Burnout in District Hospital Doctors in a Rural Area in the Western Cape

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Researcher's declaration

I declare that this research paper is my original work and that I have not previously submitted it, in its entirety or in part, to any University for a degree. I furthermore declare that I have no conflict of interests regarding this study.

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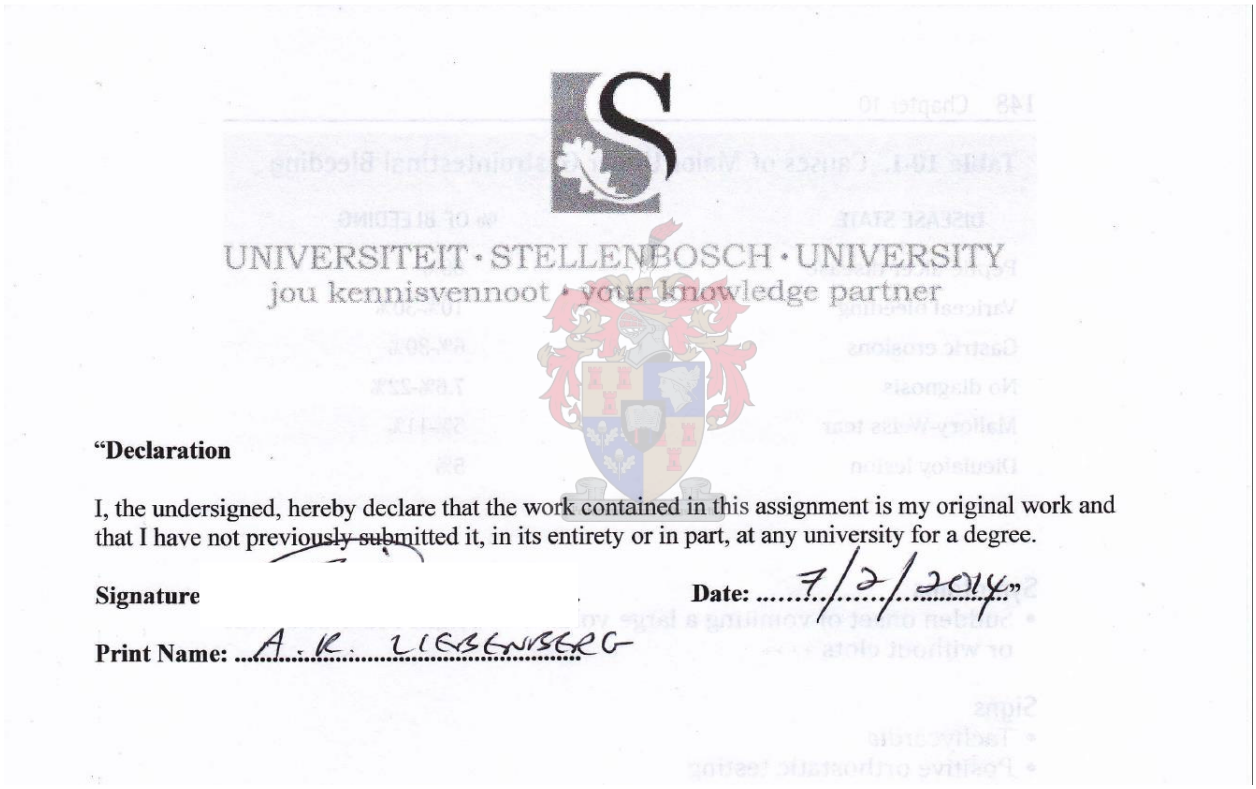

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Abstract

Aim: Burnout amongst doctors negatively effects recruitment and retention, effectiveness and efficiency of health systems, and ultimately, patient-care. The aim of this study is to fill the gap in published data concerning burnout among primary care district hospital doctors practicing in one rural area in South Africa.

Methods: A validated questionnaire (Maslach Burnout Inventory) was sent to 42 doctors in 7 district hospitals in early 2013.

Results: Response rate was 85.7%. Clinically significant burnout was found in 81% of respondents. Family physicians had significantly lower burnout levels than non-specialist colleagues (p=0.01).

Conclusion: This study demonstrates high burnout rates, most importantly threatening the quality of patient care. Recommendations are made.

Introduction:

There is an increasing body of evidence that suggests that physician burnout is having a detrimental effect on health care delivery world-wide[1,2]. Burnout amongst doctors negatively effects recruitment and retention of doctors, effectiveness and efficiency of health systems, and ultimately, patient-care[1,2]. These are critical issues for the District Health System of South Africa.

Global reported burnout rates among doctors in general range between 25 and 60%[3]. There is however, a growing pool of data that is revealing particularly high rates of burnout among South African doctors[3,4,5,6,7]. Rossouw recently found that 76% of doctors working within the provincial primary health care system of the Cape Town Metropole experienced a clinically significant level of burnout[6,8]. In 1994, Schweitzer found a 77.8% burnout rate among young doctors working within the South African district health service, and although her study was limited by a low response rate, the results reveal similar patterns to subsequent South African studies[3,4,5,6]. Schweitzer's study showed an 85.7% burnout rate among clinic and district hospital doctors compared with an 18.2% private practice burnout rate[7]. A recent study by Stodel and Stewart-Smith of junior doctors at Red Cross Children's Hospital found a strong correlation between levels of emotional exhaustion and doctors' intention to leave with 95% of respondents reporting an intention to leave at the end of their rotations[5]. The literature indicates that physicians of all ages and demographic profiles are

prone to burnout[7,9], but junior doctors (including registrars) are particularly vulnerable[3,10,11,12,13], and burnout levels are particularly high in doctors working on the primary health care front[2,6,14]. Very little published data is available concerning burnout among primary care district hospital doctors practicing in rural areas in South Africa, and none is available for the Western Cape[3,6,7,15,16]. This study attempts to address this gap.

What is burnout?

Maslach's model of burnout, which is widely accepted[17], defines a syndrome of emotional exhaustion, depersonalisation, and/or a low sense of personal accomplishment that is related to prolonged occupational stress and frustration, and results in reduced effectiveness at work[2,3,18]. An individual can have varying degrees of these features, with any one group of symptoms being predominant[10].

Emotional exhaustion (EE) relates to the occupational stress dimension of burnout, while depersonalisation is a consequence of EE and refers to job detachment and callousness, which is detrimental to the doctor-patient relationship. Reduced personal accomplishment refers to perceived reduced effectiveness and efficiency at work[2,3,18]. This aspect of burnout correlates with depression[2,21]. In considering these aspects of burnout it is little surprise that burnout negatively impacts quality of health care delivery on various levels[20,21].

Depersonalisation affects the manner in which one relates to others, and in a medical context includes the detrimental tendency of viewing patients as inanimate objects and not as fellow human-beings[16]. Burnout therefore has a profound negative impact on patient-centeredness and quality of care[1,2,22]. One study found burnout to be a central limitation to providing holistic health care within a rural sub-district in South Africa[15].

Factors related to burnout

There are both contextual and individual factors related to burnout, of which contextual (situational) factors seem to play the predominant role[2]. Contextual factors include: organisational/management structure and style, workload, sleep deprivation, resources, financial compensation, practice setting and patient characteristics, career progression opportunities, work team and community, communication and feedback[2,3,23]. Individual factors include: demographics, personality type, external locus of control, job dissatisfaction, and level of social support[2,3]. These factors are neatly

brought together in the demand-control-support model of burnout, which postulates that burnout results from occupational stress when high job demands occur in the context of limited individual autonomy, and when job demands interfere or compete with home life[12]. An evidence-based model of burnout places emphasis on this tension between personal and professional responsibilities, which has been termed work-home interference, and proposes that this is the core driver of burnout[22]. In essence, when work and home-life demands exceed a person's time, energy and skill resource, the individual is forced to neglect the one necessary aspect of his/her life at the expense of the other. This leads to burnout if the individual is unable to deal with this tension and if the situation remains unresolved. Data shows that work-home interference has a stronger correlation with burnout than any individual stress factor[3,22].

Wallace et al warn that "rapid and recent changes to the practice of medicine" are a threat to physician wellness in both developed and developing countries[1]. These changes include: spiralling patient-care demands, remuneration issues, and a growing bureaucracy, with conflict between organisational and patient needs[1]. Institutional factors and organisational climate have a considerable effect on physician wellbeing[23], which in turn affects effectiveness, which explains the observation that organisational interventions can be effective in mitigating physician burnout and discontent, while improving productivity[24].

Contemporary literature does however show a shift from looking at physician distress towards a more comprehensive concept of physician wellness, which as Shanafelt says, "goes beyond merely the absence of distress and includes being challenged, thriving, and achieving success in various aspects of personal and professional life."[1] This is in keeping with the World Health Organization definition of health: a state of complete physical, mental, and social well-being, not merely the absence of disease or injury.[25] Wellness and illness extend beyond the individual and are rooted in a socio-political, cultural and community context[26], and it is therefore critical to engage with the problem of physician burnout and the prospects of physician wellness and resilience within the broader narrative of being a physician. Resilience is the term used to describe a person's ability to respond to stress in a healthy way, including the ability to "bounce back" after challenges and thrive[6,25]. It is not surprising that recent studies show that resilience is protective against burnout and recommendations propose that interventions aimed at building resilience would be beneficial in occupational settings with high burnout rates[6,27,28]. It is also interesting to see that resilience, much like burnout, is associated with individual, community and institutional factors[25], with current research exploring the prospect of effective multilevel interventions[27]. Resilience theory proposes individual factors that have to do with attitudes, beliefs (world-view) and habits, while contextual

factors include the level of community among clinicians and institutional structures that value and promote individual and collective resilience[25]. This however, remains a sparsely researched field, with a 2010 Cochrane review concluding that evidence for the sustained effectiveness of stress management training interventions for healthcare workers is lacking[29], while experts on the subject speaking at the International Conference on Physician Health in Montreal, Canada, in October 2012, stated that physician resilience is a fledgling subject and is in its infancy regarding its conceptualization and how it relates to physician wellness. They stressed the importance of further research in this field and the need for the development of validated questionnaires, which would realistically take five years of research[27].

Consequences of burnout

Chronic, excessive occupational stress and burnout does not only seriously effect physician wellness, but is also a serious threat to health institution effectiveness and patient-care[1,2,20]. Physician burnout results in absenteeism, increased job turnover, cynicism and low job satisfaction[3]. There is also a high correlation between physician burnout and substance abuse, relationship problems, and depression[1].

Physician burnout is associated with high rates of reported suboptimal patient care[1,3], which is confounded by its detrimental impact on the effectiveness and efficiency of health systems[1,2]. The Association of the Professors of Medicine state that there is an association between burnout and a breakdown of the doctor-patient relationship, negatively effecting quantity and quality of patient care.[22] Because of the inverse correlation between physician burnout and patient care, it has been proposed that physician wellness be used as a quality indicator for patient care[1].

It is clear from a review of the literature that physician burnout is a major threat to the effectiveness and sustainability of health care within the South African district health system.

Motivation

This study was motivated by high perceived burnout amongst colleagues along with crippling doctor turnover rates in a number of district hospitals in the area under study. Early anecdotal impressions in these hospitals indicated a very high prevalence of burnout, which needed to be explored. Before this study no data was available regarding burnout prevalence among district hospital doctors working in the area under study.

Study Aim

The aim of the study was to quantify the level of burnout among doctors working in the district health system within the referral area of the Worcester Hospital, consisting of the Overberg health district as well as the eastern half of the Cape Winelands district, by determining the prevalence of burnout among this population of doctors.

Methodology

Study Design

A descriptive cross-sectional study was used to determine the prevalence of burnout by means of a questionnaire survey.

Study Population

All of the 42 full-time doctors working within district hospitals referring to Worcester Hospital were invited to take part in the study. Inclusion criteria limited participants to those working primarily at district hospitals and not doctors based in community health centres and clinics. Furthermore, only doctors working commuted overtime were included in the study. Forty-two doctors fulfilled the inclusion criteria for the study. District hospitals of the Overberg include Caledon, Hermanus, Bredasdorp and Swellendam, while the district hospitals in the Cape Winelands District that refer to Worcester Hospital include Ceres, Robertson and Montagu Hospitals. Seven district hospitals were therefore included in the study. The populations of each sub-district, served by one district hospital, range between 32 000 and 110 000[30]. At the time of the study, these hospitals ranged in size from 30 to 80 beds. All seven hospitals offer 24 hour casualty, maternity and theatre services. These hospitals also supply doctor outreach support to clinics that refer to these hospitals. These hospitals were individually staffed by between 3 and 10 doctors, including six family physicians (with only five family physician posts) and four family medicine registrars for the whole area. Three of these hospitals are also used as sites for short rotation undergraduate medical education by the Faculty of Medicine and Health Sciences of the University of Stellenbosch (US). The Ukwanda Rural Clinical School of the US in its expanded role also utilizes three of these hospitals as educational training bases for final year medical students.

Study Instrument and Data Collection

The Maslach Burnout Inventory – Human Services Survey (MBI-HSS) was used as study instrument. The MBI-HSS is a validated questionnaire that is widely used and accepted as the gold-standard for measuring burnout amongst medical practitioners[2,9,10]. The internal validity of the MBI-HSS has been shown through extensive testing (Cronbach alpha of 0.71-0.9) [6,31] and has also been specifically proven in doctors working in a primary care context[32]. It consists of 22 statements concerning personal feelings and attitudes that are responded to on a frequency of symptom scale that ranges from 0=never to 6=every day. The inventory is designed to identify frequency and intensity of symptoms, which assesses three dimensions of the burnout syndrome, namely: emotional exhaustion (EE), depersonalization (DP), and reduced sense of personal accomplishment (PA). The graded MBI-HSS scoring scale represents the upper, middle and lower thirds of scores of a normative sample for medical human service occupations[31,32]. Clinically significant burnout is defined as a high score for either the emotional exhaustion or depersonalization subscale[6,31,32].

Data collection

The questionnaires were distributed to all doctors that met the inclusion criteria and collected via a contact family physician or family medicine registrar at each district hospital. Training and personal interviews were considered unnecessary as the questionnaires are self-explanatory. The MBI-HSS takes less than 30 minutes to complete. Data was collected between 20 February and 31 March 2013.

Data Analysis

The completed questionnaires were scored and categorised using the MBI-HSS Scoring Key[31], which scores each participant on each of the 3 subscales (EE, DP, and PA). The Scoring Key categorises each subscale into one of three graded burnout categories: High, Moderate, or Low. Categories are based on normative sample scores. Scoring categories are demonstrated in table I. Emotional exhaustion and depersonalisation scores correlate directly with burnout levels, while the personal accomplishment subscale is inversely proportional to the level of burnout.

	Emotional Exhaustion	Depersonalisation	Personal Accomplishment
High	27 or over	10 or over	0 – 33
Moderate	19 – 26	6 - 9	34 – 39
Low	0 – 18	0 - 5	40 or over

Table I: MBI-HSS Burnout category scores

Ethical Considerations

Ethics approval was obtained from the University of Stellenbosch Health Research Ethics Committee (reference number N11/09/278). Participation in the study was voluntary and anonymous. Informed consent was obtained. Permission to use 50 copies of the MBI-HSS questionnaire was granted from Mind Garden Incorporated publishers[31].

Results

Thirty-six out of a total pool of 42 doctors participated in the study (response rate 85.7%). All 6 family physicians participated.

Eighty-nine percent of participants (32/36) scored high in at least one burnout category, while 56% (20/36) scored high in at least two categories and 31% (11/36) of doctors in the region scored high on all three subscales. Eighty-one percent of participants scored high in either the Emotional Exhaustion or the Depersonalisation subscale, which is a measure of clinically significant burnout[6,31] (see figure 1). Of the four doctors that did not score high on any subscale three were family physicians (specialists); only one medical officer/community service medical officer did not score high in any burnout subscale. No doctor scored low in all categories of burnout.

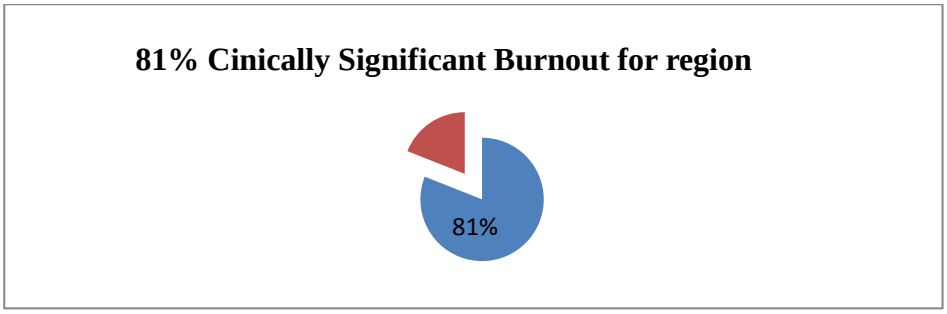

Figure 1. Regional high burnout score in either Emotional Exhaustion or Depersonalisation subscale (clinically significant burnout)

Category-specific high levels of burnout were: EE = 56% (20 out of 36), DP = 78% (28 out of 36) and PA = 44% (16 out of 36). Figure 2 portrays rates within each subscale of burnout.

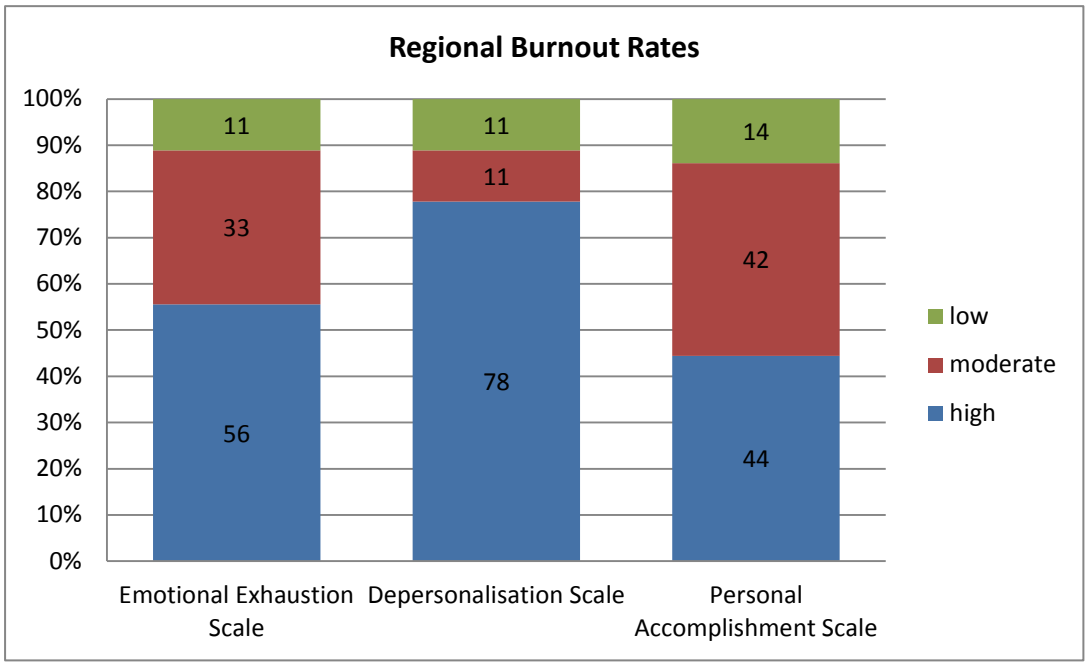

Figure 2: Burnout rates within each subscale

Mean scores for each category of burnout for individual hospitals as well as for the region are demonstrated in table II. The mean score for either emotional exhaustion (EE) or depersonalisation (DP) were high at all hospitals studied, while regional mean scores were high for both EE and DP.

Table II: Mean MBI-HSS scores and burnout rates for individual hospitals and region

	Emotional Exhaustion	Depersonalisation	Personal Accomplishment
Hermanus (n = 10)	High (34.7)	High (13.9)	Moderate (35.5)
Swellendam (n = 4)	Moderate (25.3)	High (12)	High (32)
Caledon (n = 6)	High (31.3)	High (17.3)	High (31.7)
Bredasdorp (n = 2)	High (36)	High (20)	Moderate (36.5)
Ceres (n = 6)	Moderate (21)	High (14)	Moderate (37.7)
Robertson (n = 5)	High (36.4)	High (15.4)	High (32.4)
Montague (n = 2)	High (34)	High (14.5)	Moderate (35)
REGION	**High (31.2)**	**High (15.3)**	**High (34.4)**

key: mean scores in brackets

High scores in at least one burnout category for individual hospitals were as follows: Ceres 86% (n=6), Swellendam 75% (n=4), Hermanus 90% (n=10), Caledon 83% (n=6), Bredasdorp 100% (n=2), Robertson 100% (n=2), Montagu 100% (n=2), while clinically significant burnout rates (high mean score in EE or DP) are portrayed in figure 3.

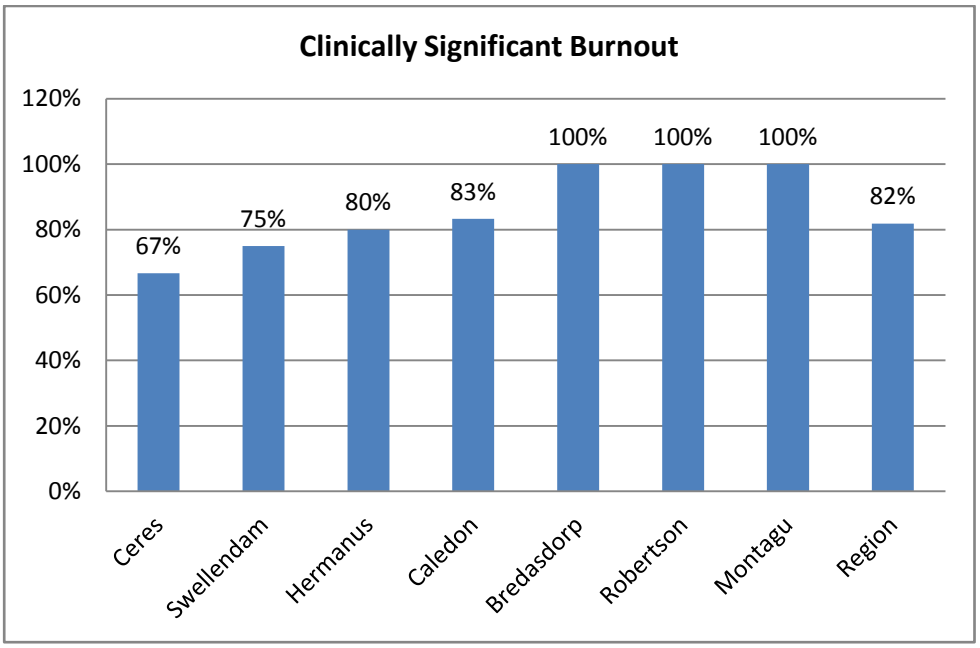

Figure 3. Clinically Significant Burnout for Individual Hospitals and Region (high mean score for emotional exhaustion and depersonalisation subscales)

When family physicians (specialists) were excluded 97% of participants scored high in any category, while 87% scored high in EE or DP. Sixty seven percent scored high in both EE and DP, while 37% of participants scored high in all subscales. The only MO/CSMO who did not score high in any subscale had upper margin moderate burnout scores for all categories (EE = 25, DP = 9, PA = 39). Forty-three % of family physicians scored high in at least one category, which using a Fisher's exact test, was found to be significantly lower than the 97% of non-specialists which scored high in any category (p=0.01).

Discussion

This study demonstrates a high prevalence of burnout among district hospital doctors within the referral area of Worcester Hospital. Eighty-nine percent of doctors scored high in at least one category of burnout, while 81% demonstrated clinically significant burnout. These scores are consistent with Rossouw's recent findings in district level doctors in the Cape Town Metropole, which demonstrated significantly higher burnout rates than normative scores[6]. Comparative scores are tabled in table III. A t-test for independent proportions was used to test these comparisons but no significant difference was found for any of the categories compared in table III. It is therefore clear that physician burnout is a problem both among urban and rural doctors working within the public sector primary health care system of the Western Cape.

Score range of burnout	District hospital doctors	CT Metro PHC doctors
High range in any subscale	89%	84%
High range in EE *or* DP (clinically significant burnout)	**81%**	**76%**
High range in EE *and* DP	53%	42%
No high range in any subscale	11%	16%
Low range in all subscales (engagement)	0%	5%

Table III: Burnout Score Ranges of study population as compared with Cape Town Metropole data

This study demonstrated mean burnout scores that were higher than normative scores[22] in all three categories of burnout (Table IV), which highlights the problem of burnout in this population of rural public sector doctors.

	District hospital doctors	**Normative[13] Population**
Mean EE score	High (31.4)	Moderate (22.2)
Mean DP score	High (15)	Moderate (7.1)
Mean PA score	Moderate (34.4)	Moderate (36.5)

Table IV: Mean MBI Scores for emotional exhaustion and depersonalisation scales compared with normative scores

Key: Numerical mean scores in brackets

The mean scores for individual hospitals under study were all high for either emotional exhaustion or depersonalisation, while mean scores for the region were high in both emotional exhaustion and depersonalisation (Table II). Small numbers also make it difficult to make comparisons between individual hospitals. Empiric observations suggest that district hospitals in the area under study undulate through cycles of stability and varying levels of crisis, usually linked to doctor turnover and shortage. Burnout rates of individual hospitals are simply snapshots of a very small population of doctors at a point in time and cannot be taken as an indicator of the sustained state of that population. Region rates based on pooled data would reasonably be more stable and representative of the true picture.

When specialists (family physicians) were excluded over 95% of participants scored high in at least one subscale of burnout, while only 43% of family physicians scored high in any category. This difference when tested with a Fisher's exact test was found to be statistically significant (p=0.01). This finding implies that family physicians cope better than MO's and CSMO's in the rural district hospital context, which is firstly an indication that the junior doctors of the region are struggling with the context, and secondly suggests that family physicians are less prone to burnout than their non-specialist colleagues. Factors related to the high burnout rates of these CSMO/MO's could include the responsibility of managing an incredibly broad range of clinical scenarios often unsupervised or alone. Work-load and work-hours are known to be causes of burnout[2,3,28], while unsupervised after-hours work has been highlighted by De Villiers et al, as a significant stress factor for junior doctors in district hospitals in the Western Cape[33]. The same authors demonstrated a considerable skill and knowledge gap between junior and senior clinicians in these hospitals[34]. Their studies stress the importance of available supervision and supportive management for junior doctors, as these factors influence the competencies of community service doctors[34]. This emphasises the challenging issue of attracting and retaining senior doctors, with appropriate broad-scope experience, to rural district hospitals in the Western Cape[34].

The results of this study when compared to normative scores leads to the question of what level of burnout is acceptable within this population of doctors? Considering the correlation between physician wellness and institutional and patient-care outcomes[1,2,3,20,21], it is reasonable that an acceptable level of burnout within a population of doctors should be gauged by the desired level of patient care. The literature furthermore, strongly argues that physician wellness be used as an upstream quality indicator for patient care[1], and it is with this in mind that the results of these studies need to be considered by district health policy makers, especially in the light of Health Care 2030 Western Cape, where the patient experience and quality of care is emphasised[35].

This study exposes a threat to the implementation of patient care, which is one of the Western Cape Department of Health's core values[36], as this ideal is juxtaposed against a 79% high depersonalisation rate among the district hospital doctors under study. This is underpinned by the finding that mean scores for depersonalisation were high at all seven district hospitals included in the study. Depersonalisation is the regression towards callousness, a clear threat to patient-centeredness and patient care. It is clearly time to look at ways of developing engagement and resilience among district hospital doctors and retaining doctors with district hospital experience. Strategies aimed at improving patient care are incomplete and probably not sustainable if they do not include strategies for preventing, limiting and managing physician burnout.

The discipline of family medicine has a sparse, but slowly growing presence in the district hospitals of the region, with five family physicians and four registrars between the seven district hospitals studied. Family medicine teaches the importance of patient-centeredness[37], a value that is eroded by the phenomenon of depersonalisation[1].

The mean scores for the group of family physicians within the district hospitals of the region showed moderate burnout levels for EE and DP and low levels for PA. This stands in contrast to regional high scores for EE and DP and moderate scores for PA. It is encouraging that mean family physician scores for the (inverse) personal accomplishment scale were lower than normative scores, suggesting that family physicians find their work in the district hospital meaningful and rewarding. If one considers that burnout scores correlate indirectly with patient care[1], these findings imply that family physicians are having a positive impact on the district health system in the region under study. However, the considerable responsibilities of the family physician within the district health system[37] together with existing moderate burnout scores for emotional exhaustion and depersonalisation highlights the need for more family physicians in the district.

The observation that family physicians have significantly lower levels of burnout than their colleagues in the region could be related to appropriate training for the work context, experience, their senior/leadership role, their participation in the academic family medicine community, remuneration, and individual factors. The possibility that a family medicine approach to patient care correlates with job-satisfaction is strongly supported in the literature[37,38], and was clearly expressed by a study that looked at resilience among doctors working in challenging areas, which found three predominant behaviours that enable doctors to endure and thrive while working with marginalized groups, namely: respect for their patients; maintaining a sense of control; and having an interest in their work. The study concluded that practicing a patient-cantered approach was a key factor in the resilience of these doctors[28,39]. They furthermore recommend that experienced doctors with

demonstrated resilience mentor junior doctors working in challenging areas[28]. Stodel and Stewart-Smith also highlighted the importance of mentoring of junior doctors in their Western Cape study of burnout in junior doctors. A study within the department of family medicine of the University of Stellenbosch is currently under way to determine the degree to which the few family physicians in this area are managing to fulfil their many mandated roles and responsibilities, which as team leader and teacher includes the role of mentor for junior doctors[37].

Staff resilience within the corporate and health-care environments is an exciting new field of research, but is yet to deliver an evidence-based intervention to curtail job stress and burnout in healthcare institutions beyond the intervention period[29]. There is however a budding interest in the study of physician resilience and wellness, and a sense of guarded optimism in recent commentaries on the subject[25,27,40], as well as a growing pool of resources for individual and corporate education and application[41,42].

When workload and intensity are excluded from analysis, there is little correlation between the underserved work context and risk for physician burnout[28]. Based on this observation it has been proposed that organizational factors that counteract workload could help to sustain long-term doctors in underserved areas[28]. A recent reflective essay on physician burnout encourages junior doctors to "take a healthier approach to the practice of medicine, reducing hours spent on patient care each week, *and* taking more time for family and relaxation."[40] Taking this advice could leave junior doctors with little option than to complete their mandatory time and seek greener pastures within the private sector or overseas, which is a well described pattern among predominantly young unspecialised South African doctors[43]. After-hours work and shifts of up to 30 hours are major proven stressors for junior doctors in the Western Cape[5], which highlights a challenge in rural district hospitals where nearly all fulltime doctors, including family physicians, are expected to carry a similar after-hours workload, including shifts of up to 30 hours, with little prospect of improvement in the nature or scale of after-hours work[11]. Due to the small teams of doctors on the call rosters of these hospitals it is also challenging to design and implement more creative shift and leave rosters, which is a suggested mitigating factor for burnout and attrition in junior doctors[5]. Substantial after-hour duties, excessive workload and a perceived lack of management support, were cited by De Villiers et al as negative challenges facing doctors working in rural hospitals in the Western Cape[33].

Institutional and management structures and style, together with work-home interference/balance are important factors relating to physician burnout, wellness and attrition [2,5,7,20]. In keeping with accepted business management principles, it is suggested that health care workers (employees) be

considered, like patients, as people with individual and contextual needs[44,45,46]. A study by the *Graduate School of Business, University of Cape Town* listed suggested the following mitigating factors to counter burnout and attrition of junior doctors in a state hospital: recruitment efforts, focussed management and planning, improved support and mentorship, and a more empathetic administration[5]. The evidence-based and well known "employee-centred" Basic Organisational Model, places the employee's thoughts, feelings and behaviours, as a major determinant of organisational climate, at the core of organisational architecture, while policies, procedures, systems and structures are placed in a more peripheral position[44,47]. This is opposed to the bureaucratic model and the systems of management which support it, which has been recognized over the past few decades to be a major hindrance to healthy organisational climate[48]. Organisational climate and performance are also inextricably linked to the emotional intelligence of leaders, part of which is the ability to lead with empathy and realistic optimism[49], which also explains the corporate effectiveness of different leadership styles, where what has been termed "coaching leadership style" has been shown to be more effective than a more conventional "coercive leadership style"[47,50]. These principles underlie the rationale and effectiveness of organisational interventions for curtailing burnout and improving efficiency[23,24].

Limitations

Limitations include inherent limitations of a cross-sectional study design, primarily that the prevalence of burnout was measured at one point in time. Logistical reasons mandated that data was collected during the first quarter of the year. Serial measurements would be useful to monitor burnout trends, and identify hospitals approaching crisis. The small number of doctors at individual hospitals limits the reliability of comparisons between hospitals. To protect anonymity within small hospital teams, gender and years experience were not studied. The lack of normative burnout scores for South African doctors also makes it difficult to identify high risk populations within the South African context.

Recommendations

In view of the very high prevalence of burnout found is this study, a large scale and in-depth study covering the whole rural area of the Western Cape or more provinces is recommended. A qualitative study, using focussed group interviews, is recommended in the study population to add reliability to the data of this study that is based on a small study population, and to highlight pertinent specific themes that relate to this population. More research is also needed to determine accurate normative scores for the South African doctor population, and targets need to be set for acceptable burnout

levels aimed at sustainable, quality health-care. Further research should not, however, delay intervention. Potential interventions include:

- The use of burnout rates as a quality of care indicator within the district health system and include doctor burnout and turnover rates in provincial targets.
- Optimise the number if doctors, taking local context and burden of disease and after hours workload into consideration, and be proactive about recruitment and retention in order to slow turnover. This includes the need to compensate for staff shortages due to maternity leave and prolonged sick leave.
- Consider and aim for the ideal mix of experienced and junior doctors.
- Optimise the number of family physicians (and registrars) in the region as a proven strategy to reduce burnout and improve patient care.
- Consider sustainable and creative ways of covering after-hours needs, including appropriate after hours work for senior doctors and specialist family physicians in order to create realistic long-term career paths within district hospitals, and providing reasonable backup cover for junior doctors working unsupervised after-hours. This includes the need to prioritise and ensure adequate rest for doctors working night shifts.
- Provide appropriate outreach, support, training and mentoring of junior doctors and consider new ways of involving low-turnover private practitioner populations with the aim of countering staff attrition and potentially reinforcing the district hospital's experience base.
- Learn from district hospitals with low burnout and turnover rates.
- Establish, promote and encourage training opportunities in rural district hospitals such as diplomas in family medicine, emergency medicine, anaesthetics, and HIV.
- Optimise communication and feedback between health care workers and various levels of management, and encourage organisational and management reform (at all levels) that fosters healthy organisational climate.
- Local district and hospital teams could consider their specific context, stressors and resources regarding health care provider burnout, resilience and wellness, and as part of health promotion and disease prevention should access available information and make an effort to educate their institutions and clinicians about these important but neglected subjects.
- Keep abreast of developments concerning resilience training and stress management programs and value physician wellness and balance as an integral part of patient care.

Conclusion

This study demonstrates high burnout rates among doctors working in district hospitals within a rural setting in the Western Cape. High burnout rates have been shown to be a considerable threat to patient care[1], which is a core value of the Western Cape Department of Health[36]. Doctors, like patients, are individuals within a unique context. The wellness of these doctors affects the quality of care delivered to the people serviced by the district health care system. This is the rationale for the recommendations of this study to curtail the threat of burnout within district hospital doctors.

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