

Review of Parasuicide Cases in a South African District Hospital from 2013-2018¹

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ABSTRACT Parasuicide is referred to as an apparent attempt at suicide without the actual intention of killing oneself. Its prevalence continues to increase at Brits District Hospital. The current study aimed to review the parasuicide cases presented at this hospital from 2013 to 2018. The hospital is located in Madibeng district, in the North-West Province of South Africa. The study results have painted a clear picture of parasuicide cases at Brits district hospital where the phenomenon was more often observed among young African females, who were single, unemployed, and with a secondary level of education. For most of them, it was the first attempt and mainly occurred in the months of January and February. Overdose of medication was the most common method used and a relationship problem remained the main reason that motivated the attempt.

INTRODUCTION

Parasuicide was defined by Welch (2001) as a suicide attempt and deliberate self-harm inflicted with no intent to die. It has been considered as a public health matter (Bantjes et al. 2018). Different methods such as ingestion of a product, injury, hanging, and burning have been applied in parasuicide behaviour (Brooksbank 1985; Egwu 2016). As part of deliberate self-harm, an assessment of the motives leading to the behaviour is needed while targeting to reduce the phenomenon in the society (Ani et al. 2017).

In Europe, the multicentre study on parasuicide conducted by the World Health Organization (WHO) focussed on two axes, one the epidemiologic monitoring of the problem and the second on the prediction of repetitive attempts at parasuicide (Platt et al. 1992). Data collected from 15 centres on the continent showed that the incidence of the phenomenon differs according to location as well as to gender. There were more males, 414 per 100,000 in Helsinki, capital of Finland while Leiden, in the Netherlands, had a lower total of 61 per 100,000. Statistics for women show that Pointoise, a town in France, had 595 versus 95 in Guipuzcoa, a municipality in Spain. Females are experiencing parasuicide to a greater degree than males do on the continent, with incidences respectively at 222 versus 167. With regard to age, a high incidence rate was noted among people aged 15-34 years while a low rate was observed among those aged 55 and older. Looking at the second axis of the study, the incidence of

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repeated crises also differs according to location, although there were no significant differences between the two genders as described by Platt et al. (1992).

General practitioners (GPs) have a crucial role to play in the management of parasuicide patients in Australia. Thirty-eight percent of the Australians who present for parasuicide at the emergency units of public hospitals have consulted their GP during the previous week. Women younger than 35 years of age and with a history of parasuicide, constitute the major proportion of this group in emergency units. They consult a GP for somatic issues and a few days later present to a public hospital with a history of parasuicide. The Australian study revealed that only 2.3 percent of this age group had presented at the GP consultation with symptoms related to parasuicide. As a result, it is difficult for a GP to recognize the phenomenon at an early stage. These patients use medication prescribed by a GP to take an overdose. The study analysis showed no significant differences between females and males or between young and older males. To minimize the problem in the entire region, GPs' training in parasuicide behaviours has to be given careful consideration (Pfaff et al. 2007).

In an Islamic country such as Pakistan, three-and-a-half-year retrospective case reports revealed that young adults and married women were the most vulnerable. Marital conflicts appeared to be a weighty cause of stress for women in this country. Self-poisoning with benzodiazepines was the main method used to commit parasuicide in this part of the world. Parasuicide as an act is considered a criminal offence and condemned by the Islamic religion as presented by Khan (1996).

A combined retrospective and prospective study was conducted in one of the Egyptian poisoning centres. A total of 244 self-poisoning participants were enrolled and subjected to clinical, toxicological and psychiatric assessment. The target was to identify the various signs that could lead to parasuicide, to determine the most common toxic agents used in the parasuicide act and to put in place measures and strategies that would prevent parasuicide, considered as non-fatal suicidal behaviour. Results indicated that adolescents (19 years), single, female, unemployed, with familial problems, exposed to emotional situations and with a secondary or tertiary level of educa-

tion were those most vulnerable to parasuicide. Looking at the seasons, more cases were registered during spring, followed by summer with winter last. The methods used were self-poisoning with a pesticide in 95 percent and drugs in 5 percent (Shreedha et al. 2011).

A quantitative study targeted 169 youths of parasuicide cases attended to in Chegutu, Zimbabwe. The youths were investigated in order to determine the risk as well as the protective factors associated with parasuicide in that area of the African continent. Analysis indicated that 39 percent of the youths presented with risk factors such as hopelessness and signs of illness, for example, depression, alcohol and substance abuse, as well as stressful life events and family issues. Some protective factors were also revealed in association with the phenomenon of parasuicide in this study, that is, religious beliefs, social support from peers and others. Further research was encouraged in order to cast more light on the question of risk versus protection regarding parasuicide (Chiwander and Maseko 2016).

While looking for the motives that led to parasuicide in Limpopo province of South Africa, a list comprising unemployment, poverty, domestic violence, mental health conditions including depression, other medical conditions such as HIV/AIDS and accusation of witchcraft was established, following an unstructured in-depth interview. From the association of these motives, an emotional state of living a meaningless life was apparent. The suicidal ideation was gaining ground in the minds of nearly all respondents in this study. The methods used in different cases varied, based on knowledge and the determination to die, according to Obida et al. (2013).

Nearly 10 percent of unnatural deaths among young people in South Africa are related to suicidal behaviour affecting almost all social demographic groups. This suicidal behaviour is increasing in prevalence and there are more suicide attempts with non-fatal outcomes than those with fatal outcomes. The ratios vary from 20:1 to 40:1. A study in Durban where these observations were made, showed that females, single, unemployed with a low level of education, low-income level and part of the younger age group, were the most vulnerable when considering suicidal behaviour and, as a result, exposed to parasuicide. Depression seems to be a risk factor associated with

suicidal behaviour). A screening strategy to diagnose depression may be considered in the comprehensive management of our patients, in order to prevent or reduce the parasuicide phenomenon (Banjes et al. 2018).

A one-year retrospective and descriptive study using patients' records was conducted in northern KwaZulu-Natal, South Africa. Only patients who presented at the casualty department of the hospital and had deliberate self-harm (DSH) as diagnosis qualified for this study because the target was to determine the profile of the patients and the reasons for DSH. The study results showed that parasuicidal behaviour was affecting young, single, black women with a secondary level of education and those with relational problems more than other groups. Looking at the result (78% parasuicide), a tool for the identification of clients at risk, as well as community intervention addressing DSH issues, is needed in order to reduce the prevalence of this phenomenon in that area (Ani et al. 2017).

In the same study conducted in KwaZulu-Natal (South Africa), the authors confirmed that deliberate self-harm is not uncommon in that province of the country. The behaviour is more prevalent among young African females with a secondary education, and relational problems seemed to be a contributory factor, as highlighted by Ani et al. (2017).

A chart review of intentional self-poisoning cases was retrospectively studied over a period of six months in Khayelitsha Hospital, Cape Town (South Africa) as presented by Hoving et al. (2018). As a result, 68 percent of women with a mean age of 27.3 years were affected; HIV infection was the main comorbidity. The main method of this intentional self-poisoning was the ingestion of pharmaceuticals such as paracetamol. Few benefited from the use of N-acetylcysteine (NAC) and benzodiazepines while 7.3 percent of the patients were taken to the high-level hospital where they died.

In Pretoria, Egwu (2016) found that parasuicide behaviour was observed mainly among younger people from 11 to 20 years of age, with a high number of females compared to males; many participants were single, unemployed, without comorbidities and for a large number it was their first exposure. More participants did not have a history of recreational drugs and conflict was the main reason for most of them to behave in that way; and the methods used differed according to the individual (strangling, burning and hanging).

Considering the huge number of people admitted to Brits district hospital because of parasuicide, the current study aimed to review all parasuicide cases attended to at this hospital from 2013 to 2018.

METHODOLOGY

Aim

The current study aimed to determine the profile of parasuicide cases at Brits Hospital, North West Province of South Africa from 2013-2018.

Characteristics of Participants

The study was based on a 5-year retrospective record review of parasuicide cases attending Brits Hospital from 01 January 2013 to 01 January 2018. The setting of the study was Brits district hospital, a 200-bed hospital serving people in the vicinity of Madibeng district, in the North West province of South Africa.

Description of Processes

From the database or the electronic system of the Psychology unit of Brits district hospital, the total number of parasuicide cases registered from 01 January 2013 to 01 January 2018 was 499. All files were retrieved and assessed based on the required information for the current study; only 477 complied ($n = 477$). Convenience sampling was applied.

Each medical file was marked with a number, for example, 1, 2, 3, etc. in order to avoid capturing more than once on the Excel spreadsheet, information from the same medical file. An Excel spreadsheet was designed to ensure that all objectives of the study could be met. The design encompassed socio-demographics, the methods used for parasuicide, period of the year when the event took place, history of previous medical as well as psychiatric conditions of the patient, and the reasons motivating the patient to commit parasuicide.

Type of Statistical Analysis Used

Data was captured in an Excel spreadsheet; raw data was coded and then imported into SPSS Version 26 where descriptive analysis was conducted. The results are presented in tables including frequencies and percentages.

RESULTS

The age of the 477 participants ranged from 12-64 years (median = 24 years), the mean age of the participants was 26.6 years (std. dev. = 9.4), and the average was 21 years. The majority of participants (257; 53.9%) were in the 16-25 age range; followed by the age-group 26-35 (131; 27.46%); and a low participation was noted from the age-group 56-65 (6; 1.26%). A high number of cases was noted among females (297; 62.3%) while male participation was low (180; 37.74%) in comparison. There was high participation of Africans (391; 82.8%), single (352; 73.8%); unemployed (304; 63.7%), and those with a secondary level of education (300; 62.9%) as presented in Table 1.

Table 1: Socio-demographic characteristics of the study population (n = 477)

Characteristics	Frequency	Percent
Age (mean + std. dev.)	26.6yr+9.4	
<i>Age Group</i>		
0-15	14	2.94
16-25	257	53.88
26-35	131	27.46
36-45	51	10.69
46-55	18	3.77
56-65	6	1.26
<i>Sex</i>		
Male	180	37.74
Female	297	62.26
<i>Race</i>		
African	391	82.84
White	28	5.93
Coloured	38	8.05
Asian	15	3.18
Missing	5	
<i>Marital Status</i>		
Single	352	73.79
Married	92	19.29
Widowed	4	0.84
Divorced	29	6.08
<i>Employment Status</i>		
Employed	73	15.3
Unemployed	304	63.73
Student	98	20.55
Pensioners	2	0.42
<i>Level of Education</i>		
None	1	0.21
Primary	140	29.35
Secondary	300	62.89
Tertiary	36	7.55

The largest number was observed in 2018 (87; 18.24%), while the months of January and Febru-

ary had a high number of cases, 65 (13.6%) and 64 (13.4%) respectively. The majority of cases represented a first attempt (430; 90.2%) followed by two attempts or the second occurrence with 31 cases (6.50). Overdose of medication (300; 62.9%) was the most common method used. It was followed by pesticide ingestion in 83 cases (17.40%). Many patients (409; 85.7%) did not have a previous medical or psychiatric history. A relationship problem (207; 43.4%) was the main reason for engaging in parasuicide, while unemployment with 140 cases (29.35%) was the second reason as presented in Table 2.

DISCUSSION

With reference to the age-group vulnerability, the current study has shown that young people from 16 to 25 years of age had a high risk of developing parasuicide behaviour; in the same study, the same risk has been noted among another age group, that is, 26-35 years of age. As observed, there are more parasuicide cases (more than half of the participants) from 15 to 35 years of age in the Madibeng community. This observation has been highlighted by a number of studies, for example, the European multicentre study presented by Platt et al. (1992). In this multicentre study, the most vulnerable age group was 15-34 years. The same observation was also made in Australia by Pfaff et al. (2007) where women less than 34 years were considered vulnerable with respect to parasuicide behaviour. In many other studies, when taking age-groups into consideration, younger people were targeted. This is the case in Pakistan (Khan 1996); in Egypt, Shreedha et al. (2011) considered adolescents (19 years) as the target age-group; in Zimbabwe, youths are targeted; in South Africa, Ani et al. (2017) note the phenomenon in younger age-groups and Hoving et al. (2018) presented the mean age of the vulnerable as 27 years. In Pretoria Egwu (2016) targeted the age-group 11-20.

In the current study women are more affected by the phenomenon compared to males. Results in Table 1 show that 62.26 percent of women and 37.74 percent of men are affected. Almost all the studies mentioned in the literature review of the current study support this outcome.

Considering the marital status of parasuicide cases, the current study has highlighted that more

Table 2: Description of parasuicide cases (n = 477)

<i>Characteristics</i>	<i>Frequency</i>	<i>Percent</i>
<i>Year of Occurrence</i>		
2013	85	17.82
2014	68	14.26
2015	86	18.03
2016	75	15.72
2017	87	18.24
2018	76	15.93
<i>Monthly Cases</i>		
January	65	13.62
February	64	13.41
March	37	7.75
April	35	7.33
May	22	4.61
June	34	7.12
July	20	4.19
August	26	5.45
September	35	7.33
October	51	10.69
November	40	8.38
December	42	8.8
<i>Number of Attempts</i>		
Once	430	90.15
Twice	31	6.5
Thrice	14	2.94
Four times	2	0.42
<i>Method Used to Attempt Parasuicide</i>		
Overdose	300	62.89
Paraffin ingestion	6	1.26
Detergent ingestion	64	13.42
Battery acid	10	2.1
Pesticide ingestion	83	17.4
Rape	4	0.84
Combination(s)	10	2.1
<i>History of Medical or Psychiatric Illness</i>		
Yes	68	14.26
No	409	85.74
<i>Reason for Attempting Parasuicide</i>		
Chronic illness	13	2.73
Academic failure	11	2.31
Relationship problem	207	43.4
Family problems	25	5.24
Unemployment	140	29.3
Personal problems	8	1.68
Orphaned	35	7.34
Substance abuse	4	0.84
Financial problems	34	7.13

participants were single (73.79%) followed by those married (19.29%). While Khan (1996) in Pakistan argues that married women are vulnerable for parasuicide, other authors such as Shreedha et al. (2011) in Egypt, Ani et al. (2017) as well as Egwu (2016) in South Africa considered that parasuicide affects single people more than others.

The current study highlighted the fact that many of the parasuicide cases were unemployed (63.73%) followed by students (20.55%). This finding is supported by Shreedha et al. (2011) in Egypt where more are unemployed and few of them are engaged in a secondary or tertiary level of education, as well as in South Africa by Ani et al. (2017).

In Madibeng community (Brits district hospital), for many participants it was the first attempt (90%) and there was no history of comorbidities (86%) that could have been associated with the behaviour. In Pakistan, although there is no clarification on the number of attempts, most parasuicide cases had a history of stress that motivated the attempt. In Egypt it was mentioned that attempts had been preceded by emotional situations (Shreedha et al. 2011). Depression was named among Zimbabwean patients who attempted parasuicide (Chiwander and Maseko 2016). In Australia there is first a history of somatic troubles that lead to the GP consultation before patients present themselves to the emergency centre of a public hospital (Pfaff et al. 2007). Hence a thorough examination is needed for the Madibeng patients. Such an examination may assist in determining the triggers which may have led to parasuicide behaviour.

In Madibeng community overdose of medication has been found as the most used method for parasuicide, followed by pesticide ingestion. This method of using pharmaceutical products has been cited in a fair number of studies, for example, in Pakistan whereby benzodiazepines were mentioned. In South Africa, Obida et al. (2013) argued that there are various methods for parasuicide, depending on the knowledge and determination of the client to commit such an act. And Hoving et al. (2018) presented paracetamol as the most common pharmaceutical product in parasuicide. And again, in South Africa, Egwu (2016) proposed that the different methods would depend on the individual, and mentioned strangling and burning as well as hanging. Madibeng district is surrounded by farms that could be associated with pesticide ingestion. Further studies might clarify if this association does exist.

Many of the parasuicide cases registered at Brits district hospital occurred during the months of January (13.62%) and February (13.41%). Apparently, none of the above-mentioned studies have specified the time of year these attempts

were made. In South Africa, this may be associated with “Christmas” at the end of the year and “Valentine’s day” in February. Studies should be conducted to ascertain whether there is association of the two events with the occurrence of parasuicide.

While this current study presents relationship problems as the main reason that motivates parasuicide attempts in the Madibeng community, Khan (1996) in Pakistan pointed to marital conflict, and Chiwander and Maseko (2016) in Zimbabwe revealed that stressful events and family issues were the motives for parasuicide, Obida et al. (2013) in Limpopo (South Africa) declared that a variety of problems, for example, unemployment, poverty, HIV/AIDS, and accusation of witchcraft were listed as the main reasons and Egwu (2016) in Pretoria argued that conflicts were the cause.

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In Pretoria, Egwu (2016) found that parasuicide behaviour was mainly observed among younger people from 11 to 20 years of age, with a higher number of females compared to males. In this study many participants were single, unemployed, without comorbidities and for many of them it was the first exposure. More participants did not have a history of recreational drugs. Conflict was the main reason for most of them to behave in that way; and the methods used differed according to the individual, for example, strangling, burning and hanging.

CONCLUSION

This study has painted a clear picture of the parasuicide cases treated at Brits Hospital (or Madibeng district). They are young, between 16 and 25 years of age, mainly female, African, single and unemployed. The method used for parasuicide was mostly an overdose of medication

and occurred mainly in the months of January and February. Furthermore, reasons for the parasuicide attempt were relationship problems and unemployment. In most instances it was the first attempt.

RECOMMENDATIONS

Considering the increased numbers of parasuicide cases noted in the current study, education seems to be the strategy that could be used in the Brits/Madibeng community. Education on parasuicide should be provided at the hospital, clinics, various recreational areas, on social media, as well as in secondary schools where it should be incorporated with the curriculum.

STRENGTHS

From the Madibeng local municipality demographics, in 2016 Brits/Madibeng had a population of 536,110 (Brits/Madibeng population). High school pupils constituted 6.8percent of the population, which is calculated to be 364,455. While applying the calculator.net formula for sample size calculation with confidence level 95percent at confidence interval 5, the sample size would be 381 (Online Sample Size calculator). By using a sample size of 477, there was oversampling that gives strength to this study.

LIMITATIONS

A limitation of the study relates to ethnicity. According to the medical records, a high number of cases were African, and a smaller number was noted from other racial groups. Hence the result cannot be generalised to the entire Brits/Madibeng community.

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