanding. The implications or total ramification the better for them, the better for this generation.

AO: How important is it to have teachers trained on mental health?

Parent A: Very very important. Because when you don't have teachers to teach the students, you must first of all teach the teachers. Now, one of the things, one of the most important things is that it is going to create more employment. Because not everybody who is a mental health practioner will end up in the hospital. Let's have some of them in educational institutions, let's have some of them in secondary schools. If possible, in primary school. Let me tell you something, the minds of some children were abused so early in their life. It will shock you that some children at 11 years. People come out now, I meet one lady called Jenny, she told me that she was deflowered at age 5, by her uncle. I said common, at age 5 ah ah!! Do you have that kind of space? She said look, I was big, at age 5 I was big and then you know when they look at her she was just having something like breast and that was what the uncle was just touching. She was deflowered at age 5. I said did you tell your mummy, she said she is just saying it out since then. I am talking of what she told me about maybe 3 or 4 years ago that she is just speaking out on what happened as far back as 1986. That she is just speaking out, telling me this now, that she has never told anybody. That she is bold to tell me this because of the anonymity on Facebook, after all, I have not seen her before.

A girl came here, Zainab is the name, a daughter of my sister's friend. The mother is dead. So one day, we are discussing about the Islamic clerics, and the girl started raining curses on Islamic clerics. I now have to ask that what is wrong, and she replied that don't mind all those Islamic clerics. Now my wife realized something was wrong. Later, I went out, and my wife told me that while the lady was young around ages 3-4 years. The mother use to send them for Islamic teachings, and the cleric that is supposed to teach them Arabic will be molesting them by putting fingers into her vagina.

These sorts of secrets are locked up in the heart of so many children, and they are unable to speak. Because those people will have told them you will die the day you speak out.'. Growing up, they will realize that they are still living. She was a medical doctor in Yugoslavia, had her medical training in Hungary. Almost twenty something, Zainab should be about 28 years. What had

happened to her since she was between 3-4 years of age? If you move round, there are such secrets locked up in the heart of these children. Therefore, we need either counselors or mental health practioner who will find a way to break into the heart these children. Up till now, Zainab has had no boyfriend, from then till now, no sexual relationship. Because I have to call her here, I had to tell her that no. You have to find a way of breaking this thing in your heart and start your life. So, there are so many people like that. So mental health practitioners would help counselors to disabuse the minds of children in this kind of issue.

AO: Is it necessary to involve school nurses in the mental health care of adolescents?

Parent A: Beautiful! A school clinic! Good! If the nurses could play the role of school nurses? Beautiful, it will help, it will help. So many public schools, with no school clinic or sick bay. The only places where a school clinic can be found in the public secondary schools are schools with boarding facilities. Ideally, every school should have a nurse, and at least a mental health counsellor, you know. Because go to these schools and you see that some of the atrocities are being committed by these adolescents. I remember when I started smoking, it was in secondary school. Someone just called me then and introduced me to smoking and taking alcohol spirit. That was in secondary school. A friend just invited me to hang out with him. I have heard about the local alcohol spirit drink, but I have not seen it before. This friend of mine just gave me a cup filled with a clear fluid, I thought it was water and I gulped it all at once. The drink was so hot down my throat that I shouted. That kind of a thing. Now that experience, it is a thing that if we had a very good counselor or someone in school then, they would have a way to know, and I started. My friend who took me out that day said oh, you are a fool and a novice. You do not gulp a cupful of alcohol; all you need to do is to start sipping it little by little. That was how I started. My first drink was spirit alcoholic drinks, then beer as a result of influence from friends. So, the nurses and counsellors should be available to start teaching all these things. I will also say that mentoring is important in helping adolescents out in time like these.

AO: Can school based mental health program be offered at the school level throughout the federation

Parent A: Why not? My pain is that will it not be a kind of extra burden? The adolescents that we have now, for them to comprehend mathematics is a challenge, then we want to add mental health into the curriculum. The beauty is that the adolescent who will be serious will be serious, the

adolescent who will appreciate it will appreciate and the adolescent who will understand it, will understand it. It cannot be said that because some adolescent will not understand it, so it should not be added to the curriculum. It is highly relevant. I insist that it is most relevant for a time as now. Look at what is happening to the society, look at the drug cases all over. Go to the north and you find adolescents already adding tramadol and codeine to soft drinks. When you explore to the reasons for doing all these, you find out there is no counselling and these young adults do not really know the consequence of that thing they are taking. I insist that when they know the consequences of these things, many of them will back out. If only for knowing the consequences, I think that school based mental health educational program should be included in the curriculum. The adolescents will think they are enjoying, that feeling of highness and excitement at that moment of taking the drink or substances. Most adolescents do not know the organs being destroyed as a result of these harmful substances or drinks being taken. Like I was smoking, I never knew until I saw that thing in the airport that day.

AO: Is there a need for collaboration among health care practioner and parents to help reduce fragmentation of services and promote mental health?

Parent A: Certainly schools should work with parents and health workers should work with parents too. The health workers cannot do it alone. When the health practioner liaise with the parents, it is the parent who will make it easier for the adolescents to obey the rules and regulation of what they will be taught. For instance, look at the situation of the COVID-19, where students including the adolescents were asked to stay at home and learn through on-line means. Without the support of the parents, that will be impossible. For someone like me, I have to go and buy two phones as well as modems for internet access. When the parents cooperate with the teachers, it becomes easier to do even not only because of the adolescents, parents themselves will learn one or two things. During one of the sessions for their home schooling, they were taught phonics. I don't know what phonics are, when I was at their age we were taught arithmetic and nature's studies. Those were the things we were taught. The adolescents I have in my house now talk about quantitative aptitude, phonics and the rest. i said what is all these, in my days there was nothing like this. But then, it is good that I am acquainted with things like this. It keeps us in trend and abreast of the current situation of things. Certainly, it is good to involve parents in all these things.

Many parents do not have the understanding of the importance of mental health. On the other when parents are being approached wrongly, it creates fear in them. In situations where parents are approached calmly, it keeps their mind at rest and let them know that the information being asked for is meant to help improve the mental health conditions of your wards. There are so many professionals that are quacks. The way you approach people matter a lot. There are professional counsellors, and at times some pastors in the church do counsel as well, but people will not go there for counselling. There was a woman who went to the pastor for counseling about her son who had turned into a drug addict. The next Sunday service, the pastor used the information she gave to preach on the pulpit. Just imagine!

When you assure parents that the oath of secrecy will be strictly adhered to, it will be easy for them to open up and give the needed information to improve the mental health of their adolescents. Most parent know that they cannot solve this challenges themselves, they need assistance. Counselors, school nurses and others involved in the care of these adolescents need to assure the parents that their primary goal is to assist the adolescents and nothing more. We are not here to shame, blame or expose you to the world, we are only here to assist. It is like what is happening to HIV/AIDS today, it is like any disease condition, but because of the stigma. Between HIV and COVID-19, which one is worse? Is it not COVID-19 that will kill under some days? You can still live long with HIV for years if you are compliant with your medication and adopt healthy lifestyles. These are challenges. The stigma associated with mental health issue is so much. The same thing now is affecting recovered individuals from COVID-19. Anyone that has gone for isolation and coming back are now being labeled. And that is the problem with our society. So, if the health workers have a way of assuring parents that information given will be confidential, parents will open up to give accurate and detailed information about their wards. I would encourage parents that rather than confide in your friend, go search for a professional to confide in. friends are human beings, a little disagreement between friends can lead to the other one exposing the information shared with them in confidence. I implore the parents to make use of professionals and professional must make themselves available, let us know where you are, and let us know how to find you. We all have phones if we Google all we see are foreign addresses and contacts. At the local level, let us make ourselves available, make your contact easily assessable to all. The few ones that are available, the charges are too much. Some parents are struggling to feed, how will they afford exorbitant consultation fees? I am still of the opinion that rather than go to friends, seek for a professional.

Also, incorporating mental health into the curriculum is good. It is not only good, but also necessary. It is not only necessary, but it is of high necessity. Let it be there, in fact let it be now. I will call all stakeholders to call for a meeting with secondary school proprietors or make a presentation to the state government to the ministry of education on the need to have it incorporated, especially because of what is going on in the society now. Many of these children are gradually assimilated into the drug culture. The stakeholders should live up to their responsibility of letting the adolescent, their parents and the government know the repercussion of what is happening. The earlier the better for all of us.

APPENDIX U: Change of title of research

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TAA

Mrs AO Olowe
DEPATMENT OF NURSING SCIENCE
UNIVERSITY OF LAGOS
IDI ARABA
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23401
Nigeria

Dear Mrs Atinuke Olowe

Doctor of Philosophy: Change of title of research

I am pleased to inform you that the following change in the title of your Thesis for the degree of **Doctor of Philosophy** has been approved:

From:	**Development and pilot testing of a school based mental health educational programme among in-school adolescent in Lagos, Nigeria.**
To:	**Development and Validation of a school-based mental health programme among in-school adolescent in Lagos, Nigeria.**

Yours sincerely

Mrs Sandra Benn
Faculty Registrar
Faculty of Health Sciences