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THE STATUS OF PRE-SERVICE INTEGRATED MANAGEMENT OF CHILDHOOD ILLNESS STRATEGY (IMCI) TRAINING IN THE PUBLIC NURSING COLLEGES OF SOUTH AFRICA

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A research report submitted to the Faculty of Health Sciences, University of the Witwatersrand, Johannesburg, in partial fulfilment of the requirements for the Degree of

Master of Public Health

Johannesburg,

29 August 2013

Declaration

I Sebotse Salvaciah Ngake declare that this research report: The ***Status of Pre-Service Integrated Management of Childhood Illness Strategy (IMCI) Training in the Public Nursing Colleges of South Africa*** is my own work. It is being submitted for the degree of Master of Public Health in the University of Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at this or any other university.

Signature: ----------

Date: ----------

Dedication

In loving memory of my father, Magodimong Elfas Mohlala

1938 - 2002

Abstract

Aim: The study aimed at describing the status of implementation of pre-service IMCI training in the public nursing colleges of South Africa as at 2010.

Methods: A cross sectional descriptive survey of public nursing colleges of South Africa was conducted from May to June 2011. There are 32 public nursing colleges in South Africa, and each of the nine provinces has at least one. All 32 nursing colleges were included in the study.

Study population: The study population included all nurse educators in the public nursing colleges teaching pre-service IMCI of student nurses in South Africa.

Sampling: Two nurse educators teaching the IMCI strategy from each of the 32 public nursing colleges was included in the survey. Two nurse educators from each completed the questionnaire.

Results: Pre-service IMCI training was introduced into the four-year basic diploma curriculum in the public nursing colleges between 2004 and 2009. Nurse educators teaching IMCI are not all trained in this strategy. Teaching methods used at these public nursing colleges include lectures, group discussions, practical and video shows. The availability of facilitators and training material are key success factors to IMCI teaching in the public nursing colleges. Constraints experienced included lack of human, material and financial resources, poor planning, and limited time for both theoretical and practical teaching due to a packed curriculum, as well as a lack of managerial support at all administrative levels.

Conclusion: The success in pre-service IMCI training in the public nursing colleges depends on the availability of resources and ongoing managerial support to the nurse educators. New teaching methods and approaches, such as computerised tools, can be introduced to increase number of student nurses trained in this method. A mixed approach is recommended as it enables students to have continuous exposure to IMCI sessions throughout their years of study.

Key words: *Pre-service IMCI; nurse educators; student nurses; public nursing colleges*

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Title of the Report

The Status of pre-service Integrated Management of Childhood Illness Strategy (IMCI) Training in the Public Nursing Colleges of South Africa.

Synopsis

This study describes the status of Pre-service IMCI implementation in the public nursing colleges of South Africa as in the year 2010. It describes the advantages and disadvantages of the approaches for IMCI training. Furthermore, the discussion focuses on facilitating and constraining factors to implement Pre-service IMCI training in the public nursing colleges. Recommendations are made on Pre-service IMCI training to the national, provincial, district level and public nursing colleges.

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Abbreviations and Acronyms

CAH:	Child and Adolescent Health
CoMMic:	Committee on Morbidity and Mortality Audits in Children
D4:	Diploma in Nursing (General, community and psychiatry) and Midwifery
DCST:	District Clinical Specialist Team
DoH:	National Department of Health
ICATT:	IMCI Computerized Adaptation Training Tools
IMCI:	Integrated Management of Childhood Illness Strategy
MDG:	Millennium Development Goals
PHC:	Primary Health Care
PNCs:	Public Nursing Colleges
U5MR:	Under-five Mortality Rate
UNICEF:	United Nations Children's Emergency Fund
WHO:	World Health Organisation

Terminology

Pre service IMCI refers to training of the standard IMCI in the four year diploma/ degree of the basic qualification in towards registration as a professional nurses.(1)

Nurse Educator, lecturer/tutor refers to a professional nurse with a specialty in nursing education. This professional teaches and prepares student nurses to registered nurses for entry into practice position. These three terms will be used interchangeably in the report.(2)

IMCI facilitator refers to a professional nurse trained in standard case management including the facilitation skills of IMCI.(3)

Student Nurse refers to an individual enrolled with a college/ university to study for a basic nursing diploma/degree.(4)

Chart booklet refers to a reference manual with clear algorithms to assess, classify, treat, counsel the mother and follow up sick children under the age of five years.(5)

IMCI module refers to a set of guidelines providing a clear step by step direction to assess, classify, identify treatment, treat the child, counsel the mother and follow up a sick child from 0-60 months old. (6)

Clinical practice refers to the art of relating theory learnt from the IMCI modules to practice within an out-patient and in-patient setting (clinic and wards for sick children under five years of age). (7)

Staggered approach refers to the distribution of training of IMCI throughout the four years of study. (8)

Block system refers to training of student nurses for uninterrupted 11 days in a group of less than ten participants per session. [9]

Mixed approach refers to a combination of the staggered approach and the block system. [8]

CHAPTER 1

INTRODUCTION

1.1. BACKGROUND

The MDG progress Report, 2009 showed that more than 60 000 children under the age of five die in South Africa per year.[10] This report further revealed that South Africa has made very slow progress towards reaching the Millennium Development Goal (MDG) 5, which aims at reducing child deaths by two thirds.[11] The Committee on Mortality and Morbidity in Children (CoMMic) report indicates that the deaths are attributable to preventable diseases such as diarrhoea, pneumonia and neonatal conditions.(Malnutrition as well as HIV and AIDS which are also preventable, are underlying conditions for these killer diseases. The Saving Children Report (2009) further attests to the underlying factors of these deaths in South Africa.[13] Output number two of the Negotiated Service Delivery Agreement (NSDA) between the Minister of Health and the President of South Africa, which aims at reducing maternal and child mortality, further indicates that childhood death should be reduced to 20 per 1000 live births by 2014.[14]

A Strategic Framework for reaching the MDG on Child Survival in Africa have highlighted the IMCI as one of the key child survival strategies.[15] In addition, The Saving Children Report, CoMMiC Report and the South Africa Countdown to 2015 and Maternal, Newborn and Child Survival 2015, also recommends implementation of the IMCI at primary healthcare level to reduce child morbidity and mortality.[16] The National Strategic Plan on Maternal, Newborn, Child,

Women's Health and Nutrition also makes provision for IMCI as the key intervention to improve child survival.[17]

This chapter presents the background, statement of the problem, justification of the study, the aims and objectives, and a synopsis of its content. The IMCI was developed by the World Health Organisation (WHO) and United Nations Children's Emergency Fund (UNICEF) during the 1990s. It is aimed at reducing morbidity and mortality of children under the age of five, attributed to childhood preventable diseases, namely pneumonia, diarrhoea, malnutrition, malaria and measles.[18] The strategy is built on the following three components:

- Case management: This component capacitates health professionals with skills to manage sick children at the primary healthcare level. A set of algorithms are used to assess, classify and treat a sick child under five years old.

- Health system: The second component addresses strengthening of the health system to support the effectiveness of preventing common childhood illness. It also covers the availability of equipment, drugs, vaccines and essential supplies. This further includes referral pathway, the organisation of work at facilities, supervision of health staff, health information, patient satisfaction, cost of care and communication. [18]

- Household and community component: This focuses on empowering the household, families and the community to use good family practices aimed at promoting child survival.[19] Community workers trained in the Key Family

Practices share the messages with members of the households, families and community. [20]

The duration of training case management of IMCI and strengthening of the health system for health professionals varies from three to eleven days, whilst the duration of training community workers on the household and community component of IMCI is five days. The WHO generic training materials are mostly adapted by countries to fit their local situation. Categories mainly trained in the first two components (case management and strengthening of the health system) include professional nurses, student nurses, doctors and medical students [21]

1.2. STATEMENT OF THE PROBLEM

South Africa, like other developing countries, has adopted the IMCI as the key strategy for decreasing morbidity and mortality amongst children under five years old. In-service training has been used to ensure that health professionals have the knowledge and skills needed to implement the strategy at Primary Health Care (PHC) level.[22]

The WHO case management training materials have been adapted periodically to suit the local challenges. For example, algorithms for assessing and managing TB, HIV and AIDS have been incorporated into the strategy.[5] The materials are revised periodically to address the current situation and are distributed to primary health facilities and nursing colleges. They are also issued to participants who take them home after training. The in-service training of health professionals in IMCI case management involves removal of participants from their area of work to

a common venue. This venue serves to accommodate attendance for both theory and clinical practice. However, this approach is not cost-effective as health professionals have to be away from their areas of service for at least ten days. It further requires enormous logistical arrangements and significant resources to run a successful training course.[23] Attrition rates after completing IMCI training are also high. In light of the above, the WHO recommended that the IMCI strategy be included in the pre-service training curriculum of all health professionals, especially nurses and doctors.[24]

Pre-service IMCI training refers to the process of introducing clinical and public health concepts and approaches of the *Integrated Management of Childhood Illness st*rategy (IMCI) into medical and paramedical education, before graduates enter service. This can generally apply to other relevant public health topics, similar to the control of diarrhoea diseases and acute respiratory infections, expanded programme on immunisation and breastfeeding. Pre-service IMCI training is a better approach to training a large number of health professionals in IMCI and to improve coverage in a more sustainable and cost-effective way. The introduction of IMCI training into the nursing, medical and paramedical education presents an opportunity for teaching institutions to clearly prioritise important areas for learning IMCI.[25] This also assists in building an integrated approach to the teaching of common childhood illnesses by encouraging coordination between different teaching units and sub-units when the training is spread over several academic years. In addition, the strategy further prepares health professionals to work within the national health system and to support public health strategies

while providing quality care to sick children in a rational manner within resource-limited settings.[26]

Some institutions of higher learning, such as the University of Pretoria, introduced pre-service IMCI training as early as 2001, followed by other universities and nursing colleges, including pre-service IMCI training to their teaching curriculum. South Africa, in response to the challenges on in-service training, held a national workshop on pre-service IMCI training with the medical and nursing academic institutions in 2003 (Bloemfontein).[27] A second national workshop was conducted during September 2007 in Benoni, to follow up on progress made by the colleges since the Bloemfontein workshop.[28] It is assumed that all the public nursing colleges have incorporated some aspects of pre-service IMCI training into the Nursing Curricula.

1.3. JUSTIFICATION OF THE STUDY

A report on a cross sectional survey of pre-service IMCI experience from 36 countries shows that 83% incorporated IMCI into the medical and nursing curricula. The report further indicates that early involvement of academic staff and the Ministries of Health have facilitated incorporation of IMCI into pre-service training. Pre-service IMCI training has further shown to improve healthcare provider performance and quality of service.

The universities and public nursing colleges (PNCs) in South Africa have introduced pre-service IMCI training into the nursing curriculum. There is however no country-specific report on the pre-service IMCI training in the PNCs of South

Africa, apart from the 2006 WHO Pre-service IMCI Training Evaluation conducted in six medical and six nursing academic institutions.[8] The report does describe the number of nursing colleges implementing IMCI and number of nurses trained in Pre-service IMCI.

In view of the above, having a documented report on the evaluation of pre-service IMCI training in the PNCs of South Africa will help to inform policy, planning and support of pre-service training in a much more comprehensive manner.

Conducting this cross sectional descriptive study provided a national perspective on implementation of the pre-service IMCI training in the PNC of South Africa, covering the 2010 academic year. The focus on the PNCs is based on the view that professional nurses are the main pillar for provision of PHC.

1.4. STUDY OBJECTIVES

The study aimed at describing the status of implementation of pre-service IMCI training in the public nursing colleges of South Africa as at the year 2010.

The objectives for this study were to:

- determine the total number of public nursing colleges with pre-service IMCI training incorporated in the basic nursing curriculum.
- describe teaching methodologies used by nursing colleges to train pre-service IMCI.
- describe training material used to teach student nurses in pre-service IMCI.

- determine the total number of students nurses trained in pre-service IMCI.
- determine facilitating factors and challenges experienced in teaching pre-service IMCI.

1.5. RESEARCH QUESTION

Against the above background, the research question posed is as follows:

- What was the status of pre-service IMCI training in the public nursing colleges of South Africa as at 2010?

1.6. OUTCOME VARIABLES

The outcome variables included**:**

- Public nursing colleges with an IMCI training programmes in the basic nursing curriculum.
- Methodologies used for training IMCI in the basic diploma in Nursing and mid diploma.
- Training material used for pre-service IMCI.
- Number of IMCI facilitators per college.
- Facilitating factors and challenges faced in pre-service IMCI training.
- Number of students trained in pre-service IMCI to date.

1.7. OUTLINE OF THE REPORT

This research report has five chapters. Chapter one has introduced the topic and provided a brief overview of the content of this report. Chapter two of the report outlines the literature search on the justification for the need to strengthen pre-service IMCI training in the Latin America, Asiatic, Europe and the African Regions. It further covers theories on the theoretical and clinical practice, assessment of students and challenges to pre-service IMCI training. This work has relevance to this research and considers facilitating factors to improve pre-service IMCI in the countries. Discussion in chapter four will be informed by this literature.

Chapter three of this report covers the methodology employed to collect, process and analyse the data.

Chapter four focuses on the results of the study, with specific reference to the key deliverables of the research. This includes PNCs with IMCI training programmes in the basic Diploma in Nursing (general, community and psychiatry) and Midwifery (D4) curriculum. Methodologies used for pre-service IMCI training, material used, number of IMCI facilitators per PNC, facilitating factors and challenges faced in pre-service IMCI training and number of students trained as at 2010.

Chapter five (5) outlines number of public nursing colleges with pre-service IMCI training incorporated in the basic nursing curriculum, the teaching approaches and methods used by public nursing colleges to train IMCI. It further discusses the 11 days block synthesis, five-day shortened course, e-learning, ICATT and distance learning. The methods discussed in this chapter include lecture, group work and class reading, video show, drills, exercises and homework. IT also addresses the

facilitating factors and constraints in pre-service IMCI training. The facilitating factors discussed in this chapter cover the availability of facilitators trained in IMCI, and availability of training materials. The challenges include the generic method of teaching IMCI and lack of support from national and provincial levels.

Chapter six makes recommendations and draws conclusions based on the main findings of this report. In the light of a descriptive discussion on the facilitating factors and challenges faced in pre-service IMCI training, the report culminates with an outline of recommendations to the national, provincial and PNC level. Based on the arguments presented in the research, the recommendations will enable the policymakers, the implementers and academics to respond appropriately to the challenges. This will also enhance the administrative levels to further address the teaching of IMCI in the nursing colleges so as to benefit the nurse educators, learners and the PHC system, as well as improve the quality of training.

CHAPTER 2

LITERATURE REVIEW

This chapter outlines the literature on the justification for the need to strengthen pre-service IMCI in Latin America, Asiatic, Europe and Africa. Work carried out by WHO and UNICEF in these countries has relevance to this research and considers facilitating factors to improve pre-service IMCI training on these continents. Relevant information regarding the approaches, methods, challenges and facilitating factors are also discussed in this chapter.

2.1. PRE-SERVICE IMCI TRAINING

Pre-service Education is defined as the process of giving or acquiring knowledge and skills and developing attitudes and values, especially at a school or university. 'Training' likewise aims at improving the level of a trainee's competence in a specific area and may be defined as the process of developing, changing or strengthening knowledge, skills and attitudes of a target group. The term 'in-service training' refers to training of persons already employed, e.g., health providers working in the public or private sector. 'Pre-service' refers to activities which take place before a person takes up a job that requires specific training, i.e., before a person 'enters service'. This encompasses courses for graduates, in addition to those for undergraduates, and 'pre-service courses' if they provide the competence needed to perform new 'services'. The terms 'pre-service education' or 'pre-service training' refer to any structured activity aimed

at developing or reinforcing knowledge and skills before a health care professional enters public health service or private practice.[1]

Traditionally, educational institutions tend to be knowledge dispensers, striving to keep up with the most recent advances and passing them on to students. The relationship between knowledge gained and the realities which students will be faced with after graduation is often weak. Teaching may be negatively affected due to lack of practical approaches to address those “real-world” matters at the different clinical practice level. The link between teaching institutions and the organisations and settings in which newly qualified health professionals will work may also be very loose. Sophisticated and intellectual knowledge tends to be more attractive in medical and health sciences related education than common knowledge and skills that are applied to everyday practice.[3]

A study undertaken by Child and Adolescents Health in different WHO Regions has shown that key paediatric textbooks used as a reference by teachers and students in developing countries are often from developed countries. As a result, the distribution of time in a teaching curriculum may privilege rare diseases, sophisticated skills and modern tests, while penalising the most common conditions and skills and attitudes needed in a particular local setting. In other words, the overall teaching programme may deal with subjects and skills in an unbalanced way. While many graduates will go on to practice PHC, paediatric teaching in undergraduate training often tends to focus on inpatient or hospital care, with little room for paediatric outpatient care or home care. Essential skills, such as communication, are rarely taught to students, despite most child care being delegated to families and taking place at home, and the quality of child care relies on the advice child caretakers have received.[29] As a

result, many students may be exposed to information they may be unable to apply in the sources available. Furthermore, for a variety of reasons, teaching in developing countries often employs passive methods for students' learning. Lecturing is used as the classical and dominant method in order to address large number of students at the same time, with little opportunity for clinical practice and use of interactive learning. The objectives of pre-service training are to address these issues to prepare a cadre of health providers ready for the tasks and the working environment.[29]

It should be emphasised that medical and health sciences education aims at providing knowledge and developing skills and attitudes among students as part of a thorough "education" process, to enable them to think through a differential diagnostic process before formulating a diagnosis and prescribing treatment. Clinical decision rules and standard protocols, such as the IMCI guidelines, are meant to guide this process rather than replace it. [30]

Students should be ready to perform adequately both in situations in which hardly any diagnostic facilities are available and in settings where a full range of such facilities exist. This is why such guidelines should be integrated in existing teaching programmes, in subjects to which they best relate, rather than be a new subject. Also, IMCI is not comprehensive paediatrics; rather it deals only with a number of priority health problems in a specific age group, i.e., and children under five years old.

By addressing undergraduates before they qualify and enter service, whether in public or private setting, IMCI pre-service training is seen in the African Region as an approach which holds a high potential for supporting and sustaining under-five child care in the long-term, according to the IMCI new elements and approach. As new

student nurses enter public health service and are allocated to PHC facilities, they contribute to expanding IMCI coverage in a country and partly addressing the issue of turnover of trained staff. In addition, the community services professional nurses also join the public service with knowledge and skills to manage sick children under the age of five. [9]

With the reengineering of the primary health care system of South Africa, this will give newly qualified professional nurses a supportive environment where they can effectively deliver quality child care in line with what they have learnt in the nursing colleges.

It is also important to teach the third component of in IMCI pre-service training. This will enable the trained student nurses to empower members of the household, family and the community on family practices. This can also assist with the establishment of close links between teaching institutions and the community. This component is appropriate to the South African context as newly qualified professional nurses are required to serve in the community for two years following registration with the South African Nursing Council.

Pre-service IMCI training adapted to local needs appears to be the most feasible, sustainable and cost-effective option to complement the in-service training. This facilitates the implementation of IMCI towards achieving the desired training coverage of health workers in good time.

The 2007 WHO Report on Evaluation of pre-service IMCI Training Technical Informal Consultation showed that there is a need to strengthen curriculum, guidelines and use of technology to improve teaching in the American region. [30]

A Pre-service IMCI training Evaluation Report in India concluded that it was feasible to implement the programme within the existing academic curriculum. To date, the country has introduced teaching distance learning as an alternative method to increase implementation of pre-service IMCI training. The 2007 WHO Report on the Technical Consultation on IMCI Training Approaches and Pre-service IMCI, revealed shortages of facilitators to establish and monitor training in the African region.[30] The report however recommended the development of responsive curriculum, investing in a "learner-centred" approach that would place the responsibility of knowledge and skills acquisition on the learner in a supportive environment. The report further reveals that most pre-service training IMCI has been project-driven and lack of funds to sustain teaching in the training institution remains a challenge.

Tanzania introduced Pre service IMCI training in 1997, and a national report on the pre-service IMCI survey conducted in 2007 showed that 215 tutors had been trained in 27 schools, with over 4000 graduates, including nurses and clinicians. However, follow up and supervision after training remained a challenge. In the report referred to above, Pre-service IMCI Training Survey in Sudan revealed challenges in terms of logistics, limited space and large number of students with very limited IMCI facilitators. [31]

Egypt introduced pre-service IMCI training in 1999, with seven universities and 190 nursing colleges teaching IMCI. The report on the pre-service IMCI training survey showed that long-term availability of training material remains a challenge. It further indicates that the large number of students adversely affects facilitator: student ratio and evaluation of students. [3]

South Africa started pre-service IMCI training formally in 2002. The 2006 WHO Report on Evaluation of Pre-service IMCI conducted in six Universities and six public nursing colleges showed that most of the D4 lecturers were using a mixed approach with 5-7 days block synthesis. The commonly used materials were *chart booklets, videos, recording forms and counsel the mother manual.* These findings could however not be generalised to the rest of the South African public nursing colleges.[8] Unlike most countries, there has been little documentation of the South African status and experiences since the gradual introduction of pre-service IMCI training in public nursing colleges.

2.2. APPROACHES IN INCORPORATION OF PRE-SERVICE IMCI TRAINING

The WHO standard approaches for introduction of IMCI are the 11-days block, five-days block, mixed and staggered. The WHO has also proposed distance learning, online self learning and computerised training as good alternatives.

2.2.1. Block synthesis

This approach was traditionally introduced during the inception of the strategy around the world. South Africa also used the 11 days training for in-service training to scale up implementation of IMCI at PHC facilities.

Studies have shown that this approach involves extensive logistical arrangements; participants should be accommodated away from their working area. Although these days may appear adequate for the participants to be exposed to both theory

and practice, planning for this training has been shown to be time-consuming with costs that most countries are unable to afford.[30]

Findings of the global survey on approaches to train IMCI cite two countries, showing that training was progressing slowly due to the high cost, its long duration, lack of facilitators and clinical instructors, and lack of involvement at national level. This means that the success of this approach is dependent on the availability of financial and human resources. National support towards implementation of the strategy is critical. The meta-analysis of published and unpublished studies on performance of IMCI trained health workers using different approaches showed that there is no significant difference in both knowledge and skills to the health professionals who have attended the standard 11-day and the shortened six-day IMCI course. [9]

2.2.2. Shortened five to six days block synthesis

IMCI was designed to address case management skills for health professionals who see sick children under the age of five at the primary health care level. This can only be attained by using the cost effective measures for the implementation of IMCI without compromising quality. This approach appears short and cost-effective to implement for the in-service training and orientation of managers. This short course is informed by shortened t*raining manuals, the chart booklet, video show, exercises manual and clinical practice*. The 2007 WHO Report of Technical Consultation on IMCI, Workshop showed that the survey conducted in Bangladesh on the duration of IMCI training has revealed that there is no difference in skills learnt between the shortened course and the 11-day IMCI course. The short course has instead been found to be more cost-effective. [9]

2.2.3. Three days training

These shortened three-days IMCI training is used to train student doctors in some medical universities, health professionals during in-service training at medical universities, and in-service training for medical professionals. The 2006 WHO Report on the Evaluation of Pre-service IMCI training in South Africa in 12 medical universities and PNCs also showed that some medical schools were using the shortened course simply due to a packed curriculum. [8]

2.2.4. Staggering courses

'Staggering' refers to distribution of the content of this course throughout the four years of study. The 1998 WHO, Pre-service training for the IMCI Technical Report of an informal consultation in Geneva attest that relevant aspect of the course are aligned to the theory content relevant to the subjects taught during the particular year of study (first to fourth year). The students are also accompanied to the clinics for practical sessions from the second year of their study. This staggering is more practical when subjects or modules of community nursing are taught in relation to health conditions taught during the particular semester or year. This would be very effective if there were proper systems of accompaniment of student nurses to the clinics to ensure that the theory is applied to practice is in place.

2.2.5. Mixed approaches

Mixed approaches refers to a pre-service IMCI training wherein both staggering and the block synthesis are used. This implies that learners will receive theory and practice every year until the end of the fourth year of study. The course will then be rounded off by another five to 11days of block synthesis. The approach is more

practical in nursing colleges with availability of facilitators to train and further accompany students to the clinical practice. In my view, this approach seeks to summarise all the lessons and skills learnt from the first to the fourth year of training, so that learners exit the nursing college with full understanding and knowledge of the strategy. [9]

2.2.6. IMCI Computerised Adaptation and Training Tool

The IMCI Computerized Adaptation and Training Tool (ICATT) was developed by WHO in collaboration with the Novartis Foundation to partly address the challenges faced by countries in scaling up IMCI. The ICATT is a new, innovative computerised software application that makes provision for easy adaptation of the most updated generic guidelines at national and provincial levels.

It is interesting to note that it has room for translation into various languages, to suit the country specific context. It can further be used in a range of environments and settings with the potential to significantly increase training coverage. This approach also allows computer, Internet- and satellite-based facilitation, useful for both in-service/pre-service training and distance learning programmes. The demand for more rapid scaling up of IMCI and greater utilisation of new technology makes ICATT application in the American Region important, warranting an orientation workshop on ICATT Health Information System Assessment. The IMCI Computerised Adaptation and Training Tool further has an electronic library which contains reference and educational materials on IMCI and related child health issues developed by WHO in collaboration with other international agencies. ICATT enhances the chances for scaling up IMCI implementation [32]

The effect of computer-based training on immediate and residual learning of nursing facility staff has shown that the computer-based group significantly outperformed the instructor-led group in the knowledge subtest at post-test level. Participants reported that they enjoyed the computer-based training and had no difficulty using the computers. The computer training can be an effective and efficient alternative training technique. The study on the competence, continuing education and computers has also revealed that the potential for electronic Community Nursing Education (CNE) is unlimited. The key is to convince and orient nurses to use new technology for CNE so that they remain proficient throughout their career. Currently, technology exists at any time and in any learning place. (33)

South Africa has adapted materials for this approach, and availability of this tool will enable students who are able to access computers to implement this approach in support of the classroom sessions. With regard to pre-service nursing education in South Africa, the universities are at a greater advantage in using this approach as computer laboratories are more accessible than PNCs. In cases where the desktop computer or laptops are available this method is said to be user-friendly. (33)

2.2.7. Distance learning

Distance learning is another approach that could be used to increase coverage of IMCI trained health professionals in the PHC facilities. A study presented at the 2007 Inter-country IMCI meeting showed that the mean pre-test using their method was 63%, while the mean post-test was 95.55 with p value of 0.000001. This approach enables the health professionals to take their own responsibility in

self learning and enhance their personal development and continuing education. It has also proven to be cost-effective and a practical way to reach those health professionals on site who may not be able to leave their facilities to reach a central point for training.[34]

In South Africa, the distance learning referred to above was used for a peri-natal education programme, on site with the support of local experienced facilitators in maternal and newborn care.

The Evaluation of Teaching Community Health Nursing by Distance Learning Methods found that students were able to perform at the same level and perform as well as student nurses who had completed a similar training on campus at Memorial University of Newfoundland. [35]

Lessons learnt from the above study informed the WHO process to develop Distance Learning IMCI training. This approach was field tested in Tanzania and South Africa (Eastern Cape Province) during 2009 -2011. Lessons learnt from the pilot were that the approach is generally cost-effective. It also needs strong health systems in terms of availability of experienced and a passionate IMCI facilitator at the periphery. In addition, cell phones and other means of contact should be available for access of the facilitator when a need arises. A meeting held on 17-18 July 2012 with partner organisations recommended that an immense support system would be established, to further pilot this approach to other provinces and write up a national report. This method is however not suitable for pre-service IMCI training. [35]

2.3. CHALLENGS IN PRE SERVICE IMCI TRAINING

WHO conducted pilots in pre-service IMCI prior to the global implementation in the medical and academic institutions. A workshop was held in 1998 by a technical committee. The following challenges were highlighted during the technical Workshop held in 1998 in Geneva.

2.3.1. Lack of support from management and relevant stakeholders

The lack of vigorous support from key leaders in government and curriculum at a medical or nursing school can have a negative impact on pre-service IMCI training. The nursing colleges should seek early and firm support from the national, provincial, district, hospital and primary health care manager's during the planning phase. Promotion of close and equal collaborative involvement of relevant statutory bodies, the Departments of Education and Health, is important to facilitate continuing support from the relevant role players. [36]

2.3.2. Too little time

A notable amount of time, ranging from 80 to 280 hours, is dedicated to the teaching of child health to student nurses. Concepts of IMCI can be incorporated into the current topics and couple clinical instruction to the existing clinical training. Sharing teaching with other departments, community medicine in particular, was also seen as a challenge in medical schools. It is important to allocate time for all topics in cases where paediatrics is not seen as a separated subject from medicine. [9]

2.3.3. High student teacher ratio

Allocation of the facilitator should allow interactive participation throughout the training session. Nursing colleges with theoretical instructors and clinical educators should have both categories trained in IMCI. However, a good relationship with the district managers, hospitals and clinics will enable one to get support when a need arises, to assist with training and clinical instruction. [3]

2.3.4. Inadequate skills for IMCI teaching

IMCI training skills should be developed in medical and academic nursing institutions. The in-service IMCI training programme will attract nurse educators if incentives in the form of credits on continuous personal development points are attached upon completion of the course. [9]

2.3.5. Inadequate resources and facilities for teaching

The availability of resources facilitates better learning outcomes. IMCI training is also dependant of the availability of theoretical and clinical facilitators in an outpatient setting. It further requires facilities with health personnel trained in IMCI, drugs used for management of sick children and a referral system, to name a few. A successful pre-service training would therefore require appropriate planning in collaboration with the districts to ensure that all the required resources are available. [3]

2.3.6 Resistance to change

Change is a difficult phenomenon to adjust to. It is critical to involve nurse educators, lecturers, the professional community and governing bodies throughout

the phases of planning and introduction to create a sense of ownership of the pre-service initiative. In addition, to avoid lack of agreement between nurse educators, it is important that the nurse educators attend the in-service training together, in order to develop a common understanding of IMCI teaching objectives. [3]

2.3.7. Inadequate number of patients due to seasonality of disease

Clinical rotation of students could be scheduled during the high season of diseases, for example, coughs or cold during winter, and diarrhoea during summer. In instances when the supply of patients with certain diseases for teaching is inadequate it is suggested that the facilitator allow two to three students to share a patient and also use video and photographs of typical patients to reinforce learning.[3]

2.4. ASSESSMENT AND EVALUATION OF STUDENT NURSES

Assessment of training seeks to determine that a teaching method is effective if it achieves the objectives of the programme and each individual student demonstrates the knowledge gained and skills acquired throughout the phases of learning. Therefore, a learner has to be assessed and evaluated by one method or another to establish whether he or she has related both theory and practice to the respective subject matter.

The relationship between learning and assessment is clear and consistent. Normally, students learn more in a class wherein assessment is a regular part of the classroom activities, particularly when assessments are frequent and learners

receive immediate feedback. Corrections made within a short space of time in a classroom reinforce learning and chances to forget a skill within a short period are also very unlikely. [36]

Assessment and evaluation are often used interchangeably by teachers, but assessment really refers to the process of collecting information from learners. Test scores can also be discussed with the learner, a demonstration given for the learner, and a decision made in relation to instruction. Using assessment data to improve teaching and assessing students' current knowledge and skills should guide teachers planning and instructions. Evaluation is a dynamic, continuous process interwoven with the teaching-learning process. The two major types of evaluation/assessment are formative and summative, formal and informal. [36]

Formative evaluation represents feedback to the learner regarding his or her progress in meeting the learning objectives. This type of evaluation is diagnostic in nature and occurs throughout the instructional process. It serves to provide information to assist in correcting learning deficiencies and promoting abilities to demonstrate learned skills. As indicated above, formative evaluation is mainly focused on the performance of a learner during clinical learning exposure as opposed to evaluation at the end of the learning period. With its diagnostic focus, relevant information obtained through this process is not generally relevant to the grading of the learner. This means a learner can obtain theoretical grades, and pass the theory separate from the practical performance. A learner who performs poorly in the clinical practice could be given a chance to practice until he or she gains confidence and competency in performing the procedure or task. This type

of evaluation serves as a tool for the teacher to provide learners with information on their strengths and weaknesses. [37]

Summative assessment is an end of instruction evaluation which provides information on the extent to which the learning objectives have been attained by the learner. It is the end tail type of a tool used to summarise the learning competency at the end of a course.[37] It is further used to grade for the learner's clinical experience.

In conclusion, a literature search on training highlights the experience in different regions from WHO technical reports on consultative forums on pre-service IMCI training approaches used for teaching student nurses. Computerised training appears to be a preferred area for students who have access to computers. Challenges in pre-service training are also highlighted as the most cost effective way to train more nurses at pre-service level. Arguments in this report will cover approaches used in PNCs of South Africa as at 2010. Evaluation and assessment are key to determining whether students have gained knowledge and skills in the learning area.

CHAPTER 3

METHODOLOGY

This chapter seeks to explain the study design, the study population, sampling and the data collection instruments used during the study. This further includes the type of data collected to inform the discussion contained in this report.

3.1. RESEARCH METHODOLOGY

3.1.1 Study Design

A cross sectional descriptive survey of public nursing colleges in all the provinces of South Africa from February 2011 to February 2012 was conducted. South Africa has nine provinces and each has at least one nursing college. The availability of nursing colleges varies from one province to the next.

3.1.2 Study population

The study population consisted of nurse educators in the public nursing colleges facilitating pre-service IMCI training for student nurses in South Africa.

3.1.3. Sampling

Two nurse educators teaching the IMCI strategy in each of the public nursing colleges were included in the survey to attain all the study objectives. All the private nursing colleges and universities were excluded from the survey.

3.1.4. Measurement and data source

A self-administered questionnaire was distributed by email and fax to the principals of the respective nursing colleges. Permission was sought from the principals of the nursing colleges and in two provinces the provincial health research units also granted permission in this regard. A follow up with the participating PNCs was made to ascertain receipt and progress made in response to the questionnaire.

Data collected was mainly addressing the approaches and methods of teaching, availability of human resources for training, material used for training facilitating factors and challenges. The schools were given a two-week deadline to respond to this questionnaire. Furthermore, a constant follow up was made during this period, through the office of the principal and the head of Community Nursing Science, a week after receipt of the document and also two days before the closing date. The nurse educators teaching IMCI used emails and faxes to provide information back to the researcher upon completion of the questionnaire. The response rate was generally slow. Frequent telephonic and email follow-up was made through the offices of the principals.

3.1.5. Inclusion criteria

All public nursing colleges were included in the study. The universities and private nursing colleges were excluded from the study.

3.2. POTENTIAL LIMITATIONS

As the questionnaire was self-administered, it was difficult for the researcher to ascertain the quality of information provided. In addition, it led the respondents to provide information that suited their personal view rather than be entirely objective. Furthermore, information was collected from the nurse educators as student nurses were excluded from this study.

3.3. DATA PROCESSING AND DATA ANALYSIS PLANS

Data was stored on the standard statistical software (EPI-Info version 6.0). This software was used for processing and analysis of data. The results were used to write up the report.

3.4. ETHICAL CONSIDERATIONS

The research commenced upon approval of the protocol by the University of Witwatersrand Human Research Ethics Committee, Number M10101 and receipt of official permission from the Nursing Colleges. Passive consent was obtained from all key informants. Identified data was reflected in the research report and the names of the key informant and colleges were coded for data capturing, but not reflected in the report.

In conclusion, a cross sectional descriptive survey was used for this study. The study population comprised mainly nurse educators trained in IMCI. Only PNCs

were included in the study. Student nurses for the D4 were excluded. Self-administered tools were used to collect information. Ethical clearance was obtained from the University's Ethics Committee.

CHAPTER 4

RESULTS AND ANALYSIS

The results are grouped into five sub-sections, i.e., general information; introduction of pre-service IMCI and teaching methods; clinical practice; teaching, learning and assessment material; as well as follow-up, monitoring and post-training evaluation.

4.1. GENERAL INFORMATION

Self-administered questionnaires were sent to the principals of 32 nursing colleges in the country. Responses were received from n= 22(68.8%) colleges. Of the 32 colleges, one indicated to have phased out the four-year basic diploma in Nursing and Midwifery. *n*=58(90%) nurse educators were anticipated to fill the questionnaire, with n=44 respondents from a population of n=64. The response rate was 76%.

Thirty four, *n*= 34 (85%) spontaneous responses were received, and the remainder, *n* = 10 (15%) were received through telephone interviews. The respondents were all professional nurses and nurse educators teaching IMCI.

The minimum date of receipt of the questionnaire was May 2011. All the respondents *n*= 44 (100%) indicated having introduced IMCI into the basic four-year diploma in Nursing (general, community and psychiatry) and Midwifery curriculum. The study showed that the PNCs started to introduce pre-service IMCI training between 2004 and 2009.

4.1.1. Position held at the PNC

Of the 44 respondents, n=38 (86%) were IMCI facilitators whilst six, n=6 (13.6%) were not. The six non IMCI trained facilitators were teaching the strategy without skills in standard IMCI training. This means the nurse educators did not receive an in-service training in IMCI.

i). Nursing colleges implementing IMCI

All the respondents indicated that their nursing colleges were implementing pre-service IMCI training. This meant that n=22 PNCs were implementing pre-service IMCI during the period of the survey (as at 2010). Therefore 22 PNCs of 31 indicated they were implementing IMCI training.

ii). Availability of IMCI coordinators in the PNCs

Of the 44 participants, n=36 (81%) indicated having had IMCI coordinators in their PNCs, whilst eight n=8 (18%) indicated having had none. The IMCI coordinators were responsible for coordinating training at the local institution, which means PNCs without one had no coordination of IMCI training.

4.1.2. Year in which IMCI was introduced in the PNCs

All the respondents provided the year in which pre-service IMCI training was introduced in their respective PNCs. The responses showed that pre-service IMCI training was introduced in the 22 PNCs between the years 2004 and 2009. The year in which more colleges, eight (n=8), introduced pre-service IMCI training was 2005, followed by six (n=6) in 2006, two (n=2) in 2007; six, n=6 in 2004; one (n=1) in 2008 and 2009 respectively

Table 4.1: Year in which Pre service IMCI at the PNC was introduced.

Year	No of PNCs
2004	*n*= 6
2005	*n*=8
2006	*n*=4
2007	*n*=2
2008	*n*=1
2009	*n*=1
TOTAL	*n*=**22**

4.2. INTRODUCTION OF PRE-SERVICE IMCI AND TEACHING METHODS

4.2.1. Introduction of pre-service IMCI into four-year basic Nursing curriculum (D4)

This sought to check whether introduction of pre-service IMCI training was easy. The respondents were given an option to check 'yes' or 'no' and were further requested to provide reasons for their answers.

Twenty five *n* = 25 (62.5%) respondents found introduction of pre-service IMCI training in the PNCs 'not easy', whilst nineteen, *n* =19 (43%) participants responded 'yes, it was easy'. Of those who responded 'no', the following constraints were cited:

i). Poor planning

Three (n=3) respondents indicated that IMCI was not easy to integrate within the other child health modules. This could have been due to the introduction of many courses/programmes in pre-service IMCI training, as was described by two (n=2) participants. Five (n=5) respondents indicated that the curriculum was currently

very packed. In addition, it was congested and resulted in limited exposure to both theory and practice, as was explained by three (n=6) respondents.

There were few children at clinical facilities for practice, as was highlighted by three (n=3) participants. Another point indicated by two (n=2) participants was that students had gained no experience in child health prior to this IMCI being introduced during the respective year of study.

ii). Shortage of training material

Three (n=3) respondents indicated that training manuals were very difficult to obtain. Five (n=5) indicated that chart booklets were unavailable.

iii). Shortage of personnel

Seven (n=7) respondents indicated that there was a shortage of lecturers at their PNCs. This is also supported by ten (n=10) respondents who indicated that there had been a shortage of IMCI trained lecturers during the introduction of IMCI training in their PNCs. Ten (n=10) respondents also indicated that there was a shortage of clinical instructors.

iv). Lack of support from management

There was no support from province or district offices, as mentioned by three (n=3) participants. Another three (n=3) participants also indicated that updated materials were delivered late from the district office.

Despite the challenges outlined above, nineteen, *n* =19 (43%) participants responded “Yes”, introduction of pre-service IMCI training was easy. The following facilitating factors were mentioned:

v). Availability of IMCI facilitators

There were enough enthusiastic lecturers trained in IMCI, who were ready for facilitation, as was explained by twelve (n=12) participants.

vi). Availability of IMCI training materials

The course was cost-effective as there was no need to buy extra textbooks for students, as was explained by five (n=5) respondents. Five (n=5) participants further indicated that modules for introduction of IMCI were available, and this was supported by three (n=3) that chart booklets were photocopied and issued to the student nurses. Another five (n=5) more respondents further indicated that the modules represented paediatric textbooks as there was no need to purchase textbooks for community child health.

vii). Support from provincial and district coordinators

The respondents explained that they received support from their district and provincial coordinators. Five (n=5) indicated that the province and the district provided support through availing IMCI facilitators from In-service training level, to train at pre-service level. Furthermore, four (n=4) participants indicated that advice from child health provincial office was readily available. In addition, three (n=3) respondent also indicated that the province provided an update workshop upon receipt of the updated IMCI material from the DoH.

viii). Availability of transport

Two (n=2) respondents said that transport to and from the practical areas was available.

4.2.2. Approaches used for pre-service IMCI training

The respondents were requested to choose from three approaches and add any others used. Twenty nine *n*=32 (72.7%) respondents indicated having been using the block teaching approach. Ten, *n*=10 (22.7%) respondents indicated they had used the mixed approach. Two, *n*=2 (4.5%) respondents used only one day for teaching pre-service IMCI in their PNCs. Nil, *n*=0 (0%) respondent used the staggering approach.

Table 4.2: The approaches used for Pre-service IMCI training in the PNCs

Approach	Number of respondents
Block teaching	*n*=32 (72.7%)
Mixed approach	*n*=10 (22.7%)
Staggering	*n*=0 (0%)
Other(1 day)	*n*=2 (4.5%)

4.2.3. Duration of pre-service IMCI training

Respondents were requested to tick the duration of IMCI training in their respective PNCs. Twenty three, n=23 (52.2%) out of forty four, n = 44 respondents indicated having conducted 11 days standard case management IMCI Training and six, n=6 (13.6%) used the shortened 5 days training whilst seven, n=10 (22.7%) respondents conducted the ten day training, three, n=3 (6.8%) conducted

a three day training and two, n=2 (4.5%) conducted a one (1) day training. Table 3 below illustrates the duration of Pre service IMCI training at the PNCs.

Table 4.3: Duration of Pre-service IMCI training in the PNC

Duration	No of respondents
11 days	n=23 (52.2%)
10 days	n=10 (22.7%)
5 days	n=6 (13.6%)
3 days	n=3 (6.8%)
Other (1 day)	n=2 (4.5%)

4.2.4. The three IMCI components are all included in the training

Forty, n=44 (100%) respondents reported having included IMCI Clinical Skills IMCI Case Management in the pre-service IMCI training. Thirty, n=30 (68%) had included Health Systems Strengthening, whilst seventeen, n=17(38.6%) had included the Household and Community Component.

4.2.5. Teaching methods used in pre-service IMCI training

The respondents listed a number of methods used for Pre-service IMCI training. Twenty nine, n=29 respondents used lecture method, whilst twenty four (n=24), used Group Work, twelve used role plays and twelve (n=12) used video shows. In each of the following methods, i.e. home work, seminars, exercises and problem based self study had each been indicated by two respondents. The graph below illustrates the teaching methods used in PNCs for Pre-service IMCI training.

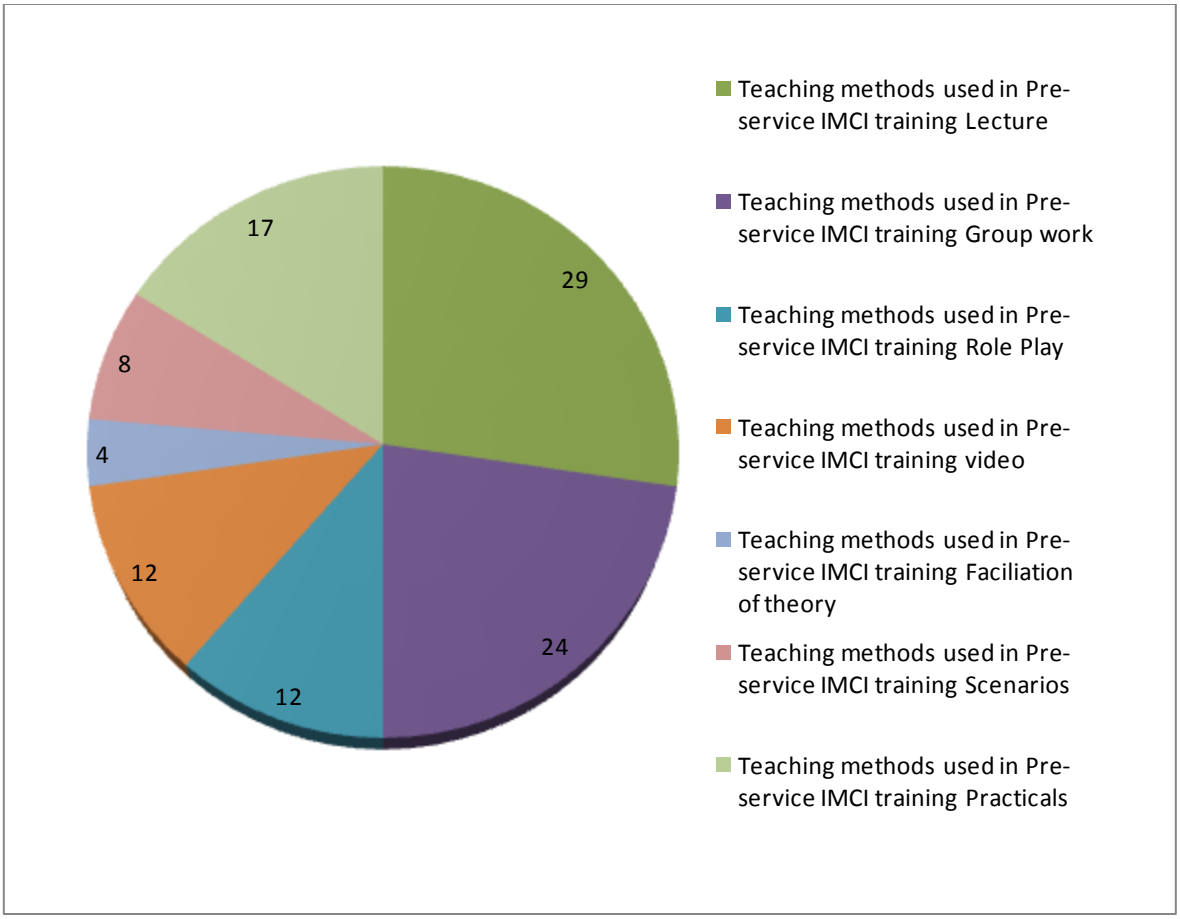


Figure 4.1: Teaching methods used in PNCs for pre-service IMCI training

4.2.6. Assessment of student nurses on IMCI

This question sought to establish how learners were assessed during pre-service IMCI training. Twenty five (n=25) respondents indicated they had included IMCI questions in practical exams (n=23) in written exams and eleven (n=11) in oral exams.

Table 4.4: How learners were assessed during Pre-service IMCI training as at 2010

Exams	No of respondents
Practical exams	n=25
Written exams	n=23
Oral exams	n=11

4.2.7. Challenges in assessing students

There were however challenges in some institutions to conduct assessments of students in IMCI. The following factors were stated:

i. Clinical practice

Thirteen (n=13) respondents cited the unavailability of sick children at practical sites to be a challenge in assessing learners during pre-service IMCI training. The shortage of sick children resulted in student nurses sharing patients, as supported by three (n=3) respondents who indicated that this made the assessment process take a long time. This challenge also affected time of exposure, as evidenced by three (n=3) respondents, and there was not enough time for exercises or discussion. Limited exposure and unavailability of sick children also resulted in the inability to use the IMCI guidelines, this also made cross referencing difficult for some students, as viewed by two (n=2) respondents. Four (n=4) respondents raised an important challenge that IMCI was not being practiced in the PHC facilities, and posed a challenge in colleges where student nurses were left under the supervision and mentorship of professional nurses who were either not trained or practicing IMCI.

The issue of space also came up as a challenge, and was viewed by four (n=4) respondents, who indicated that the physical space to accommodate student nurses during practical was non-existent. This could either have been due to structural challenges or number of students besides nurses allocated to the respective clinic.

ii. Time

Another factor highlighted by the respondents was a limited time for theory and practice in pre-service IMCI training. Five (n=5) participants indicated having had no time for theory, exercises or discussion. Six (n=6) respondents indicated limited time for practical exposure. This was also supported by two (n=2) more respondents who indicated that most learners were initially experiencing difficulty in applying knowledge to practice.

iii. Lecturer student ratio

Four (n=4) respondents indicated that a large group was allocated to one facilitator and four (n=4) more respondents mentioned that larger groups were more difficult to reach competency. Another four (n=4) respondents further indicated that a large student to lecturer ratio was also experienced.

iv. Standardised methods

The study showed that there were very few standardised methods of assessment of student nurses in IMCI pre-service training, as indicated by four (n=4) respondents. Two (n=2) respondents further indicated that assessing knowledge was not included in the curriculum, supported by two (n=2) respondents who

indicated that skills assessment was not included in the curriculum. Three (n=3) respondents also indicated that there were no special block designated for IMCI assessments. The outline of the current programme made no provision for assessment of students, as indicated by two (n=2) respondents.

Assessment could also be a challenge because there was no equal exposure to theory and practice for student nurses, as mentioned by two (n=2) respondents. Another factor raised by two (n=2) respondents was that clinical practice happened six (n=6) to eight (n=8) weeks after IMCI training. Another challenge from one (n=1) responded was that they were not sure whether evaluation should be conducted in that manner.

v. Human resources

Seventeen (n=17) respondents indicated that shortage of IMCI trained lecturers posed a challenge to assessment of student nurses in IMCI. This was also supported by four (n=4) respondents who indicated that insufficient number of lecturers to guide and support student nurses during clinical practice affected assessment of student nurses. Two (n=2) respondents also indicated that health professionals in the clinical area were not IMCI trained. This was coupled with shortage of clinical facilitators, as viewed by two (n=2) respondents.

4.3. INFORMATION ON ACADEMIC PROGRAMME

The total number of student nurses trained as at 2010 was 2048. The highest number trained in one college was 438, the lowest 55. An average of 1024 (50%)

of these student nurses were trained in 2010. On average, 40 hours was spent in clinical practice. The highest hours recorded were 60, and the lowest was none. . There were respondents who indicated that only one day was used to give theoretical information on IMCI, and time for clinical practice was not allocated for their students.

The average lecture student ratio shown in class was 1:7. The highest ration described was 1:20 followed by 1:15. The IMCI educator learner ratio varied, from the WHO recommendation of two facilitators per group of eight (8) to a maximum of 10 participants. The average lecture student ratio shown in clinical practice was 1:7, the highest 1:15.

4.4. CLINICAL PRACTICE

4.4.1. Number of staff members trained in IMCI in the PNCs

Of the forty four (n=44) respondents, a mean of three (n=3) lecturers per college were trained in IMCI. The least number of trained lecturers in the colleges was one (n=1) and the highest eleven (n=11). On average, three (n=3) lecturers were trained in IMCI per public nursing college. A total of ninety seven (n= 97) nurse educators were trained in IMCI with a maximum of 4.7 and a minimum of one nurse educator.

4.4.2. Training of Tutors was not easy

Twenty nine (n=29) respondents indicated that training of tutors was not easy. The following factors were cited:

i). Shortage of human resources

Seven (n=7) respondents indicated a shortage of staff to have been a challenge to train nurse educators in IMCI. This could have resulted from lecturers who were sometimes too busy to avail themselves for training, as indicated by eight (n=8) nurse lecturers. Seven (n=7) lectures also supported the statement that tutors were few and had other teaching priorities. Three (n=3) respondents indicated that limited facilitators were available to train in IMCI. Three (n=3) more respondents indicated that not all nurse educators were trained in Community Nursing Science at the PNCs.

Four (n=4) respondents indicated that a high attrition rate affected availability of staff, and educators were leaving the colleges to Occupational Specific Dispensation linked posts. Two (n=2) respondents indicated that the heavy workload of facilitators was not enabling the availability of nurse educators to be trained in IMCI. Budgetary constraints were also indicated to be a challenge in training and recruiting IMCI trained nurse educators, as viewed by two (n=2) respondents. One (n=1) respondent indicated that there was no specific training for lecturers in facilitating IMCI at the PNCs.

ii). Financial constraints

Twelve (n=12) respondents indicated that lack of budget to train nurse educators in IMCI had been a challenge since the inception of pre-service IMCI training in the PNCs.

iii). Attitude of nurse educators

In essence, it would be advantageous to train all the nurse educators in IMCI. However, five (n=5) respondents indicated that tutors were unwilling to train in this strategy due to the perception that IMCI was meant for Community Nursing Science subject. Four (n=4) respondents indicated that tutors did not like the course whilst three (n=3) also indicated that most lecturers undermined the course. The reasons behind this negative attitude could be that training methods were regarded as boring, as was indicated by three (n=3) respondents. The traditional IMCI methods include reading material in class by participants, which could be boring for adult learners.

iv). Planning

Planning of pre-service IMCI training was seen to have been not properly addressed. This was confirmed by eight (n=8) respondents who indicated that the duration of IMCI training was generally very long. Six (n=6) respondents indicated that IMCI was an ever-changing approach. Five (n=5) also indicated that IMCI clashed with other lessons planned for other classes, and was also a challenge at the PNCs. Four (n=4) participants indicated that poor communication with local government (n=4) had posed a challenge in pre-service training. There had been limited facilitators to train tutors, as mentioned by four (n=4) respondents. This might have resulted in less training of facilitators per year, as viewed by three (n=3) respondents.

4.4.3. Training of tutors was easy

Eleven (n=11) respondents mentioned that training of tutors was easy due to the following factors:

i). Skills development

IMCI has been seen as part of skills development. Two (n=2) respondents indicated that during and after training, tutors realised the importance of having this skill. The skill learnt could not only benefit one programme, two (n=2) participants also indicated that the principles of IMCI could be applied to other disciplines.

ii). Attitude

Attitude can have either negative or positive outcome to a programme. Four (n=4) respondents learnt the skills easily due to experience in teaching, as seen by four (n=4) more respondents. Two (n=2) respondents indicated that nurse educators were willing to be trained. It was also easy to facilitate a willing group, as was mentioned by three (n=3) respondents.

iii). Planning

A good plan is easy to implement and normally yields good results. Three (n=3) respondents indicated that adequate practical sessions were available and this made training easy. Another factor mentioned by four (n=4) respondents was that a manageable number of participants were available when training the nurse educators, and this also made training easy. The support from the head of college

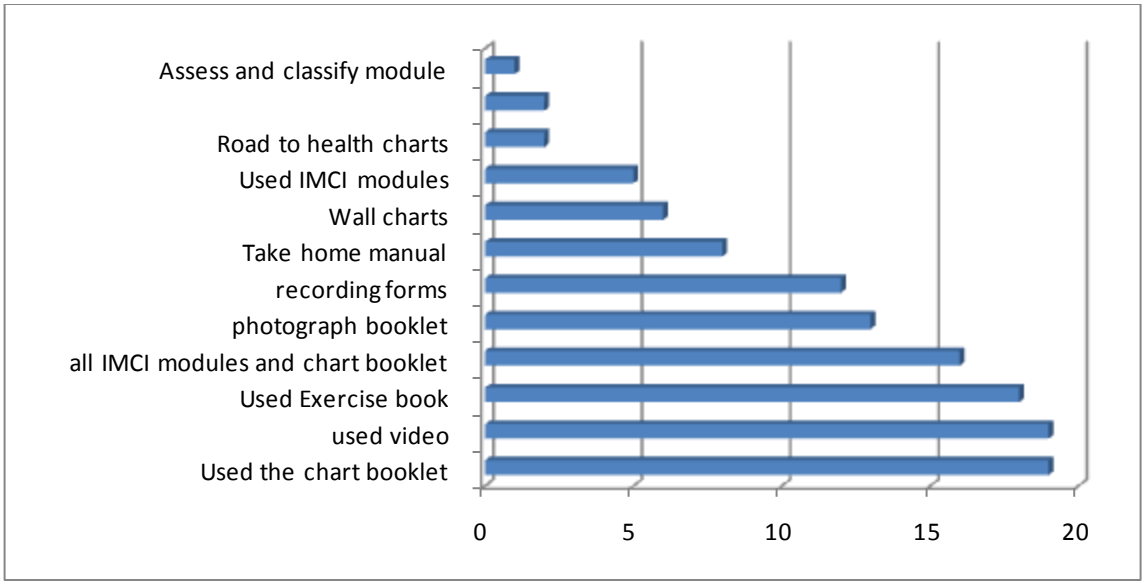
was cited by four (n=4) respondents as a contributory factor to easy training of the nurse educators.

4.5. TEACHING, LEARNING AND ASSESSMENT MATERIAL

4.5.1. Material used during training

The respondents were requested to provide a list of modules most frequently used for pre-service IMCI training. Nineteen (n=19) respondents indicted having used the chart booklet and video, respectively. These were the materials that were largely used for pre-service IMCI training. They were followed by the exercise book used by eighteen (n=18) participants, whilst all IMCI modules and chart booklet were used by sixteen (n=16) participants. Photograph booklets were used by thirteen (n=13) respondents.

Furthermore, recording forms were used by twelve (n=12) respondents, whilst a take home manual was used by eight (n=8) respondents. In addition, wall charts were used by six (n=6) participants. Five (n=5) respondents also indicated having used IMCI modules. Two (n=2) respondents indicated having used the Road to Health Charts. Another respondent (n=1) indicated having used assess and classify modules. These modules provide guidance on how to assess and classify sick children from the age of nought to 59 months. Graph 2 (below) illustrates modules used for pre-service IMCI training in the PNCs as at 2010.



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Figure 4.2: Modules used for Pre-service IMCI training in the PNCs as at 2010.

4.5.2. Support received on provision of IMCI training material

The respondents were requested to check on the form of support provided, and twenty nine (n=29) indicated that support for provision of pre-service IMCI training material was received from the college tuition. Nine (n=9) respondents indicated having received support from the provincial and national department of health. The district had equally played a supportive role in the provision of training materials, as was indicated by five (n=5) respondents respectively.

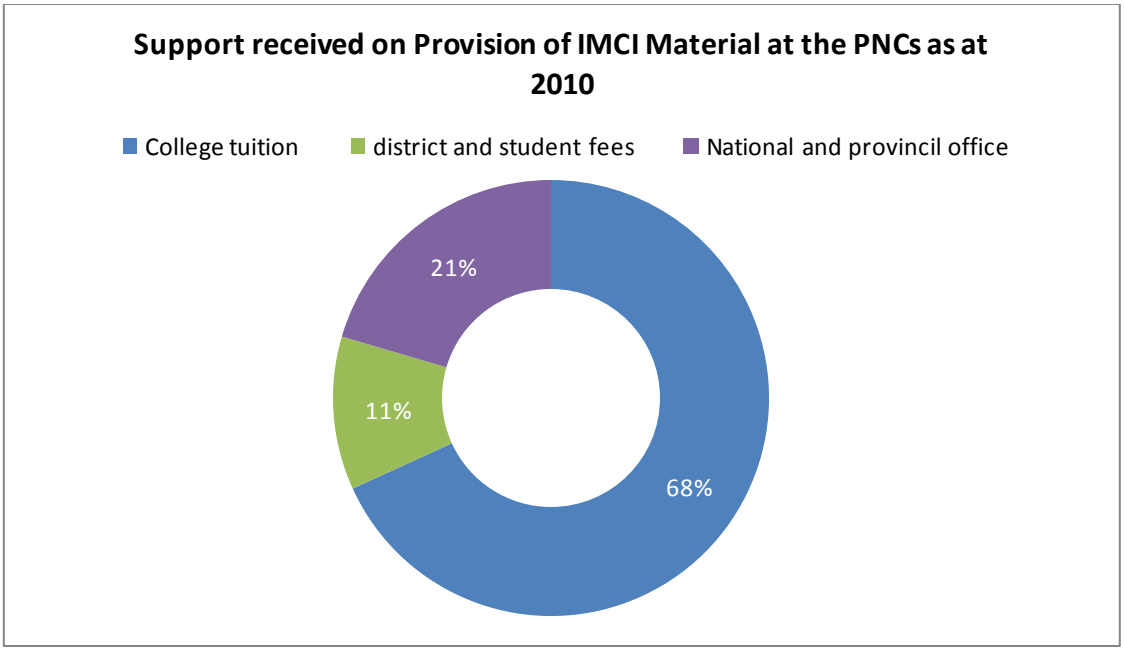


Figure 4.3: Support received on provision of IMCI material at the PNCs as at 2010

4.5.3. Material given to students after training

Eighteen (n=18) participants gave take home booklets to the student nurses after training; eleven (n=11) respondents gave the students chart booklets, together with exercise manual to take home. Six (n=6) participants indicated having given the student nurses chart booklets only. Six (n=6) more respondents gave student nurses only an exercise module, whilst four (n=4) participants gave the student nurses the entire IMCI modules, including the chart booklet. Four (n=4) respondents indicated having given them nothing as these were reused by the college. The pie chart below illustrates the modules given to student nurses after IMCI training in the PNCs.

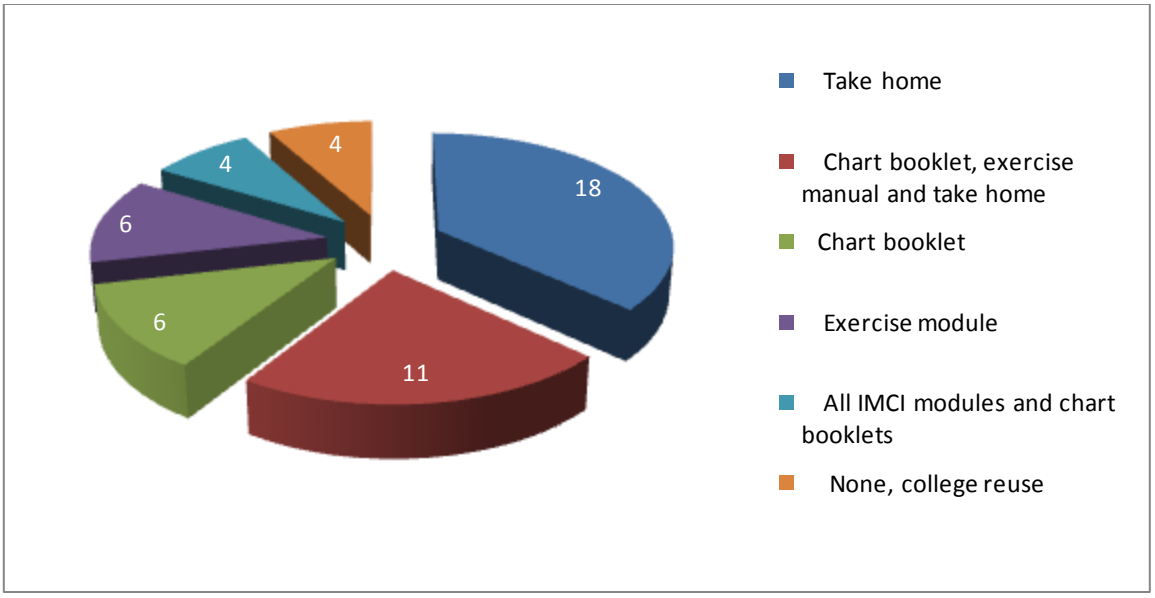


Figure 4.4: Training materials given to student nurses post pre-service IMCI training in the PNCs.

4.5.4. Challenges or difficulties experienced with the identification, development and supply of teaching and assessment materials for IMCI in the PNCs as at December 2010

Twenty one (n=21) participants indicated that lack of budget was a problem when reproducing the IMCI training material. Funds for reproducing the material would not be available if there was not a budget from the beginning of the year, as mentioned by ten (n=10) participants. Eighteen respondents (n=18) indicated that they had poor quality photocopies, as the material was photocopied and handed to student nurses. Delay in receiving updated modules was seen by fourteen (n=14) informants to have posed a challenge in reproducing the training material. Repeated reproduction was seen by four (n=4) respondents as a challenge due to regular updates of the materials. Six (n=6) respondents indicated that the material

was not always enough for students. The 2-D line chart illustrates the challenges experienced with the development and supply of IMCI material in PNC.

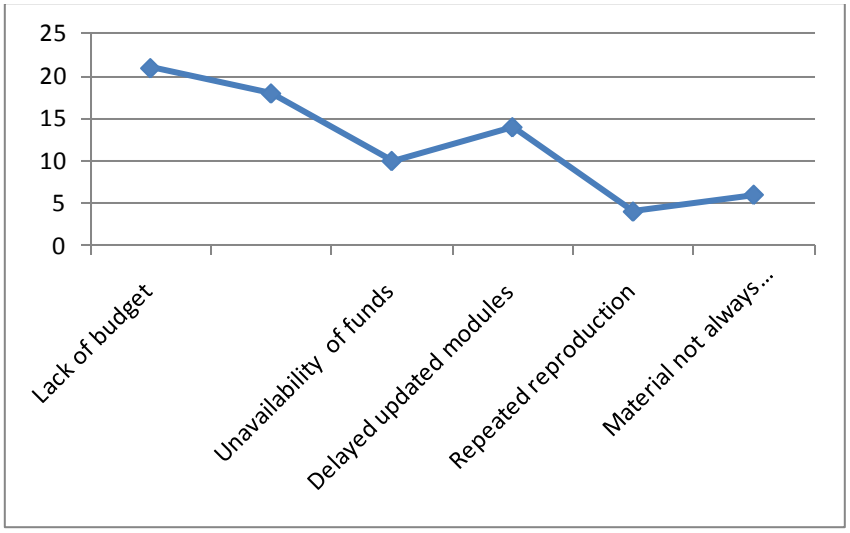


Figure 4.5: 2-D line chart 3: Challenges experienced with development and supply of IMCI material in the PNCs

4.5. FOLLOW-UP, MONITORING AND POST-TRAINING EVALUATION

Only eight (n=8) respondents indicated having done follow-ups of their student nurses (products) as professional nurses' post-IMCI training. Two (n=2) respondents indicated that follow-ups were made through the district coordinator when the students are providing the community services at the PHC services. The study also reveals that forty two (n=42) respondents indicated that students who exit the PNCs post IMCI training are not followed up.

4.6. THREE IMPORTANT PRIORITIES IN IMPROVING IMPLEMENTATION OF IMCI PRE-SERVICE TRAINING

The respondents presented three important priorities to improve pre-service IMCI training in the PNCs. Three categories were used to group the data, i.e., resources, skills development and managerial support. Figure 4.6 illustrates the categories and themes associated with each.

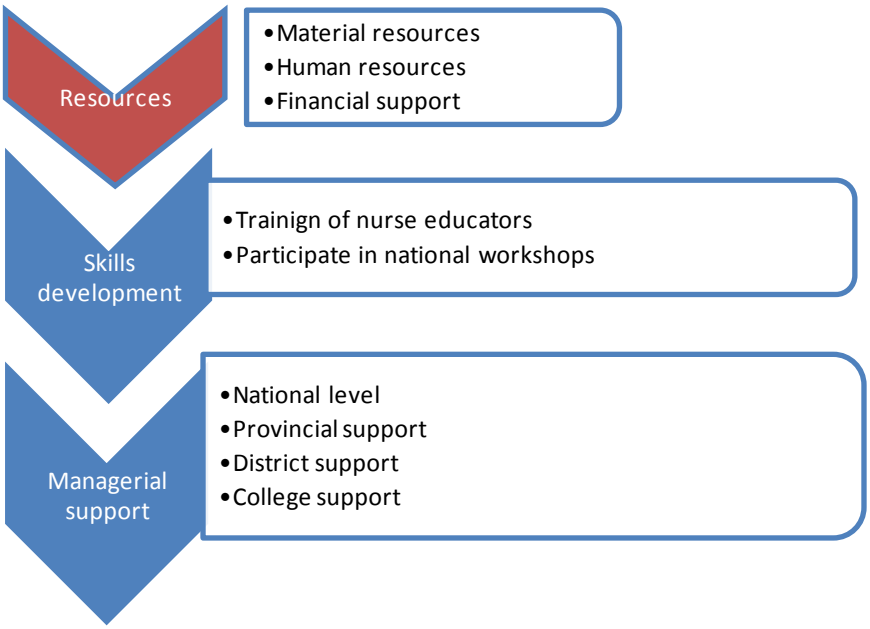


Figure 4.6: Categories and themes three important priorities to improve pre-service IMCI training in the PNCs.

4.6.1. Resources

i). Training Material

The respondents suggested that government should avail more teaching material for pre-service IMCI training. The DoH should supply more IMCI teaching material to nursing colleges and also support colleges by making it accessible. Distributing the materials directly to colleges would save time, according to the respondents.

The respondents also said that districts needed to supply material to all learners during pre-service training. Availability of budget at the district level could also assist the colleges with the reproduction of the IMCI material when a need arises. This will also make life easier for the colleges as either the district office delivers or the college officials personally collect the material. A quotation from the written responses emphasised this as follows: “We need to get IMCI modules as part of student nurses’ prescribed books”.

ii). Human resources

More nurse educators should be employed by the nursing colleges according to the respondents. The learner to lecture ratio should be addressed as a matter of urgency at both clinical and theoretical sites.

iii). Financial support

Sufficient budgets for printing of IMCI material should be made available at the national office for successful pre-service training, according to most of the respondents.

4.6.2. IMCI skills development

Training of nurse educators

The respondents suggested that IMCI be included in nurse educator training. This would make it easier for the colleges and districts if one were appointed by the college with this skill at least. Respondents suggested that there was a need to involve and facilitate participation of college principals and tutors in national, provincial and district workshops. Responses captured from the questionnaires

included "*Keep us updated, do not leave us out. Call us to national, provincial and district forums, periodic updates and meetings are also important*".

4.6.3 Managerial support

The following areas of support were recommended:

i). Provincial support

The respondents suggested that there was a need to strengthen support from provincial office to the colleges. The provincial office should also play a role in the supply of the IMCI training material. Support from provincial office regarding clinical practice was also important to the respondents.

ii). District level

More support from the district level was needed, according to the respondents. That district coordinators should also involve the nurse educators in meetings, workshops and other forums was a recurring theme. Districts should be mandated to support struggling colleges by making IMCI facilitators available to assist with training IMCI. The district should work closely with the colleges, especially for follow-up of student nurses upon completion of the training, according to the respondent.

iii). College level

According to the respondents, there was a need for the campus heads and deputy heads to have commitment to support IMCI training fully. The college campuses have to set aside a budget for printing the IMCI training material. College

Management should also encourage the nurse lecturers to be trained in IMCI. The trained IMCI nurse educators should be motivated to support training of student nurses' upon receiving this training.

Another important area reemphasised by the respondents was to appoint more nurse educators and so reduce the workload for the few nurse educators' available currently.

4.7 CONCLUSION

In conclusion, the results showed that pre-service IMCI is being implemented in the PNCs that participated in the research. A high number of colleges introduced pre-service IMCI during 2005 and 2007 and most nurse educators were IMCI trained. The participants were also from the PNCs with an IMCI coordinator. However, the introduction of pre-service IMCI was viewed as having been a challenge due to factors which included poor planning, a lack of managerial support, and a lack of resources (material, human and financial). The approaches commonly used were block synthesis. The duration of training was mostly 10-11 days. Community IMCI is not included in the pre-service IMCI in most PNCs. The teaching methods commonly used were lectures. It was, however, noted that practical exposure was viewed as a challenge due to the packed curriculum. The commonly used training material was the chart booklet, which was given to student nurses to take home on completion of training in most the PNCs. Priority areas to facilitate pre-service IMCI training are mainly related to increasing the

availability of resources, improving the IMCI training skills of the nurse educators and intensifying managerial support.

CHAPTER 5

DISCUSSION

The results were grouped into five sub sections to include: i) number of public nursing colleges with pre-service IMCI training incorporated in the basic nursing curriculum; ii) teaching methodologies used by nursing colleges to train pre-service IMCI; iii) training material used to teach student nurses in pre-service IMCI; iv) total number of student's nurses trained in Pre-service IMCI; v) facilitating factors; and vi) challenges experienced in teaching Pre-service IMCI.

5.1. NUMBER OF PUBLIC NURSING COLLEGES WITH PRE-SERVICE IMCI TRAINING INCORPORATED IN THE BASIC NURSING CURRICULUM

The previous chapters highlighted the WHO evaluation on the pre-service IMCI training in South Africa (2006) to have shown that IMCI was introduced in 2001 in the universities (medical and nursing schools). It is apparent from the findings of the study that most PNCs were introduced IMCI after the 2003 National pre-service IMC workshop held in Bloemfontein. More PNCs followed after the 2007 national workshop held in Benoni, which means that PNCs have been gradually introducing pre-service IMCI training in the D4 basic curriculum. The PNCs with lecturers trained in IMCI and those with no lecturers trained in the strategy, were all able to introduce IMCI in the basic D4 curriculum.

From the literature review it is evident that potential challenges should be avoided by ensuring the availability of an IMCI coordinator at the training institution.

However, the results of this study show that the availability of coordinators was not considered by some PNCs, which could have resulted in those PNCs experiencing challenges with regard to planning, involvement of the district office and mobilisation of resources.

It is apparent that all the PNCs were training the D4s student nurses in IMCI, regardless of the availability IMCI coordinators. It is assumed that all the PNCs in South Africa are implementing pre-service IMCI training; however, information is not readily available to substantiate the assumption in this regard. It would also be ideal to have a data base of the PNCs with pre-service IMCI training at the South African Nursing Council (SANC), and accessibility of this information on the SANC website would assist in tracing colleges with nurses trained in IMCI each year. It would also inform planning at all administrative levels.

5.2. TEACHING METHODOLOGIES USED BY PUBLIC NURSING COLLEGES TO TRAIN PRE-SERVICE IMCI

5.2.1. Teaching Methods

The findings of the study show that the lecture method was mostly used by the PNCs, followed by group work with role plays and video shows. These were followed by scenarios and facilitation at the lowest bar. Practice was shown to be used to reinforce and relate theory to clinical skills. Teaching methods for psychomotor skills from the performance perspective includes demonstration, whether in the presence of the individual in the setting by single concept, films or video tapes. The visual component enables the learner to obtain a general idea of

the action pattern and supports the notion of whole learning through playback of video tapes. Computer assisted instructions can also enhance a learner's ability to group the theoretical basis of the skill and also anticipate its use under different context and settings; however, this has not been used in the PNCs.

Practice is essential in the development of a coordinated and efficient performance. The methods for teaching clinical skills were not outlined by the study findings, but experience in facilitation of IMCI is that video shows, demonstrations, observation of good practice and role plays are common methods used to teach clinical practice.[8]

The lecture method, with teacher-directed lessons, was commonly used by most of the lecturers in the PNCs. The students are required to engage in appropriate follow-up activities that enable them to work with and apply what the teachers have explained and demonstrated. [24] These activities may be in the form of textbook exercises, worksheets, problem solving from the chalkboard and the use of manipulative material. A skilled teacher monitors the work of every student closely, whether in the same lesson or through exercises and homework assignments highlighted again in the next lecture or lesson.

An independent practice then implies that students are expected to become confident and fluent in applying new knowledge or skills without supervision or immediate feedback. As the students' competency improves, they become capable of monitoring their own work and self-correcting errors. In addition, confident students will be able to transfer and generalise the new learning to other institutions, which is summarised as a lecture method. [4]

Group work also encourages students to interact in teaching and learning, and appears to be the most preferred and easy way of teaching, as the lecturers will be facilitating the work whilst students are working interactively in their job. [8] Although few lecturers mentioned homework, seminars and exercises and problem-based self study. Of concern is that exercises were mentioned by very few respondents. A reason behind this could be the unavailability of materials (exercise booklets) or the lecturer preferring other methods. Exercises are also used to check whether students have understood theoretic lessons.

Although lecturers have been trained in teaching methodologies, appropriate methods should be employed to suit their college context. *PowerPoint* presentations could be used to deliver theoretical methods. Another commonly used method of in-service training is reading in class by participants, with the lecturer asking students to read at home and have a follow-up exercise in class to reinforce the modules they have read.

5.2.2. Approaches

It is evident from the findings of the study that most of the respondents used block synthesis for pre-service IMCI training, findings that are contrary to the 2006 WHO, Report on the Evaluation of IMCI Pre-service Training in South Africa. The survey showed that most schools of medicine were using a mixed approach, staggering with a two- to three-day block synthesis.[8] The nursing colleges and schools that were using the 11-day block synthesis indicated that this was resource-intensive and they were planning to shift to the mixed approach. It is interesting to find that five years after the evaluation, PNCs are still using the block synthesis. It is apparent that the plan to shift to the mixed approach has not been

very successful, as borne out by the results of this study that show only 22.7% of respondents who were using it.

The evaluation of pre-service training on Integrated Management of Neonatal and Childhood Illness in Ethiopia showed that the mixed approach was used by 82.3%, staggered by 11.8% and block by 5.9% colleges[1] On the contrary, the Tanzanian experience revealed that although significant efforts are required from the school personnel, the IMCI clinical component can be taught as a block in pre-service. The Tanzanian study seems to be supporting the block synthesis for the clinical component.[38]

A combination of both the block and the staggering approach, a concern regarding this mixed method could be proper planning on how the course should be spread out throughout the four years of study. In addition, the lack of time and the nature of the block synthesis could have influenced PNCs to easily employ the block synthesis, as it is achieved within a specified time. This implies that the PNCs identified a year of study and a group of students in which a block synthesis could be fitted. This staggering approach is structured to enable the student nurses to have both theory and practice regarding IMCI throughout their years of study. This normally culminates in a three- to five-day block synthesis with some summative evaluation. The success of this approach depends on proper planning at the college, district and clinic level.

5.2.3. Duration of pre-service IMCI training

The duration of training is closely linked to the training approach. The WHO has outlined the duration of standard in-service IMCI training to be 11 days, which

means that the participants will be away from their PHC facilities for a period of two weeks. The facilitator and course directors, who are mostly the clinic personnel, are also removed from their area of work for the same period, leaving the facilities with fewer personnel to provide the daily services. Challenges to the implementation of IMCI training included the long duration of IMCI training. This is attested by the WHO work on IMCI training approaches and IMCI competencies/skills. This work showed that the reduction of the course from 11 days achieved the same competencies and without compromising quality.[38]

Findings of a Study on IMCI Training in Kosovo compared the skills and competencies of health professionals trained through the 11-day IMCI course and the abridged eight-day course, suggested no significant difference between the performance and/or quality of care offered to sick children under five years old. However, a Study on the Duration of IMCI Training in Zambia compared the health providers trained in the 11 days WHO standard IMCI and a six-day abridged IMCI training. The results showed that the performance of health workers trained in the 11 days standard IMCI was much better than those who were trained in the six-day shortened IMCI course. The shortened course was 40-50% cheaper than the standard IMCI. Nevertheless, the Ministry of Health recommended the six-day abridged course for training of health workers with a view to strengthening the health system in terms of continuous mentoring and availability of drugs, and supplies necessary for the management of sick children. In addition, meta-analysis of published and unpublished studies on performance of IMCI trained health workers using different duration of training compared the effectiveness of the IMCI strategy that used the standard 11-day training versus the abridged training. This

study concludes that the available evidence suggests that the standard in-service IMCI training course is more effective than short training, and the magnitude of the difference ranges from 3 to 36% points with an average of 11%.[31]

The various national experiences presented above suggest that health professionals who trained in the 11-day standard IMCI course performed better than those who were trained in the abridged course. However, the abridged IMCI course was seen to be more cost effective. Like Zambia, South Africa could also opt for the abridged course. As the DoH is in the process of reengineering the PHC, the availability of DCST and mentors from the partner organisations in the provinces will serve as a strong pillar of support to those who would have been trained in the abridged course, including awaiting registration nurses in the community services period and the medical interns. The option to the duration of these courses, as in Zambia, was informed by the cost effectiveness of the abridged course. However, one should make an informed choice without compromising the quality of training. An abridged course would be effective in areas where in IMCI case management and strengthening of the health system are religiously implemented. [31]

The WHO's Evaluation of Pre-service IMCI Training in South Africa reported that six nursing colleges and six universities were employing the 11-day block synthesis. The colleges had, however, planned to shift to a mixed approach so as to minimise costs. The shortest duration of training, as shown by the findings of this study, was one day. This is a very clear case that the nurse educator is either not trained in the standard case management or there is no support from the province and district to the particular college.

5.3. TRAINING MATERIAL USED TO TEACH STUDENT NURSES IN PRE-SERVICE IMCI

There are about eight IMCI materials used for training, including videos, road to health charts and photograph booklets. The report showed that the chart booklet was commonly used during pre-service IMCI training, as in the in-service IMCI Training. This material is further used at a facility level, and is used as reference by the health professionals when managing a sick child of less than five years.

The video tapes serve as a good source of visual training as they help the lecturer to show signs and symptoms and the skills used to assess, classify and treat a sick child. In addition, it further provides case scenarios of a sick child and assists student nurses with exercises for the given module. This material was largely used for pre-service IMCI training, followed by use of the exercise booklets. Exercise modules provides a series of activities that could be carried out in class and even as homework. They help the learner to reinforce theory taught in relation to particular modules.

The availability of training materials is key to the successful pre-service IMC training. The discussion above shows that only three important documents were used during pre-service IMCI training in most of the PNCs during the years on as at 2010. It is presented in the study findings that the availability of training material remained a challenge. Of note, is that the subject matter contained in the IMCI modules is embedded in the course content of the D4. A question would be whether colleges need all the modules used in the pres-service IMCI training as opposed to reprinting the two modules, namely take home and exercise module and the chart booklet. A booklet that needs greater consideration for pre-service

IMCI training is the IMCI Handbook for Health Professionals. These handbook has summarised the contents of the reading material for IMCI and is used during in and pre-service IMCI training of doctors in South Africa. This would curtail costs incurred by the reproduction of five modules, namely: i) introduction; ii) assess and classify a sick child aged zero to two months; iii) assess and classify a sick child aged two months to five years; iv) identify treatment and treat the child, counsel the mother and v) follow up modules.[40]

5.4. THE NUMBER OF STUDENT NURSES TRAINED IN PRE-SERVICE IMCI AS AT 2010

The study showed that the total number of student nurses trained since the 2003 Bloemfontein jamboree has gradually increased. It appears that 50% of the student nurses were trained in 2010, however it was not easy to calculate the percentage of this variable, as the denominator with regard to the total number of D4 student nurses who graduated during the particular year was not available. Availability of data from the South African Nursing council would inform the report regarding the total number of students graduated as D4 with IMCI training. This would provide a clear picture on the percentage of graduates with IMCI skills acquired during pre-service training as at 2010. Nevertheless, this figure cannot be used to generalise the country status of postgraduates in D4, trained in IMCI as at 2010. It was however established that the SANC is in the process of developing a data base for each college, province and national level.

5.5 FACILITATING FACTORS AND CHALLENGES EXPERIENCED IN TEACHING PRE- SERVICE IMCI AS AT 2010

5.5.1 Facilitating factors

A dedicated IMCI 'focal person' should be appointed at each college/school to lead the early stages of orientation of personnel in the department/faculty to IMCI. This official would coordinate activities regarding training and allocation of student nurses to the clinical area and liaise between the college/institution and other levels/areas on matters pertaining to community child health.

i). Availability of IMCI facilitators

Introduction and training becomes easier to the trainer if they have undergone training in the given subject. Availability of trained lecturers in IMCI makes provision for co-facilitation, and thus enhances the quality of pre-service training. As opposed to the research findings discussed above, colleges with availability of staff had a good experience in the introduction of the strategy. This implies that they made efforts to ensure that facilitators were available to support pre-service IMCI training in their PNCs. However, the study does not show how these facilitators were made available. This could have been made possible through the involvement of facilitators from the district or from the respective institutions.

ii). Availability of IMCI training materials

Though a high percentage of respondents in this study indicated that the availability of training material was a challenge, it is also encouraging to learn that

some institutions were able to access the training material. This implies that careful planning was undertaken by those colleges for the introduction of IMCI.

iii). Support from provincial and district coordinators

The findings show an encouraging best practice demonstrated by some PNCs. The relationship between the provincial, district and PNCs is further suggested by the WHO in the Guidelines for IMCI Planning, Implementing and Evaluating Pre-service Training (2001). These guidelines makes provision for the updated IMCI material. In this regard, the report shows that some PNC's attended provincial and district update workshops on the revised IMCI training materials.

iv). Availability of transport

The nursing colleges and provinces are responsible for the clinical exposure of the student nurses. This refers to ensuring allocation of areas for clinical practice and transporting them to the respective facilities. This enhanced the availability of student nurses at the facilities as planned. Transport is one of the key necessities for pre-service IMCI training in the nursing colleges.

5.5.2 Challenges

i). Poor planning

Planning and implementation of pre-service training is the key element to the success of incorporating IMCI in the medical and nursing curricula. The WHO guidelines provide for detailed planning for pre-service IMCI training. Lessons learnt from Tanzania during the regional planning process, Ministry of Health and

IMCI focal persons made two visits to the schools, *inter alia* to assess availability of tutors, observe theoretical and clinical teaching.

After the National pre-service IMCI workshop held in 2004 in South Africa, representatives from the DoH and focal persons for IMCI Health also conducted visits to the medical schools and nursing colleges during the early years of introduction of pre-service IMCI training. It is not clear whether the same team visited all the nursing and academic institution in this regard.

ii). Shortage of training material

The unavailability of training material for IMCI poses a challenge, especially when a strategy or programme is introduced into the curriculum. This shortage might mean student nurses share the materials during the theoretical sessions. In situations where the modules were available for individual participants, each will be issued a copy, then the next modules available in limited numbers will be shared by students. In cases where in the particular module was unavailable, the students will rely on photocopied materials or have none to refer to for their studies. This is a frustrating scenario which could probably make introduction of a programme difficult for the nurse educator. A personal experience was students from colleges around the DoH offices personally asking for copies of IMCI material.

Lessons learned from Global Status of Pre-service IMCI Training, conducted in 2007, showed that challenges for pre-service IMCI introduction and implementation included shortage of financial, human and material resources to sustain pre-service training. The national coordinating group should assist

teaching institutions in identifying and preparing appropriate materials. The coordinating committee could further encourage the publishers and developers to include local and international textbooks and teaching materials.

In South Africa, following the adaptation process, the DoH has been producing the first round of the adapted materials at national level. Provinces were responsible for the reproduction of more materials according to the local needs. However, this remained a challenge as some provinces reported financial constraints due to the unavailability of a ring fenced budget for child health.

iii). Shortage of personnel

Shortage of personnel could be due to high attrition rate, promotions, relocation or the lack of interest in training IMCI. Nevertheless, training of teachers and relevant clinical staff in the IMCI clinical guidelines remains important for sustaining training at these institutions. This includes introduction to effective methods and materials for IMCI teaching, learning and student assessment.

The challenge is similar to those in findings of the Evaluation of Pre-service Training on IMNCI in Ethiopia, which showed that challenges encountered during the introduction of pre-service were constraints with trained staff and other resources, each by 88.3%. Although this report shows that most of the surveyed institutions had adequate numbers of child health and paediatric teaching staff, the IMCI teaching personnel were limited.[8]

The lack of IMCI trained educators would generally affect quality of training in both the theory and practice of the strategy. The study further showed that larger groups find it more difficult to reach competency and that assessment of a large

number of student nurses with fewer nurse educators will affect general quality of training. Shortage of IMCI trained lecturers poses a challenge in assessment of student nurses in IMCI. This response appears to be related to the availability of nurse educators to observe and assess student nurses on their case management skills. Assessment of student nurses in pre-service IMCI needs availability of nurse educators to be allocated to a smaller group of student nurses.[41]

Shortage of clinical instructors affects the performance of student nurses and the study showed that there were health professionals in the clinical area who had not been IMCI trained. This poses a challenge if student nurses are not accompanied by IMCI trained professional nurses in the PHC facilities. This type of facility should not be used for training student nurses if the professional nurses, who have a greater role in education and mentoring, are not IMCI trained.

The previous chapter concluded that shortage of mentors was also a challenge in ensuring that student nurses applied the theory into practice with confidence. This point relates to the one discussed in the previous paragraph, with regard to facilities without IMCI trained health professionals to mentor the student nurses during their clinical exposure.

The clinical instructors are responsible for supporting and guiding participants in the most critical conditions available in the clinical area, and are normally experienced in child health, paediatrics or paediatric nursing. However, in areas where this cadre is not available, facilitators with extensive experience in IMCI provide support as clinical instructors. Assessment of students in the practical area in which clinical instructors are not available is indeed a challenge.

The factors mentioned above have focused on assessment of clinical practice, however it is not clear whether all these factors would also affect formative or summative assessment including written and oral exams.

iv). Lack of support from management

The individual nursing colleges would not be able to incorporate IMCI training successfully without active involvement and support from the national, provincial and district offices, but the study shows that such support was non-existent at the administrative level. This could be related to poor planning, as discussed above. Availability of a coordinating committee within the institution would facilitate internal and external liaison on IMCI activities and this could enhance external support in these institutions.

As discussed above, the availability of a working group at all the administration and the institutional levels serves as a driving unit to ensure necessary support to sustain training.

v). Follow up, monitoring and post-training evaluation

Follow up serves as an extension of training as it provides health care providers with opportunities to apply newly acquired skills in their working environment. The WHO recommends that participants in the pre-service IMCI training course receive at least one post-training follow-up visit. During in-service IMCI training, follow up is conducted by a district supervisor and the IMCI facilitator trained in IMCI supervision. This also opens an avenue for nursing colleges and medical schools to help stimulate the health system, and suggests that a clear plan to conduct follow up after pre-service training should be available.

The WHO Guidelines recommend follow up to health providers within four weeks of receiving IMCI training. It would serve to reinforce skills learnt, and improve practice following training.[2] Thus study shows that follow-up of their professional nurses after pre-service IMCI training was generally not carried out. It would be interesting to learn how these follow ups were conducted as the waiting registration nurses will, under the current practice, be providing community services away from the college whilst waiting registration. These nurses normally practice under the district management, and the supervisors and managers at that level are responsible for ensuring that the newly qualified nurse is exposed adequately to IMCI practice during this service. [39]

Tanzania introduced pre-service IMCI training in 1997 for nurses and doctors who were serving as a pillar of clinical support in the districts. The Tanzanian report on the pre-service IMCI survey conducted in 2007 showed that 215 tutors had been trained in 27 schools with over 4000 graduates, including nurses and clinicians. However, follow up and supervision after training of student nurses remains a challenge.

Traditionally, educational institutions tend to be the knowledge dispensers, strive to keep up with the most recent advances and pass them on to students. The relationship between knowledge gained and the realities which students will be faced with after graduation is often weak. It is compulsory for all the newly qualified professional nurses (D4) to serve the community for a specified period at the PHC services. The systems used by this two respondents sounds more practical, and could assist in providing support for newly qualified professional nurse to develop more confidence in managing sick children under the age of five

in the PHC facilities. The availability of trained supervisors in IMCI at district level will also enhance the community service, and promote IMCI implementation after pre-service training.

Mentoring plays a vital role in reinforcing and relating theory to practice. The Department of Health is currently using the availability of NGOs and other partners to provide mentorship to nurse-initiated management of antiretroviral therapy at the public health facilities. It has further embarked on orienting all partners in IMCI (three day course) who have a great interest in child heath. This is aimed at ensuring that as the partners visiting and supporting implementation of guidelines at the facilities, they should also support case management of sick children using the IMCI protocols.[40]

Furthermore, the Department is also in the process of reengineering the PHC, using the Brazilian model. The plan is to have outreach teams in each municipal ward and a district specialist health team, consisting of maternal and child health experts (doctors and nurses). The district clinical specialist teams will also play an important role in ensuring that those follow ups are conducted for those trained in pre-service IMCI at and in-service level. [14]

The Maputo African Union (AU) declaration (2008) for Health also mandated member states to leverage partnership with business and developmental organisations at policy and implementation level. This would enhance funding and implementation of interventions aimed at the reduction of maternal and child mortality and morbidity.[42]

The DoH conducted a National IMCI Orientation workshops to relevant partner organisations in child survival. These partners will serve as IMCI mentors at the periphery for the IMCI implementers in using the guidelines as well as initiation of antiretroviral therapy in children. These mentors will also support the newly qualified professional nurses providing community services for government at the PHC facilities to practice the IMCI skills learned during pre-service training.. Measurement of competencies and achievements can be accomplished through the use of traditional ways of evaluation, such as classroom discussion, dialogue, drills, problem-based learning and testing. This could also include active involvement of the students in the actual case management or event.

vi). Assessment of clinical practice

The study findings showed that there were shortages of sick children under the age of five years in some PHC facilities. This also included availability of important signs and symptoms such as chest in-drawing, severe dehydration, general danger signs (vomiting everything, lethargy, convulsions, not feeding well). The unavailability of sick children under the age of five could be related to poor utilisation rate of PHC facilities of this age group. The question in this regard will be whether sick children in those facilities with challenges cited above, received appropriate professional health care? This seemed to have posed a major challenge, even during the practical session, as student nurses would have had limited or no exposure to relating theory to practice of IMCI case management.

One of the objectives of IMCI is to equip participants with skills to identify critical signs that need urgent referral. In this case, it implies that the signs commonly available could be very few for students to practice their skills. On the other hand,

the less serious cases might not have been available for student nurses to learn more about the signs and symptoms or steps to be followed for immediate referrals, including administration of pre-referral care.

Limited exposure and unavailability of sick children could also result in an inability to use the IMCI guidelines. IMCI was not being practiced in facilities where student nurses were left under the mentorship and supervision of facility staff for their practical exposure. The availability of student nurses for clinical practice could necessitate the facilities to train and let their staff implement IMCI as they will be expected to support the student nurses. In addition, nurse educators who accompany their student nurses to the clinical area could also involve the clinical staff in developing interest in IMCI. This challenge does not actually explain whether the PHC facilities referred to above, have trained IMCI health professional who are not implementing the strategy or whether there was any IMCI trained health professionals to support the student nurses.

The clinical space was non-existent to accommodate learners, which implies that there is not sufficient space to accommodate student nurses during the practical session, and that could be related to challenges related to infrastructure. A group of student nurses might need to take turns in the smaller consultation room, resulting in a long time being taken to observe and practice case management.

vii). Time

Another factor indicated by the respondents was a limited time for theory and practice in pre-service IMCI training. Assessment of students requires time allocated for such, and an individual student nurse should be able to present his or

her work, receive feedback and have time to discuss findings with the nurse educator. However, if there was also limited time for theory, the assessment would only focus on those areas covered during the theoretical session. This includes time to do exercises, which is meant to check whether the lessons received were well understood and further reemphasised the content.

Clinical exposure is important for any student nurse as it provides an opportunity to relate what was taught in class to practice. It is a challenge if student nurses were exposed to practical for a limited time as this would also affected their ability to master the demonstrated skills. The result of this challenge was that most learners were initially experiencing difficulty in applying knowledge to practice.

viii). Standardised methods

Assessment could also be a challenge because there was no equal exposure to theory and practice for student nurses. The duration and time in which clinical practice occurs is a cause for concern. Although this point is not explicit it could refer to the excessive or inadequate time student nurses are exposed to clinical practice after theoretical session. This is impractical as IMCI encourages teaching theory together with exposure to clinical practice within a short time. The longer the period between the greater the challenge to the nurse educator and the facility health professional who have assess whether student nurses are able to remember information received a month or more before. Another challenge noted was with the respondents not being sure whether evaluation should be done ‘in that manner’. The respondents have however not explained the "manner".

6.6 CONCLUSION

Chapter Five has discussed the objectives of the study as outlined in chapter one. The PNCs who participated in this study were training D4 student nurses in IMCI. It is apparent that PNCs largely introduced pre-service IMCI training after the 2007 National Pre-service IMCI Training Workshop. Although the PNCs used the block synthesis and 11-day duration, a mixed approach has been found to be user-friendly as it allows the IMCI modules to be spread out over the years of study. The teaching methodologies used by nursing colleges were mainly lectures. Of the eight IMCI training materials, the chart booklet was commonly used by all the PNCs to teach student nurses in pre-service IMCI. The total number of student nurses trained in pre-service IMCI might be less than a quarter of the national D4s graduates per annum. Shortage of nurse educators trained in IMCI and the lack of budget and training material are the main challenges in pre-service IMCI training. The lack of standardised methods for assessment of learners, and hours for clinical and theoretical teaching are also amongst the constraints encountered during pre-service IMCI training as at 2010.

CHAPTER 6

RECOMMENDATIONS AND CONCLUSION

The recommendations are outlined to address the gaps at national, provincial, district and college level. The cross-cutting recommendation is for all levels to conduct research, surveys and appraisals on pre-service IMCI.

6.1. RECOMMENDATIONS

A number of recommendations arose from the study.

61.1. National Office

Support from the national office would enhance implementation of pre-service IMCI in the nursing and medical academic institution. A clear plan on how the support would be provided should be clearly described.

i). Methods: Use of technology appears to be a way forward, with computers and associated electronic equipment. ICATT has been seen to be implementable in colleges and institution with accessibility to computers. As these tools can be used by learners with no computer literacy they are ideal for introduction in nursing and medical academic institutions. Extensive involvement of the DoH would be critical in ensuring the success of utilisation of ICATT in these institutions. ICATT will contribute largely to the challenge of shortage of IMCI training materials as all the training materials, modules and videos are in the library built in the soft ware of this tool. As South Africa has completed the adaptation process highlighted in this report, implementation could start from one nursing and medical institutions per

province. Lessons learnt will inform planning to spread the tool to other nursing and medical institutions.

A mixed approach in terms of the spread of IMCI throughout the training phases with a shortened, from three to five days block synthesis, would assist in the standardisation of the training in all the relevant institutions. This would ensure that all the nurses have undergone the same of training and received equal theoretical information during a specific period.

ii). Training materials: Reproduction of updated training material should remain the responsibility of the National Department of Health. Furthermore, distribution of these materials should be done at a central point to all the principals and Heads of Departments in all the nursing and medical academic institutions.

iii). Strengthening the health system

Support: Constant support for the nursing and medical academic institutions is recommended. Nurse educators should be involved in all the update workshops that are aimed at capacitating professional nurses in all areas of child health, including IMCI. Support should be provided in training nurse educators in the standard IMCI strategy.

iv). Macro- and micro-curriculum

The availability of a IMCI macro-curriculum at the SANC is key to the successful pre-service IMCI training. A circular which outlines what the micro-curriculum should entail is critical to ensure standard pre-service IMCI training. This should

include hours for theoretical, clinical teaching and practice as well as nurse to learner ratio.

v). Assessment and evaluation

A standardised assessment and evaluation of IMCI to encompass formative and summative is essential for pre-service IMCI training.

6.1.2. Province

i). Training

The provinces should facilitate the release of the district IMCI facilitators to assist with facilitation of pre-service IMCI in universities, in case of shortage of IMCI trained nurse educators. The Regional Training Centres, which focus on in-service training, should work collaboratively with the nursing and medical academic institutions in order to share the latest developments in IMCI and other maternal and child survival issues with the lecturers.

ii). Collaboration with the district coordinators

It is important to involve nurse educators in all the district update workshops, aimed at capacitating professional nurses in all areas of child health, including IMCI. Support should be provided in training nurse educators in the standard IMCI strategy. District coordinators should be involved in terms of post D4 professional nurses allocated to PHC facilities, as this cadre would need extensive support and a follow up in IMCI implementation.

The pre-service IMCI forums should be reviewed and facilitate active involvement of nurse educators/lecturers from nursing and medical institutions.

iii). Guidelines

The revised IMCI materials should be printed and distributed to the academic nursing institution and the primary health care facilities.

iv). Strengthening the health system

Support: Systems should be designed to accommodate training update and follow up on IMCI and other child health programmes and strategies, for health professionals in medical and nursing academic institutions.

Follow-up post training: The province should work collaboratively with clinical mentors' from the partner organisations and the district clinical support team available to provide follow-up post training. Standard operating procedure on this kind of collaboration at the provincial level is key to the success of IMCI implementation.

6.1.3. District

i). Follow-up post training: The district in collaboration with the college should develop a clear plan to conduct follow ups during the community service by the newly qualified professional nurses trained in IMCI at pre-service level.

ii). Implementation of IMCI: IMCI trained health professionals should be encouraged to practice the strategy in all the facilities. A system to strengthen

implementation of IMCI through the District Clinical Support Team is key towards improving child survival.

6.1.4. Public Nursing Colleges

i). Coordinators: It is recommended that there be available an IMCI coordinator at each college, to coordinate all relevant activities including a liaison and a strong collaboration between the PNCs and the district office on IMCI theoretical training and clinical practice issues. Collaboration with the provincial office for the pre-service IMCI training plan, and advice on the areas of support needed are also recommended.

ii). ICATT: Colleges with access to computers and availability of facilitators should introduce this approach.

iii). Mixed approaches: This approach is recommended in the interim, as it helps students relate theory to practice throughout their years of training.

iv). Micro-curriculum: Micro-curriculums should be clear and completion documents for each student nurse, indicating hours spend in each area of learning (practical and theory) and the assessment thereof.

v). Training of nurse educators in IMCI: Nurse Educators should be encouraged to attend the standard IMCI training.

vi). Practical exams: Practical exams should be conducted at a common area to minimise unnecessary travelling.

6.1.5 Further research on pre-service IMCI Training

There is a need to conduct more studies to assess practical teaching in Pre-service IMCI Training. This includes evaluation of professional nurses who received IMCI training during their basic D4 training. It would also be interesting to document views of D4 student nurses who are currently training in IMCI. Documentation of the experiences of professional nurses at the PHC facilities supervising D4 student nurses during their IMCI practical sessions is also recommended.

6.2 CONCLUSION

The study has shown that PNCs in South Africa have introduced pre-service IMCI training. Constraints in the availability of human, material and financial resources, affected the smooth implementation of the strategy. A lack of the standardised allocation of hours in theoretical classes and clinical teaching affects quality of training. In addition, support from the national, provincial and district levels remains an important coordinating factor towards the successful pre-service IMCI training. Although pre-service IMCI was introduced in the nursing colleges assessed as at 2010, there is no clear denominator to determine the percentage of the students who graduated from the PNCs trained in IMCI.

The approach used to train pre-service IMCI was a block system, which appears to have been an easy approach as it is used during the in-service IMCI training. Days allocated to these trainings were found to be aligned to the approach used at the respective PNCs. Material used for training were mainly the chart booklet,

video and the exercise module. Students were mainly given the chart booklet to take home upon completion of the course. The community services should allow exposure of newly qualified professional nurse to IMCI practice. In addition, continuous availability of mentorship and support at the PHC facilities will enhance consistent utilisation of IMCI guidelines for case management of sick children under-five years. The appointment of DCST will contribute largely to provision of support and mentorship at the health facilities. These teams should also provide necessary support, implementation, and use of IMCI guidelines by health professional, including the student nurses during training.

The support from the DoH will enhance implementation of pre-service IMCI in the nursing and academic institutions. Introduction of ICATT in instructions with access to computers will contribute largely to addressing shortage of materials at the facilities. With regard to reproduction of updated training material, the DoH should remain responsible, to avoid shortage in the colleges and other learning institutions. Standardisation of pre-service IMCI training would also influence the quality of training in all the colleges and universities. This includes formative and summative assessment of student nurses on completion of training. The role of statutory bodies in this regard remains key to ensure that quality of training encompasses matters outlined in the macro curriculum. The provinces and districts are the main pillars of support for successful implementation of programmes and strategies. Finally, the nursing colleges should appoint and train more nurse educators in IMCI. A strong collaboration with the districts and regional training centres will also serve as strong support for resources required for IMCI training.

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ANNEXURE A

QUESTIONNAIRE FOR PRE-SERVICE IMCI TRAINING IN THE PUBLIC NURSING COLLEGES

A. GENERAL INFORMATION

College Code _____ Position _____ (e.g. IMCI Facilitator)

Date form received _____ Date form completed_____

1. Has the college begun implementation of IMCI Pre Service training? **YES / NO**

2. If YES, when? (Month/Year) _____20_____

3. Is there a coordinator for Pre-service IMCI training in the college? **YES / NO**

B. PLACEMENT OF IMCI AND TEACHING METHODS USED

5**. Introduction of IMCI into the basic nursing curriculum was easy. YES / NO**

5.1 If ***No,*** Please give3 reasons

a) _____

b) _____

c) _____

5.2. If ***Yes,*** please give 3 facilitating factors

a)_____

b) _____

c) _____

6. What is the approach used for teaching pre-service IMCI? *(Please check from the following list as applicable).*

a) Block teaching. **YES / NO**

b) Staggered through the duration of training. **YES / NO**

c) Mixed (Block and staggered) **YES / NO**

7. What is the duration of the course for pre service IMCI? *(Please check from the following list as applicable).*

a) 11 day standard (in service) course. **YES / NO**.

b) Shortened 5 day course, **YES / NO**

c) Shortened 7 day course, **YES / NO**

c) Other (*Specify.)* **----------YES / NO**

8. Are all the three components of IMCI taught in class? *(Please check the YES/NO column as applicable*

a) Clinical skills. ***YES/NO***

b) Health systems support. ***YES/NO***

c) Family and community practices ***YES/NO***

9. Are aspects of IMCI taught within related subjects? *YES/NO*

10. If yes which one(s)? *(Please check the YES/NO column as applicable)*

a) Community Nursing Science ***YES/NO***

b) Nursing Science and Art ***YES/NO***

c) Other (Specify) ***YES/NO***

d) Comments_____

11 List the primary teaching methods used for IMCI

(a) _____

b)_____

c) _____

12 **Teaching of IMCI in the basic nursing curriculum was easy. YES / NO**

12.1 If ***No,*** Please give3 reasons

a) _____

b) _____

c) _____

12.2. If ***Yes,*** please give 3 facilitating factors

a)_____

b) _____

c) _____

13 Are IMCI questions or problems included in the following:

a) Oral *YES/NO*

b) Written or ***YES/NO***

c) Practical exams? ***YES/NO***

14 What are the 3 main challenges or difficulties in assessing student knowledge and skills in relation to IMCI?

a) _____

b) _____

c) _____

C. INFORMATION ON ACADEMIC PROGRAMME(S) IMPLEMENTING PRE-SERVICE IMCI

15. Nursing College Basic Nursing (4 yr course)	**Number of students nurses trained in IMCI to date** ----------	**15.2 Length of MCI training (hours)** **Classroom**_____ **Clinical**_____	
15.3 IMCI nurse educator learner ratio		**Classroom**_____	**Clinical**_____

D. TRAINING OF TEACHERS AND RELEVANT CLINICAL STAFF

16. How many staff members have been trained in IMCI? _____

17. What are the 3 main challenges or difficulties experienced with training teachers and relevant clinical staff in the IMCI guidelines?

a) _____.

b) _____

c) _____

E. CLINICAL PRACTICE

18 What are the 3 main challenges or difficulties experienced with clinical practice for IMCI?

a) _____

b) _____

c) _____

F. TEACHING, LEARNING AND ASSESSMENT MATERIALS

19 Which WHO (*South African version)* materials does the school use <u>mostly/frequently</u> to teach pre-service IMCI?

a) _____

b) _____

c) _____

d) _____

20 Who finances or supplies the materials used?

a) National Dept of Health ***YES/NO***

b) Provincial Dept of Health ***YES/NO***

c) College ***YES/NO***

d) Student nurses tuition fees ***YES/NO***

e) Others (Specify) _____ ***YES/NO***

21 Which materials do students keep after IMCI teaching is finished?

a) All the IMCI modules and chart booklet ***YES/NO***

b) Chart booklet, exercises and take home module ***YES/NO***

c) Chart booklet ***YES/NO***

d) others specify _____ ***YES/NO***

22 What are the 3 main challenges or difficulties experienced with the identification, development and supply of teaching and assessment materials for IMCI?

a) _____

b) _____

c) _____

G. FOLLOW- UP, MONITORING & EVALUATION

23 Is there follow up of trained professionals once deployed? *YES / NO*

24 Comment on how to improve implementation of IMCI pre service training (*Three important priorities*):

_____

_____

ANNEXURE B

INFORMATION SHEET

STUDY TITLE: THE STATUS OF PRE-SERVICE IMCI TRAINING IN THE PUBLIC NURSING COLLEGES OF SOUTH AFRICA

Good day,

I am Ms Sebotse Ngake, a student from the School of Public Health at University of Witwatersrand. I am conducting a study on the status of IMCI pre-service teaching in public nursing colleges of South Africa.

Invitation to participate: I am inviting you to participate in this research study which is in part fulfillment of my Masters in Public Health degree.

Reason: The study aims to determine an overview regarding the current status of implementation of IMCI pre-service training in public nursing colleges of South Africa for the year 2010.

Expectations from the participant: I will conduct a cross sectional descriptive survey in all the public nursing colleges of South Africa from May - July 2010. All satellite campuses of the nursing colleges will also be included in the survey. Your cooperation in completing the attached questionnaire is valuable to ensure that I have an understanding of pre service IMCI teaching in the public nursing colleges of South Africa.

The questionnaire: You are also requested to encircle the appropriate response for questions with a "YES" and "NO" answer. If information is not available or not applicable please state as such or not applicable (N/A). Add in your own words responses to the open ended questions on the spaces provided as well. It may take less than two hours of your time to complete the questionnaire.

Benefits to the participants: You may directly and indirectly benefit as the findings of the study will inform proper planning and support of IMCI pre-service training at all levels of governance and eventually may contribute to child survival. In addition, the research

findings will be shared with the nursing colleges, universities, student nurses, provincial and national health departments and other international countries.

Participation is voluntary: There is no compulsion to your participation in this study. The study is completely voluntary and non-participation will not involve penalty or influence your condition of service. By filling in the questionnaire and sending it back to me by fax or email indicates informed consent to participate.

There are no cost implications from participating in this study; therefore, reimbursement will not be necessary as the research only involves completion

of the questionnaire. In cases where pocket expenses are used to fax or email the response back to me, kindly fax or email (the receipt - slip) and your banking details for reimbursement as soon as possible to the numbers provided below.

Confidentiality: I will ensure that your personal information and that of the college is kept confidential as only codes will be used. Confidentiality therefore will be maintained at all times and only grouped data will be reported upon. I will have some codes written in the forms and this will be known by me. The codes linking the colleges will be kept under lock and key by me. Organisations that may inspect and or copy your research records for quality assurance and data analysis may include groups such as the Research Ethics Committee in the university.

For more information, be free to contact **Ms Sebotse Ngake** on: cell: 083 675 4441. If you agree to take part in the study, kindly sign the attached consent form and fax to 012 547 4570 or email to NgakeS@health.gov.za or vaciah@health.gov.za

If you are in any way not happy about the way the study is conducted you may contact Professor Claeton-Jones through the secretary of the Human Research Ethics Committee at the University at telephone number 011 717 1234.

Thank you.

Sebotse Ngake

ANEXURE C

P.O.BOX 82134
Doornpoort
0017
07 February 2011

To the Principal
All Nursing Colleges

Dear Mam/Sir

REQUEST FOR MS S S NGAKE TO UNDERTAKE A RESEARCH PROJECT, IN YOUR NURSING COLLEGE

Permission is hereby requested for Ms. S.S. Ngake to undertake a research project in the Nursing College as part of fulfilment towards her Master's of Public Health Degree with University of Witwatersrand.

The research will focus on the pre service training in the Integrated Management of Childhood Illness (IMCI) strategy in the basic Nursing Curriculum.

The findings and recommendations from the proposed research project will be shared with the college, the Provincial and National Departments of Health.

Participation of Nurse Educators to provide data on Implementation of Pre service IMCI is important for the success of the survey. It is envisaged that the research findings will inform planning of pre service IMCI training in the colleges and at all spheres of governance.

Your support and considerate attention are greatly appreciated.

Regards

Ms S S Ngake

Tel: 012 312 0094

Cell: 083 675 4441

Date:

ANNEXURE D

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG
Division of the Deputy Registrar (Research)

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)
R14/49 Ms Sebotse S Ngake

CLEARANCE CERTIFICATE	**M10101**
PROJECT	The Status of Pre-Service Integrated Management of Childhood Illness Strategy Training in the Public Nursing Colleges of South Africa
INVESTIGATORS	Ms Sebotse S Ngake.
DEPARTMENT	School of Public Health
DATE CONSIDERED	22/11/2010
DECISION OF THE COMMITTEE*	Approved unconditionally
	29/10/2010

Unless otherwise specified this ethical clearance is valid for 5 years and may be renewed upon application.

DATE **CHAIRPERSON** .....
(Professor PE Cleaton-Jones)

*Guidelines for written 'informed consent' attached where applicable
cc: Supervisor : Prof S Naidoo

DECLARATION OF INVESTIGATOR(S)

To be completed in duplicate and **ONE COPY** returned to the Secretary at Room 10004, 10th Floor, Senate House, University.
I/We fully understand the conditions under which I am/we are authorized to carry out the abovementioned research and I/we guarantee to ensure compliance with these conditions. Should any departure to be contemplated from the research procedure as approved I/we undertake to resubmit the protocol to the Committee. **I agree to a completion of a yearly progress report.**

PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES...