THE EXTENT AND EFFECTS OF VIOLENCE BY PATIENTS TOWARDS MEDICAL STAFF AT A TERTIARY PSYCHIATRIC HOSPITAL

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A research report submitted to the Faculty of Health Sciences, University of the Witwatersrand, Johannesburg, in partial fulfilment of the requirements for the degree of Master of Medicine in the branch of Psychiatry

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DECLARATION

I, Keshika Mangrey, declare that this research report is my own work. It is being submitted for the degree of Master of Medicine in the branch of Psychiatry to the University of the Witwatersrand, Johannesburg. It has not been previously submitted for any degree or examination at this or any other University.

_____

This _____ day of _____, 2016

PRESENTATIONS ARISING FROM THIS STUDY

Oral Presentation:

The extent and effects of violence by patients towards medical staff at a tertiary psychiatric hospital.

25th Annual Psychiatry Research Day 2013 – Department of Psychiatry, University of the Witwatersrand.

WITS Alumni House, Johannesburg.

ABSTRACT

BACKGROUND: Nursing staff and doctors are often targets of violence from mental health care users.

OBJECTIVES: To determine the risk factors associated with violence and aggression by patients towards medical staff, as well as to determine the impact of injuries on medical staff.

METHODOLOGY: A cross-sectional survey was administered to all categories of nursing staff and doctors at Sterkfontein Hospital.

RESULTS: In the sample 43.3% of subjects reported exposure to aggression. For staff members that reported aggression, risk factors that predisposed them to violence caused by patients, included having less than 5 years of work experience, amongst others. The experiencing of PTSD symptoms was not the same across different variables, including professional status. PTSD symptoms were not significantly different when considering work experience.

CONCLUSION: Medical staff, particularly nursing staff are at risk of exposure to aggression by mental health care users at Sterkfontein Hospital. With regard to PTSD symptoms, avoidance and intrusion were found to be prominent.

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NOMENCLATURE

PTSD: post-traumatic stress disorder

SOAS-R: revised staff observation aggression scale

ICU: intensive care unit

CEO: chief executive officer

IES-R: impact of events scale, revised version

MBBCh/MBChB: Bachelor of Medicine and Bachelor of Surgery

FC Psych: Fellow of the College of Psychiatry

CHAPTER 1

INTRODUCTION

1.0 INTRODUCTION

The risk of aggression and violence in psychiatric inpatient units remains a major concern globally. Personnel involved in the care of psychiatric patients namely, nursing staff and doctors are often targets of violence from mental health care users. Thus the reduction of the incidence of aggression and violence and its resultant negative effects, is a challenge for researchers and staff of psychiatric facilities alike. Aggression may be defined as hostile, physical or verbal acts, resulting in the injuries of persons, or damage to objects. Variable concepts of assault may range from verbal and physical behaviour to sexual harassment.[1] Assaults may be rated in terms of severity according to criteria used by Noble and Rodger.[2] According to these criteria first degree violence is defined as assault resulting in no detectable injury. Second degree violence refers to assault resulting in minor physical injuries such as bruising, abrasions or small lacerations. Third degree violence refers to assault resulting in major physical injuries including large lacerations, fracture, loss of consciousness or any assault requiring subsequent medical investigation or treatment.[2]

Violence is a complex behaviour related to clinical factors but is also influenced by socio-economic factors.[3] Provision of well trained staff is thought to be important in the prevention of violence.[3] The impact of violent injuries against staff can lead to possible staff stress and burnout, absenteeism, and low morale with regards to performing their duties.

Sterkfontein Hospital is a large specialised psychiatric hospital where care is given to involuntary mental health care users that are usually certified for behaviour that includes violence and aggression. In addition to the above, care is also provided for forensic offenders, where violent offending and criminal activities were the reasons for referral, either for observation or as state patients following the observation period after committing offences. Forensic offenders that are referred for observation and that are found to be unfit to stand trial usually have severe mental illness. Studies by both Teplin[4] and Wallace[5] suggest an association between violent offending and psychiatric

illness in forensic patients that commit crimes. The patient profile at Sterkfontein Hospital includes both involuntary and forensic state patients that are often perpetrators of violent crimes. Due to the above, it can be hypothesized that patient aggression towards staff is prominent at Sterkfontein Hospital and it is therefore suitable as the setting for studying aggression towards staff.

CHAPTER 2

LITERATURE REVIEW

2.0 LITERATURE REVIEW

2.1 Staff Reports of the Extent of Violence

Abderhalden, Needham and Dassen[1] investigated the frequency and severity of aggressive incidents in acute psychiatric wards in the German speaking region of Switzerland by means of a prospective multi-centre study. During the three month study period 760 aggressive incidents were reported. The revised Staff Observation Aggression Scale (SOAS-R) was used to grade the severity of the incidents and a score of 9 or more was regarded as severe. Included in the total number of incidents were 396 incidents with a SOAS-R severity score of greater than 9.

Davies[6] aimed at determining the annual rates of assaults and threats to psychiatrists in South Wales using a retrospective postal questionnaire of doctors working in South Wales and found that 17% of respondents reported one or more assaults.

Privitera, Weisman, Cerulli *et al*[7] aimed to determine the prevalence of violence towards mental health staff. A workplace violence survey was distributed in order to enquire about staff experiences of endangerment, threats, assaults, as well as age and sex of staff members. The study revealed 35.6% endangerment events reported in women compared with 36.9% in men. Nurses, physicians and advanced practice nurses reported the highest prevalence of violence directed towards clinical staff.

Walker and Seifert[8] investigated the number of physical assaults in a psychiatric ICU over a six month period. He found that of the 37 cases of assault reported, 34 were against the medical and nursing staff.

A cross-sectional study by Soares, Lawoko and Nolan[9] that investigated the extent, nature and determinants of violence against psychiatric nurses and psychiatrists working in Stockholm found that 85% of the psychiatric staff reported having been exposed to violence during their careers. Physical violence was common and factors

such as negative attitudes to work and diminished sense of autonomy were associated with an increased vulnerability to violence. In addition it was also found that staff abuse leads to mental health consequences for the staff and a reluctance to be closely involved with patients.

Whittington and Wykes[10] evidenced that attacks by patients are acknowledged as an important source of stress for psychiatric staff. Twenty three psychiatric nurses and one doctor who had been assaulted by a patient were interviewed within 72 hours of the incident and then twice more within a 2 week period. The level of strain they experienced and the amount of support provided were correlated. A large number of subjects reported high levels of strain which persisted well beyond the incident.

2.2 Risk Factors Related to Violence against Staff

The Abderhaldens[1] study showed that a lower risk of patient violence was found in patients aged greater than 50 years, patients with a short length of stay and patients with a diagnosis of substance abuse or personality disorders. A higher risk of violence was found in involuntary patients, patients with a length of stay greater than 17 days and in patients with a diagnosis of schizophrenia. Gender was not found to be significant in terms of higher risk for aggression, nor was the diagnosis of an affective disorder. Privitera *et al*[7] found that violence was not absent in the more experienced physicians.

Walker and Seifert[8] showed that features that predisposed to committing assault included a criminal record and previous drug abuse. Assaults were also found to occur more frequently during the week, at times when the staff were actively involved with the patients.

Steinert[11] showed that predictors of violence in the institutional settings are different from predictors of violence in the community. Variables such as sex, age and substance abuse were found to play a minor role while clinical and psychopathological variables

were found to be prominent. It was found that general and positive psychotic symptoms seem to enhance the risk of violence in inpatients.

Soares *et al*[9] found that factors such as negative attitudes to work and a diminished sense of autonomy were associated with an increased vulnerability to violence directed against staff members.

Davies[6] found that the most junior medical officers were significantly more likely to have experienced an incident of assault against them. Fifty eight percent of assailants were known to have previously assaulted a member of staff. Sixteen percent of the assailants had been drinking alcohol prior to the assault.

Raja, Azzoni and Lubich[3] in their study into the risk factors for patient violence, found that age, psychotic symptoms, excitement, akathisia and a diagnosis of personality disorder are all risk factors for violent behaviour.

A study by James, Fineberg, Shah *et al*[12] showed that younger patients (25 years or less) are more likely to be violent than older patients. The reason for this age difference is not clear but factors such as schizophrenia, personality disorders and problems with drug abuse that are more common in the youth might have a role to play. It was also found that patients with a diagnosis of depression with or without psychotic features were significantly less likely to be violent. Patients admitted involuntarily under the mental health care act proved significantly more likely to engage in violent acts. There was also some evidence to suggest that patients behave aggressively when they are bored and not involved in therapeutic activities. No relationship was found between staff changeovers and levels of violence. Factors said to be important in the prevention and management of violence include a consistent approach, with defined roles for each member of staff. The presence of staff capable of setting reasonable limits for behaviour and training in techniques of aggression control are also important.

Walker and Seifert[8] found that incidents in psychiatric units are a frequent and serious problem. It is important to try to predict which patients are more likely to engage in violent behaviour so that appropriate measures can be taken. Getting a history regarding a criminal record and previous drug abuse has a predictive value. A simple measure like urine drug screening might be helpful.

Noble and Rodger[2] found that the Maudsley violent incident register indicates a substantial increase in violence between the opening of the register in 1976 and a peak in 1984. The increase is not attributable to any overall increase in the number of beds. Encouragingly levels of violence have decreased moderately since 1984. This might be due to a high level of awareness and improved training of staff.

From the above it is evident that risk factors related to staff injuries caused by psychiatric patients differ between the various studies with regards to substance abuse, time of day during which the incident occurred and professional status. There have been no South African studies investigating the extent and impact of staff injuries caused by psychiatric patients. This study will therefore be of some benefit in this regard.

CHAPTER 3

METHODOLOGY

3.0 METHODOLOGY

3.1 Hypothesis

1) That there is a high prevalence of aggression amongst involuntary patients, and hence high rates of injuries to medical staff.
2) That violence and aggression directed towards staff often results in post-traumatic stress symptoms.

3.2 Objectives

1) To determine staff specific risk factors associated with violence and aggression towards medical staff by patients at Sterkfontein Hospital.
2) To examine the impact of injuries on medical staff in terms of physical and psychological sequelae.

3.3 Study Design

This was a cross-sectional survey administered to all categories of nursing staff and doctors at Sterkfontein Hospital. Other members of the multidisciplinary team including psychologists and occupational therapists, were excluded from the study. The staff establishment at Sterkfontein Hospital included 36 medical staff (31 posts filled at the time of the study), and 435 nursing staff (337 filled at the time of the study, 22 on study leave at the time of the study). The study was conducted over a 6 month period from July 2011 to December 2011.

3.4 Data Collection

Staff and management were briefed about the intention of the study. The researcher obtained permission from the CEO to distribute the questionnaire amongst all nurses and doctors at the hospital. The questionnaire included the following:

1) Biographical details
2) Years of experience held by staff members concerned.
3) Status of the staff in the ward including education level.
4) Attendance at workshops on aggression.
5) Number of injuries obtained by staff since they have been working at Sterkfontein Hospital and their job status at that time.
6) Time of day during which incident occurred.
7) Number of staff that were on duty when the incident occurred.
8) A section to ascertain the feelings that staff encountered immediately following the violent incident.
9) A section to ascertain if staff that had been exposed to violence felt that they were sufficiently equipped to manage patients with aggression.

In addition, the impact of the incident on staff both physically and emotionally was assessed by means of the impact of events scale, revised version (IES-R). This scale taps into both acute and enduring effects of the incident, by measuring the impact of any traumatic event, past or present, on current functioning.

3.5 Data Analysis

Data was captured on an Excel spread sheet and was analysed using Statistica version 9.1. Continuous data was presented as means plus standard deviations and categorical data as frequencies and percentages. Associations between post-traumatic stress symptoms and demographic variables were computed using chi square tests and odds ratios. Cronbachs alpha as well as two tailed testing was used to assess reliability of the data. Pearson correlation coefficient was used to assess the correlation between variables.

3.6 Ethics

Anonymity of people answering the questionnaire was guaranteed. Names of staff members were not used but instead a series of numbers allocated to each form was used. Forms were placed in a box at the front of each ward on a weekly basis.
The researcher stored data herself and ensured that only she had access to it. The study received approval from the WITS Human Research Ethics Committee.

3.7 Funding / Budget

The study was self - funded by the researcher.
Budget:
Copies: R3000
Petrol: R3000
Statistician fees: R3500
Total: R9500

CHAPTER 4

RESULTS

4.0 RESULTS

A total of 368 questionnaires were handed out. Sixty questionnaires were returned and analyzed over a 6 month period. The response rate was 16%.

4.1 Sample Population Characteristics

As is evident in Table 1, 30% of the subjects were male and 70% were female. Forty five percent of subjects were married and 55% were single. Almost fifty two percent of subjects reported having < 5 years of work experience, 45% reported having > 5 years of work experience and 3.3 % failed to respond to this question. After adjusting for missing data 53.4% had < 5 years of work experience and 46.6% had > 5 years of work experience. Forty one respondents had children and 17 did not have children. However 3.3% failed to respond. After adjusting for missing data 70.7% of the sample reported having children and 29.3% did not have children. Of the 60 subjects 8.3% were doctors, 23.3% were student nurses, 23.3% were junior nurses, 41.7% were senior nurses and 3.3% were auxillary nurses (Refer to figure 1).

Table 1: Sample population characteristics

VARIABLE		FREQUENCY	PERCENTAGE
GENDER	Male	18	30%
	Female	42	70%
MARITAL STATUS	Married	27	45%
	Single	33	55%
YEARS OF WORK EXPERIENCE	less than 5 years	31	53.4%
	greater than 5 years	27	46.6%
PRESENCE OF CHILDREN	Yes	41	70.7%
	No	17	29.3%
PROFESSIONAL STATUS	doctors	5	8.3%
	student nurses	14	23.3%
	junior nurses	14	23.3%
	senior nurses	25	41.7%
	auxillary nurses	2	3.3%

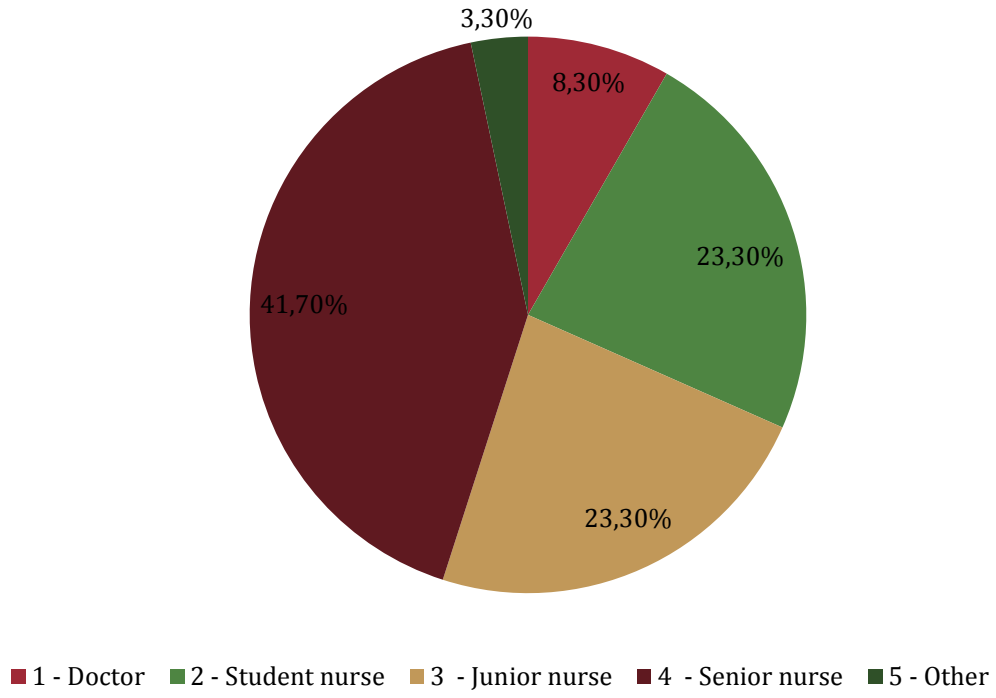

Figure 1: Professional status

4.2 Education Level

Almost 7% of subjects had an MBBCh/MBChB degree, 30% had a matric, 58.3% had a diploma in nursing and 1.7% had an FC Psych specialization but 3.3% of respondents failed to answer. After adjusting for missing data 6.9% had an MBBCH/MBCHB, 31% had matric, 60.3% had a nursing diploma and 1.7% had an FC Psych specialty. (Refer to figure 2)

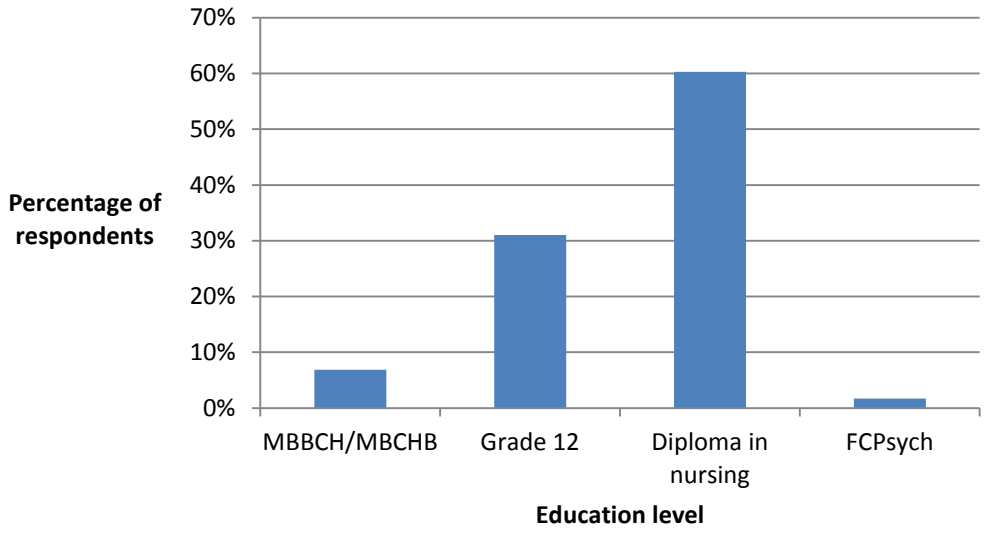

Figure 2: Education level

4.3 Attendance at Aggression Management Workshops

Slightly more than sixty three percent of participants reported having attended workshops on aggression management and 36.7% reported no attendance at aggression management workshops. (Refer to figure 3)

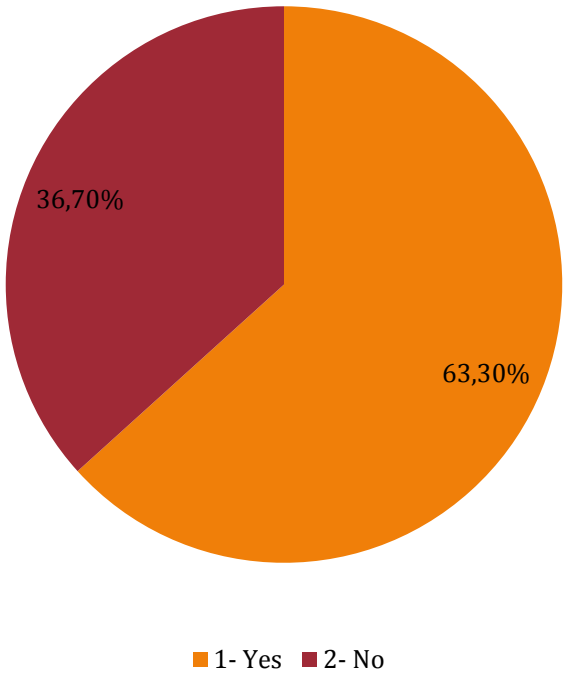

Figure 3: Attendance at aggression management workshops

1: Yes

2: No

4.4 Time Elapsed since Attendance at Aggression Management Workshops

Thirty five percent attended workshops during the preceding year. Almost seventeen percent attended 2 years before, 1.7% attended 5 years before, 1.7% attended 7 years before and 8.3% of subjects failed to respond. After adjusting for missing data 38.2% of subjects reported workshop attendance 1 year before, 40% attended less than a year before, 18,2% attended 2 years before, 1.8% attended 5 years before and 1.8% 7 years before. (Refer to figure 4)

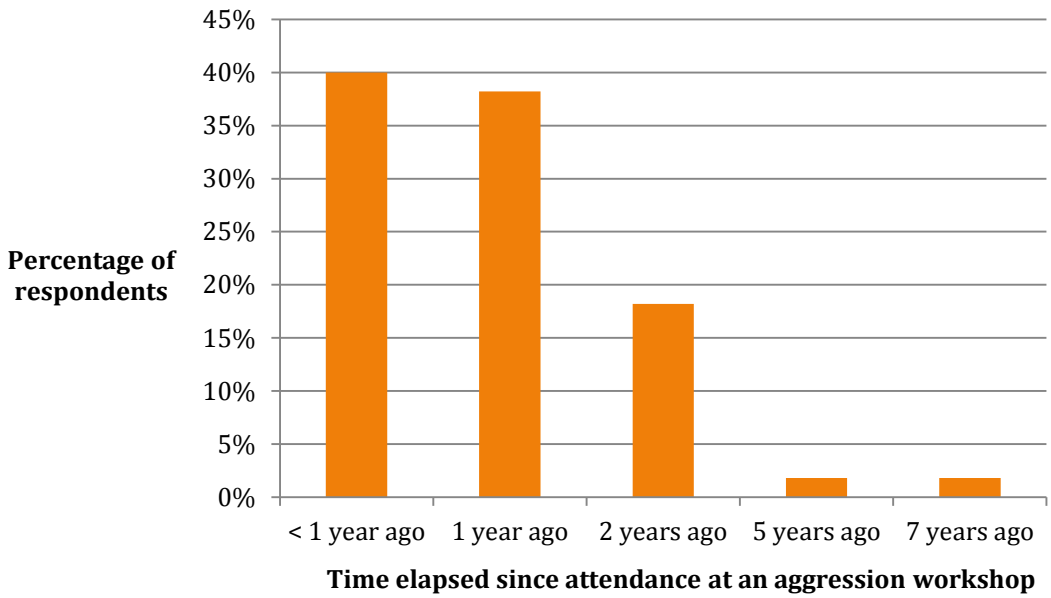

Figure 4: Time elapsed since attendance at aggression management workshops

4.5 Injuries Sustained from Patient Aggression

Slightly more than 43% of subjects reported having sustained physical injuries secondary to aggression from patients. Almost 57% reported having had no injuries due to aggression from patients. (Refer to figure 5)

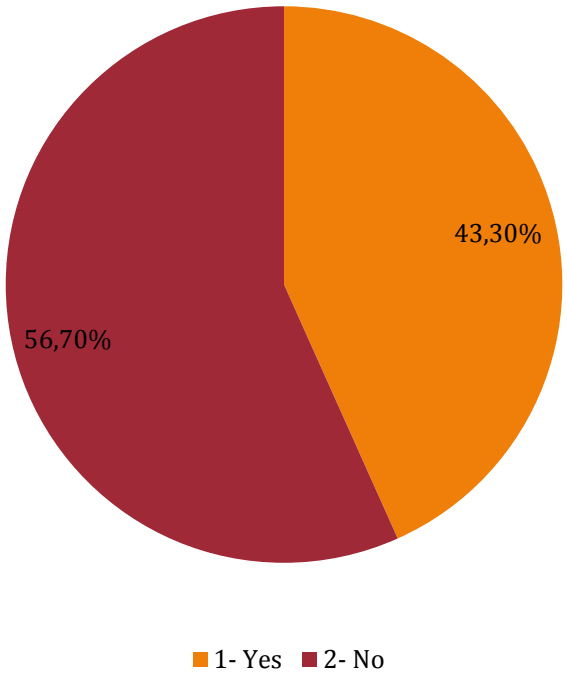

Figure 5: Injuries sustained from patient aggression

1: Yes

2: No

4.6 Number of Injuries in Those Affected by Violence from Patients

Fifteen percent of participants reported 1 physical injury, 8.3% reported 2 physical injuries and 5% reported 3 physical injuries.

4.7 Feelings Encountered Immediately after Incident

Fifty five percent of participants reported no negative feelings after the incident. Almost two percent of respondents reported feeling unhappy, 11.7% were anxious and distressed, 15% were angry, 5% were scared, 5% were shocked, 1.7% felt they needed more training to handle violent patients and 5% did not respond. After accounting for missing data 57.9% reported no negative feelings, 1.8% reported feeling unhappy,

12.3% were anxious and distressed, 15.8% were angry, 5.3% were scared, 5.3% were shocked and 1.8% felt that they needed more training. (Refer to figure 6)

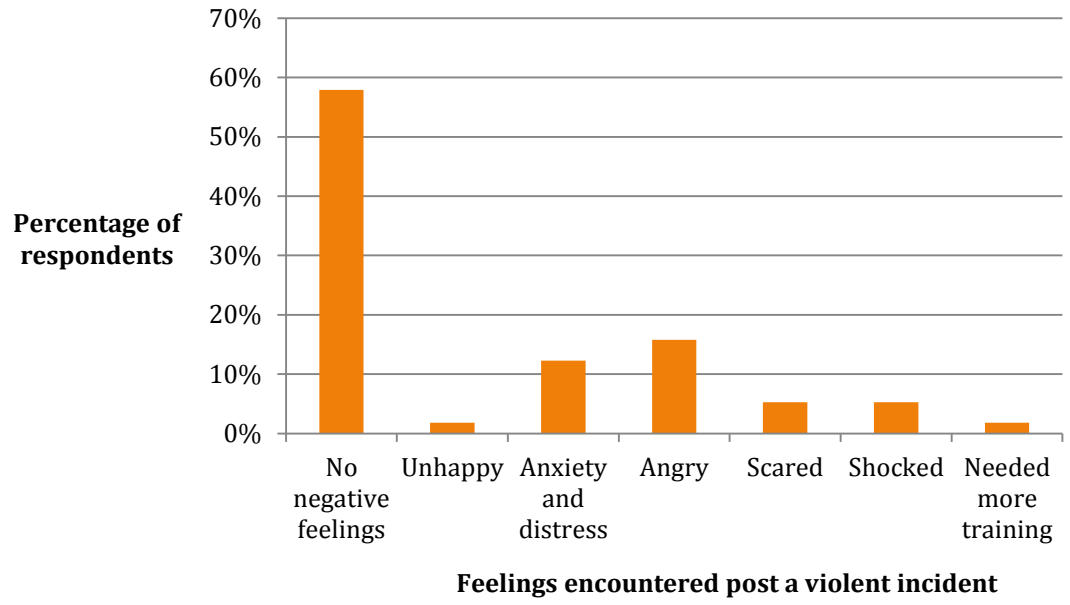

Figure 6: Feelings encountered immediately after violent incident

4.8 Job Status at Time of Injury

Almost two percent of subjects were doctors, 13.3% were junior nurses, 21.7% were senior nurses, 6.7% were auxillary nurses and 1.7% were ward assistants. However 55% failed to respond to the question. After adjusting for missing data 3.7% were doctors, 29.6% were junior nurses, 48.2% were senior nurses, 14.8% were auxillary nurses and 3.7% were ward assistants. (Refer to figure 7)

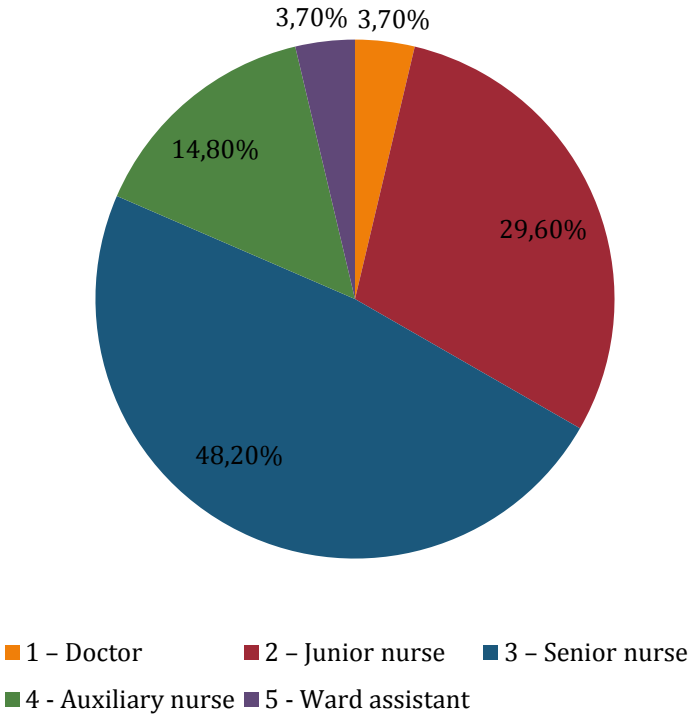

Figure 7: Job status at time of injury

4.9 Time of Day during which Injury Occurred

The majority of the violent incidents were reported to have occurred before 7 pm, namely 81.5%. The remaining 18.5% of incidents occurred after 7 pm.

4.10 Number of Staff on Duty when Injury Occurred

According to 3.3% of subjects there were 2 staff members on duty while 8.3% reported 3 staff, 13.3% reported 4 staff, 16.7% reported 6 staff and 3.3% reported 7 staff on duty at the time of the injury. Fifty five percent of participants failed to respond. After accounting for missing data the numbers changed to 7.4%, 18.5%, 29.6%, 37% and 7.4% respectively.

4.11 Equipped to Manage Aggression

Results show that 38.3% of subjects reported being able to manage aggression, 56.7% felt that they were not equipped to do so and 5% of the sample failed to respond. After adjusting for missing data 40.4% of subjects felt equipped to manage aggression, while 59.6% of the sample felt that they were insufficiently equipped to do so.

4.12 Physical Injuries Sustained

The majority of the sample (56.7%) reported no physical injuries. Twenty six of the 60 participants, namely 43.3% of the sample reported physical injuries. However, only 20 of the 26 participants described the kind of physical injury that they sustained. Therefore 6 participants reported having had an injury, but failed to describe the type of injury in response to this question. Soft tissue injuries were sustained by 1.7% of subjects, 3.3% sustained human bites, 1.7% had facial bruises, 1.7% had swollen eyes, 3.3% had nasal swelling, and 1.7% reported a head injury. Almost sixty seven percent of the data was missing. After accounting for missing data the percentages changed to 5%, 10%, 5%, 5%, 10% and 5%, respectively. (Refer to figure 8)

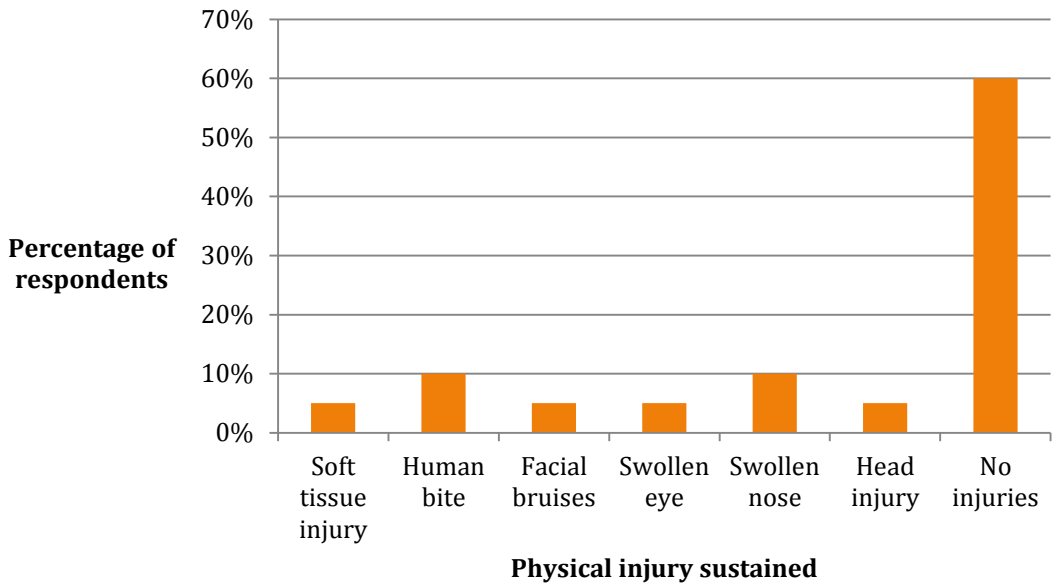

Figure 8: Physical injuries sustained

4.13 Results of IES-R

Table 2 summarizes analysis of the impact of events scale. Forty one of the 60 participants responded to the questionnaire and 19 participants failed to respond. The mean was 19.85 with the maximum score for avoidance, intrusion and hyperarousal being 32, 31 and 24 respectively. Nineteen of the 60 participants failed to respond. The median values for avoidance, intrusion and hyperarousal were 0.00, 1.0 and 0.00 respectively. The reason for the low median value possibly stems from the frequency analysis and hypothesis testing of those participants that responded positively in each subset, still having some overall significance.

Table 2: IES-R

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error
AVOIDANCE	41	.00	32.00	7.4878	9.94013	1.074	.369
INTRUSION	41	.00	31.00	7.1951	9.47687	.983	.369
HYPERAROUSAL	41	.00	24.00	5.1707	7.30720	1.229	.369
TOTAL				19.8536			

4.14 Hypothesis Testing Relating to IES-R

Hyperarousal was found to be higher amongst female participants. The experiencing of avoidance and intrusion was the same across categories of gender. When considering the distribution of avoidance, intrusion and hyperarousal across categories of education level, attendance at aggression management workshops, injuries caused by patients, professional status, feeling equipped to manage aggression, and feelings encountered immediately after the incident, there is evidence to suggest that the experiencing of PTSD symptoms is not the same across all of the above categories respectively. On the other hand, there is evidence to suggest that the experiencing of PTSD symptoms is the same across categories of marital status, work experience and time elapsed since attendance at aggression workshops.

Table 3: Testing relating to IES-R

Null hypothesis	P – values		
	AVOIDANCE	INTRUSION	HYPERAROUSAL
Distribution of hyperarousal, avoidance and intrusion is the same across all categories of gender	0.139	0.082	0.047
Distribution of avoidance, intrusion and hyperarousal is the same across categories of education level	0.001	0.000	0.001
Distribution of avoidance, intrusion and hyperarousal is the same across categories of attendance at aggression workshops	0.014	0.009	0.018
Distribution of avoidance, intrusion and hyperarousal is the same across categories of injuries caused by patients	0.00	0.00	0.00
Distribution of avoidance, intrusion and hyperarousal is the same across categories of professional status	0.029	0.021	0.042
Distribution of avoidance, intrusion and hyperarousal is the same across categories of feeling equipped to manage aggression	0.002	0.004	0.001
Distribution of avoidance, intrusion and hyperarousal is the same across categories of feelings encountered immediately after the incident	0.00	0.00	0.002

The significance level is 0.05

4.15 Relationship between number of injuries and number of staff on PTSD symptoms

When considering the correlation between number of injuries and number of staff on duty, there was a negative correlation with a Pearson correlation coefficient of -0.164. However, the correlation is not significant at a 95% level of significance and there is insufficient evidence to suggest that having more staff members will result in fewer injuries. The correlation between number of injuries and the experiencing of avoidance was weakly positive with a value of 0.284. However, it was not significant at a 95% level of significance and thus there is inadequate evidence to suggest that staff with a greater number of injuries will experience more avoidance symptoms. When considering the correlation between number of injuries and the experiencing of intrusion and hyperarousal, weak positive correlations of 0.320 and 0.375 respectively were found. The above correlations were found to be significant at a 95% significance level and thus there is minimal evidence to suggest that having more injuries will result in higher levels of hyperarousal and intrusion. After considering the correlation between number of staff on duty and the experiencing of avoidance, a weak positive correlation of 0.036 was found, however after two tailed testing this was not found to be significant, hence there is not adequate evidence to suggest having more staff on duty will decrease levels of avoidance. When correlating number of staff on duty and the experiencing of intrusion a negative correlation of -0.095 was found and after further testing at a 95% significance level there was insufficient evidence to suggest that having more staff on duty will result in decreased levels of intrusion. The correlation between number of staff and the experiencing of hyperarousal was negatively correlated at a value of -0.050, but further two tailed testing revealed that this was not significant at a 95% significance level and therefore there is insufficient evidence to conclude that more staff on duty will result in decreased levels of hyperarousal.

Table 4: Number of injuries and number of staff versus PTSD symptoms

		AVOIDANCE	INTRUSION	HYPER-AROUSAL
No. of injuries	Pearson Correlation	.284	.320*	.375*
	Sig. (2-tailed)	.072	.041	.016
	N	41	41	41
No. of staff	Pearson Correlation	.036	-.095	-.050
	Sig. (2-tailed)	.858	.638	.803
	N	27	27	27

*. Correlation is significant at the 0.05 level (2-tailed)

** Correlation is significant at the 0.01 level (2-tailed)

CHAPTER 5

DISCUSSION AND LIMITATIONS

5.0 DISCUSSION

5.1 Demographic Data

The majority of the participants comprised of female staff members. In the study by Privitera *et al*[7] the authors found that women had less incidence of endangerment events compared to men. However, in this study majority of those affected were female. The reason for the above could be due to the fact that 70% of the sample population was female, as well as considering that traditionally nursing is a female dominated profession. One might also hypothesize that male nurses are less likely to report violent episodes as they are often viewed as being the physically stronger sex and are felt to cope better with aggression. In this study the majority of participants were single and this could be attributed to the fact that both younger student and junior nurses comprised a significant portion of the study population and younger individuals are more likely to be single. The majority of the participants in the study have children. A limitation of this study was that social support and the impact thereof was not directly examined.

5.2 Professional Status / Education Level and Work Experience

In terms of professional status doctors formed the minority of the study population and nurses the majority of the sample. In this study, of the nurses that were affected, 29.6% were junior nurses and 48.1% were senior nurses. This concurs with a study by Privitera et al[7] where it was found that advanced practice or senior nurses reported the highest prevalence of violence directed towards staff. A study by Walker[8] also found that majority of assault cases were directed against senior nursing staff. However alternatively, a study by Owen *et al*[13] showed that 78% of violent episodes were directed towards nursing staff, and the risk increased with staff less than 30 years of age. An article by Harris[14] found that “inexperienced psychiatric staff are less likely than veteran peers to accurately predict violence by patients” and are thus at greater risk for assault. Perhaps in this study student nurses spent less time overall with patients and their working hours also seldom extended to the weekends as compared to senior

nurses that possibly had more sustained contact with patients, due to longer shifts at work, thus increasing the potential for violent episodes. Student nurses might have also under-reported incidents, due to fear of stigmatisation and criticism by the more experienced staff.

The majority of the subjects had a nursing diploma (nurses comprised the majority of the study population). Within the nursing fraternity nurses are comprised of student nurses that are in training and do not have a diploma yet, junior nurses that are recently qualified staff members, professional nurses that have completed a nursing diploma and whose duties include having assisted with medication administration. An auxillary nurse is an assistant whose main duties include the washing and dressing of patients, taking vital signs and mobilizing patients. In view of the fact that auxillary nurses spend more time in contact with the patients while doing the above procedures, one would expect them to be more at risk of sustaining injuries from patients. However this was not so in this study as senior nurses comprised 48.2% of the sample that reported exposure to aggression. The above is surprising as senior nurses are often engaged in administrative procedures that limit physical patient contact time and this decreases the risk of possible assault. Reasons for the above could include possible complacency by senior nurses or interventions taken by senior nurses in their capacity as decision making figures. Doctors comprised the smallest proportion of staff affected, possibly due to each ward having 2 or 3 doctors as opposed to a large number of nursing staff. In this study the majority of subjects reported having less than 5 years of work experience. This could be accounted for by the fact that junior nurses, student nurses and younger registrars formed a large part of the study group. In the study by Privitera *et al*[7] staff with a longer duration of mental health experience were found to be more protected from violent episodes. Davies[6] found that the most junior medical officers were more likely to experience assault. From the above it is evident that less work experience is a risk factor for patient aggression, as one is possibly not well trained in how to cope with such incidents. However, this study is not in keeping with the literature as senior nurses were found to have had the most number of injuries.

5.3 Attendance at Management of Aggression Workshops and being Equipped to Handle Violence

In this study most staff members had attended training workshops at Sterkfontein Hospital on the management of aggression at least annually. The majority of subjects, namely 63.3% reported having attended workshops on aggression management, and of those that attended 35% reported having attended 1 year previously. However, despite the fact that staff attended workshops that taught them how to manage violent and aggressive patients, they still reported that they did not feel equipped to handle aggressive patients. In the literature there are several studies that report favourable outcomes regarding aggression workshops. The study by James et al[12] found that staff more trained in techniques of handling aggression have less injuries. A study by Brinn[15] found a significant increase in staff confidence for dealing with aggressive incidents, after completing a 2 day aggression training workshop. Martin's[16] study in 2006 found that factors that impacted most on confidence to manage aggression included aggression training programs. However, in contrast, a study by Mott, Walton, Harries, and others[17] found that 81% of staff that had previously received training in breakaway techniques, did not find the skills practically useful. This current study concurs with the above, and reasons for this finding could include the fact that one might be so terrified when confronted with violence, that it is difficult to recall previously learnt protocols. The material covered in the training workshops might differ in each individual setting, thus yielding different responses. The content of the workshops might have failed to meet the needs of the staff. One has to also consider the possibility that certain individuals may have a predisposition to poor coping mechanisms. Perhaps, as in the studies by Livingstone, Verden-Jones, Brink and others[18] and Mott *et al*[17] this Sterkfontein Hospital study also emphasizes that relying too heavily on aggression management staff training will have a limited effect on addressing the range of issues related to patient perpetuated violence and we have to look beyond just staff training. We might for example increase the security presence that are available to assist staff should the need arise. As Sterkfontein Hospital accommodates forensic and involuntary users that

have a propensity towards violence, it is prudent that staff are able to treat violent patients, and the fact that staff feel ill equipped to do so is of concern.

5.4 Exposure to Injuries

Although 56.7% of the staff reported no exposure to violence caused by patients a significant number, namely 43.3%, of subjects did report exposure to aggression. This is still a relatively high percentage of staff that are exposed to violence. This study did not elicit exactly when during the course of admission patients became aggressive. One would envisage that new patients are more likely to become aggressive, in view of the acute presentation of symptoms that are not optimally treated as yet. However, Abderhaldens[1] study mentions a prolonged admission of more than 17 days, as being a risk factor for patient violence. Reasons for this could include boredom in patients during long admissions, as well as frustration regarding being hospitalised and wanting to be discharged home at the earliest. Sterkfontein Hospital houses forensic patients that are at times arrested on charges involving violent crime and could be more likely to have a propensity towards violent behaviour. The involuntary nature of admission of patients to Sterkfontein Hospital due to aggression also increases the risk of violence caused by patients, and this concurs with the findings in Abderhaldens[1] study. The number of trained security personnel at Sterkfontein Hospital is limited as the acute general wards do not have security personnel in the wards that can assist with violent episodes. In the forensic wards there are only 2 police officers for every 30 patients. The above numbers could contribute towards increased staff violence as they often have to deal with violent patients without assistance from trained security personnel.

5.5 Number of Injuries

Of those that were injured, 15% reported one injury, 8.3% reported two injuries and 5% reported three injuries. Staff had to give feedback on events that occurred a while ago and the risk of subjective recall bias is possible, when recalling the number of injuries sustained. The possibility of staff managing aggressive patients fairly effectively, could

also be considered when reviewing the average number of injuries per person. However, the cumulative number of injuries still remains high, as is evident by the injury stats that are recorded monthly at Sterkfontein Hospital, for the period from April 2011 to March 2012, where 177 injuries were reported.

5.6 Types of Physical Injuries Sustained

The majority of subjects failed to respond to this question. Physical injuries sustained included human bites, soft tissue injuries, multiple facial injuries and a small number reported head injuries. All of the above injuries are physically significant and human bites carry the added burden of possible HIV exposure and transmission. The injuries mentioned above also result in time being taken off work in order to recover, thus further increasing the staff shortages amongst medical personnel. This in turn increases the burden on staff and could compromise patient care.

5.7 Feelings after the Incident

The majority of subjects reported no immediate negative feelings after the incident. However, of the patients that did experience emotional distress, the majority reported feeling anxious or angry followed by a small number that were scared and shocked. This could be due to the fact that after an assault staff might still be in a state of shock and thus find it difficult to process their emotions. Staff might also feel that in psychiatry patient violence is part of the job and is something that is to be expected, and could thus minimize the impact of the assault. Of those that did experience negative responses, anxiety was common, possibly due to fear of the violence repeating itself. This initial anxiety can predispose to the development of acute stress disorder or PTSD in the future. Feelings of anger might be due to the fact that staff feel angry at themselves for not being able to cope with and prevent the assault as well as anger towards the perpetrators for having harmed them, which concurs with the study by Orth.[19] Staff might also have felt anger towards superiors and the institution for failing to provide adequate security measures.

5.8 Time of Day during which Incident Occurred

In this Sterkfontein Hospital study the majority of the incidents occurred during the day when there are more staff on duty. This finding of more violent incidents occuring during the day is supported by two studies in the literature. One study found that attacks occur more frequently during the week at times when staff are more actively involved with the patients.[20] Another study found that patients behave more aggressively when they are bored and this is most likely to occur during the day when patients are awake.[17] One would expect a greater number of adverse incidents at night due to having less personnel during this time. However, in this study various factors could contribute to the opposite being found, including the fact that most patients are given antipsychotic medication or sedation as a nocte dose and are consequently more sedated after 7 pm and thus less likely to act on their violent tendencies. Junior and student nurses are also on duty before 7 pm and are thus more vulnerable to injuries during their interaction with patients. However, in total, 29.6 % of junior nurses were injured as opposed to 48.1% of senior nurses. The maximum amount of patient contact time and activity time also occurs during the day, therefore this could predispose to an increased risk of violent episodes. It should be noted that at Sterkfontein Hospital the majority of the patients are acutely aggressive and acutely ill and cannot engage in ward activities like occupational therapy, causing boredom and leading to irritability and aggression.

5.9 Impact of Events Scale – Revised Version (IES-R)

The evidence in this study suggests that there is no difference in the experiencing of avoidance and intrusion between males and females. However, the distribution of hyperarousal across all categories of gender showed that hyperarousal was more common amongst female patients and this is consistent with Gustafsson*'s*[21] study that showed higher scores on the hyperarousal scale in women as opposed to men. Epidemiologically there may be a biological reason why anxiety and other stress related psychiatric disorders are more prevalent in female patients.[22] This could be linked to findings that females are more sensitive to low levels of stress hormone and are less

likely to adapt to higher levels than males.[22] In the current study there is evidence to suggest that the experiencing of PTSD symptoms is the same across categories of marital status and work experience. However, we might have expected married individuals to have better social support and thus have a decreased vulnerability towards developing PTSD symptoms.

With regards to work experience one can hypothesize that exposure to patient violence is anxiety provoking in general and can possibly cause emotional distress and PTSD irrespective of one's work experience. When testing whether the distribution of PTSD was the same across all categories of education level and professional status, there is sufficient evidence to suggest that the distribution of PTSD is not the same across all levels of education and professional status respectively. However further analysis of the above data was not possible due to an insufficient number of responses within each subcategory, which limited the ability to carry out further analyses like Anova Testing, that would have allowed us to stratify which specific categories predispose to developing PTSD.

In this study the experiencing of PTSD symptoms was not the same across the category of attendance at aggression management workshops. Testing showed that the experiencing of PTSD symptoms was the same across the category of time elapsed since attendance at aggression management workshops. There was insufficient evidence to suggest that the experiencing of PTSD was the same across all categories of injuries. In our study it was concluded that the experiencing of PTSD was not the same across the category of feelings encountered after a violent episode. The above is contrasted in the literature by Brewin's[23] study that suggests that individuals with acute stress disorder are likely to develop PTSD later on. Individuals who have acute dissociative responses to trauma, usually develop a chronic pattern of dissociation with minor stressors or reminders of the original trauma. Brewin[23] demonstrated a close relationship between ASD and chronic PTSD. He found that the presence or absence of a diagnosis of ASD predicted PTSD status at 6 months in 83% of cases. One retrospective study by Barton[24] found that individuals with exposure to prior trauma or

with more psychiatric dysfunction were more likely to develop PTSD when confronted with a new traumatic stressor.

In our study there was evidence to suggest that the experiencing of PTSD was not the same across the category of being adequately equipped to handle aggression. At Sterkfontein Hospital staff are working in an environment with volatile patients daily, and there are numerous cues and reminders in the ward to stimulate stress responses and PTSD symptoms. If staff are exposed to violence but do not feel able to protect themselves, anxiety features increase, as well as a feeling of helplessness. This can lead to feelings of low morale and absenteeism.

5.10 Limitations

The sample size was very small with a poor response rate of 16% and may thus not be reflective of the true impact of exposure to violence and aggression at Sterkfontein Hospital. Survey studies have an inherent bias in that it is a voluntary process and those that decline to participate might have had different responses to the study sample. Reliability may be a problem as we have had to rely on people giving accurate information about incidents that may have occurred some-time back. There is a possibility of under-reporting by staff due to the stigma of victimization or fear of job loss as well as the possibility of exaggeration of reporting by staff in aid of anticipating possible compensation. The study is not generalisable to other hospital settings as it is a specialized psychiatric hospital that focuses on treating a large number of involuntary users and forensic offenders as opposed to just the general psychiatric population. There were a number of questions where data was missing and this could have skewed the results. Additional correlation testing was hampered by the small sample size and definitive conclusions could thus not be reached in certain areas. In this study only staff specific risk factors that predisposed to patient aggression were considered. The exclusion of relevant patient specific risk factors in this study is a further limitation. The failure to include psychologists, occupational therapists and social workers could also be considered as a limiting factor. One has to consider an over-report bias as

participants could have interpreted “exposure to violence”, in Appendix 2 as both witnessing patient to patient violence as well as injuries experienced by themselves.

CHAPTER 6

RECOMMENDATIONS AND CONCLUSIONS

6.0 RECOMMENDATIONS AND CONCLUSIONS

6.1 Recommendations

Medical staff are at risk of being victims of aggression, both physical and verbal, and this may have implications for their own emotional well-being and morale. It is evident that most staff do not feel equipped to handle aggressive patients even though they have attended workshops on aggression management. It might perhaps be useful to revise the content of the workshops and to see that it is easily understood by all staff. At Sterkfontein Hospital there are no security guards stationed in the acute wards that house involuntary patients. In the forensic wards there are two police officers per 30 patients. Therefore increasing the security complement or recruiting ward orderlies in the wards might help to assist in the acute management of aggressive patients and also allow staff to feel more at ease. It would be interesting to know the profile of patients that are likely to be aggressive and perhaps a further study investigating this would be useful.

It is recommended that staff members that are exposed to violence have access to counseling after violent incidents so that those at risk for the development of PTSD may be screened for. The presence of PTSD symptoms can lead to absenteeism and low morale amongst staff. Psychologists are available to staff at Sterkfontein Hospital if needed, after exposure to violence. Due to staff shortages and the low number of staff compared to the number of patients, staff are often overwhelmed and could feel even less likely to cope in the event of patient violence. A lack of manpower also makes encounters with violent patients more difficult to contain. Increasing the number of staff on duty per shift might also be beneficial. There should be a higher number of professional nurses who can support and provide training to student nurses.

6.2 Conclusions

Injuries to medical staff caused by mental health care users remains a problem in psychiatric hospitals. Certain risk factors that predispose staff to violence are identified, however not all risk factors are modifiable. The psychological impact of such events on staff can progress to the development of PTSD symptoms which can in turn contribute to low morale at work, absenteeism and decreased productivity. Trauma counselling is available to those that wish to utilize the service, however support from friends and family may also be helpful in this regard.

CHAPTER 7

REFERENCES

7.0 REFERENCES

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APPENDIX 1

SUBJECT INFORMATION AND INFORMED CONSENT

Hello, my name is Dr. Mangrey and I am a third year registrar in the department of psychiatry at Wits.

I am currently engaged in a research project to investigate the rate and impact of injuries caused by patients to staff at Sterkfontein Hospital, and I would like to invite you to participate in this research study. Participation is voluntary and refusal to participate will involve no penalty or loss of benefits to which you are entitled. You may discontinue participation at any time without any penalty. A cross-sectional survey will be administered to all categories of nursing staff and doctors at Sterkfontein Hospital. The sample size is 471 approximately. The survey will include a questionnaire that enquires about biographical details, staff status and experience, attendance at workshops on aggression, number of injuries obtained by staff at Sterkfontein Hospital, time of day during which incidents occurred, number of staff on duty when the incident occurred, to ascertain feelings that staff encountered immediately after the violent incident.

In order to measure the effect that the incidents had on staff emotionally the impact of events scale will be used. The duration of the study will be approximately six months.

As a participant you will be expected to fill in the questionnaire that follows as well as the impact of events scale. I would like to reinforce that your participation is voluntary and that all information in the questionnaire is confidential. It also cannot be used to assist in any legal or personnel related proceedings related to injury on duty. Kindly complete the following simple questionnaire.

I have read the information on the study by Dr K. Mangrey and I understand the above clauses including the anonymity clause.

I would like to participate in the study

Signed:

Date:

I would like to withdraw from any further participation in the study

Signed:

Date: