

PSYCHOSOCIAL FACTORS ASSOCIATED WITH SUICIDAL BEHAVIOURS OF PATIENTS ADMITTED TO THE MEDICAL WARDS OF LERATONG HOSPITAL

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**A research report submitted to the Faculty of Health Sciences,
University of the Witwatersrand, in partial fulfilment of the requirements for
the degree of Master in Family Medicine.**

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DECLARATION

I, **Ajaero Henry Chukwuemeka** declare that this research report is my own work. It is being submitted for the degree of **Master in Family Medicine (M. Fam. Med.)** in the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at this or any other university.

.....

.....Day of2008.

To my wife
Mrs Millicent Obiageli Ajaero
For her love and support

ABSTRACT

The increasing prevalence of suicidal behaviour especially among adolescents is an important public health problem. With the increasing adverse global economic conditions and HIV/AIDS prevalence, especially in developing world, the problem of suicidal behaviours is expected to get worse, and the impact on the healthcare systems will increase.

Objective: This study was done to evaluate the socio-demographic and clinical profile of the patients who were admitted into Leratong Hospital for suicidal behaviours, and the factors associated with these suicidal behaviours. In the context of worsening social and economic problems, and the increasing HIV/AIDS epidemic, it is hoped that the results of this study will help in quantifying needs, defining appropriate management protocols and referral systems, and informing capacity building processes.

Methods: This was a descriptive cross-sectional study. All patients admitted to the medical wards for parasuicides and attempted suicide from November 2007 to February 2008 (n=162) were interviewed during the course of their admission. Data on their socio-demographic characteristics, history of previous suicide ideations and attempts, methods of and reasons for the present suicidal behaviours, and past personal and family histories of the patients were extracted and analyzed.

Results: Patients admitted for suicidal behaviours constituted about 5% of all medical patients. More than 67% of the patients were younger than 30 years, and more than 60% were females. Only about 16% of the patients were married, and about 45% were unemployed, and among those employed about 40% were unskilled, though more than 60% were living in either formal or RDP houses. Majority of the patients (60%) completed only grade 11 or less. Majority of the patients attempted suicide by ingesting overdose of medications (43%) and organophosphates (32%). The commonest reason given by patients for attempting suicide was domestic or relationship conflicts (75%).

About 21% and 14% of the patients had histories of previous suicide ideation and attempt respectively. Common adverse events in the background histories of the patients were stress from their families (56%), unemployment (38%), alcohol abuse (32%), and abandoned by spouse (25%). Common adverse events in the family histories of these patients include at least one death in family in the last two years (70%), alcohol abuse (60%), family member in prison (46%), family member was a victim of crime (46%), and family member had a severe disease (42%). Risk factors found to be significantly associated with suicidal behaviours and the different methods of suicidal attempt include race, sex, younger age group, type of house, and family history of severe illness, death, divorce and substance abuse.

The study has demonstrated the socio-demographic profile of these patients, the burden posed by suicidal behaviours on our health systems, and the risk

factors associated with such behaviours. Based on these results, it is therefore recommended that health workers should look out for, and assess all patients for, risk factors associated with suicidal behaviours, and patients admitted for suicidal behaviours should be evaluated and managed properly, with appropriate referrals, before they are discharged.

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TABLE OF CONTENTS

	Page
DECLARATION	i
ABSTRACT	iii
ACKNOWLEDGEMENT	vi
TABLE OF CONTENTS	vii
LIST OF TABLES	x
LIST OF FIGURES	xi
1. INTRODUCTION	1
1.1 Background information	1
1.2 Statement on the problem	2
1.3 Motivation for the study	2
1.4 Definitions	3
1.5 Aims and objectives	4
2. LITERATURE REVIEW	5
2.1 Burden of diseases	5
2.2 Associated factors	7
2.3 Past medical and family history	10

3. METHODS	12
3.1 Study design	12
3.2 Site of study	12
3.3 Study population	13
3.4 Sampling method	13
3.5 Sample size	13
3.6 Inclusion and exclusion criteria	14
3.7 Data collection	14
3.8 Measuring instrument	15
3.9 Pilot study	16
3.10 Data analysis	16
3.11 Possible limitations of study and validity	17
3.12 Ethical considerations	17
 4. RESULTS	 19
4.1 Response rate	19
4.2 Demographic profile	20
4.3 Social profile	22
4.4 History and types of Suicidal behaviours	24
4.5 Personal history	29
4.6 Family history	30
4.7 Factors associated with previous suicide ideation	32
4.8 Factors associated with previous suicide attempt	35
4.9 Factors associated with overdose of medications	38
4.10 Factors associated with ingestion of organophosphates	41

5. DISCUSSION	45
5.1 Socio-demographic profile	45
5.2 History of suicidal behaviours	46
5.3 Personal and family history	48
5.4 Factors associated with suicidal behaviours	49
6. CONCLUSIONS AND RECOMMENDATIONS	53
7. REFERENCES	56
8. APPENDICES	63
8.1 Protocol ethical approval	63
8.2 Protocol hospital approval	64
8.3 Patient information document	65
8.4 Information sheet for parent and child	66
8.5 Accent form	67
8.6 Consent form	68
8.7 Questionnaire	69
8.8 Data collection sheet	73

LIST OF TABLES

<u>Table</u>	<u>Page</u>
4.1: Admission rates of patients for suicidal behaviour into the medical wards of Leratong Hospital from November 2007 to February 2008	19
4.2: Demographic features of patients admitted for suicidal behaviour in the medical wards of Leratong Hospital	20
4.3: Social profile of patients admitted into the medical wards of Leratong Hospital	23
4.4: Top eight reasons for suicidal behaviour	26
4.5: Common reasons for suicidal behaviours by sex	26
4.6: Common reasons for suicidal behaviours by race	27
4.7: Common reasons for having suicidal ideation	28
4.8: Common reasons for previous suicidal attempt	28
4.9: Top ten adverse events in the past histories of patients	29
4.10: Top seven adverse events in the past histories of patients sex	30
4.11: Top ten adverse events in the family histories of patients	31
4.12: Top seven adverse events in the family histories of patients by sex	31
4.13: Factors associated with previous suicide ideation	33
4.14: Social factors associated with previous suicidal ideation	34
4.15: Factors associated with previous suicide attempt	36
4.16: Social factors associated with previous suicidal attempt	37
4.17: Factors associated with suicide attempt by overdose of medications	38
4.18: Social factors associated with suicidal attempt by overdose of medications	39
4.19: Factors associated with suicide attempt by ingestion of organophosphates	42
4.20: Social factors associated with suicidal attempt by ingestion of organophosphate	43

LIST OF FIGURES

<u>Figure</u>	<u>Page</u>
4.1: Distribution of patients by race and sex	21
4.2: Distribution of patients by age groups and sex	21
4.3: Distribution of patients by type of employment	22
4.4: Distribution of patients by method of suicide attempt	25

CHAPTER 1

INTRODUCTION

1.1 Background information

Suicidal behaviour, especially among adolescents, is becoming an increasingly important public health issue. According to the World Health Organization suicide has been identified as one of the three leading causes of death in adolescents and young adults.¹ The magnitude of this problem is even greater when suicidal ideation and “unsuccessful” suicide attempts are taken into account. Based on hospital statistics, the rate of non-fatal suicide attempts is estimated to be 50–100 times higher than fatal attempts². These estimates would be even higher if they included those who attempted suicide and did not present at hospitals.

The prevalence of non-fatal suicidal behaviours has been found to be very high in different cultures and societies. Many authors have documented the prevalence and impact of suicides and parasuicides on health systems all over the world. These include studies done in India³, China⁴, Poland⁵, Finland⁶, USA⁷ and Australia.⁸

In South Africa these studies have been limited. Mhlongo and Peltzer noted that parasuicides accounted for about 10% of the total caseload of their hospital.⁹ Flisher et al noted that 19% of high school students in Cape Peninsula had suicide ideation within one year, while 7.8% actually attempted suicide.² In another study done in Pietermaritzburg, South Africa, Pillay and Pillay registered 147 cases of non-fatal deliberate self-harm in one year in a

hospital.¹⁰ Cummins and Allwood reported that an average of 10% of childhood and adolescent psychiatric referrals in their unit were due to suicide attempts.¹¹

1.2 Statement on the problem

In developing world, especially sub-Saharan Africa, HIV/AIDS pandemic is over-burdening the health systems, with escalating cost of providing healthcare and increasing shortage of human and material resources. With the worsening of economic resources of most countries, suicidal behaviours are expected to increase. This will lead to even more pressure on the health systems in terms of their capacities to deliver health care and equitable distribution of healthcare resources. There is need to identify the profiles of these patients who exhibit suicidal behaviours and the risk factors that predispose them to such conducts, and develop rational and cost effective strategies to manage those patients that present in the hospitals.

1.3 Motivation for the study

Most studies on suicidal behaviour in South Africa have been done in White and Indian racial groups. With the social and political transformation currently going on in the country there is the need to investigate the distribution of, and factors that may be associated with, suicidal behaviours across the sociodemographic groups, especially Blacks.

1.4 Definitions

Suicidal behaviour: This is a wide range of deliberate self-destructive acts in which people engage - either predeterminedly or impulsively - with varying degrees of motive, lethal intent and awareness of the outcome and consequences. It is a spectrum ranging from suicidal thoughts, threats, plans, attempts to completed suicide.¹²

Suicide ideation: This is having thoughts about suicide, which may be as detailed as a formulated plan, without the suicidal act itself. Although most people who carry out suicidal ideation do not commit suicide, some go on to make suicide attempts or take their lives.¹³

Suicide attempt: The WHO definition (ICD-10) is: "An act with nonfatal outcome, in which an individual deliberately initiates a non-habitual behaviour that, without intervention from others, will cause self-harm, or deliberately ingests a substance in excess of the prescribed or generally recognized therapeutic dosage, and which is aimed at realizing changes which the subject desires via the actual or expected physical consequences."¹⁴ There is usually explicit or implicit evidence that the individual intended to kill himself or herself.

Parasuicide: This is a suicide attempt or act of self-injury not motivated by any genuine wish to die, but by a desire to draw attention to personal problems.¹⁵

1.5 Aims and objectives

The aim of the study was to determine the psychosocial characteristics of patients admitted into the medical wards of Leratong Hospital that is associated with their suicidal behaviour.

The objectives of the study are:

1. To determine the demographic variables of these patients, such as age, sex, race, and level of education.
2. To assess the influence of social factors such as marital status, employment status, and level of education on the frequency and nature of suicidal behaviours.
3. To determine how other factors such as previous history of suicide ideation and attempts, abuse as a child, family history of suicide attempts, divorce, orphanhood, death, alcohol abuse, and other social factors affected the frequency and nature of suicide attempt.

CHAPTER 2

LITERATURE REVIEW

Many studies have been conducted both in South Africa and other countries to assess the burden of diseases due to suicides and attempted suicides in different hospitals, and the socio-demographic factors associated them.

2.1 Burden of diseases

Minnaar et al noted that 723 cases of parasuicides were reported in one year in a hospital in Durban.¹⁶ These patients were predominantly women, aged between 20 and 29 years, and single. Only 310 of these patients were assessed by the psychiatrist in that hospital, and the most prevalent psychiatric disorders diagnosed were reactive depression, and conduct disorders. The most common method of parasuicides was ingestion of benzodiazepines and analgesics. Similar findings were made by Cummins and Allwood in another study on children and adolescents done in Johannesburg. Common predisposing and antecedent factors were family stress, especially divorce, previous psychiatric illness in the patient or family, and school problems.¹¹ Breetzke reported a much higher suicide rates among Whites than other racial groups¹⁷. Similar findings were made by Flisher et al.¹⁸ They concluded that because the suicide rates were increasing among the young and elderly age groups, there is need to institute preventive measures in communities.

In another study done in South Africa, Peltzer and his colleagues reported that suicide ideations and attempts were more common among Asian high school students than their White and African counterparts.¹⁹ In a study that involved 269 admissions to an alcohol rehabilitation unit in Western Cape, South Africa, suicide attempts were associated with female gender, white racial group, single status, and early age of problem drinking.²⁰ Among 27 students who drank battery acid in apparent suicide attempts, common features were limited schooling and unemployment, and common triggers were minor to moderate stressor, especially domestic arguments.²¹

About 1.3% of all registered deaths in South Africa between 1984 and 1986 were due to suicide.²² Mortality rates due to suicide were higher among Whites followed by Asians and Coloureds. The most common method used by Whites was firearms, while hanging was more common in other racial groups. Similar report was made by Burrows et al in another study done in South Africa.²³

In Brazil Botega et al reported a lifetime prevalence of suicidal ideation of 17.1% in an urban community of Campina. Lifetime prevalence of suicide plans and attempts were estimated at 4.8% and 2.8% respectively. Lifetime prevalence rates for suicidal ideation were higher among women, younger age groups, those living alone and those with co-morbid psychiatric disorders.²⁴ In India Sidhartha and Jena³ reported 21.7% lifetime prevalence non-fatal suicidal behaviour (NFSB) among adolescents in the age group between 12 and 19 years. This was higher among females (25.4%) compared

to males (19.1%). Lifetime prevalence of suicide attempt was 8.0% and this was also higher among females (11.0%) than males (6.1%).

2.2 Associated factors

Some studies had been done in different centres to investigate the factors that are associated with suicides, suicide ideations and attempts. In a cross sectional study of 939 grade 8 and 11 students in Cape Town, South Africa, Wild et al concluded that depression and low self esteem in the family context were associated with suicide ideation and attempts.^{25,26} They suggested screening for depression and low self esteem in the family as a possible strategy in identifying adolescents at risk for suicidal behaviour. Gangat et al noted that major depression and alcohol were commonly implicated in most suicide cases they studied in Durban, South Africa.²⁷

Mhlongo and Peltzer found out that among 100 cases of parasuicides aged between 15 and 24 years, who were referred to the clinical psychology unit of the hospital, most were students (79%) and unemployed (16%).⁹ Common method of suicide attempt used were ingestion of harmful substances such as paraffin, pesticides and battery acids (73%). Common trigger factors implicated were social conflicts (38%), socio-economic deprivation (17%), AIDS phobia (17%), failure of examinations (14%), teenage pregnancy (10%), and psychiatric illness (5%). In another study in Cape Town, Dirks concluded that unemployment, previous psychiatric illness, and borderline personality disorder increased the risks of suicidal behaviour.²⁸

In a study done in the Waterberg district of Limpopo Province Mpiana²⁹ and his colleagues noted that the reasons for most of attempted suicides were multifactorial, psychosocial and interrelated. Common reasons range from physical factors such as infertility, depression and schizophrenia, to social problems such as unemployment, relationship problems, financial difficulties, and conflicts at home. They recommended that healthcare workers dealing with such patients should be sensitive to patients' problems, assist them to speak out, provide comprehensive patient-centred care and adequate and timely referral. Similar risk factors were noted by Hawton and James in England.³⁰

Among 40 adolescents admitted to a hospital in Pietermaritzburg, South Africa for suicidal behaviour, more than 77% reported conflict with their parents few hours prior to the suicide attempts. These patients experienced significantly more family conflicts, academic problems, and problems with their boyfriends or girlfriends than their controls.³¹ Schlebusch et al attributed the increase in suicidal behaviour among Black South Africans to adverse effects of the past apartheid policies and socioeconomic pressures that followed the political transformations since 1994.³²

Gunnell et al noted a strong ecological association between parasuicides and suicide in Bristol, England. Much of this association was explained by socioeconomic deprivation obtainable in these areas.³³ Radomsky et al reported that suicidal behaviours were identified in more than 40% of patients admitted for schizophrenia and other psychotic disorders in a hospital in

United States of America. These patients were younger than those who had no suicidal behaviour, and the highest prevalence was in the 20 to 29 years age group. Suicidal behaviours were significantly highest among those with major depressive disorders, followed by schizoaffective disorders, and lowest in schizophreniform disorders.³⁴

In Canada McHolm and her co-investigators also reported that more than half of a cohort of women with major depressive disorder reported experiencing suicide ideation, and about one quarter actually attempted suicide in their lifetime. Among these women childhood trauma and abuse were found to be associated with adverse mental outcomes including psychiatric disorders, self-harm and suicidality. Depressed women who experienced childhood physical abuse were almost three times more likely to experience suicidal ideation in their lifetime.³⁵ Similar findings were made by Oquendo et al who reported significant association between lifetime history of posttraumatic stress disorder (PTSD) and suicide ideation and attempts. The odds of suicidal behaviour were about eight times higher among those with lifetime history of PTSD than among those without such history.³⁶

Meel and Leenars reported a significant association between HIV/AIDS infection and suicide in Eastern Cape, South Africa.³⁷ Similar findings were made by Kelly et al³⁸ in a study conducted in Australia. They noted that being HIV positive was associated with suicidal ideation. Those men with WHO stage IV HIV diseases had significantly higher suicidal ideation scores than their WHO stages II and III, and HIV negative counterparts. Lifetime rates of

suicide attempts among HIV-negative and positive men in this study were 29.1% and 21.4% respectively.

Hawton et al reported 17.4% increase in the suicide rates in England and Wales during the month following the funeral of Princess Diana. This increase was more marked among females (33.7%) than males (12.5%), and among the 25-44 years age group (45.1%).³⁹

2.3 Past medical and family history

Many studies had noted the significant association between previous psychiatric and personality disorders such as depression and suicide ideations and attempts.²⁵ Other factors implicated in the epidemiology of parasuicides include family conflicts,^{19,32} school problems,¹¹ chronic diseases, and previous suicide attempts.

Carson et al reported that one in eleven patients attending general neurology outpatient clinics in a general hospital in Edinburgh had experienced suicidal ideation in the previous two weeks. Almost all of these patients had depression.⁴⁰ These findings were supported by Treharne et al in their follow up letter in which they reported the prevalence of suicide ideation of about 11% of patients with rheumatoid arthritis. The high prevalence was especially high among females (14%) compared to males (3%).⁴¹

Cheetam et al attributed the high suicidal rates among Indian community to the process of acculturation and deculturation in that racial group. These lead

to psychological stresses and interpersonal and family conflicts.⁴² This was more common among females, younger age groups, and upper and middle class patients. Wassenaar et al offered similar explanation in their study on suicidal behaviour among Indian women.⁴³ Such families tend to protect their adolescents from social changes that are against the norms of their culture, and any attempt at change is considered disloyal leading to tightening of control over these youngsters.

Madu and Matla¹² noted that high levels of family conflict and cohesion were significantly correlated with the three forms of suicidal behaviours (suicidal thoughts, threats and attempts). They explained that high family cohesion is associated with high parental restriction, and high degrees of commitment, help and support. These families discourage independence, and prohibit engagement in social activities away from home without adult supervision. Hallfors et al reported that involvement in drinking, smoking, drug use and sexual activity were associated with depression, suicidal ideation and attempts.⁴⁴ Herrell and his colleagues noted association between suicide ideation and attempts and same-gender sexual orientation in a co-twin control study in United States of America.⁴⁵

CHAPTER 3

METHODS

3.1 Study design

This was a descriptive cross sectional study.

3.2 Site of study

Leratong Hospital is a regional (level 2) hospital in the West Rand district of Gauteng Province. As a level 2 hospital it forms a referral link between the district hospitals and clinics and the specialist teaching hospital in the region. The hospital was established in 1975 and it presently has a 708-bed capacity. It has the major specialist departments, including medicine, surgery, paediatrics, obstetrics and gynaecology, psychiatry, and orthopaedics. It currently has 168 medical beds. Drainage areas include Krugersdorp, Kagiso, Randfontein, Roodoort, Westonaria, Carltonville and some parts of Soweto.

It mainly caters for the poorer sections of the West Rand society, including the unemployed, unskilled workers from the many factories, mines and shops in the areas, people from the many townships and squatter camps in the area, and inner city dwellers from Krugersdorp and Roodeport. These patients mostly do not have access to, and are not able to pay for, health insurance or medical aids, and are therefore dependent on public sector healthcare.

3.3 Study population

The study population comprised a total of 162 adult patients that were admitted into the four medical wards for suicide attempts, and parasuicides within the four months from November 2007 to February 2008.

According to the hospital policy an adult patient is defined as a patient that is aged more than thirteen years, and such patients are admitted to medical wards. These patients admitted for suicide attempts and parasuicides were kept in the ward for up to four days to enable them recover very well, and access the services of psychologist/psychiatrist and social worker. It was during this period, when the patients had recovered sufficiently and were waiting for the psychologists and/or social workers assessment and follow up, that they were interviewed.

3.4 Sampling method

There was no sampling. All patients who were admitted during this period were approached to be studied.

3.5 Sample size

Using the standard formulae for calculation of sample size at a confidence level of 95% and p value of 0.5 the minimum sample size of 120 was estimated.

3.6 Inclusion and exclusion criteria

All adult patients aged 13 years or older, and admitted into the medical wards for suicide attempts or parasuicides during the study period were eligible for the study. Those patients who agreed to participate, and signed the consent form were included in the study sample.

Exclusion criteria were patients younger than 13 years, those who refused to participate in the study, those younger than 18 years whose parents refused to consent to their participation, and those who lacked the mental capacity to consent to the study. Those patients admitted for other medical reasons, and those admitted into the other wards of the hospital were also excluded from the study.

3.7 Data Collection

Patients were interviewed during the course of their admission by the researcher. This interview was only done after each patient had been stabilised, and had significantly recovered from his or her illness. These patients were then invited to participate in the study. The aims, objectives, motivations and methodology of the study were explained to the patients, and they were given the information letter and consent form. Those patients who were willing to participate in the study after due information and explanation had been given, signed the consent forms. They were then taken to the side rooms in the ward, where they were asked some questions and the questionnaires were completed.

The researcher conducted the interview alone with each patient, and the questionnaires were administered and completed by him. The interview lasted no more than thirty minutes. Every effort was made to ensure that the patients did not suffer any discomfort during the interview.

Experienced nursing sisters were used as interpreters in cases where the patients could not speak or understand English. These nurses were adequately trained before they were used as interpreters. The patients' files were also studied to extract other information that might be necessary for the study, such as data on demography, detailed information on previous suicide attempts, and how they were managed.

3.8 Measuring Instrument

The questionnaires were designed for collection of data during the interview on the following variables:

1. Demography (sex, age, race).
2. Social History (marital status, employment status, housing, level of education, number in family, family support, who is the breadwinner in family, financial stability and employment status of the breadwinner).
3. Past history of suicide ideation (type of suicide ideation, reason).
4. Past history of suicide attempt (type of suicide attempt, reason, how it was managed, any support from family, was the patient seen by social worker and psychiatrist).

5. This incident (method of suicide attempt employed, reason)
6. Background history (patient's experience of and exposure to a list of adverse events and risk factors).
7. Family history (patient's family history of a list of adverse events and risk factors).

A copy of the questionnaire is attached as an appendix at the end of this report.

3.9 Pilot study

A pilot study was conducted in the wards in the month prior to the beginning of the study proper. This not only helped in identifying the logistic problems that might arise during the study, but also helped in testing the validity and reliability of the questionnaire. Five questionnaires were piloted and they were not included in the sample because they were studied outside the research period.

3.10 Data analysis

The data was analysed using Epiinfo 6 Programme statistical package developed by the Center for Disease Control in Atlanta, Georgia. In the primary analysis the whole sample was analysed as a single group. The frequencies, mean, standard deviations, and 95% confidence intervals were calculated for each item in the data set.

In the secondary analysis the data was imported into Stata package. Bivariate

analysis were done using chi squared tests and student t tests to assess the effects of certain demographic factors as age, sex, and race, and some psychosocial characteristics on the frequency and nature of suicidal behaviours. Tests were done at the 0.05 level of significance. Graphs and tables were developed with Excel programme.

3.11 Possible limitations of study and validity

The study is limited to the medical wards of Leratong Hospital and the patients who were admitted. Therefore the results may not be generalisable to other wards in the hospital, or other medical wards of other hospitals. Because of the location of the hospital and its patient profile, most of the identified factors associated with suicidal behaviours may also be some of the general characteristic of the patients that attend the hospital. Because the study does not need and have a control group, we may not be able to assess this.

3.12 Ethical consideration

The names of the patients were not mentioned in the study. Information letter and oral explanation were given to all the patients when they were invited to participate in the study. Participation was voluntary, and patients who refused to participate did not suffer any harm or reduced care. Strict procedures of confidentiality and anonymity were observed.

Informed consent was obtained from those patients who were eighteen years and older before they were recruited into the study. For those patients less

than eighteen years old, their assent and informed consent from their parents or guardians were obtained before they were interviewed. Parental consent was obtained before the children were approached for their assents.

Patients were warned that while the researcher was committed to confidentiality, he might be obliged to notify the relevant authorities if during the course of the interview it was revealed that a patient under the age of eighteen years has been ill-treated or deliberately injured. The researcher was also obliged to give evidence of his knowledge of criminal activity if the state required it.

Efforts were made to ensure that patients were not re-traumatized. They were only approached for interview after they had been re-stabilized and recovered sufficiently from their illness. Those patients identified as being at risk for future suicides, and those that suffer any form of re-traumatization, were referred to the hospital social worker and psychiatrist. According to the hospital policy all patients admitted for suicide attempts were referred to the social worker and psychologist.

Permission and approval were applied for and obtained from both the management of Leratong Hospital and the Human Research Ethics Committee (HREC) before the study started. The approval letter from the Human Research Ethics Committee is attached as an appendix at the end of the report. (Protocol number: MO71037).

CHAPTER 4

RESULTS

4.1 Response rate

Table 4.1 below summarizes the numbers of patients admitted into the medical wards of Leratong Hospital during the four months of the study. Only 162 out of a total of 181 patients (89.5%) admitted during this period for suicidal behaviours were studied. The rest (10.5%) included those who were discharged before they were offered the opportunity to be involved in the study, those who did not consent to the study, those whose legal guardians were not immediately available to give consent, and those who were too ill to be interviewed.

Table 4.1: Admission rates of patients for suicidal behaviour into the medical wards of Leratong Hospital from November 2007 to February 2008.

MONTH		Parasuicides	Total admissions	Percentage
1	NOVEMBER	46	984	4.7
2	DECEMBER	44	643	6.8
3	JANUARY	44	876	5.0
4	FEBRUARY	47	895	5.3
TOTAL		181	3398	5.3

The average length of the interview was about thirty minutes. Most of the patients interviewed were willing to talk about their problems, and they were also able to communicate in English. Trained nurse interpreters were used in those few occasions where the patients could not communicate well with the researcher. The interview included open-ended questions, which allowed the

patients to express themselves on issues surrounding their suicide attempts, adverse events in their life histories and the histories of their families.

The interviews were laden with emotional issues and patients, especially females, frequently broke down in tears during the interviews. When this happened the researcher usually consoled the patients, offered them tissues and/or cold water, and counseled them. The researcher also ensured that such patients were referred to, and seen by, the hospital social worker.

4.2 Demographic Profile

Table 4.2 and figures 4.1 and 4.2 below summarize the demographic profile of the 162 patients studied.

Table 4.2: Demographic features of patients admitted for suicidal behaviour in the medical wards of Leratong Hospital between November 2007 and February 2008 (n=162).

Variable		n	%
Sex	Female	101	62.3
	Male	61	37.7
Race	African	137	84.6
	White	16	9.9
	Coloured	9	5.5
Age-group	<20 years	38	23.5
	20-29 years	71	43.8
	30-39 years	35	21.6
	40+ years	18	11.1

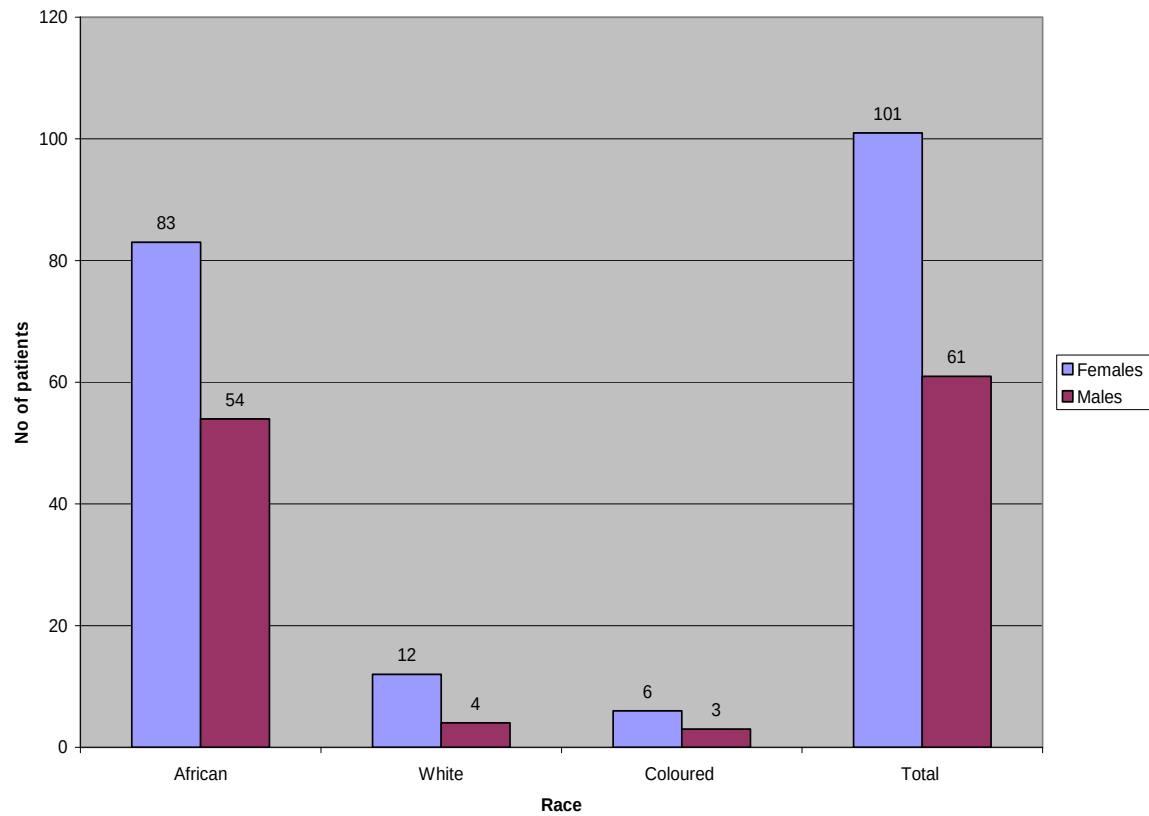


Figure 4.1: Distribution of patients by race and sex (n=162).

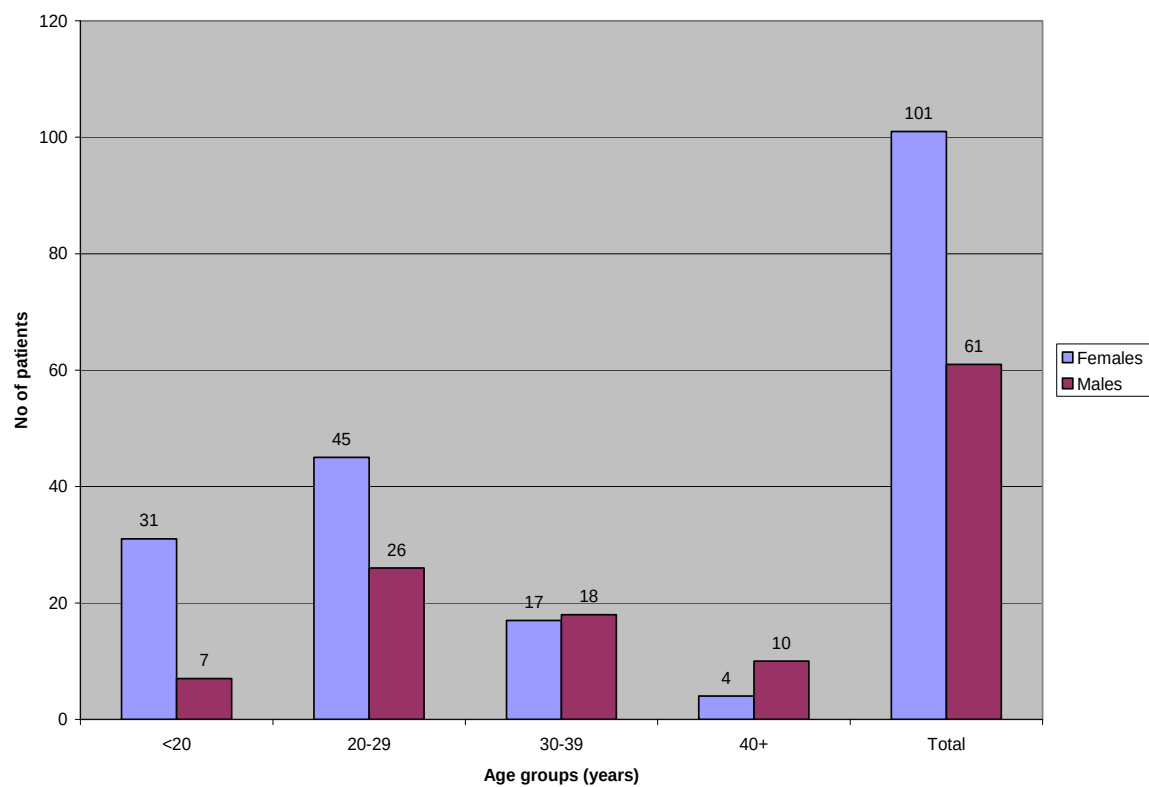


Figure 4.2: Distribution of patients by age groups and sex (n=162).

4.3 Social Profile

Only about one third (35.8%) of these patients were employed, and 19.8% were students. Among those who were employed the majority were skilled (48.3%) and unskilled (39.7%) workers (figure 4.3). Only 6 patients (10.3%) were in the professional sector. The proportion of patients who were employed were significantly higher among the males (50.8%) than the females (26.7%) ($p=0.005$). Whites have a higher proportion of employed patients (43.8%) than Africans (35.8%) and Coloured (22.2%) subgroups.

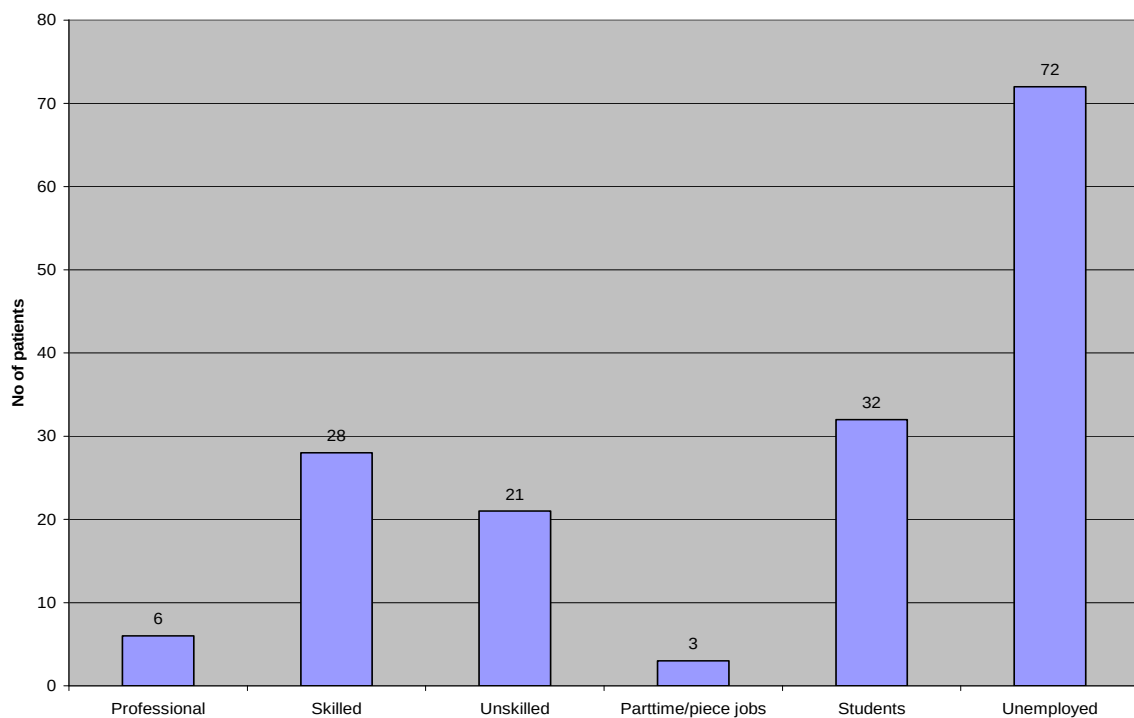


Figure 4.3: Distribution of patients by type of employment (n=162).

The majority of the patients were living in houses (43.2%) compared to 29.6% living in informal settlements (shacks), and RDP houses (20.4%). About half of the patients (51.2%) reported having access to extended family support system. Although 86.4% of the patients had family breadwinners who were

employed, a lower percentage (65.4%) reported that these family breadwinners were financially stable.

About 7.4% of these breadwinners were unemployed while 6.2% were surviving on social grant of either the children or pensioners in the family. Most of the employed breadwinners were either skilled (37.9%) or unskilled (33.5%) workers.

Table 4.3: Social profile of patients (n=162).

	Variable	n	%
Employment status	Student	32	19.8
	Not employed	72	44.4
	Employed	58	35.8
Marital status	Single	94	58.0
	Separated	2	1.2
	Widowed	1	0.6
	Divorced	7	4.3
	Married	26	16.1
Level of education	< standard 8	30	18.5
	Standard 8-11	73	45.1
	Matric	48	29.6
	Tertiary	11	6.8
Type of accommodation	House	70	43.2
	RDP house	33	20.4
	Flat	4	2.5
	1 or 2 two rooms	7	4.3
	Shack	48	29.6

4.4 History and types of Suicidal behaviours

Figure 4.4 below shows the distribution of the patients by the type of suicidal behaviour for which they were admitted.

More than 43% of them took overdose of different medications while 32% ate different forms organophosphate compounds (rat poisons). Other less common methods of suicidal behaviours include drinking various types of household cleaning materials including bleach, liquid soap, etc (9.9%) drinking paraffin (9.3%), and drinking insecticides (4.9%).

The majority of those patients who took overdose of prescription medications (78.9%) and paraffin (73.3%) were females, while most of those who ate organophosphate compounds (57.7%) were males. Those who drank insecticides and household cleaning materials were equally distributed between the two gender groups.

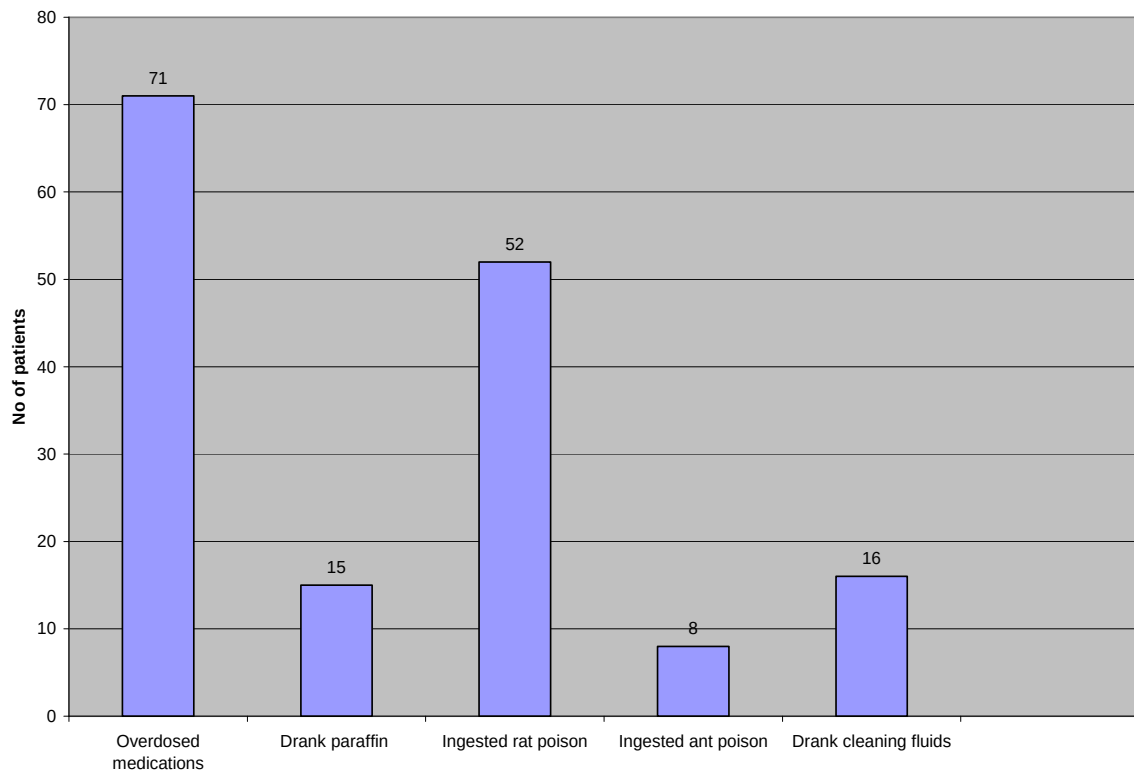


Figure 4.4: Distribution of patients by method of suicide attempt.

Ingestion of prescription drugs was the commonest method of suicide attempt among the Whites (62.5%) and Coloureds (90%). Among the African population group the proportion of those who ingested medications (38.7%) was almost equal to that of those that ingested organophosphate products (35.8%).

Respondents were asked to describe the reasons that prompted them to attempt suicide, and the top eight reasons given are listed in table 4.4 below. Argument and/or fight between the patient and his/her spouse or another family member were the cause of suicidal behaviour in more than 75% of the cases.

Table 4.4: Top eight reasons for suicidal behaviour (n=162).

	Reasons	Number	%
1	Argument/fight with spouse	67	41.4
2	Argument/fight with family member	56	34.6
3	Spouse cheating patient	23	14.2
4	Spouse left patient	13	8.0
5	Depressed	12	7.4
6	Failed examinations	5	3.1
7	Violence from family member	5	3.1
8	Loss of job	5	3.1

Common reasons given by the female patients were argument/ fights with their spouses (43.6%), spouses cheating them (15.8%), being left by their spouses (6.9%), and depression (6.9%). Similar reasons were common among the males (table 4.5).

Table 4.5: Common reasons for suicidal behaviours by sex.

	Females (n=101)			Males (n=61)		
Rank	Reasons	No	%	Reasons	No	%
1	Argument with spouse	44	43.6	Argument with spouse	23	37.7
2	Spouse cheating	16	15.8	Spouse cheating	7	11.5
3	Spouse left	7	6.9	Spouse left	6	9.8
4	Depression	7	6.9	Depression	5	8.2
5	Violence from family	5	5.0	Dread illness	3	4.9

Common reasons given by Africans were mostly related to their relationship with their spouses, while 50% of the Whites cited depression for their behaviour (table 4.6).

Table 4.6: Common reasons for suicidal behaviours by race.

	Africans (n=137)		Whites (n=16)		Coloureds (n=9)	
Rank	Reason	%	Reason	%	Reason	%
1	Argue with spouse	41.6	Depression	50.0	Argue with spouse	44.4
2	Argue with family	38.0	Argument with spouse	37.5	Cheating spouse	22.2
3	Cheating spouse	13.9	Spouse left	25.4	Failed exams.	22.2
4	Spouse left	5.8	Cheating spouse	12.5	Spouse left	11.1

About 21% of the patients admitted to a history of previous suicide ideation. Among these patients 67.8% (14.2% of the total patients) actually attempted suicide before. Previous suicide ideation was commoner in females (23.8%) than males (16.4%). Most of these patients thought about killing themselves by taking prescription medications (59%) and organophosphate compounds (14.7%). The most common reasons given by these patients for thinking about suicide are summarized in the table 4.7 below.

Table 4.7: Common reasons for having suicidal ideation (n=34).

	Reasons	Number	%
1	Argument/fight with family member	15	44.1
2	Argument/fight with spouse	8	23.5
3	Depressed	5	14.7
4	Spouse cheating patient	4	11.8
5	Dread illnesses	3	8.8
6	Failed examinations	3	8.8

About two thirds of those patients who actually attempted suicide before were females (62.3%) compared to males (37.7%). Majority of them were African in origin (65.2%) followed by Whites (26.1%) and coloureds (8.7%). Common methods of suicide previously attempted by these patients were overdosing medications (43.5%), slashing their wrists (21.7%), and ingesting organophosphate products (13.4%). The most common reasons given by them for attempting suicide are listed in the table below.

Table 4.8: Common reasons for previous suicidal attempt (n=23).

	Reasons	Number	%
1	Argument/fight with family member	12	52.2
2	Spouse left patient	4	17.4
3	Depressed	4	17.4
4	Dread illnesses	2	8.7
5	Argument/fight with spouse	2	8.7
6	Failed examinations	2	8.7
7	Violence from family member	2	8.7

The majority (65%) of them were treated at a health facility, while the remaining 35% were managed at home. About 78% of those who attempted suicide before received adequate support from their family, and 52% and 8.7% had access to the services of social workers and psychologists respectively.

4.5 Personal History

Respondents were asked to identify adverse events in their life histories, and the ten most common adverse events reported by these patients are summarized in table 4.9 below.

Table 4.9: Top ten adverse events in the past histories of patients (n=162).

	Adverse events	Number	%
1	Stress from family members	91	56.2
2	Alcohol and substance abuse	74	45.7
3	Unemployment	61	37.7
4	Spouse left patient	41	25.3
5	Loss of parental love	38	23.5
6	Physical abuse as adults	27	16.8
7	Sex abuse as adults	27	16.8
8	Stress from children	27	16.8
9	Severe illness	23	14.2
10	Stress from boss	22	13.6

Table 4.10 below shows the common adverse events reported by these patients by sex. Stresses from other members of the family were most commonly identified by both females (51.5%) and males (63.9%).

Table 4.10: Top seven adverse events in the past histories of patients by sex

	Females (n=101)			Males (n=61)		
Rank	Adverse event	No	%	Adverse event	No	%
1	Stress from family	52	51.5	Stress from family	39	63.9
2	Unemployment	37	36.6	Alcohol abuse	28	45.9
3	Loss of parental love	28	27.7	Unemployment	24	39.3
4	Alcohol abuse	23	22.8	Left by spouse	19	31.2
5	Physical abuse as adult	22	21.8	Substance abuse	15	24.6
6	Left by spouse	22	21.8	Stress from boss	14	23.0
7	Stress from children	18	17.8	Loss of parental love	10	16.4

4.6 Family History

Respondents were also asked to identify adverse events in their family history, and the ten most common adverse events reported by these patients are summarized in table 4.11 below. Almost 70% of these patients had suffered at least one death in their family in the last two years.

Table 4.11: Top ten adverse events in the family histories of patients (n=162).

	Adverse events	Number	%
1	Death in family	113	69.8
2	Alcohol abuse by a family member	96	59.3
3	Family member in prison	75	46.3
4	Family member was a crime victim	74	45.7
5	Dread disease in the family	68	42.0
6	Substance abuse by a family member	52	32.1
7	Family member was raped	47	29.1
8	Violence in the family	43	26.5
9	Family member attempted suicide	38	23.5
10	Divorce in the family	23	14.2

Table 4.12 below shows the seven commonly reported adverse events in the families of these patients stratified by sex.

Table 4.12: Top seven adverse events in the family histories of patients by sex.

	Females (n=101)			Males (n=61)		
Rank	Adverse event	No	%	Adverse event	No	%
1	Death	71	70.3	Death	42	68.9
2	Alcohol abuse	64	63.4	Victim of crime	36	59.0
3	Severe diseases	45	44.6	Alcohol abuse	32	52.4
4	Imprisonment	44	43.5	Imprisonment	31	50.8
5	Victim of crime	38	37.6	Severe diseases	23	37.7
6	Substance abuse	37	36.6	Suicide	17	27.9
7	Victims of rape (in family)	30	29.7	Victims of rape (in family)	17	27.9

4.7 Factors associated with previous suicide ideation.

To determine the psychosocial factors associated with suicide ideation and attempts bivariate analyses were done using the chi-squared tests. The results are shown in tables 4.13 and 4.14 below. There were statistically significant differences in the proportion of patients who had previous suicide ideation by race and type of house they lived in.

Patients from the other racial groups were more than three times more likely to present with previous history of suicide ideation than African patients. Those who lived in formal houses were about three times more likely to have had at least one episode of previous suicide thoughts than those that lived in shacks.

Table 4.13: Factors associated with previous suicide ideation. Bivariate analyses (chi-squared tests).

Variables		Suicide Ideation		Odds Ratio	P value
		Yes	No		
Sex	Female	24	77	1.59	0.27
	Male	10	51		
Age group	<=30 years	11	42	0.98	0.96
	>30 years	23	86		
Race	Others	11	14	3.89	0.002
	African	23	114		
Marital Status	Married	4	22	0.64	0.45
	Not married	30	106		
Employment status	Employed	11	47	0.82	0.64
	Not employed	23	81		
Type of House	House	19	51	-	-
	Shack	5	43	3.20	0.03
	RDP House	8	25	1.16	0.76
Level of Education	<Matric	20	73	0.88	0.75
	Matric and higher	14	45		
No of people in family	<=3 people	25	75	1.96	0.11
	>3 people	9	53		
Family support	Yes	19	64	1.27	0.54
	No	15	64		
Breadwinner	Yes	23	83	1.13	0.76
	No	11	45		

Recent death and divorce in the family were significantly associated with previous suicide ideation among these patients (table 4.14 below). Previous

suicide ideation was more than three times higher among those patients who experienced divorces in their family than among those who did not. It is also more than three times more frequent among those did not suffer death in their families in the last two years than those in whose families there was at least one death.

Table 4.14: Social factors associated with previous suicidal ideation. Bivariate analyses (chi-squared tests).

Variables		Suicide Ideation		Odds Ratio	P value
		Yes	No		
Stress from family	Yes	17	74	0.73	0.42
	No	17	54		
Unemployed	Yes	12	49	0.88	0.75
	No	22	79		
Alcohol abuse	Yes	10	41	0.88	0.77
	No	24	87		
Left by spouse	Yes	7	34	0.72	0.48
	No	27	94		
Loss of parental love	Yes	10	28	1.49	0.36
	No	24	100		
Abuse as an adult	Yes	4	23	0.61	0.39
	No	30	105		
Sex abuse as an adult	Yes	5	22	0.83	0.73
	No	29	106		
Recent Death in family	No	18	31	3.52	0.001
	Yes	16	97		
Divorce in family	Yes	10	13	3.69	0.004
	No	24	115		

4.8 Factors associated with previous suicide attempt.

Tables 4.15 and 4.16 below summarize the association between some social factors and history of suicide attempts. The proportions of patients who presented with a history of previous suicide attempts were significantly associated with only race. Other racial groups (Whites and coloured combined) were more than three times more likely to present with a history of previous suicide attempt than their African counterparts.

History of previous suicide attempts was significantly associated with only substance abuse and family history of divorce. Those who indulged in substance abuse were more than twice more likely to present with a history of suicidal attempt than those who didn't. Similarly those who had experienced divorce in their family were more than four times more likely to report a previous history of suicide attempt than those who did not have such experience.

Table 4.15: Factors associated with previous suicide attempt. Bivariate analyses (chi-squared tests).

Variables		Suicide Ideation		Odds Ratio	P value
		Yes	No		
Sex	Female	16	85	1.45	0.44
	Male	7	54		
Age group	<=30 years	17	92	1.45	0.46
	>30 years	6	47		
Race	Others	8	17	3.83	0.006
	African	15	122		
Marital Status	Married	2	24	0.46	0.30
	Not married	21	115		
Employment status	Employed	6	56	0.55	0.23
	Not employed	17	87		
Type of House	House	12	58		
	Shack	4	44	2.28	0.17
	RDP House	6	27	0.93	0.90
Level of Education	<Matric	14	89	0.87	0.77
	Matric and higher	9	50		
No of people in family	<=3 people	7	55	0.67	0.40
	>3 people	16	84		
Family support	Yes	12	71	1.04	0.92
	No	11	68		
Breadwinner	Yes	14	92	0.79	0.62
	No	9	47		

Table 4.16: Social factors associated with previous suicidal attempt. Bivariate analyses (chi-squared tests).

Variables		Suicide Ideation		Odds Ratio	P value
		Yes	No		
Stress from family	Yes	14	74	1.30	0.57
	No	9	62		
Unemployed	Yes	11	50	1.63	0.28
	No	12	89		
Alcohol abuse	Yes	9	42	1.48	0.40
	No	14	97		
Left by spouse	Yes	4	37	0.58	0.35
	No	19	102		
Loss of parental love	Yes	7	31	1.52	0.40
	No	16	108		
Abuse as an adult	Yes	3	24	0.72	0.62
	No	20	115		
Sex abuse as an adult	Yes	5	22	1.48	0.48
	No	18	117		
Substance abuse	Yes	6	17	2.53	0.08
	No	17	122		
Death in family	Yes	13	100	0.51	0.14
	No	10	39		
Divorce in family	Yes	8	15	4.41	0.006
	No	15	124		

4.9 Factors associated with overdose of medications.

Tables 4.17 and 4.18 summarize the relationship between the patients' social factors and the probability of presenting with a history of overdosing prescription medications.

Table 4.17: Factors associated with suicide attempt by overdose of medications. Bivariate analyses (chi-squared tests).

Variables		Overdose of pills		Odds Ratio	P value
		Yes	No		
Sex	Female	56	45	3.82	0.001
	Male	15	46		
Age group	<=30 years	54	55	2.08	0.04
	>30 years	17	36		
Race	Others	18	7	4.08	0.002
	African	53	84		
Marital Status	Married	9	17	0.63	0.30
	Not married	62	74		
Employment status	Employed	21	37	0.61	0.15
	Not employed	50	54		
Type of House	House	38	32	-	-
	Shack	16	32	2.38	0.03
	RDP House	13	20	1.83	0.16
Level of Education	<Matric	45	58	0.98	0.96
	Matric and higher	26	33		
No of people in family	<=3 people	25	37	0.79	0.48
	>3 people	46	54		
Family support	Yes	37	46	1.06	0.84
	No	34	45		
Breadwinner	Yes	51	55	1.67	0.13
	No	20	36		

Table 4.18: Social factors associated with suicidal attempt by overdose of medications. Bivariate analyses (chi-squared tests).

Variables		Overdose of pills		Odds Ratio	P value
		Yes	No		
Stress from family	Yes	43	48	1.38	0.32
	No	28	43		
Unemployed	Yes	25	36	0.83	0.57
	No	46	55		
Alcohol abuse	Yes	21	30	0.85	0.65
	No	50	61		
Left by spouse	Yes	17	24	0.88	0.73
	No	54	67		
Loss of parental love	Yes	18	20	1.21	0.62
	No	53	71		
Abuse as an adult	Yes	17	10	2.55	0.03
	No	54	81		
Sex abuse as an adult	Yes	15	12	0.18	0.18
	No	56	79		
Severe illness	Yes	16	7	3.49	0.007
	No	55	84		
Death in family	Yes	49	64	0.94	0.86
	No	22	27		
Severe Disease in family	Yes	38	30	2.34	0.009
	No	33	61		

Overdose of medication was significantly associated with the sex, age group, and race of the patients, and the type of house they lived in. Females are more than three times more likely to present with overdose of medications than males. Those aged thirty years or younger were twice as likely to be admitted with overdose of pills as those patients older than thirty years.

Similarly White and coloured patients were four times more likely to be admitted for overdosing medications than their African counterparts. Also those patients who live in shacks were more than twice as likely to overdose pills as those who live in formal houses.

Overdose of medications was also significantly associated with patients with histories of physical abuse and severe illness, and family history of severe diseases. Those patients who suffered physical abuse and severe illnesses were respectively more than twice and thrice more likely to overdose medications than those who did not suffer these adverse events. Similarly those who had a history of severe diseases among one or more members of their family were more than twice as likely to overdose pills as those without such family history.

4.10 Factors associated with ingestion of organophosphates.

Tables 4.19 and 4.20 below summarize the relationship between the patients' social factors and the probability of presenting with a history of ingesting organophosphates.

Ingestion of organophosphate was significantly associated with the sex and race of the patients, the type of house they lived in, and the presence of a financially stable breadwinner in the family. Males were three and half times more likely to ingest organophosphates than females. Africans were four times more likely to ingest organophosphates than the other racial groups combined.

Similarly those who lived in RDP houses were two and half times more likely to attempt suicide by taking organophosphates than those who lived in formal houses. Also those who did not have a financially stable breadwinner in their families were twice more likely to ingest organophosphates than those who had such breadwinners.

Table 4.19: Factors associated with suicide attempt by ingestion of organophosphates. Bivariate analyses (chi-squared tests).

Variables		Organophosphate ingestion		Odds Ratio	P value
		Yes	No		
Sex	Male	30	31	3.48	<0.001
	Female	22	79		
Age group	<=30 years	31	78	0.61	0.15
	>30 years	21	32		
Race	African	49	88	4.08	0.02
	Other	3	22		
Marital Status	Married	10	16	1.40	0.45
	Not married	42	94		
Employment status	Employed	19	39	1.05	0.89
	Not employed	33	71		
Type of House	RDP House	14	19		
	Shack	18	30	1.23	0.66
	House	16	54	2.49	0.04
Level of Education	<Matric	32	71	0.88	0.71
	Matric and higher	20	39		
No of people in family	<=3 people	25	37	1.83	0.08
	>3 people	27	73		
Family support	Yes	25	58	0.83	0.58
	No	27	52		
Breadwinner	No	24	32	2.09	0.03
	Yes	28	78		

Table 4.20: Social factors associated with suicidal attempt by ingestion of organophosphates. Bivariate analyses (chi-squared tests).

Variables		Organophosphate ingestion		Odds Ratio	P value
		Yes	No		
Stress from family	Yes	25	66	0.62	0.16
	No	27	44		
Unemployed	Yes	22	39	1.34	0.70
	No	30	71		
Alcohol abuse	Yes	18	33	1.24	0.56
	No	34	77		
Left by spouse	Yes	11	30	0.72	0.70
	No	41	80		
Loss of parental love	Yes	13	25	1.13	0.75
	No	39	85		
Abuse as an adult	No	48	87	3.17	0.04
	Yes	4	23		
Death in family	Yes	39	74	1.46	0.32
	No	13	36		
Alcohol abuse in family	Yes	28	68	0.72	0.34
	No	24	42		
Imprisonment in family	Yes	24	51	0.99	0.98
	No	28	59		
Suicidal behaviour in the family	Yes	18	21	2.12	0.04
	No	36	89		

Ingestion of organophosphates was significantly associated with those patients with histories of physical abuse in the past and family history of suicidal behaviour. Those patients who were not exposed to physical abuse in the past were three times more likely to attempt suicides by ingesting organophosphates than those who were exposed to physical abuse. Similarly those who had family history of attempted suicide were twice more likely to ingest organophosphates than those who didn't have such histories.

CHAPTER 5

DISCUSSION

The aim of the study was to determine the psychosocial characteristics of patients admitted into the medical wards of Leratong Hospital that were associated with their suicidal behaviour. The study was undertaken between November 2007 and February 2008. This period is often regarded as prime months for suicide because on the one hand loneliness is highlighted then, and on the other families are together and conflicts arise and old tensions are exacerbated. This relationship between seasons and higher rates of suicidal behaviours has been reported by many international investigators.^{46,47,48}

5.1 Socio-demographic profile

About 5% of all patients admitted into the medical wards consisted of patients who were admitted because of their suicidal behaviours. This indicates the burden on the health services and system posed by these patients. More than 60% of these patients were females. It may be because males are more likely to attempt suicide by using more dangerous methods such as guns, knives, organophosphates, etc. They are therefore more likely to complete suicide and not present to hospitals than their female counterparts.

Also more than 67% of these patients were younger than 30 years. These show that the preponderance of patients admitted for suicidal behaviours

were young adults especially females. These findings are consistent with the findings of previous studies in different settings.^{16, 18&19}

Only about 16% of these patients were married at the time of the suicidal behaviours. More than 60% of them were in grade level 11 or less, or did not finish their secondary education. Similar findings were made in other studies that concluded that suicidal behaviours were associated with single marital status and lower levels of formal education.²⁰

More than 44% of the patients were unemployed, while about 19% were students. Among those who were employed about 40% were unskilled. These results agree with the findings of other researchers who reported that suicidal behaviours were commoner among the unemployed and poorer sections of the societies. This could also be because those who were employed, especially those in the professional and semi-professional sectors, had more access to medical aid covers, and were therefore able to access private medical care.

Interestingly more than 60% of the patients studied were living in either formal or RDP houses, with only about 30% living in shacks. This might be because these patients were mostly young adults who, though mostly unemployed or unskilled, live with their parents in their houses. Majority of them therefore had extended family support (51.2%) and family breadwinners other than themselves (65.4%), although only about 70% of the family breadwinners were considered financially stable.

5.2 History of suicidal behaviour

Majority of the patients (43%) attempted suicide by ingesting overdose of different forms of medications, followed by 32% who ingested different forms of organophosphates. Most of those patients who ingested less dangerous poisons like paraffin and prescription medications were females, and majority of those who took more dangerous poisons like organophosphates were males. These findings agree with the results of other studies which concluded that attempted and completed suicides in which dangerous methods were used were more common among males, while parasuicides in which less dangerous methods were used in order to attract attention, were more common among females.

Argument and/or fight between the patients and their spouses or another family member were the reason given by more than 75% of these patients for engaging in suicidal behaviour. Relationship problems between the patients and their spouses accounted for more than 60% of cases of suicidal behaviour. There was no significant difference in the proportion of the females who committed suicidal behaviours (66.3%) because of marital or relationship problems compared to the males (59%) ($p=0.30$). These findings are consistent with the reports of other studies that implicated marital and relationship problems as triggers for suicidal behaviours in both gender groups.^{9,21, 29&31}

About 21% of the patients studied had a previous suicide ideation in the past before the last incidents for which they were admitted. Among these patients more than two thirds (14.2% of all the patients) really did attempt suicide in the past. Previous suicide ideation and attempt were commoner among the females than males. Similar findings were reported by Allan et al¹⁶ who concluded that previous suicide ideation and/or attempt are risk factors for suicidal behaviours, especially among the females. These should be regarded as missed opportunities because these patients should have been properly assessed after their first episodes of suicidal behaviours, and be referred for specialist evaluations and follow ups by psychologists and social workers. These interventions would have prevented the second episodes of suicidal attempts. Botega et al²⁴ and Sidhartha and Jena³ also noted that lifetime prevalence for suicidal ideation and attempts were higher in females and younger age groups.

5.3 Personal and family history

When patients were asked to identify the presence or absence of different forms of adverse events in their personal history, different forms of stress from other family members were reported by more than 56% of patients, followed by unemployment (37.7%), alcohol abuse (31.5%), and being abandoned by his or her spouse (25.3%). Similar patterns were observed among both female and male subgroups, except that alcohol and substance abuse was higher in males, while loss of parental love, physical abuse and stress from children were more commonly reported by females compared to males.

These findings agree with the reports of other investigators like Mpiana et al²⁹, Pillay and Wassenaar³¹, McHolm et al³⁵ and Oquendo et al³⁶, who concluded that suicidal behaviours were associated with social problems such as unemployment, relationship problems, financial difficulties, domestic conflicts, academic problems, and childhood trauma and abuse.

When asked to identify the presence or absence of different forms of adverse events in the history of their families, about 70% of all patients had suffered at least one death in their families in the last two years. Other common adverse events or family stressors include alcohol abuse by at least one family member (59.3%), a family member in prison (46.3), at least one family member was recently a victim of crime (45.7%), and at least one family member was suffering from a dread diseases like HIV/AIDS, cancer, stroke, heart attack (42%). Similar patterns of family stressors were observed among females and males except that females more commonly reported substance abuse, while males more commonly reported victims of crime and suicidal behaviours in their families. Similar conclusions were made by Cummins and Allwood¹¹, Kelly et al³⁸, Wild et al^{25,26}, and Gangat et al.²⁷

Though many patients identified different adverse events in their personal and family histories and appreciated how detrimental these events were to their well-being and those of their families, most of them were not able to directly link these past events to their present suicidal behaviour. They therefore were mostly not able to say that these adverse events individually or collectively influenced their decision to have suicidal behaviours.

5.4 Factors associated with suicidal behaviours

Previous history of suicide ideation among these patients was significantly associated with only race, the form of house in which the patients live and history of death and divorce in the family. Whites and Coloured patients were more than three times more likely to have had a history of previous suicide ideation than their African counterparts ($p=0.002$). This agrees with the findings of Breetzke¹⁷ and Peltzer et al¹⁹, who noted that suicide ideation was higher among Whites and Asians respectively than other racial groups.

Counter to expectations, those patients who lived in formal houses were about three times more likely to have had at least one episode of suicidal ideation than those patients who lived in shacks ($p=0.03$). This finding may be explained by the fact that because of the additive effects of other social and family stressors experienced by those patients who lived in shacks, they were more likely to attempt suicide on the first provocation following the first suicide ideation. Those who lived in formal houses were probably dependent adolescents who were more likely to think about suicide without having the courage to attempt it. They also probably have more ameliorating factors like parental love and family support than those patients that lived in shacks, and therefore more able to think about suicide without really attempting it.

Though this was not significant, those patients from households with three or less members were associated with higher risk of previous suicidal ideation than their counterparts from larger households. This may be explained by the

fact that they had less access to the emotional, psychological and material support of more people in their families.

Previous suicide ideation was more than three times more common among patients who had experienced at least one death in the last two years ($p=0.001$) and divorce ($p=0.004$) in the family compared to those that never experienced these adverse family events. These findings correlate with those of Cummins and Allwood¹¹ and Botega et al²⁴ who implicated divorce, living alone and deaths in families as the risk factors, among others that were associated with suicidal behaviours.

History of previous suicide attempt among these patients was significantly associated with only race and divorce in the family, and marginally significant for substance abuse. Whites and Coloured patients were more than three times more likely to have had at least one episode of suicide attempt than the Africans ($p=0.006$). Those patients who had a divorce in their families were more than four times more likely to have attempted suicide in the past than those who did not have such experience ($p=0.006$). Although it is not significant, those patients in whose family at least a member abused substances other than alcohol were about two and half times more likely to have had at least one episode of suicide attempt than those patients who did not have such problem in their families ($p=0.008$). Similar findings were made by Schelebusch⁴⁹ who noted that associated risk factors for suicidal behaviours included substance abuse, especially alcohol, family problems, marital or relationship problems like divorces, etc.

Suicide attempts by ingestion of overdose of various forms of prescription medications were significantly associated with the sex, age group, and race of the patients, the type of house they lived in, histories of physical abuse and severe illness in patients, and family history of severe or dread diseases. Female patients were more than three times likely to have been admitted for overdose of prescription medications than their male counterparts ($p=0.001$). Those patients aged thirty years or younger were twice more likely to have overdosed pills than those older than thirty years ($p=0.04$).

White and Coloured patients were four times more likely to have taken an overdose of medication than their African counterparts ($p=0.002$). Those patients who lived in formal houses were about twice more likely to have attempted suicide by taking overdose of medications than those that lived in shacks ($p=0.03$). Those patients who were abused, had suffered from severe diseases, and in whose families at least a member had suffered from a severe or dread disease were two to three times more likely to have attempted suicide by taking overdose of medications than those patients who did not experience these stressors ($p<0.05$).

Attempting suicide by ingestion of organophosphates (rat poisons) were significantly associated with the sex and race of the patients, the type of house they live in, the presence of a financially stable breadwinner in the family, history of abuse in the past, and history of suicidal behaviour in the family. Male patients were more than thrice more likely to attempt suicide by ingesting organophosphates than their female counterparts ($p<0.001$). African

patients were four times more likely to attempt suicide by ingesting organophosphates than the other racial groups ($p=0.02$). This finding may be explained by the fact that African males are more likely to be farm workers who have good access to organophosphate insecticides. They are therefore more likely to attempt suicides by ingesting these insecticides, which they will easily get from their workplaces.

Those patients who lived in RDP houses were two and half times more likely to ingest organophosphates in attempt to commit suicide than those that lived in formal houses ($p=0.04$). Those patients who did not have financially stable breadwinners in their families were twice more likely to attempt suicide by ingestion of rat poison than those patients who did have such family support ($p=0.03$). Patients who had not been physically abused in the past were thrice more likely to have attempted suicide by taking organophosphates than those who had actually suffered such mishaps ($p=0.04$). Also those patients in whose families at least one family member had exhibited suicidal behaviour in the past were twice more likely to have attempted suicide by taking organophosphates than those whose family members did not suffer such adverse events ($p=0.04$).

CHAPTER 6

CONCLUSIONS AND RECOMMENDATIONS

The increasing prevalence of suicidal behaviour especially among adolescents is an important public health problem. With the increasing adverse global economic conditions and HIV/AIDS prevalence, especially in developing world, the problem of suicidal behaviours is expected to get worse, and the impact on the healthcare systems will increase. This study provides a contribution by providing the socio-demographic and clinical profiles of these patients who present in a public hospital that service a predominantly Black population.

This cross-sectional study of all patients admitted into the medical wards of Leratong Hospital between November 2007 and February 2008 has shown that preponderance of patients admitted for suicidal behaviours were young adults, especially females. Majority of these patients were single, did not complete grade 12, unemployed and unskilled. The two most common modes of suicide attempt was ingestion of overdose of medications and organophosphate compounds. Most of those who ingested overdose of medications were females, while majority of those that ingested organophosphates were males.

The commonest immediate trigger for suicidal behaviour was relationship problems and family discords. Common adverse events in the background history of these patients were stress from family members, unemployment

and alcohol abuse. Risk factors found to be significantly associated with suicidal behaviours and the different methods of suicidal attempt include race, sex, younger age group, type of house, and family history of severe illness, death, divorce and substance abuse.

It is therefore recommended that:

1. Measures should be put in place to ensure that patients with high risk factors for suicidal behaviour are identified promptly and managed appropriately before they attempt suicide.
2. Early discharge of suicidal patients, especially those with high risk of repeating suicide attempt, before they are fully investigated and managed, should be discouraged.
3. All patients admitted for suicidal behaviours should be offered access to the services of a psychologist or psychiatrist and a social worker.
4. More emphasis should be placed on the proper management of suicidal behaviours. Standard protocols on management, admission criteria and referral pattern should be developed to ensure this.
5. Farmers should be educated on the need to improve the security of the chemicals they use in their farms, especially insecticides and

pesticides, to ensure that farm workers and their family members do not have easy and illegal access to them.

6. Healthcare workers, especially medical officers, interns and nurses, should have the opportunities of updating and sharing knowledge on family medicine principles and standard management of suicidal behaviours through academic meetings, lectures, discussions and journal clubs.

CHAPTER 7

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8. APPENDICES

8.1 Protocol ethical approval

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

Division of the Deputy Registrar (Research)

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)

R14/49 Ajaero

CLEARANCE CERTIFICATE

PROTOCOL NUMBER M071037

PROJECT

Medical Wards of

Psychosocial Factors Associated with
Suicidal Behaviour of Patients Admitted to the
Leratong Hospital

INVESTIGATORS

Dr HC Ajaero

DEPARTMENT

School of Public Health

DATE CONSIDERED

07.10.26

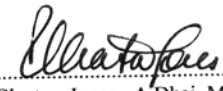
DECISION OF THE COMMITTEE*

APPROVED UNCONDITIONALLY

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

DATE 07.11.16

CHAIRPERSON


(Professors PE Cleaton-Jones, A Dhai, M Vorster,
C Feldman, A Woodiwiss)

*Guidelines for written 'informed consent' attached where applicable

cc: Supervisor : Dr A Wright

DECLARATION OF INVESTIGATOR(S)

To be completed in duplicate and **ONE COPY** returned to the Secretary at Room 10005, 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

8.2 Protocol hospital approval

30th July, 2007

To Whom It May Concern:

Re: Approval for Research

This is to certify that approval has been granted to Dr Henry C. Ajaero to conduct a research in the medical wards of this hospital. This is part of his post-graduate training towards the award of Masters in Family Medicine (M. Fam. Med.) with the University of the Witwatersrand, Johannesburg.

The title of the research is:

Psychosocial factors associated with suicidal behaviour of patients admitted to the medical wards of Leratong Hospital.

Thank you.

Yours sincerely,

Mr C. Dube.

Chief Executive Officer.

8.3 PATIENT INFORMATION DOCUMENT

Date: September 2007.

Research Title: Psychosocial factors associated with suicide attempts among patients admitted with parasuicides in the medical wards of Leratong Hospital.

Dear patient,

My name is Dr Henry Ajaero. I am a post-graduate student of the Department of Family Medicine of The University of the Witwatersrand, Johannesburg. With the approval of the management of this hospital, I am conducting a research on the factors that predispose patients who attempted suicide to do so. This research will help me to understand the problems, issues, and fears that make people think about and decide to commit suicide. The information obtained from this research will help us, the doctors, the hospital management, and government in finding ways of preventing people from attempting suicide, and in managing them better if they do.

I am inviting you to participate in this research. I will like you to assist me in filling the questionnaire. I will ask you some questions concerning yourself and the incident that happened, and your answers will help me to fill the forms. This will take about thirty minutes to complete.

You may choose to take part in the study or not. If you decide not to participate in the study, the quality of care you receive in this hospital will not be affected in any way. Even when you have chosen to participate, you are free to withdraw from the study at any stage you wish.

The questionnaire is completely anonymous, and you cannot be identified in any way. Your name will not be mentioned on the questionnaire. The information you will provide is confidential, and will only be available to my supervisor and myself. Your consent is also required to allow us access to your medical records to get other information that may be necessary for the study.

If during the course of the interview you are identified as being at risk for another suicide attempt, you will be referred to the hospital social worker, psychologist or psychiatrist.

The report of the study will be sent to the University of the Witwatersrand and superintendent of this hospital for their assessment and implementations of the recommendations.

If you require any other information about this study, you are welcome to contact me on the numbers and e-mail address below. If you are willing to take part in this study, you are required to sign the consent form attached.

Thank you for your assistance.

Yours sincerely,

Dr Henry Ajaero.
Tel: 011 411 3500 Cellphone: 083 517 3560
E-mail: kapuson@yahoo.com

8.4 INFORMATION DOCUMENT FOR PARENT AND CHILD

Date: September, 2007.

Research Title: Psychosocial factors associated with suicide attempts among patients admitted with parasuicides in the medical wards of Leratong Hospital.

Dear parent and child,

My name is Dr Henry Ajaero. I am a post-graduate student of the Department of Family Medicine of The University of the Witwatersrand, Johannesburg. With the approval of the management of this hospital, I am conducting a research on the factors that predispose patients who attempted suicide to do so. This research will help me to understand the problems, issues, and fears that make people think about and decide to commit suicide. The information obtained from this research will help us, the doctors, the hospital management, and government in finding ways of preventing people from attempting suicide, and in managing them better if they do.

I am inviting you to participate in this research. I will like you to assist me in filling the questionnaire. I will ask you some questions concerning yourself and the incident that happened, and your answers will help me to fill the forms. This will take about thirty minutes to complete.

You may choose to take part in the study or not. If you decide not to participate in the study, the quality of care you receive in this hospital will not be affected in any way. Even when you have chosen to participate, you are free to withdraw from the study at any stage you wish.

The questionnaire is completely anonymous, and you cannot be identified in any way. Your name will not be mentioned on the questionnaire. The information you will provide is confidential, and will only be available to my supervisor and myself. Your consent is also required to allow us access to your medical records to get other information that may be necessary for the study.

The report of the study will be sent to the University of the Witwatersrand and superintendent of this hospital for their assessment and implementations of the recommendations.

If you require any other information about this study, you are welcome to contact me on the numbers and e-mail address below. If you are willing to take part in this study, you are required to sign the consent form attached.

Thank you for your assistance.

Yours sincerely,

Dr Henry Ajaero.

Tel: 011 411 3500. Cellphone: 083 517 3560

E-mail: kapuson@yahoo.com

ASSENT FORM

I,

_____,
A minor patient at Leratong Hospital hereby **assent/do not assent** to participating in the research on parasuicides being undertaken by Dr Henry Ajaero at the medical wards of Leratong Hospital. I also **assent/do not assent** to the release of information from my medical records.

Signature:_____

Date:_____

8.6

CONSENT FORM

I,

,
Patient/next of kin of patient at Leratong Hospital hereby **consent/do not consent** to participating in the research on parasuicides being undertaken by Dr Henry Ajaero at the medical wards of Leratong Hospital.

Signature:_____

Date:_____

8.7

QUESTIONNAIRE

NUMBER: _____

DATE: _____

WARD: _____

DEMOGRAPHY

1. **SEX:** 1.MALE 2.FEMALE

2. **DATE OF BIRTH:** _____

3. **RACE:** _____

SOCIAL HISTORY

1. **WHAT IS YOUR MARITAL STATUS?** 1. SINGLE
2. MARRIED 3. SEPARATED
4. WIDOWED 5. DIVORCED

2. **WHAT IS YOUR EMPLOYMENT STATUS?**
1. EMPLOYED 2. UNEMPLOYED

3. **IF YOU ARE EMPLOYED, WHAT TYPE OF JOB DO YOU HAVE?**
1. PROFESSIONAL 2. SKILLED
3. UNSKILLED 4. PARTTIME/PIECE JOBS

4. **WHAT TYPE OF HOUSE DO YOU LIVE IN?** 1. HOUSE
2. FLAT 3. 1or 2 ROOMS 4. SHACK
5. OTHER? SPECIFY:.....

5. **WHAT IS YOUR HIGHEST LEVEL OF EDUCATION?**
1. LESS THAN STANDARD 8
2. MATRIC 3. DIPLOMA/TECHNIKON
4. UNIVERSITY 5. POSTGRADUATE.

HAVE YOU EVER THOUGHT OF COMMITTING SUICIDE IN THE PAST?

- 1. YES**

2. IF YES, HOW MANY TIMES?

3. WHAT TYPE OF SUICIDE DID YOU THINK OF?

- TO TAKE OVERDOSE OF MEDICATIONS
TO DRINK PARAFFIN
TO DRINK RAT POISON
TO SLASH WRIST
TO HANG SELF
TO SHOOT SELF

HAVE YOU ATTEMPTED SUICIDE IN THE PAST?

- 1. YES**

2. IF YES, HOW MANY TIMES?

3. HOW DID YOU TRY TO COMMIT SUICIDE?

1. TOOK OVERDOSE OF MEDICATIONS
2. DRANK PARAFFIN
3. DRANK RAT POISON
4. SLASHED WRIST
5. HANGED SELF
6. SHOT SELF

4. HOW WAS THE LAST INCIDENT MANAGED?

1. MANAGED AT HOME ONLY
2. WENT TO A HEALTH FACILITY
3. WENT TO A TRADITIONAL HEALER
4. OTHER? SPECIFY:.....

5. WHICH HEALTH FACILITY DID YOU GO TO?

1. CLINIC
2. GENERAL PRACTITIONER
3. DISTRICT HOSPITAL
4. PROVINCIAL HOSPITAL
5. PRIVATE HOSPITAL.

6. DID YOU GET ANY SUPPORT FROM YOUR FAMILY?

1. YES 2. NO

1. YES 2. NO.

1. YES 2. NO.

1. HOW LONG DID YOU THINK OF COMMITTING SUICIDE BEFORE THIS EVENT? DAYS.

TOOK OVERDOSE OF MEDICATIONS
DRANK PARAFFIN.
DRANK RAT POISON
OTHER? SPECIFY:.....

1. LEFT BY SPOUSE/FRIEND
2. CHEATING SPOUSE
3. NEWS OF DREAD ILLNESS
4. ARGUMENT WITH FAMILY MEMBERS
5. FAILED EXAMS.
6. VIOLENCE IN FAMILY
7. VIOLENCE FROM FAMILY
8. SEXUAL ABUSE
9. LOSS OF JOB
10. DEATH IN FAMILY
11. OTHER? SPECIFY:.....

SEVERE ILLNESS
ABUSE AS A CHILD
DIVORCE
ABUSE AS AN ADULT
UNEMPLOYMENT
LOSS OF PARENTAL LOVE
ORPHANHOOD
LEFT BY SPOUSE/FRIEND
STRESS FROM CHILDREN
STRESS FROM FAMILY

STRESS FROM BOSS/COLLEAGUES
HISTORY OF ALCOHOL ABUSE
HISTORY OF SUBSTANCE ABUSE.

HAVE YOUR FAMILY EVER EXPERIENCED ANY OF THESE BEFORE?

SUICIDE ATTEMPTS

ALCOHOL ABUSE

SUBSTANCE ABUSE

PSYCHIATRIC DISEASES

ADVERSE EVENTS IN THE FAMILY

DIVORCE

DREAD DISEASES LIKE HIV/AIDS, CANCER, STROKE, ETC

FAMILY VIOLENCE

DEATH

PHYSICAL ABUSE

SEXUAL ABUSE

IMPRISONMENT AND CRIME

VICTIM OF CRIME.

TELL ME MORE ABOUT YOUR FAMILY

HOW MANY ARE YOU IN THE FAMILY?

DO YOU HAVE EXTENDED FAMILY SUPPORT?

1. YES

2. NO.

DO YOU HAVE A FINANCIALLY STABLE
BREADWINNER IN THE FAMILY?

1. YES

2. NO

WHO IS THE BREAD WINNER IN YOUR FAMILY?

IS THE BREAD WINNER EMPLOYED?

1. YES

2. NO

3.

GRANT/PENSION

IF EMPLOYED, WHAT IS HIS/HER JOB?

1. PROFESSIONAL

2. SKILLED

3. UNSKILLED

4. PARTTIME/PIECE JOBS

8.8

DATA COLLECTION SHEET

WARD _____

Serial No	Age	Sex	Race	Previous history of suicide attempt	Type of suicidal attempt	Access to social worker	Access to psych assessment
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
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