Emergency Department Turnover Intention: Are Job Satisfaction and Burnout Really the Main Culprits?

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A Research Report submitted to the Faculty of Health Sciences of the University of the Witwatersrand, Johannesburg, South Africa in partial fulfilment of the requirements for the degree of Master of Medicine in Emergency Medicine

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Yvonne Jonker

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Dedication:

I dedicate this work to my friend and husband, Clemons Carstens. Thank you for your loving support and encouragement. You give me the strength and courage I need to succeed.

I also want to thank my adult children, Philip, Michael and Kaylen who have allowed me and encouraged me to spread my wings and follow my dreams.

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Author 1 (student) YJ: Responsible for the study design, administering the survey, data analysis and write up.

Author 2 (main supervisor) FM: Contributed towards review, revision and approval of the manuscript.

Author 3 (co-supervisor) MM: Contributed towards review and approval of the manuscript.

Submission letter to the editor

Dear Editor – The South African Medical Journal

Thank you for considering our article entitled: 'Emergency Department Turnover Intention: Are Job Satisfaction and Burnout Really the Main Culprits?'

High staff turnover is detrimental to the effective functioning of emergency departments and it negatively affects the healthcare workers, the health organisation and the patients. The South African research priorities for 2021-2024 as set out by the National Department of Health include the need for research on healthcare worker dissatisfaction, burnout, and the retention of staff.

Although studies exist regarding burnout, job satisfaction and intention to leave, these were mostly international studies or studies regarding nursing. There are no studies examining the medical staff working at the main tertiary level emergency departments in Gauteng, South Africa.

We conducted a questionnaire-based study with the aim to compare and describe the levels of burnout, job satisfaction and intention to leave among the doctors and nurses in these emergency units. This research further highlighted how soon and for what reasons staff intended to leave, and the different perceptions of doctors compared to nurses. The effect of the Covid-19 pandemic and violence was also included in this study, which sets it apart from previous research studies.

We are certain that this article will appeal to the readership of the "The South African Journal of Medicine". Furthermore, it carries a high citation potential, as these matters are topical and of great concern to emergency units worldwide.

Kind Regards,

Yvonne Jonker (Primary author, student)

Prof Feroza Motara (Supervisor)

Dr Muhammed Moolla (Supervisor)

Abbreviations:

BO	burnout
CHBAH	Chris Hani Baragwanath Academic Hospital
CMJAH	Charlotte Maxeke Johannesburg Academic Hospital
DoH	Department of Health
ED	emergency department
HCW	healthcare worker
ItL	intention to leave
JS	job satisfaction
TO	turnover

Emergency Department Turnover Intention: Are Job Satisfaction and Burnout Really the Main Culprits?

Structured Abstract:

Background: Patient presentations to emergency departments (ED) keep increasing. High staff turnover is detrimental to the healthcare worker (HCW), the organisation and the patient. While high levels of burnout (BO) and low levels of job satisfaction (JS) lead to a higher intention to leave (ItL), there are other factors affecting the ItL that need to be evaluated.

Objective: To determine the levels of BO, JS and ItL, including when, where and why HCWs want to leave in order to find ways to reduce staff turnover.

Methods: This was a prospective observational cross-sectional study conducted in two tertiary-level EDs in Johannesburg, South Africa namely Chris Hani Baragwanath Academic Hospital (CHBAH) and Charlotte Maxeke Johannesburg Academic Hospital (CMJAH). Doctors and nurses were invited to complete self-administered questionnaires between 24 November 2020 and 24 March 2021. After analysis the results for doctors and nurses and the two units were compared in order to bring understanding to the different facets affecting staff turnover.

Results: A total of 78 respondents (66% of doctors and 58% of nurses) completed questionnaires and were included for analysis. According to the Copenhagen Burnout Inventory 79% of CHBAH doctors, 62% of CHBAH nurses, 79% of CMJAH doctors and 84% of CMJAH nurses suffered from severe personal burnout, while 68% of CHBAH doctors, 62% of CHBAH nurses, 95% of CMJAH doctors and 68% of CMJAH nurses suffered from severe work-related BO and 42% for CHBAH doctors, 24% of CHBAH nurses, 47% of CMJAH doctors and 32% of CMJAH nurses had severe patient-related burnout. Doctors had significantly higher patient-related burnout ($p=0.012$). JS was average for all staff but nurses were significantly less satisfied ($p=0.003$). While 42% of staff intended to leave within a year, of which half wanted to leave as soon as possible, a total of 73 % wanted to leave within 5 years. CMJAH staff had higher levels of BO, lower levels of JS and higher levels of ItL. Higher levels of BO and lower levels of JS increased the ItL. The main reasons for leaving were career-related.

Conclusion: Burnout levels were higher than similar populations before and during the Covid-19 pandemic, while job satisfaction levels were average. Although burnout and job satisfaction affected intention to leave, the main reasons for wanting to leave were career-related indicating that even when work conditions and burnout could be addressed successfully, the turnover of staff in tertiary level EDs may remain high.

Introduction

Healthcare worldwide is facing an increasing demand for healthcare workers (HCWs) to cope with the growing number of patients presenting to healthcare facilities. A 2019 USA study indicated that Emergency department (ED) visits were increasing twice as fast as population growth.[1] In South African EDs the patient burden is so large that it is challenging to assess and dispose of patients timeously. All too often this falls out of the timelines as prescribed by the South African Triage System.[2] Patient numbers are expected to continue increasing in time, attributable to increased population growth, an aging populace, an increase in communicable and non-communicable diseases, and increased total life expectancy years relative to healthy life expectancy years.[3] A lack of local health resources and lower staff-to-patient ratios compared to developed countries further compounds the challenges.[3]

The increased workload, overcrowding, staff shortages and resource constraints can lead to work-related stress, dissatisfaction and a higher staff turnover (TO), which further compounds an already strained health system.[4,5] It negatively impacts on the workforce, the health organisation and the patients.[5-7] Medical workers remaining at a facility are faced with a larger workload and increased demands, causing an ongoing cycle of dissatisfaction and work stress which may lead to more staff leaving.[4]Teamwork and organisational flow become disrupted.[4] There are substantial costs to recruit and train new staff, and employing temporary agency nurses and sessional doctors to cover the shortfall adds to the costs.[6-7] Of greater concern is the negative impact on patients' clinical outcome. Exhausted and overworked staff are prone to clinical and non-clinical errors.[6-7] Patient dissatisfaction also increases.[8]

In order to offer superior care in EDs, it is thus imperative to explore the contributing factors to staff TO and to find ways to address this problem. TO rates can be predicted by the intention to leave (ItL), which increases when burnout (BO) increases or when job satisfaction (JS) decreases.[9-10] BO and JS correlate strongly.[9,11-12] ED staff work in physically, emotionally and mentally demanding environments which strongly contribute to BO.[13-14] Being exposed to large amounts of patients, an unpredictable work nature, a vast amount of human suffering and violence is undoubtedly demanding.[4,15-17] The ED practitioner acts as an advocate for the patient to other healthcare professional, which is often a task fraught with its own contests. ED staff are hence faced with very specific challenges that affect BO, JS and staff turnover.[4,13-14]

Experiencing violence can lead to lower levels of JS, higher levels of BO and a higher ItL.[11,16-18] While JS, BO and violence directly impact the ItL, there are many other factors resulting in employee resignation.[4,9-10,19-21] Employee resignations are influenced by factors unrelated to BO, such as, career progression, skills acquisition, life changes, etc.

The SA research priorities for 2021-2024 as set out by the National Department of Health (DoH) include the need for research on HCW dissatisfaction, burnout, and the retention of staff.[22] The aim of this research was to examine these issues among doctors and nurses working in the Medical EDs of the two tertiary hospitals in Johannesburg, SA. While considering staff demographics and working conditions, the prevalence of BO, JS and ItL was quantified and compared between the two units and between doctors and nurses. Burnout, JS and demographics were correlated with ItL to determine the effect on turnover. Moreover, when, where and the reasons why staff wanted to leave was examined in order to understand the factors contributing to staff TO.

Methods

Study design and context:

This study was a prospective observational cross-sectional study. Research took place in the Medical Emergency Unit at the Chris Hani Baragwaneth Academic Hospital (CHBAH) in Soweto, a tertiary hospital, and the Medical and Surgical Emergency Department at the Charlotte Maxeke Johannesburg Academic Hospital (CMJAH), a central referral hospital in Gauteng.

Participants and Data Collection:

The inclusion criterion was full-time employment as a nurse or doctor with the DoH during the period of data collection between 24 November 2020 and 24 March 2021. HCWs who worked in ED as part of compulsory training or community service, sessional doctors and agency nurses were excluded from the study.

The medical workers were invited to complete an anonymous, self-administered paper-based questionnaire. (Appendix A) The questionnaires were explained and distributed during academic meetings and on various shifts in order to reach all staff teams. Completed questionnaires and consent forms were placed in sealed boxes to maintain anonymity.

Instrumentation:

Job Satisfaction: The survey published by Delobelle et al was used.[23] Internal consistency (Cronbach's α) was 0.81. Furthermore the participants were asked to name 3 components they enjoyed most and least about their work and these answers were divided into the six categories as investigated by the survey.

Burnout: The Copenhagen Burnout Inventory was chosen because of its accuracy in patient-based occupations.[24] Internal consistency (Cronbach's α) was 0.87, 0.87, and 0.85. Various studies have used 50 as the cut-off for severe burnout.[25-28]

Intention to leave: The questions published by Scanlon et al were used.[9] Internal consistency (Cronbach's α) was 0.87. Additionally, respondents indicated when, where and why they wanted to leave.

Current concerns: HCWs were asked to rate how much violence, infection risk and the Covid-19 pandemic affected them.

Analysis:

After collecting data using Microsoft Excel™, statistical analyses were conducted in R software (version 4.00; www.R-project.org). The data sets were tested for normality using the Shapiro–Wilk test and examined using Q-Q plots. BO, JS and ItL scores deviated from normality and were analyzed using General Linear Models (GLM) in the glm2 package. The

correlation between BO, JS, ItL and other factors were analysed using Spearman correlations. Tests were two-tailed and model significance set at 0.05.

Results

Research was planned before the Covid-19 pandemic and while the pandemic was not considered a major factor in the protocol, the researcher is mindful that the stress from working in ED during the pandemic may have influenced the negative perceptions of some of the respondents.

A total of 78 respondents (66% of doctors and 58% of nurses) completed questionnaires and were included for analysis.

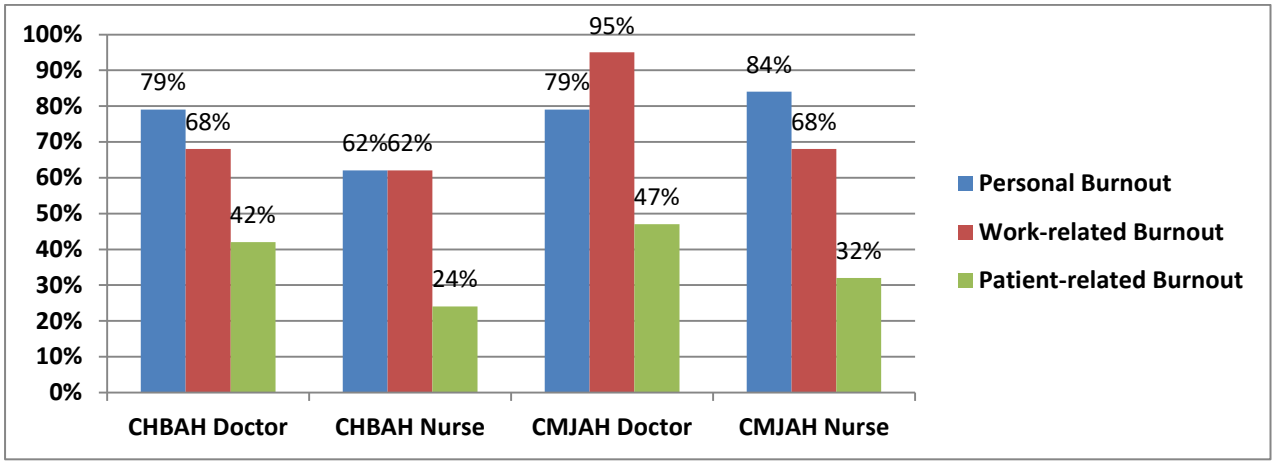
Demographics and working conditions

Table 1: Demographic characteristics of respondents

	CHBAH			CMJAH		
	Doctor	**Nurse**		**Doctor**	**Nurse**	
Sex						
Female	9(47%)	18(86%)	27	14(74%)	17(89%)	31
Male	10(53%)	3(14%)	13	5(26%)	2(11%)	7
Age						
25-40	16(84%)	10(47%)	26	15(78%)	13(69%)	28
>40	3(16%)	11(53%)	14	4(22%)	6(31%)	10
Time registered						
<3	-	4(19%)	4	4(21%)	1(5%)	5
3 to 6	12(63%)	8(38%)	20	4(21%)	6(32%)	10
≥7	7(37%)	9(43%)	16	11(58%)	12(63%)	23
Time in any ED						
<3	8(42%)	10(48%)	18	8(42%)	8(42%)	16
3 to 6	9(47%)	6(29%)	15	7(37%)	2(11%)	9
≥7	2(11%)	5(24%)	7	4(22%)	9(47%)	13
Time in current ED						
<3	12(63%)	10(48%)	22	14(74%)	8(42%)	22
3 to 6	5(26%)	6(29%)	11	4(21%)	2(11%)	6
≥7	2(11%)	5(24%)	7	1(5%)	9(47%)	10

Burnout, Job Satisfaction, and Intention to leave

Figure 1: Percentage of severe burnout components.



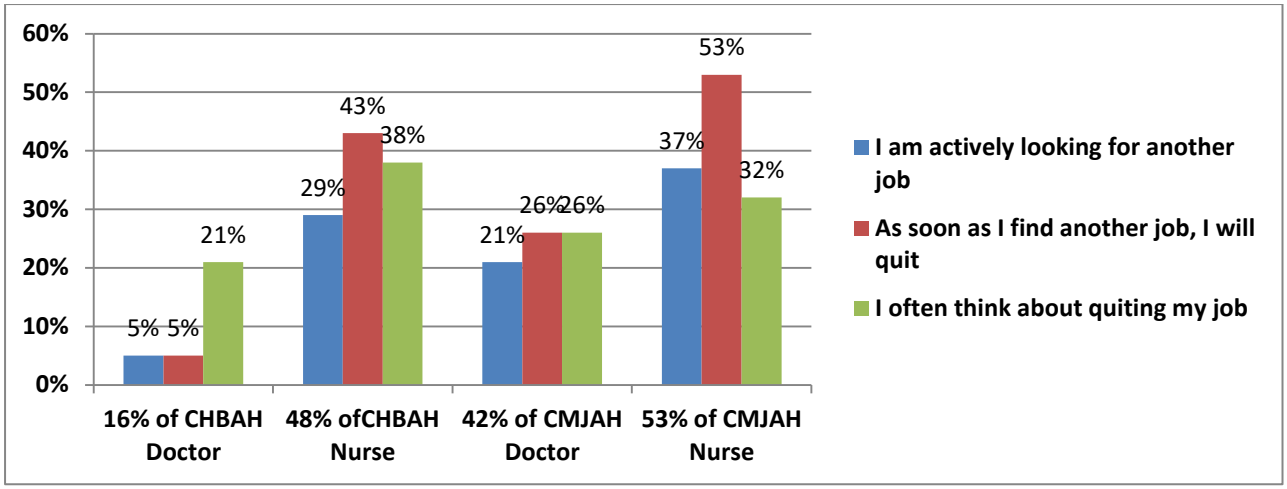
Burnout mean score and (SD) was 59(18), 54(16), 47(24) for CHBAH doctors, 54(20), 57(21), 27(23) for CHBAH nurses, 63(14), 61(8), 43(16) for CMJAH doctors and 63(16), 59(20), 35(26) for CMJAH nurses.

Table 2: Mean scores (SD) of Job Satisfaction.

	Supervision	Work Nature	Work Conditions	Training	Co-worker	Pay	Total Job Satisfaction
CHBAH Doctor	**3.6**(0.6)	**4.2**(0.3)	**3.2**(0.8)	**3.9**(0.7)	**4.4**(0.5)	**3.1**(1)	**3.7**(0.4)
CHBAH Nurse	**3.1**(1.3)*	**4.2**(0.7)	**2.8**(0.9)	**3.3**(1.1)**	**4.1**(0.7)	**2**(1.3)**	**3.3**(0.7)**
CMJAH Doctor	**3.1**(0.9)*	**3.9**(0.5)	**2.5**(0.6)**	**3.8**(0.5)	**4**(0.6)	**3.4**(1)	**3.5**(0.4)
CMJAH Nurse	**3.6**(0.9)	**4.1**(0.6)	**3.1**(0.8)	**2.9**(0.5)**	**3.9**(0.9)	**1.9**(1)**	**3.3**(0.6)**
Median P value	*0.066*		0.006	<0.001		<0.001	0.003
ALL STAFF	***3.3****(1)*	***4.1****(0.6)*	***2.9****(0.8)*	***3.5****(1)*	***4.1****(0.7)*	***2.6****(1.3)*	***3.4****(0.6)*

*=trend to significance, **=significant 1

Figure 2: Percentages of staff answering 'yes' to Intention to leave questions.



When, where and why staff intend to leave

Figure 3: Timing of Intention to Leave.

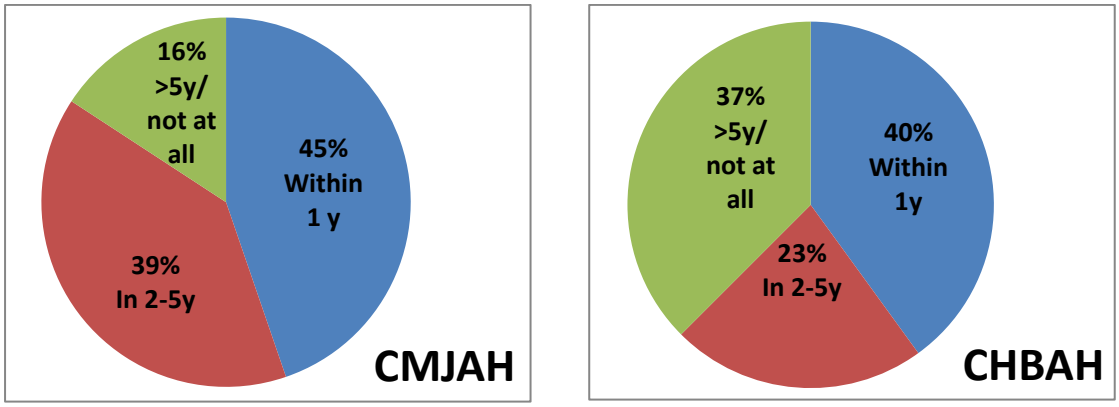
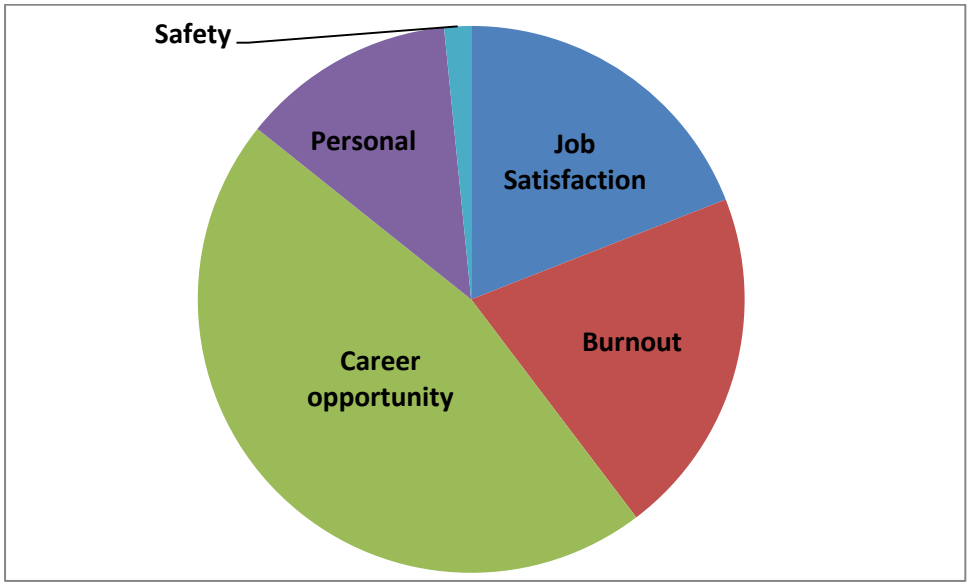
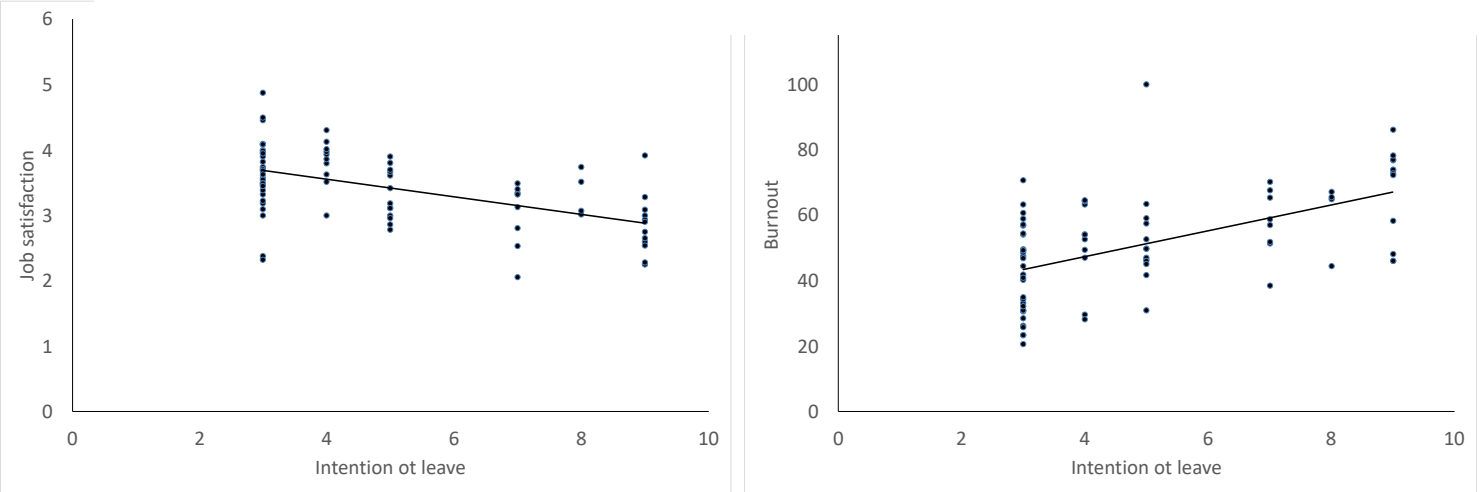


Figure 4: Main reasons for Intention to Leave



Statistical correlations

Figure 5: Correlation between Burnout, Job Satisfaction and Intention to Leave.



The Spearman correlation between ItL and JS in all respondents showed a significantly negative relationship. (Spearman rho = -0.52, $p < 0.001$) There was a significantly positive relationship between ItL and BO. (Spearman rho = 0.54, $p < 0.001$)

Table 3: Statistically significant correlations to ItL questions.

	'I am actively looking for a job'	'As soon as I find another job I will leave'	'I often think about leaving my job'
Supervision	Lower all questions (p=0.01)		
Work Nature			Lower(p=0.01)
Work Conditions			Lower(p=0.00)
Training	Lower all questions (p=0.01)		
Co-workers	Lower all questions (p=0.02)		
Pay		Lower(p=0.04)	
Personal Burnout	Higher all questions (p=0.00)		
Work-Related Burnout	Higher all questions (p=0.00)		
Patient-Related Burnout			Higher(p=0.00)
Violence	Higher all questions (p=0.02)		

'I am actively looking for a job' showed a statistical significance with place of work (CMJAH p=0.04) and time in current ED (11-15 years in current ED p<0.005)

'As soon as I find another job I will leave' showed a statistical significance for job type (nurse p<0.005), place of work (CMJAH p=0.04), gender (female p=0.03), time in any ED (11-15 years p=0.03) and time in current ED (11-15 years p=0.03).

There was no significant correlation to 'I often think about leaving my job'

Discussion

The BO scores and the percentage of staff with severe BO were higher than other similar populations, even when compared to HCWs during the Covid-19 pandemic.[25-31] Although caring for patients during the pandemic leads to higher BO scores[21], staff who worked in ED or critical care before the pandemic had higher BO levels than other HCWs, implying that BO in ED staff members was cumulative.[26] Doctors had a significantly higher level of patient-related BO than nurses (p=0.012), which was similar in other populations.[31]

HCWs were moderately satisfied with their jobs; however, nurses were less satisfied than doctors (p=0.003), similar to nurses in rural SA.[23] Doctors were more satisfied because of a significantly higher pay score (p=<0.001) and training score (p=<0.001). Similar to other studies CHBAH HCWs were most satisfied with work nature and co-worker relationships, and least satisfied with working conditions and pay.[4,23] Negativity about working conditions by all HCWs was mostly due to the lack of resources and staff. Furthermore, CHBAH doctors mentioned problems with patient overflow and delayed X-ray access, CMJAH doctors mentioned problems with overcrowding, overstay and the lack of ventilation in the work environment, while nurses added complaints about abuse by patients and families. In a Canadian ED, overcrowding due to a lack of resources, including low staffing levels and not having access to enough ED beds or hospital technology had the greatest negative impact on JS.[5] Access block and overcrowding is a problem in SA public health facilities.[2,15,32]

CMJAH staff did not follow the same pattern as other studies.[4,23] CMJAH nurses were least satisfied with work conditions and training. The lack of training and staff development have been shown to decrease JS and lead to a higher ItL.[33-34] CMJAH doctors were least satisfied with work conditions and supervision. Supervisor communication and managerial style can have a significant effect on work environment perception, JS and ItL.[35-36] When supervisors support staff members to feel part of the team it significantly decreases ItL.[37] CMJAH doctors scored lower than the other three groups to the question about feeling part of the team. In rural nurses in South Africa, it was found that when results were controlled for age, education, years since registration and time in unit, supervision was the only facet explaining ItL.[23] It is noteworthy that work conditions, which scored low among all groups, was only significantly linked to thinking about leaving, while supervision was linked to all three ItL questions .

The ItL score of staff was higher than other HCWs using the same score.[9] HCWs in developed countries have a lower ItL compared to developing countries.[10] In 2013 41.5% of HCWs in South Africa were actively looking for another job, compared to 23% in this study.[10] While 40% of HCWs indicated that they intended to leave (50% of nurses and 29% of doctors), 42% wanted to leave within a year, whereas 73% of all staff wanted to leave within 5 years. The staff members intending to leave in 2-5 years have not been actively looking for a new job and were not often thinking about it. This means that the ItL questions will only indicate possible staff TO over the next year and do not take into account those who will leave later.

When considering that 42% of HCWs wanted to leave within a year and half of those wanted to leave as soon as possible, and the fact that 37% of staff have been working in their units for less than a year, it is clear that staff TO in these units is indeed high. Nurses had a higher ItL score than doctors, especially CMJAH nurses (p=0.046). This is different to a Chinese study where doctors had a greater ItL than nurses.[33] However, most nurses have been working in their respective units for more than 3 years and almost half of CMJAH nurses

have been working in the same unit for more than 7 years. This could indicate that although they intend to leave, their actual TO was not as high as that of doctors. A possible reason may be that there are not many promotion opportunities or that their lack of ongoing training, as mentioned by CMJAH nurses, had a direct impact on their ability to find other work.[33-34,38]

A total of 45% of HCWs wanted to leave their current departments. The rest (55%) no longer wanted to work in ED (more CMJAH staff) or in public health (more CHBAH staff), wanted to emigrate (more CHBAH staff) or wanted to change careers (only CMJAH doctors). This means that 45% of doctors and nurses may still be available to work in an ED if their reasons for wanting to leave could be addressed.

ED staff, especially nurses, younger staff members, those with less experience and males are at a high risk of violence, which can include physical violence, verbal abuse or intimidation.[16] Although 42% of HCWs indicated that violence affected them 'severely' or 'a lot', only 8% mentioned safety concerns as a reason for leaving. Violence can become so normalised that it is seen as a standard part of work in ED.[4] While contracting an infection and the Covid-19 pandemic caused more concern than violence, it was not given as a reason for leaving nor was it significantly related to ItL, but it may nevertheless influence BO and JS which ultimately influences ItL.

There were clear differences between the results of the two units. CMJAH staff had higher levels of BO, lower levels of JS and higher levels of ItL. CMJAH doctors had significantly lower work condition scores ($p=0.006$). There are several possible explanations. CMJAH is classified as a central referral hospital with the ED receiving more priority 1 patients from peripheral hospitals. While in practice this is not always the case, as CHBAH also receives priority 1 and unstable patients, the system in CMJAH is set up to cope mainly with higher acuity patients. This means that patients require more in-depth evaluation before referral to the relevant speciality and sub-speciality for further care. In CHBAH only high care or intensive care needs are discussed with other departments, while other patients are admitted directly into the medical wards. This system in CMJAH leads to friction, work-related stress and dissatisfaction. The results of the CMJAH staff members may also be a reflection of the fact that CMJAH was the dedicated P1 Covid-19 unit in Johannesburg.

Furthermore, CMJAH has more problems with access block and overcrowding which is shown to increase stress, decrease JS and increase ItL.[4-5,32] Of note are several comments made by CMJAH staff regarding the overstay of mental healthcare users, who may stay in ED for several days before a bed in the ward becomes available. This not only leads to more stress and resource limitations, but also contributes to the safety concerns of staff members.

The structuring of the rosters in each unit is very different and may contribute to different perceptions of working conditions or negative feelings about work.[12] The rosters in CHBAH for doctors have been structured in such a way that they work a large amount of hours one week and then have time off the next week to restore and destress. Out of all 4 groups CHBAH doctors had the lowest work-related stress score, the highest JS score and the lowest ItL score.

Lastly HCWs at CMJAH have been working in ED for longer. Working in any ED for 11-15 years significantly increased the likelihood of wanting to leave as soon as a new job was found ($p=0.03$). Work at a central referral hospital may be seen as a superior employment opportunity.

Similar to other studies lower levels of JS and higher levels of BO lead to an increased ItL.[4,9] However, what is interesting in this research is that the biggest reason for ItL was career opportunities and not JS or BO. Career related reasons included wanting to study further, wanting to change careers, wanting to work in a different department or in private health or wanting promotion opportunities. Perhaps HCWs don't realise that they are experiencing BO, or those who choose to work in ED anticipate a higher level of stress and work-related problems as part of a career in Emergency Medicine, but feel that they can cope with this. Furthermore, the fact that most staff wanted to leave for career reasons could be explained by the younger age of this population (most ≤ 40 years).Younger workers are more likely to leave in favour of better opportunities.[33] Anecdotally, the ED is seen as an entry point to not only Emergency Medicine but also other specialities. The variety of work exposes new graduates to various disciplines and they gain valuable skills and experience needed for future career opportunities. However, once HCWs are trained beyond a certain level there are few promotion opportunities in the same unit. Up to 25% of nurses wanted to leave for promotion opportunities. These opportunities are more limited for nursing staff working in public health in SA than in developed countries.[19,38]

This research was significant in the fact that it pointed out when, where and why staff wanted to leave, indicating that the turnover intention in ED is high and that the retention of long term staff is problematic.

Recommendations:

It is imperative that the DoH and hospital management consider ways of reducing BO and improving JS.

BO can be reduced by considering the way rosters are planned. As long as contracted hours are covered there should be no other limitations on the way rosters are structured. HCWs need a better work-life balance and opportunities for debriefing. Supervisors and managers may need training to improve staff BO recognition, communication and support. Toolkits applied for this purpose have been shown to significantly decrease BO and to have a visible effect on TO.[30,39] Employing supervisors with relational competencies and offering onsite workshops on conflict management to staff will increase teamwork and further decrease the ItL.[35-37,40] Finally, a transformational leadership style, where leaders inspire and motivate staff has been shown to have a direct effect on ItL.[36]

JS can be enhanced by improving work conditions and remuneration for staff members. Work conditions can be upgraded by making sure the work environment is modern, clean and functioning, by increasing staffing levels and other resources and by planning ways of reducing access block.[4-5] Safety should be a priority for hospital administrators. While it is challenging in a resource-limited environment to correct all the concerns regarding work conditions and remuneration, it may be possible to address the supervision and training concerns of staff. If supervisors spend more time on the floor in ED working alongside their staff members, they will be more able to recognise any problems in the system or with staff members, and there will be ample opportunity for bedside or onsite training.

Career progression has been shown to increase staff TO, but it may still be beneficial to increase the workforce by appointing HCWs who want to study further and consider ways to create career opportunities in ED. The alternative is staff who remain longer but who suffer from cumulative stress, or temporary staff who disrupt organisational flow. These staff members will be determined to learn and to work towards their own personal goals. They can be an important and effective part of the team by working alongside more experienced staff

initially and by receiving on-site training. It is imperative that career advancement opportunities, training and supervision is optimal for this to be successful.

Limitations:

There were no private EDs assessed to determine if BO, JS and ItL might be different in the private sector. Only nurses and doctors were included and none of the allied, auxiliary or administrative staff were tested for these factors.

The effect of the Covid-19 pandemic on the level of BO, JS and ItL has not been determined. When looking at the findings of recent research, it is likely to have negatively affected all components.[26-28] It would be insightful to repeat this research after the pandemic has passed.

Promotion opportunities were not considered in the JS survey, yet more staff indicated that they would resign because of a lack of promotion opportunities compared to remuneration. The effects of violence were also not included in the JS survey, but were asked about in a separate portion. The effect of violence on JS and BO was not analysed in this study. There was however a significant effect on the ItL questions.

The difference in rosters between the two units for doctors was mentioned and yet this was not tested as a possible cause for the lower levels of BO and higher levels of JS among CHBAH doctors.

ItL was examined, but it was not compared to the actual TO experience in these units.

Conclusion

The doctors and nurses in the two tertiary level EDs in Johannesburg, South Africa, had a higher level of burnout than their international peers both before and during the Covid-19 pandemic. They had a moderate level of job satisfaction; however, this research highlighted specific problems that affected job satisfaction which may be more relevant in the South African resource-limited context and perhaps unique to tertiary level care.

The high intention to leave was similar to other middle-income countries. As expected higher levels of burnout and lower levels of job satisfaction led to an increased intention to leave. However, the main reason for intention to leave in this population was career-related reasons. Emergency departments in tertiary-level hospitals are likely to employ more staff who are career orientated because of the training opportunities and the academic nature of these units. While 42% of staff intended to leave within a year, half of these wanted to leave as soon as possible, and a total of 73% wanted to leave in 5 years. The high turnover of staff can negatively impact the organisational flow of the ED unit.

There are several aspects that affect burnout and job satisfaction, besides the resource constraints, which need further research in order to find solutions that will improve staff well-being and may improve staff retention. This includes the prevalence of violence, the lack of promotion opportunities and training especially for nurses, and the managerial styles of different units. Tertiary level EDs need to find ways to improve work perceptions and teamwork amidst the high turnover of staff as this is unlikely to change.

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Appendix A: Data Collection Sheet

Section 1: The following are general demographic questions about you :

1. What is your Sex?

Male	*Female*

2. What is your Age?

<25	*25-30*	*31-40*	*41-50*	*51-60*	*>60*

3. Where do you currently work?

CMJAH	*CHBAH*

4. Are you a doctor or part of the nursing staff?

Doctor	*Nurse*

5. The following question is about the length of time after qualifying, the total time working in an emergency department and the total time spent in the current unit:

Total time after registration	**Total time in any Emergency Department**	**Total time in current Emergency Department**
<1 year	*<1 year*	*<1 year*
1-2 years	*1-2 years*	*1-2 years*
3-4 years	*3-4 years*	*3-4 years*
5-6 years	*5-6 years*	*5-6 years*
7-10 years	*7-10 years*	*7-10 years*
11-15 years	*11-15 years*	*11-15 years*
16-20 years	*16-20 years*	*16-20 years*
>20 years	*>20 years*	*>20 years*

6. Please indicate how many total hours (on and off site) you work per month and how many after hour shifts you work per month.

Total hours per month on-site and off-site	*<80*	*80-120*	*121-140*	*141-160*	*161-180*	*181-200*	*201-240*	*>240*
Overtime shifts/month on-site and off-site (night/weekends)	*<1*	*1-2*	*3-4*	*5-6*	*7-8*	*9-10*	*10-12*	*>12*

<u>Section 2:</u> The following are questions regarding your job satisfaction.

We want to determine what you enjoy and don't enjoy about your work.

1. Please list 3 factors that you enjoy most about your work?

_____

_____

_____

2. Please list 3 factors that you don't enjoy about your work?

_____

_____

_____

3. Please choose an answer for each of the statements to indicate if you strongly agree, agree, neither disagree or agree, disagree or strongly disagree.

Supervision					
My supervisor praises me for a job well done	*Strongly agree*	*Agree*	*Neither agree or disagree*	*Disagree*	*Strongly disagree*
I am satisfied with the support and guidance of my superior	*Strongly agree*	*Agree*	*Neither agree or disagree*	*Disagree*	*Strongly disagree*
My supervisor treats me/everybody fairly	*Strongly agree*	*Agree*	*Neither agree or disagree*	*Disagree*	*Strongly disagree*
I am satisfied with the way performance evaluations are done	*Strongly agree*	*Agree*	*Neither agree or disagree*	*Disagree*	*Strongly disagree*
Work Nature					
I like doing the things I do at work	*Strongly agree*	*Agree*	*Neither agree or disagree*	*Disagree*	*Strongly disagree*
My work gives me a feeling of personal accomplishment	*Strongly agree*	*Agree*	*Neither agree or disagree*	*Disagree*	*Strongly disagree*
I feel a sense of pride in doing my job	*Strongly agree*	*Agree*	*Neither agree or disagree*	*Disagree*	*Strongly disagree*
My work allows me to use my skills and abilities optimally	*Strongly agree*	*Agree*	*Neither agree or disagree*	*Disagree*	*Strongly disagree*
Work Conditions					
I have sufficient work space to do my job	*Strongly agree*	*Agree*	*Neither agree or disagree*	*Disagree*	*Strongly disagree*
Staffing levels at my workplace are adequate	*Strongly agree*	*Agree*	*Neither agree or disagree*	*Disagree*	*Strongly disagree*
I have the equipment I need to do my job properly	*Strongly agree*	*Agree*	*Neither agree or disagree*	*Disagree*	*Strongly disagree*
I believe the overall quality of care for patients is excellent	*Strongly agree*	*Agree*	*Neither agree or disagree*	*Disagree*	*Strongly disagree*

Training					
I have the opportunity to attend training courses	*Strongly agree*	*Agree*	*Neither agree or disagree*	*Disagree*	*Strongly disagree*
I have the opportunity to learn new skills	*Strongly agree*	*Agree*	*Neither agree or disagree*	*Disagree*	*Strongly disagree*
Selection for training is done fairly/equitably	*Strongly agree*	*Agree*	*Neither agree or disagree*	*Disagree*	*Strongly disagree*
Co-worker Relationship					
I feel part of a team working for the good of our patients	*Strongly agree*	*Agree*	*Neither agree or disagree*	*Disagree*	*Strongly disagree*
The relationship with my co-workers is good	*Strongly agree*	*Agree*	*Neither agree or disagree*	*Disagree*	*Strongly disagree*
There are people at work I can talk to when I need help	*Strongly agree*	*Agree*	*Neither agree or disagree*	*Disagree*	*Strongly disagree*
Pay					
I feel I am being paid a fair amount for the work I do	*Strongly agree*	*Agree*	*Neither agree or disagree*	*Disagree*	*Strongly disagree*
I am satisfied with the salary I receive	*Strongly agree*	*Agree*	*Neither agree or disagree*	*Disagree*	*Strongly disagree*

<u>Section 3:</u> The following are questions to determine your levels of work stress.

Please choose an option that best describes your situation for each statement. Do these statements apply to you always, often, sometimes, seldom or never.

Personal Burnout					
How often do you feel tired?	*Always*	*Often*	*Sometimes*	*Seldom*	*Never*
How often are you physically exhausted?	*Always*	*Often*	*Sometimes*	*Seldom*	*Never*
How often are you emotionally exhausted?	*Always*	*Often*	*Sometimes*	*Seldom*	*Never*
How often do you think: “I can’t take it anymore”?	*Always*	*Often*	*Sometimes*	*Seldom*	*Never*
How often do you feel worn out?	*Always*	*Often*	*Sometimes*	*Seldom*	*Never*
How often do you feel weak and susceptible to illness?	*Always*	*Often*	*Sometimes*	*Seldom*	*Never*
Work-related burnout					
Do you feel worn out at the end of the working day?	*Always*	*Often*	*Sometimes*	*Seldom*	*Never*
Are you exhausted in the morning at the thought of another day at work?	*Always*	*Often*	*Sometimes*	*Seldom*	*Never*
Do you feel that every working hour is tiring for you?	*Always*	*Often*	*Sometimes*	*Seldom*	*Never*
Do you have enough energy for family and friends during leisure time?	*Always*	*Often*	*Sometimes*	*Seldom*	*Never*
Is your work emotionally exhausting?	*Always*	*Often*	*Sometimes*	*Seldom*	*Never*
Does your work frustrate you?	*Always*	*Often*	*Sometimes*	*Seldom*	*Never*
Do you feel burnt out because of your work?	*Always*	*Often*	*Sometimes*	*Seldom*	*Never*

Patient-related burnout					
Do you find it hard to work with patients?	*Always*	*Often*	*Sometimes*	*Seldom*	*Never*
Does it drain your energy to work with patients?	*Always*	*Often*	*Sometimes*	*Seldom*	*Never*
Do you find it frustrating to work with patients?	*Always*	*Often*	*Sometimes*	*Seldom*	*Never*
Do you feel that you give more than you get back when you work with patients?	*Always*	*Often*	*Sometimes*	*Seldom*	*Never*
Are you tired of working with patients?	*Always*	*Often*	*Sometimes*	*Seldom*	*Never*
Do you sometimes wonder how long you will be able to continue working with patients?	*Always*	*Often*	*Sometimes*	*Seldom*	*Never*

<u>Section 4:</u> The following are questions to determine your intention to leave.

1. For each statement please indicate yes, no or unsure.

	Yes	**No**	**Unsure**
I am actively looking for another job			
As soon as I can find another job, I will quit			
I often think of quitting my job			
I do not intend to leave			

<u>Section 5:</u> The following are questions regarding your possible future intention to leave.

2. How soon do you intend to leave:

As soon as possible
In the next 6 months
In the next year
In the next 2 years
In the next 5 years
More than 5 years from now
Not at all

3. If you intend to leave, which statement describes your intention best:

I intend to leave this department but continue working in Emergency Medicine
I no longer want to work in an Emergency Department
I no longer want to work in Public Healthcare
I no longer want to practice medicine
I want to retire and not work at all
I intend to leave this country
Other: please describe

4. If you intend to leave, what are your 3 main reasons for wanting to leave? Please number from 1-3, where one is most important and 3 is least important.

1. I am not satisfied with my job overall	
2. I feel that I suffer from burnout/ work related stress	
3. I want/need better pay	
4. I want to start a family or raise my children while not working	
5. I want better promotion opportunities	
6. I want to study further	
7. I no longer want to live in Johannesburg	
8. I want to emigrate out of South Africa	
9. I have a problem with one/more of my colleagues	
10. I have a problem with my supervisors	
11. I have a problem with the public health system policies and rules	
12. I am bored	
13. I am frustrated with the constant friction with colleagues/patients	
14. I feel I cannot help people with the limited resources available	
15. I don't have a good work-life balance with the hours I have to work	
16. I no longer feel safe at work	
17. I want to work closer to home	
18. I plan to change careers	
19. I want to work in a different department	
20. I want to study further	
21. I want to retire	
22. Other (explain)	
23. I do not intend to leave	

<u>Section 6:</u> Which of the current problems in our local environment plays a role in your personal level of job satisfaction, burnout and intention to leave?

How much does it affect you?

Threat of physical violence at work	*Severely*	*A lot*	*Not too much*	*A Little*	*Not at all*
Threat of infection by disease	*Severely*	*A lot*	*Not too much*	*A Little*	*Not at all*
The physical and psychological strain of the Covid-19 pandemic	*Severely*	*A lot*	*Not too much*	*A Little*	*Not at all*

Thank you for completing the questionnaire.

Final Research Proposal

Emergency Department Turnover Intention: Are Job Satisfaction and Burnout Really the Main Culprits?

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Background

In health care facilities across the world, but particularly in emergency departments(EDs), the high turnover of medical staff can cause serious concerns.[1] Continually needing to replace staff can be very detrimental to the functioning of the ED. A high staff turnover has a negative impact not only on the medical workforce, but also on the Department of Health and on the health service user. [2]

The medical workers remaining at the facility can be faced with a larger workload and increased demands because of other staff resigning. This causes an ongoing cycle of dissatisfaction or work stress which may lead to more staff leaving. Teamwork and organisational flow become disrupted when new staff members continually join a unit.[2,3]

The health department responsible for the ED incurs substantial extra costs to recruit and train new staff, not to mention the indirect loss of income caused by the loss of organisational knowledge. In some cases the Department of Health uses temporary

nursing staff from agencies to cover the shortfall. The largest cost is for temporary staffing, followed by the cost of training and loss of productivity. [2,3]

Most importantly, the health care user is negatively affected. There are inevitably longer waiting times and tired, overwhelmed or sometimes unfriendly staff make the process more difficult for the patients and their families. Of concern is the fact that the clinical outcome of the patient is negatively affected by staffing problems. There are more errors and a decrease in patient satisfaction reported in literature. [4] In order to offer better patient care in productive and effective ED's, staffed by knowledgeable, safe and dedicated doctors and nurses, it is important to explore the main contributing factors to staff turnover and to find ways to address this problem.

Turnover rates can be predicted by asking about the staff member's intention to leave. Intention to leave usually means that the worker has either been thinking of leaving or has been actively looking for new opportunities. [5] Several studies show a direct relationship between burnout, job satisfaction and an intention to leave. When burnout is high, or job satisfaction is low the intention to leave increases. [5,6,7]

Burnout and job satisfaction also correlates to each other and one can exponentially increase the other.[5] Healthcare workers work in a high stress environment which can easily lead to burnout. This is especially true of medical staff working in the ED of hospitals.[1] The work is physically, emotionally and mentally demanding. The medical staff member working in ED must offer the best medical service possible to an overwhelming influx of patients presenting with a variety of emergency conditions. At the same time medical staff is expected to show empathy and to communicate with patients and their families in a professional, unbiased and friendly manner. Add to this the fact that the ED health worker is the direct link between the patient and

every other healthcare professional or procedure while enforcing various health care policies, and it is clear that ED medical staff is faced with very specific challenges.

The incidence of burnout is so prevalent among ED medical staff that it is imperative to be able to recognise the symptoms.[1,7] One method of determining burnout is to use the Coppenhagen Burnout Score to measure personal burnout, work-related burnout, and client-related burnout. [8] Job satisfaction can be determined by asking questions about various factors that will affect the employee's perception and level of fulfilment. Areas that are generally looked at are management, reward, work nature, work environment, training, autonomy and relationships with colleagues. Questionnaires have been developed, adapted and validated for use in the health care setting. [9]

While job satisfaction and burnout may both directly impact the intention to leave, these are not the only factors worth looking at. [6,10] Work at an Emergency Department can be undertaken for a variety of reasons, including to use as a stepping stone to other departments or careers, to gain valuable skills or experience, as a lifestyle choice, as part of a training rotation or because the individual has a passion for Emergency Medicine. Turnover intent can similarly be influenced by many factors, including external, institutional, employee perception and employee characteristics. [10]

Factors leading to staff turnover can be external, such as the job market, political or legislative issues or economic conditions. South African medical staff can register to work in other countries and decide to emigrate for a variety of reasons. Other factors that affect staff turnover can be institutional or job related, such as pay, management, supervision, job skill and work environment. Employee factors which

can influence turnover intention included employee perception factors like job satisfaction, job involvement and job expectations, as well as employee characteristics such as intelligence, aptitude, personal history, sex, age and tenure.[10]

Much research has recently been done about the relationship between burnout, job satisfaction and intention to leave among health care workers in various countries and in a variety of health institutions. There has also been research done about nurse turnover in South African hospitals.[11]

However, research could not be found that look at the relationship of job satisfaction and burnout to staff turnover among both doctors and nurses in the EDs of the central public hospitals in Johannesburg, South Africa. It is also clear that not all factors which contribute to job satisfaction and burnout in South Africa will be applicable to other countries and therefore some of the questionnaires available are incomplete for our purposes. Most notably, the problems of violence in the workplace are not mentioned in many of these questionnaires. Violence has been shown to affect burnout and the turnover of Emergency staff working in Palestinian hospitals.[12]

Therefore, the aim of this research is to look at the levels of burnout, job satisfaction and intention to leave among doctors and nurses working in the Medical Emergency Departments of the two academic/central hospitals in Johannesburg, South Africa in order to understand the factors contributing to staff turnover in these hospitals. The Emergency Department medical staff may have very unique situations and attitudes that affect staff perceptions and staff turnover, which is likely to be different for doctors compared to nursing staff.

Study Objectives

1. To describe the main contributing factors for intention to leave among medical staff in the EDs of two tertiary hospitals in Johannesburg
2. To describe the level of burnout and job satisfaction amongst ED staff
3. To compare burnout, job satisfaction and the intention to leave among nurses and doctors working in the ED
4. To correlate burnout, job satisfaction and the intention to leave with various factors like length of stay, age, gender and shifts worked
5. To compare the demographics, burnout, job satisfaction and intention to leave of doctors and nurses in the two medical EDs

Methods

1. Study Design:

The study design will be a prospective observational cross-sectional study.

2. Study Population and Sample:

The data collection will take place at the two main tertiary/academic hospitals in the city of Johannesburg, South Africa. Charlotte Maxeke Johannesburg Academic Hospital is the main teaching hospital for the University of the Witwatersrand and is classified as a central hospital with 1088 beds and over 4000 staff members. Chris Hani Baragwanath Academic Hospital is the third largest hospital in the world and a well-known teaching hospital with 3200 beds and almost 7000 staff members.

These two hospitals have been chosen because they are unique in the fact that they have Medical Emergency Units (MEUs) which are separate from the Trauma and Paediatric Emergency Units. Although more violence may be experienced in the typical Trauma Emergency Unit or mixed ED, the MEUs still see a significant amount of violence from distraught family members, intoxicated patients and psychiatry patients. This ensures that violence alone does not become the predominant determinant for job satisfaction, burnout or turnover intention.

The population will include all nurses, doctors, consultants and final year Emergency Medicine registrars working in the MEUs of these hospitals at the time of data collection. The sample will be a convenience sample of all medical staff working in these units. Staff members will be invited to complete the survey and data will be collected over a 3 month period, from date of ethics clearance until all staff have had an opportunity to take part in the study.

The inclusion criteria are full-time employment as a nurse or doctor with the Department of Health. The exclusion criteria are all Interns, Community Service doctors, and all other Emergency medicine registrars. These staff members do not have the choice to leave as it is part of their study and registration criteria. Sessional doctors and agency nurses will also be excluded as they work at a variety of places and can often choose their locations and hours.

3. Methods and Techniques:

After permission has been gained, data will be collected by inviting staff to complete paper-based questionnaires which will be handed out at departmental meetings, academic meetings, consultant meetings or shift change-over times to ensure that every staff-member has the opportunity to contribute to the study results.

The purpose and procedure will be explained to staff and each employee will be given an information sheet to read, which may be kept. The information sheet will further explain the procedures in place to ensure anonymity and contact numbers available for use if the questionnaire caused the staff member to realise that they may need help with the stress caused by work.

The employee will then be asked to sign a numbered formal informed consent form. Once consent is received, the employee will be handed the numbered questionnaire to complete. After completion the employee will place it in an envelope and drop it into a closed box. As explained in the ethical section the consent form and questionnaire will be kept separately and anonymity will be ensured.

The questionnaire will take 10-15 minutes to complete and will consist of 5 sections. **Section 1** will be demographic questions including age, gender, position, place of work, and length of time in current ED, in any ED and practicing medicine after registration. It will also include the amount of hours worked per month and the amount of after hour shifts per month.

Section 2 will start with questions about the main factors that make work enjoyable and not enjoyable. This is to give the employee the opportunity to give their own perceptions before completing the Job Satisfaction questionnaire validated by Peter Delobelle et al for use among medical staff in South Africa. [9] It includes questions about supervision, work nature, work conditions, training, relationships and pay.

Section 3 will be using the Copenhagen Burnout Inventory with questions to determine personal burnout, work-related burnout and client/patient related burnout. The study has shown the validity and reliability of the tool to determine burnout and

to predict intention to leave. This has been tested on healthcare workers in various countries also. The word client was replaced with the word patient.

Section 4 will test intention to leave with 3 questions validated in research done by Scanlon et al among health care workers in Australia.[5] The word ‘quit’ has been replaced by the word ‘resign’ as the word ‘quit’ may have a negative meaning in South African culture. The researcher also added an option to answer ‘I do not intend to leave’ for the respondents who have no intention to leave.

Section 5 will be questions related to intention to leave, including when, why and how. This will be to determine how soon a staff member intends to leave, to determine how job satisfaction, burnout and other reasons contribute to leaving and to determine if the intent to leave means leaving only the current department or emergency work in general or the health profession as a whole.

Section 6 will determine the effect local current issues have on the levels of job satisfaction, burnout and intention to leave. These are issues which are not mentioned in any of the questionnaires used and which may affect the intention to leave of medical staff in the Emergency Department. It will ask the effect that physical violence, exposure to disease and the Covid-19 pandemic has on these issues because it may affect staff severely.

4. Variables:

Confounding variables will be controlled by the exclusion criteria. Only permanent full-time staff will be included. Final year registrars will only be included if they are rotating at one of the three EDs at the time of data collection.

Data analysis

The descriptive statistics of the demographic categories will be presented using percentages. The non-parametric numbers from the questions with a likert scale will be analysed by using the median and range. The comparison of categories will be analysed by Fishers exact test. The correlation matrix between burnout, job satisfaction, intention to leave and other factors will be analysed by using Spearman's correlation. The statistical package that will be used is IBM SPSS.

Ethics

The consent forms will be numbered and kept in a closed file. This will be handed to the researcher's divisional mentor, assigned by the Emergency Medicine Department of the University of the Witwatersrand, after each collection opportunity. The divisional mentor is not employed by either of the two hospitals where the research will take place. The divisional mentor will never have access to any of the questionnaires. This will ensure an additional layer of confidentiality. The numbered questionnaires will not contain any names or identifiers and will be placed in sealed envelopes into a collection box. The researcher will not be able to match the number to the individual and the supervisors will never have access to the questionnaires so that handwriting cannot be recognised. The supervisors and heads of departments will only have access to the analysed data in order to protect the individual employee's privacy. Permission will be gained from the WITS ethics committee, the Gauteng department of Health, the hospital CEOs and ethics committees, the Emergency department HODs, and from the authors of the various questionnaires used.

Timing

	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb
Literature Review													
Preparing Protocol													
Protocol Assesment													
Ethics Application													
Collecting Data													
Data Analysis													
Writing Thesis													
Writing Paper													

Funding

There will not be funding needed. The only cost will be for printing, envelopes, files, a box for collection and for statistical help which will be funded by the student at approximately R3000.

Challenges

Possible non-completion of questionnaires may be a challenge. The researcher will mitigate this by making repeat visits to the units and ensuring complete anonymity is maintained and that staff is assured of this. There may also be hesitancy in honestly completing the questions regarding intention to leave for fear of repercussions. The researcher will endeavour to clearly explain the procedures in place to limit identification. No-one involved with the employment or management of staff will have access to the questionnaires.

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Ethics Clearance Certificate (HREC)

UNIVERSITY OF THE
WITWATERSRAND
JOHANNESBURG

R14/49 Dr Y Jonker

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)
CLEARANCE CERTIFICATE NO. M200801

NAME: (Principal Investigator)	Dr Y Jonker
DEPARTMENT:	School of Clinical Medicine Department of Medicine Division of Emergency Medicine Medical School University
PROJECT TITLE:	Emergency Department turnover intention: are job satisfaction and burnout really the main culprits?
DATE CONSIDERED:	28 August 2020
DECISION:	Approved unconditionally
CONDITIONS:	
SUPERVISOR:	Professor F Motara and Dr M Moolla
APPROVED BY:	Dr CB Penny, Chairperson, HREC (Medical)
DATE OF APPROVAL:	20 November 2020

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

DECLARATION OF INVESTIGATORS

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

Principal Investigator Signature

Date

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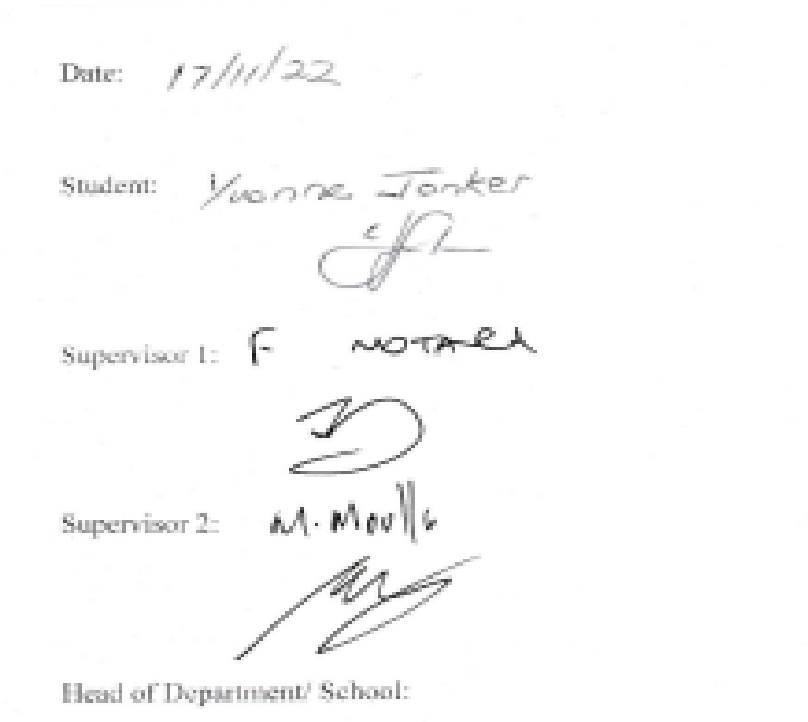
Introduction
Healthcare worldwide is facing an increasing demand for healthcare workers (HCWs) to cope with the growing number of patients presenting to healthcare facilities. A 2019 USA study indicated that Emergency department (ED) visits were increasing twice as fast as population growth.[1] In South African EDs the patient burden is so large that it is challenging to assess and dispose of patients timeously. All too often this falls out of the timelines as prescribed by the South African Triage System.[2] Patient numbers are expected to continue increasing in time, attributable to increased population growth, an aging populace, an increase in communicable and non-communicable diseases, and increased total life expectancy years relative to healthy life expectancy years.[3] A lack of local health resources and lower staff-to- patient ratios compared to developed countries further compounds the challenges.[3] The increased workload, overcrowding, staff shortages and resource constraints can lead to work-related stress, dissatisfaction and a higher staff turnover (TO), which further compounds an already strained health system.[4,5] It negatively impacts on the workforce, the health organisation and the patients.[5-7] Medical workers remaining at a facility are faced with a larger workload and increased demands, causing an ongoing cycle of dissatisfaction and work stress which may lead to more staff leaving.[4]Teamwork and organisational flow become disrupted.[4] There are substantial costs to recruit and train new staff, and employing temporary agency nurses and sessional doctors to cover the shortfall adds to the costs.[6-7] Of greater concern is the negative impact on patients' clinical outcome. Exhausted and overworked staff are prone to clinical and non-clinical errors.[6-7] Patient dissatisfaction also increases.[8] In order to offer superior care in EDs, it is thus imperative to explore the contributing factors to staff TO and to find ways to address this problem. TO rates can be predicted by the intention to leave (ItL), which increases when burnout (BO) increases or when job satisfaction (JS) decreases.[9-10] BO and JS correlate strongly.[9,11-12] ED staff work in physically, emotionally and mentally demanding environments which strongly contribute to BO.[13-14] Being exposed to large amounts of patients, an unpredictable work nature, a vast amount of human suffering and violence is undoubtedly demanding.[4,15-17] The ED practitioner acts as an advocate for the patient to other healthcare professional, which is often a task fraught with its own contests. ED staff are hence faced with very specific challenges that affect BO, JS and staff turnover.[4,13-14] Experiencing violence can lead to lower levels of JS, higher levels of BO and a higher ItL.[11,16-18] While JS, BO and violence directly impact the

Report on corrections to research as suggested by examiners.

Recommendation	Correction	Page in document	Page in article
At the end of introduction add a research question paragraph with objectives in prose form	Removed objectives section and added at end of introduction in prose form	p 12 of 46	p 2, last paragraph
In Table 1 change the word gender to the word sex	Changed 'gender' to 'sex'	p 14 of 46	p 4, table 1
In protocol(questionnaire) change the word gender to the word sex	Changed 'gender' to 'sex'	p 25 of 46	p 15, 1st question
Change the p-value of nurses from p=0.00 to p<0.005	Corrected the p-value format as suggested	p 17 of 46	p 7, 3rd last line
Correct the reference style to match the style requested by the journal	Reference style corrected	p 22-24 of 46	p 13-14
Add recommendations on how to decrease burnout and increase job satisfaction	Further recommendations added to those already included	p 20 of 46	p 10, recommendations section



UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

WITS SCHOOL OF CLINICAL MEDICINE

10 November 2022

The Registrar
Postgraduate Office
Faculty of Health Sciences

Dear Ms Sandra Benn,

Re: Master of Medicine in Emergency Medicine Research Report - Dr Yvonne Jonker (Student number: 2416423)

This serves to confirm that Dr Jonker has fulfilled all the criteria for her Master of Medicine Research report titled: 'Emergency Department Turnover Intention: Are Job Satisfaction and Burnout Really the Main Culprits?'

The changes requested by the examiners have been corrected to the satisfaction of the supervisors.

The student in now ready for graduation.

Sincerely

Professor Lynnia Ballot
Head of School: Clinical Medicine
Faculty of Health Sciences
University of the Witwatersrand

SCHOOL OF CLINICAL MEDICINE
7 York Road, Parktown, 2193
Tel: +27 11 717 2036
Fax: +27 11 717 2489
Faculty of Health Sciences / University of the Witwatersrand

To whom it may concern,

RE: Emergency Department Turnover Intention: Are Job Satisfaction and Burnout really the Main Culprits.

Yvonne Jonker (student no 2416423) has completed the above research and has submitted it to the postgraduate office for assessment. The examiners have suggested that the student pass the research subject to amendments as outlined in the examiners reports, done to the satisfaction of the supervisors and to the approval of the Head of School(or designate)

The student has completed corrections as suggested by the examiners and has completed a report to indicate which corrections have been made.

We have assessed the corrections and we are satisfied that these have been completed successfully.

Supervisor 1: Feroza Motara

Supervisor 2: M Moolla

Date: 29/11/22