

The Current Status of Working Conditions in Public Hospitals at a Selected Province, South Africa: Part 2

Zodwa Margaret Manyisa

*Department of Nursing Sciences, North West University, Mafikeng Campus,
Private Bag X2046, Mmabatho, South Africa, 2735*

E-mail: Zodwa.Manyisa@nwu.ac.za

*Department of Nursing Sciences University of Limpopo (Medunsa Campus)
P0 Box 142, Medunsa, 0204, South Africa*

KEYWORDS Health. Conditions. Hospitals. Personnel. Work

ABSTRACT The purpose of this paper is to explore and describe the current working conditions in public hospitals at a specific province in South Africa. In Part 1 of the exploratory sequential mixed method study, the author dealt with the study design and presented the qualitative results against the relevant literature. The present paper presents the quantitative part of the study, the integrated results of the study and the proposed strategies for improving working conditions in these public hospitals. A quantitative design was used to explore and describe the perspectives of health care personnel regarding the working conditions in public hospitals at a selected province in South Africa. Of the original sample of 378, 344 health care personnel, 59.2% rated the working conditions in their hospitals as poor. Lack of support from management (58.8%) poor communication, poor interpersonal relationships, workload, shift work and unsafe environment were cited as the main determinants of poor working conditions in these hospitals.

INTRODUCTION

Research evidence suggests that health care personnel in public hospitals work under appalling conditions. This is because working conditions for the majority of hospitals do not comply with the minimum standards and guidelines set by the international labour organisation (ILO) and the World Health Organization (WHO) for occupational health and safety at the workplace (Rusli et al. 2008; Aiken 2013). South African public hospitals have been described as highly stressed institutions as a result of dysfunctional management structures and weak management functions (The Department of Public Service Administration Report) (DPSA 2006). These poor working conditions may be attributed to a number of factors such as under resourced institutions, lack of management skills and staff shortages as well as increased patient loads (Crisp et al. 2014; Englebrecht 2015; Scheffler et al. 2015). Despite all these challenges, there is paucity of information regarding the working conditions in public hospitals in South Africa. By exploring the current status of working conditions in public hospitals at the selected province, the researcher is of the opinion that working conditions can be improved.

MATERIAL AND METHODS

Research Design

A quantitative design was adopted to explore and describe the perspectives of health care personnel regarding the current status of the working conditions in public hospitals in a selected province in South Africa.

Population

All employees/health care personnel in the 27 hospitals at the selected province were targeted to participate in the survey. These included health care personnel such as nurses and doctors, pharmacists, physiotherapists as well as administrative staff.

Convenience sampling was used to obtain participants for this quantitative step of the study. Convenience sampling is a form of non-probability sampling which involves recruiting participants by virtue of their accessibility and willingness to participate in the study (Bryman 2012). The researcher opted for the convenience sampling method as the method of data collection for the quantitative step of the study because of the challenges that she encountered when obtaining participants. This was mainly

because of the awkward duty schedules and shifts in hospitals, which made it difficult for the researcher to obtain a specified number of participants at a particular time. To maximize the quality and the significance of the data for this study, the researcher exercised care in the selection of the sample by ensuring that participants came from 16 different hospitals and from three different districts within the province as suggested in Brink et al. (2012).

Sampling and Procedure

Letters requesting permission to conduct a study were sent to all CEOs in the 27 public hospitals at the selected. On receipt of permission letters from the CEOs, gatekeepers who would link the researcher with respondents were identified. These included management, heads of sections, matrons and occupational health managers.

A sample size of 378 employees was determined by a statistician, using Open Epi version 2. Five hundred questionnaires were then distributed to 16 hospitals to account for missing data and only 361 were returned. Only 344 questionnaires out of the original sample of 378 health care personnel/employees) were usable as the rest were either only partly filled or returned unfilled.

Data Collection

A structured self-administered questionnaire containing close ended questions was used to explore and describe the employees' perspectives on the status the present working conditions in public hospitals at the selected province. The questionnaire was divided into three sections covering the following aspects:

Section A: Demographic characteristics of the respondents.

The section contained information on the respondents' gender, level of education, experience and type of job.

Sections B, C, D: These sections of the questionnaire were designed on five-point Likert scales, ranging from "strongly agree" to "strongly disagree". For the purpose of data interpretation, response alternatives "strongly agree" and "agree" and the responses "strongly disagree", "disagree" and "neutral" were grouped together as negative responses. Only the positive re-

sponses were presented and interpreted. The five sections designed on a Likert scale captured information on the following:

Section B: Present working conditions (physical and psychological) challenges and barriers preventing one from performing duties effectively

This section contained variables on the status of working conditions as well as variables related to barriers affecting working conditions and effective performance.

Section C: Workplace health and safety

This section addressed information on workplace health and safety hazards and unpleasant conditions.

Section D: Involvement in decision-making

This section contained items that provided insight on the extent of the employee's involvement in decision making. The structured self-administered questionnaire were either hand delivered, couriered or emailed to a central point, namely; the nursing service manager or occupational health nurse in charge of the occupational unit, for distribution to the participants. A covering letter, questionnaire instructions, consent form and approval letters from the university Research Ethics Committee and from the Department of Health And Social Services were attached to the self-administered questionnaire.

Data Analysis

Data was checked, cleaned and entered into Excel and then exported into an IBM SPSS version No. 22 for statistical analysis by a statistician. Data was analysed at univariate and multivariate levels. In the univariate analysis, the demographic characteristics of the participants were described by frequencies then presented in tables. Multivariate analysis involved principal component analysis (PCA) with orthogonal rotation to examine the factors related to the inherent common structure between the 21 questions on occupational health and safety management, 19 items on challenges and barriers affecting working conditions, 5 on decision making involvement, The virtue of Principal Component Analysis (PCA) is that underlying factors in a complex setting can be explained. This technique is ideal for reducing the dimensionality.

Reliability analysis of the corresponding scales was performed after determining the underlying structure at exploratory level. A value

nearer to 1 indicates a reliability model that is appropriate. The Cronbach's alpha coefficients based on the internal consistency of items that cluster under one component with a cut-off point of 0.7 is considered a high reliability.

Reliability and Validity

To promote the reliability of data obtained in this study, the questionnaire was pretested with health care personnel in one non-participating hospital. This was done to allow improvement in content and format and for reliability and for language clarity before it was disseminated to other hospitals.

The validity of the data collection instrument used in this study was enhanced by the fact that questions were derived from themes and subcategories of the qualitative phase of the study, from pre-existing tools on safety, health and working conditions and from the literature review (ILO-OSH 2001). Each question was checked by a statistician to determine whether it contributed to the research objectives of the study.

RESULTS

Demographic Characteristics of the Respondents

About a quarter (20.6%; n=71) of the respondents were above the age of 41 years, 39.5 percent (n=136) and below the age of 30 and 40, 39.8 percent (n=137) were between 30 and 40 years of age. Of all the respondents, 78.8 percent (n=271) were women and from these women the majority were employed as nurses (84.9%; n=192), doctors (1.5%; n=5) and the remaining 13.6 percent (n=46) (other) comprised physiotherapists, pharmacists, laboratory technicians and administrative staff. All respondents were formally educated, that is 1.5 percent (n=5) had grade 8 to 10; 18.9 percent (n=65) had grade 10 to grade 12, 16.9 percent (n=58) had certificates, 52.3 percent; n=180 had diplomas, 4.0 percent; n=14 an advanced diploma, 4.4 percent; n=15 had degrees and 2 percent; n=7 had a post-graduate degree.

For the purpose of data analysis and interpretation, component factor analysis was used to group items which are related to each other into components or themes.

Present Working Conditions, Challenges and Barriers Affecting Working Conditions

The components that are related to the physical and psychological barriers affecting working conditions and effective duty performance are depicted in Table 1.

The Kaiser-Meyer-Olkin measure verified the sample adequacy for the analysis, KMO = .92 ('superb' according to Field 2009). Bartlett's test of sphericity $\chi^2(171) = 1431.15$, $p < .001$, indicated that correlations between items are sufficiently large for PCA. This technique is ideal for reducing the dimensionality of the working conditions challenges into a smaller number of factors that explain the majority of the variance. The result shows that the three components explained 71.8 percent of the variance. The 10 items that cluster on the first component explained 32.66 percent (Cronbach $\alpha = 0.95$) of the variance which reflect aspects related to resources. The items that relate to budgetary constraints, inadequate infrastructure and unavailability of resources are grouped together. The second component which explained 26.31 percent (Cronbach $\alpha = 0.94$) of the variance includes 8 items related to the overall perception of the staff about the managerial processes, support, communication, relationships, working environment, demotivation of staff. Finally the third component explains 12.81 (Cronbach $\alpha = 0.69$) of the variance includes aspects related to location of hospital and lack of access to occupational health and safety training.

Budgetary Constraints, Infrastructure and Resources (CP1)

About 70.4 percent (n=228) indicated that budgetary constraints were a challenge in their hospitals and 70.4 percent (n=228) reported lack of financial resources. With regard to working conditions in public hospitals, 59.2 percent (n=192) rated the working conditions of their hospitals as poor. Inadequate equipment and infrastructure were reported by 50.4 percent (n=163) and 65.3 percent (n=208) respectively as a challenge in public hospitals and shortage of professional skills and support staff was reported by 78.6 percent (n=260) of the respondents as the main reason for their dissatisfaction with the working conditions. Furthermore, 74.7 percent (n=244) stated that increased work-

Table 1: Present working conditions challenges and barriers affecting working conditions (n=344)

Item	Comp- onen	Egein- value	% Exp- lained	% Re- sponse	(n=344)
<i>CP: 1 Budgetary Constraints, Infrastructure and Resources (Cronbach á = 0.95)</i>					
		11.246	32.662		
Budgetary constraints	0.796			70.4	325
Lack of resources (financial)	0.796			70.4	325
Poor working conditions	0.793			59.2	328
Inadequate /poor infrastructure	0.789			65.3	320
Increased workload/overworking	0.719			74.7	327
Inadequate equipment	0.668			50.4	325
Shortage of professional skills and support staff	0.638			78.6	331
Hospital located in rural areas	0.811			50	324
Unsafe environment	0.676			53.8	329
Absenteeism in staff	0.581			50.2	325
Job dissatisfaction, low morale and low motivation	0.539			66.3	326
<i>CP: 2 Managerial Processes, Support, Communication and Interpersonal Relationships (Cronbach á =0.94)</i>					
		1.355	26.311		
Lack of support from management	0.726			61.6	323
Lack of communication between management and staff	0.69			58.8	323
Poor interpersonal relationships among staff	0.655			60.6	320
Poor health profiles of most employees	0.81			43.4	325
Lack of state contract	0.842			40.4	329
Lack of recognition and appreciation of employees by management	0.764			62.3	324
Poor salary negotiation platforms	0.677			52.7	319
Lack of management skills	0.655			41	324
<i>CP: 3 Location of Hospital and Training (Cronbach á = 0.69)</i>					
		1.038	12.81		
Hospital located in rural areas affect OHS issues	0.811			50	324
Inadequate training on occupational health and safety issues	0.71			50	324
Total percentage explained			71.783		
Kaiser-Meyer-Olkin test of sample adequacy			0.2		
Bartlet test of sphericity			$\chi^2 (171) = 1431.15, p <.001$		

Notes: CP: principal component. For greater clarity, only those loading exceeding 0.4 are shown

load was a barrier to the effective performance of their duties, 53.8 percent (n=177) reported unsafe working environment, 50.2 percent (n=130) reported absenteeism of staff members and job dissatisfaction, low morale and low motivation was reported by 66.3 percent (n=216).

Support, Communication, Interpersonal Relationships and Job Satisfaction (CP2)

Regarding management support, communication, interpersonal relationships and job satisfaction, 61.6 percent (n=199) of the respondents cited lack of support from management, about half of the respondents (58.8%; n=189) felt that there was lack of communication between management and staff, 60.6 percent (n=193) reported poor interpersonal relationships among staff and 43.4 percent (n=141). About sixty-two percent (62.3%; n=201) of respondents reported lack of recognition and ap-

preciation of employees by management, 52, 7 percent (n=168), reported poor salary negotiation platforms, 41 percent (n=132) reported lack of management skills and 40.4 percent (n=132) stated lack of state contract as a barrier to acquiring equipment.

Location of Hospital and Occupational Health and Training (CP3)

Half of the respondents indicated dissatisfaction about the location of their hospitals, whereas 50 percent (n=162) indicated lack of access to training on occupational health and safety issues in their hospitals

Workplace Health and Safety

This section discusses the components that are related to occupational health and safety of employees in the workplace (Refer to Table 2 for

Table 2: Workplace health and safety (n=344)

<i>Item</i>	<i>Comp- onen</i>	<i>Egein- value</i>	<i>% Exp- lained</i>	<i>% Re- sponse</i>	<i>Total (344)</i>
<i>CP1: Physical and Biological Hazards (Cronbach α = 0.92)</i>		14.517	16.152		
Working with people under the influence of drugs and alcohol	0.777			30.6	330
Fire or explosion hazards	0.687			34.9	329
Too much dust	0.671			33.8	319
Litter or mess in work area	0.632			39.6	328
Poor lighting (too much, too little)	0.579			67.9	327
Too much heat	0.82			52	323
Bad air (stuffy), not enough air	0.639			54	326
Too much vibration	0.738			27.8	328
Too much noise	0.628			37.8	324
Risks to eyestrain	0.600			45.6	327
Slipping and tripping	0.418			36.2	315
Travel hazards, public transport, driving conditions	0.564			56.7	323
Electric hazards	0.751			34.2	321
Biological Hazards	0.643			69.8	320
<i>CP2: Mechanical Hazards (Cronbach α = 0.88)</i>		2.422	11.799		
Not enough occupational health and safety training	0.74			63.9	324
Risk of physical strain (e.g., back, wrist, neck)	0.738			72.2	320
Unsafe equipment or machinery (including office equipment)	0.463			53.8	329
Awkward postures or repetitive movements	0.561			45.5	316
Bad work-station design	0.416			44.4	315
<i>CP3: Workload and Shift Work (Cronbach α = 0.83)</i>					
Too much work outside working hours	0.688	1.792	9.839	50.4	321
Meal at enterprise	0.616			54.2	321
Lack of adequate toilet facilities	0.573			56	323
Shift work	0.417			52.5	320
<i>CP4: Chemical Hazards (Cronbach α = 0.82)</i>		1.622	9.222		
X-rays, other radiation or video display terminals	0.789			38.8	322
Dangerous chemical	0.726			31.7	322
Exposure to tobacco smoke of others	0.739			38.2	319
Toxic gas hazards	0.815			28	328
<i>CP5: Inadequate Infrastructure (Cronbach α = 0.71)</i>		1.407	8.606		
Poor work space or not enough working space	0.753			67.9	327
Shift work	0.417			52.5	320
Lack of health facility or examination	0.47			58.1	320
Lack of facilities or access for employees with disabilities	0.446			58.2	323
<i>CP6: Safety and Security CP5 (Cronbach α = 0.82)</i>		1.233	7.883		
Lack of personal protective equipment	0.700			64.6	322
Having to perform unsafe work	0.479			64.6	322
Fear for personal safety and security	0.43			55.6	327
	0.581			60	317
<i>CP7: Environmental Hygiene (Cronbach α = 0.71)</i>		1.184	6.753		
Lack of adequate toilet facilities	0.485			56	323
Too much heat	0.82			52	323
Bad air (stuffy, not enough air)	0.639			54	326
Total Percentage			70.25		
Kaiser-Meyer-Olkin test of sample adequacy			0.86		
Bartlett's test of sphericity			$\chi^2 (561) = 1999.78, p < .001$		

Notes: CP: principal component. For greater clarity, only those loading exceeding 0.4 are shown

analysis). All the factored subscales were normalized and Cronbach's α was calculated for factors extracted. The Kaiser-Meyer-Olkin measure verified the sample adequacy for the analysis, KMO = .86 ('great' according to Field 2009). Bartlett's test of sphericity $\chi^2 (561) = 1999.78, p < .001$,

indicated that correlations between items are sufficiently large for PCA. The result shows that the three components explained 70.25 percent of the variance.

Factor analysis of 34 items of workplace health and safety statements generated 7 sepa-

rate components: Component 1 which includes 14 items related to physical and biological aspects (Cronbach $\alpha = 0.92$) and explained 16.15 percent. The 2nd component suggesting 5 aspects involving mechanical hazards (Cronbach $\alpha = 0.83$) explained 9.83 percent of the variance. Component 3 which refers to issues related to shift work and work load comprising 4 items (Cronbach $\alpha = 0.88$) explained 11.79 percent. Component 4 comprising 4 items (Cronbach $\alpha = 0.82$) which are related to chemical hazards explained 9.22 percent of the variance, component 5 comprising 5 items which is related to infrastructure and personal protective equipment (Cronbach $\alpha = 0.71$) explained 8.60 percent. Component 6 which includes 3 items addressing issues of safety and security (Cronbach $\alpha = 0.82$) explained 7.88 percent. Lastly, component 7 consisting of 3 items (Cronbach $\alpha = 0.71$) which are related to environmental hygiene explained 6.75 percent.

Physical and Biological Hazards (CP1)

With regard to physical hazards, 30 percent (n=99) of the respondents were concerned about working with people under the influence of drugs and alcohol, 34.9 percent (n=114) reported that they were exposed to fire or explosion hazards, 33.8 percent (n=107) to dust, 39.6 percent (n=129) and to litter in the workplace. More than half of the respondents 67.9 percent (n=222) indicated that they were worried about poor lighting, 52 percent (n=169) cited exposure to too much heat, 54 percent (n=176) to stuffy air, 27.8 percent (n=91) indicated exposure to too much vibration and 37.8 percent (n=122) reported exposure to too much noise. Below half (45.6%; n=149) of the respondents indicated that they were exposed to risk of eye strain, 36.2 percent (n=114) indicated that they were exposed to slipping and tripping hazards, 56.7 percent (n=183) indicated that they were exposed to travel hazards related to public transport and driving conditions and 34.2 percent (n=109) reported exposure to electric hazards. Regarding exposure to biological hazards, close to seventy percent of the respondents (69.8%; n=223) indicated their concerns about exposure to biological agents. Biological exposure can result from improper handling and disposal of medical waste. It can also result from exposure to specific pathogens and viruses such as hepatitis B virus and HIV.

Mechanical Hazard (CP2)

Respondents' exposure to mechanical hazards was quite high; 72.2 percent (n=231) of respondents were concerned about risks to physical strains particularly of the back, wrist or neck, 53.8 percent (n=177) reported exposure to mechanical hazards as a result of unsafe machinery including office equipment, 45.5 percent (n=143) reported exposure to mechanical hazards as a result of awkward positions or repetitive movement and 44.4 percent (n=155) reported bad workstation designs in their hospitals.

Workload and Shift Work (CP3)

Half of the respondents reported that there was too much work outside their working hours, 52.5 percent (n=168) cited shift work as a challenge in their hospitals and 56 percent (n=320) expressed their concerns about shift work.

Chemical Hazards (CP4)

Respondents' exposure to chemical was low, with the highest score (38.8%; n=124) reported for exposure to diagnostic radiation such as C-T scans, X-rays, other radiation sources such as radiation video display terminals, 38.2 percent (n=121) for tobacco smoke from others, 31.7 percent (n=102) for other dangerous chemicals in their working environment, and the lowest score 28.0 percent (n=92) for toxic gases.

Infrastructure and Personal Protective Equipment (CP5)

Inadequate work space was reported by 67.9 percent (n=222) respondents, 52.5 percent (n=168) indicated that there was lack of examination rooms, 58.1 percent (n=186) indicated lack of access for employees with disabilities, 56.0 percent (n=180) indicated lack of toilet facilities in their hospitals and 58 percent (n=185) reported lack of facilities for employees with disabilities.

Safety and Security (CP6)

Safety and security at the workplace was generally poor, 64.6 percent (n=208) respondents indicated their concerns about lack of protective equipment and clothing, 55.6 percent (n=181) reported that they were performing unsafe work

and 60% (n=190) reported fear for their personal safety.

Environmental Hygiene (CP7)

More than half of the participants reported that there was lack of toilet facilities in their hospitals, 52 percent (n=167) reported too much heat in their working environment and bad, stuffy air was reported by 54 percent (n=176) of the respondents. These components suggest that there are serious issues regarding the ventilation and ablution facilities in these hospitals.

Involvement in Decision Making

Respondents' involvement in decision making was generally poor, with less than half of the respondents 30.3 percent (n=91) indicating involvement in in-service training, 16.1 percent (n=48) indicating involvement in occupational health and safety issues, 22.5 percent (n=67) involvement in staff allocation, 12.4 percent (n=37) of respondents indicating their involvement in planning meetings and 20.7 percent (n=62) reporting involvement in budget management meetings. Figure 1 presents information on employee involvement in decision making

DISCUSSION

Integrated Qualitative and Quantitative Results of the Study

In this section, a discussion of the integrated findings from the qualitative and quantitative steps of the exploratory sequential mixed method study is presented. Integrated findings from the qualitative and quantitative phases of the study are presented in the next section with reference to the following:

- Status of the working conditions of public hospitals at a selected province.
- Challenges experienced by workers while performing their duties, and the
- Strategies for improving working conditions of public hospitals at a selected province.

Status of Working Conditions in Public Hospitals in selected province in South Africa

Both the qualitative and quantitative strands of the study suggest that the working conditions in public hospitals are poor. The poor status of working conditions in public hospitals was confirmed by the quantitative findings

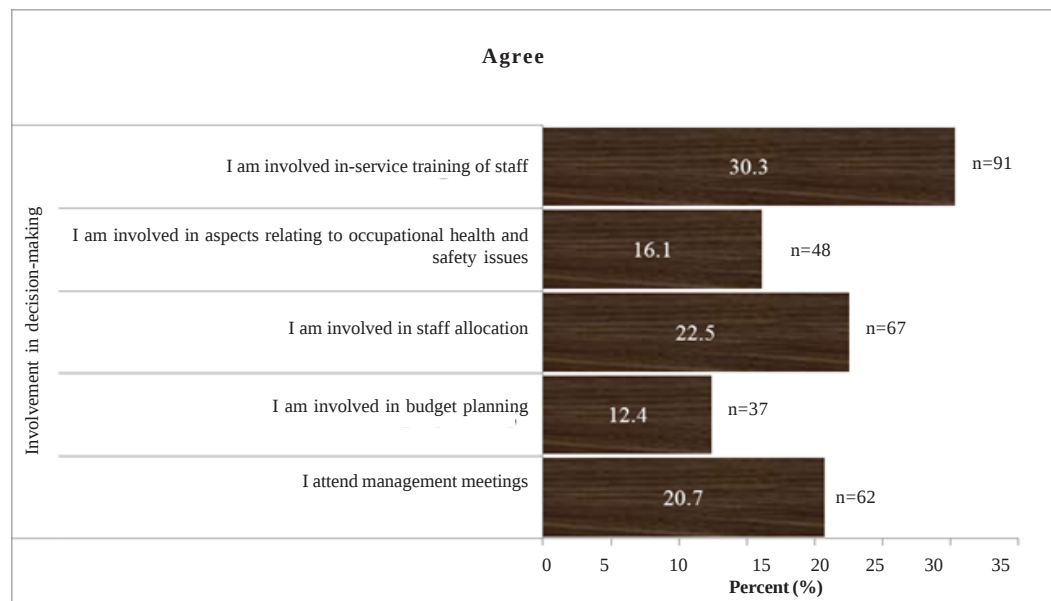


Fig. 1. Employee involvement in decision making.
Source: Manyisa 2015

which recorded a high percentage (59.2 %) for the component that relates to working conditions as presented in Table 1 (CP1). The findings of this study are further corroborated by a number of other national and international studies which have reported evidence of poor working conditions in public hospitals (Aiken 2013; Rusli et al. 2008).

With regard to the effects of poor working conditions in public hospitals on employees, there seems to be strong support from the quantitative study on the following issues; demotivation of staff, job dissatisfaction, low morale and stress because high percentages were recorded on these variables (Refer to Table 2).

Respondents described challenges that prevent them from performing their duties effectively related to the physical environment such as poor infrastructure and lack of safety and security in the working environment. This was said to be associated with old, small and dilapidated buildings as well as the on-going constructions. They indicated how poor infrastructure has led to lack of adequate space and overcrowding in public hospitals and how these have prevented them from complying with the principles of isolation, thus increasing the risk of nosocomial infections to employees and patients. These findings are consistent with the quantitative findings, which recorded a high score on the variable of poor infrastructure in Table 1 (CP1) and Table 2 (CP5).

The results of this study are also consistent with a number of reports which provided evidence of infrastructure problems in public hospitals in South Africa (Bateman 2009; DPSA 2006).

Challenges related to resources such as shortage of professional skill and support staff emerged as another factor which compromises the employees' abilities to perform their duties in public hospitals. They ascribed the shortage of skilled personnel to the freezing of posts, sickness absenteeism related to poor health profile of employees, and high turnover rates. The respondents reported that shortage of staff was the main reason for employees' inability to cope with the increased workload in these hospitals. The quantitative findings concur with the qualitative findings as evidenced by a high score recorded on the variable of shortage of staff in Table 1 (CP1). Shortage of skilled personnel in public health settings have been widely report-

ed in the literature, both nationally and internationally. For example, gross shortages of skilled personnel, particularly nurses and doctors have been reported in China (Yun et al. 2010); Australia (Kingma 2007: 1285; Schofield et al. 2009); South East Asia, Europe and America (Taylor et al. 2011); Bhutan, Botswana and Namibia (Crisp 2015); South Africa (Hull 2010).

Respondents also reported that unsafe working environments in their institutions were a challenge. They attributed the unsafe environment to factors such as lack of equipment, namely; furniture, cleaning material, as well as protective equipment such as N95 masks, goggles and gloves, and a lack of security. They indicated that the lack of protective equipment and proper furniture increased their risks to physical risks, biological agents (mycobacterium), and mechanical injuries (backaches).

The quantitative findings provide strong evidence of inadequate occupational health and safety training, poor workspace, fear for personal safety and security, lack of personal protective clothing, lack of occupational health and safety training as well as the associated risks from physical, mechanical and chemical hazards, biological agents or infectious diseases as evidenced by the high scores on the variables which relate to unsafe environment and occupational health and safety issues in Table 2 (CP1-CP7).

The problem of a lack of protective clothing was further reiterated by participants in both the qualitative and the quantitative findings who reported a need for proper protective equipment such as goggles, face shields, masks, earplugs, footwear and gloves, to be supplied in order to protect employees from the risks of contracting infectious diseases and sustaining injuries in the work place. Respondents (occupational health nurses) also indicated a need to improve safety measures by setting up a clear separation from construction areas to avoid injuries to employees.

Unsafe working environments that predispose hospital employees to nosocomial infections and injuries have been widely reported in occupational health and safety literature (Bock et al. 2011; Jo et al. 2013; Joshi et al. 2006; Hashemi et al. 2014; Menzies et al. 2007; Schalbon et al. 2009; Sissolak et al. 2011).

A study by Engelbrengh et al. (2015) on workplace conditions and practices of health care workers at three public hospitals in the Free State

found that hospitals employees were not adequately protected from infectious diseases and physical risks. Furtado et al. (2010) reported lack of safety and security in a hospital in Brazil.

Barriers that were related to the psychological environment also emerged from the study. From the in-depth interviews of the qualitative phase of the study it emerged that the employees were experiencing high levels of stress. Respondents described their working conditions as traumatic to both patients and staff and characterized by high levels of psychological stress, low morale, and burnout and personnel dissatisfaction. The high level of stress, low morale, burnout and job dissatisfaction were attributed to such factors as having to provide care to critically ill and dying patients without receiving emotional debriefing, support or appreciation from management. Respondents also described the attitudes of their managers as negative and breaking down employees' morale.

Stress can be defined as the physical and emotional outcomes that occur when there is disparity between the demands of the job and the amount of control the individual has in meeting those demands (Lambert and Lambert 2008). Lambert and Lambert (2008); (Nabirye 2011) and Anagnostopoulos (2015) state that workplace stress occurs when the challenges and demands of the job become excessive in a way that the individual can no longer handle them. When stress sets in, it is an indication that the individual's physical, emotional, social, spiritual and economic resources have been depleted. The high levels of stress among hospital employees have been attributed to the adverse working conditions in health care settings.

From both the qualitative and the quantitative phases of the study, it became apparent that some of the problems faced by health care personnel in the workplace emanated from managerial processes such as lack of managerial support, flawed communication channels between management and employees, poor implementation of performance management systems and lack of involvement in decision making.

Poor communication was reported to be a challenge as most respondents described that there were no open and clear lines of communication between management and employees at the operational level. They reported that the poor lines of communication have had negative impacts on the performance of their duties as it

prevented them from accessing information that was crucial to their specific jobs. The findings of this study give credence to a study which was conducted in Tanzania, which revealed poor information flow and poor communications between hospital employees and their managers (Leshabari et al. 2008). However, despite the respondents' negative reports on the communication channels, some respondents in both the qualitative and quantitative findings of this study indicated satisfaction with the communication channels between management and employees in their hospitals as illustrated in Table1 (CP 2). Poor communication among health care workers has been found to be the most common problem in health care settings (Taran 2011). Tara (2011) describes poor communication among health professionals as the main factors that delay progress in the treatment of patients, hinder advancement in any collaborative effort and lead to mistrust and hostility among health care workers.

Implementation of performance management emerged as another important theme among health care personnel. They also mentioned that unfair distribution of incentives and poor implementation of the OSD in certain hospitals in the province had caused dissatisfaction among employees.

Poor interpersonal relationships between management and their subordinates as well as between subordinates themselves emerged as a challenge in both qualitative and quantitative studies (Refer to Table 1 CP2). On this theme, employees stated that poor interpersonal relationships have resulted in the formation of sub-groups which in turn have affected the spirit of working together as a unit.

Lack of involvement in decision-making was identified as another barrier to the effective performance of employees' roles in public hospital. On this theme, respondents reported how they were being excluded from decision-making and budgeting meetings and how this caused job dissatisfaction. This was supported by the quantitative findings which reported high scores on lack of involvement in management meetings, budget meetings, staff allocation and aspects related to occupational health and in-service training meetings (Fig. 1). Lack of employee involvement in decision making has been reported in Indonesia (Irawanto 2015). O'Donoghue et al. (2011) in their study on employee participation in the health industry in Australia re-

vealed lack of employee involvement in health care settings in Australia.

A study by Podgorski (2005) found that employee involvement in decision-making is a basic pre-requisite to effective prevention of occupational health hazards and diseases as well as to effective problem solving. The ILO (2009); and Alli (2008) confirm the importance of employee involvement by requiring management to ensure that employees and their representatives have enough resources as well as time to participate in planning, implementation, checking, preventive and corrective actions for continual improvement of occupational health and safety management systems. This is in line with the works of Kowalik and Yoder (2010) and Legare et al. (2011) who revealed that lack of employee involvement in decision-making deprives employees, as stakeholders, of a conceptual understanding of each other's valuable experiences and renders communication ineffective. Furthermore, they stated that lack of involvement in decision-making deprives employees of an opportunity to influence the decisions that affect their work environment, professional development and personal fulfilment.

CONCLUSION

A discussion of the integrated findings from both the quantitative and the qualitative study was presented against the relevant literature review. Both the qualitative and quantitative strands of the study suggest that the working conditions in public hospitals are poor and affect employees in a number of ways.

The quantitative study produced evidence which strengthened the qualitative findings on the following themes: Poor working conditions in public hospitals, inadequate resources as related to budgetary constraints, poor infrastructure, shortage of personnel as well as equipment, safety and security, lack of psychological support, unfair implementation of the performance management systems, flawed communication channels, poor interpersonal relationships and lack of involvement in decision making as well as lack of education and training in occupational health related issues.

These factors have negative psychological and physical consequences on the health and safety of employees. Effects such as high levels of stress, low morale, burnout and fear for per-

sonal safety, exposure to physical, biological and chemical risks were identified. the study suggests that altering some of these factors may help improve the working conditions.

RECOMMENDATIONS

A number of strategies to improve working conditions were recommended by respondents from both the qualitative and the quantitative studies. The next section presents suggested strategies for improving work conditions of public hospitals.

- Strategies for continuous monitoring and evaluation of occupational health and safety interventions need to be in place.
- Inspections should be conducted for early detection and reporting of hazards
- Auditing to be conducted continuously.
- There should be continuous employee training on occupational health issues and leadership.
- Appointment of occupational nurses to hospitals which do not have occupational nurses. Establish surveillance programmes for workers' health to identify conditions which may make workers more susceptible to hazards.
- Develop measures for monitoring and facilitation of the construction work that is going on in hospitals should be put in place.
- Information must be disseminated to the lower levels of management and to the functional level employees.
- There must be transparency within the institution. Management and staff should have regular meetings to guide feedback or suggestions about interventions

LIMITATIONS

The study did not explore the views of the general assistants since it concentrated only on those employees who could speak, read and write in English. This was a limitation as their views might have enriched the findings of the study. The research was carried out during a period in which some hospitals were undergoing revitalization. This might have changed their normal way of functioning and the whole picture of how the hospitals are organised; that might have led to bias. Another limitation is that the non-probability sampling methods used in the quantita-

tive study might have affected generalisability of the findings, increased the risk of bias and that some hospitals might be over represented or under-represented than others.

ACKNOWLEDGEMENTS

The author is grateful to all the respondents for their cooperation during the study and to her promoter, Professor Elsie van Aswegen.

REFERENCES

- Aiken LH, Sloane DM, Bruyneel L, Van den Heede K, Sermeus W, RN4CAST Consortium 2013. Nurses reports of working conditions and hospital quality of care in 12 countries in Europe. *International Journal of Nursing Studies*, 50(2): 143-153.
- Alli B 2008. *Fundamental Principles of Occupational Health and Safety*. Geneva. International Labour Organization.
- Anagnostopoulos F, Niakas D 2015. Job burnout, health-related quality of life, and sickness absence in Greek health professionals. *European Psychologist*, 15(2): 132-141.
- Bock NN, Jensen PA, Miller B, Nardell E 2007. Tuberculosis infection control in resource-limited settings in the era of expanding HIV care and treatment. *The Journal of Infectious Diseases*, 196 (Suppl. 1): S108-S113.
- Bossert TJ, Mitchell AD 2011. Health sector decentralization and local decision-making: Decision space, institutional capacities and accountability in Pakistan. *Social Science and Medicine*, 72(1): 39-48.
- Breier M, Wildschut A, Mqolozana T 2009. Nursing in a New Era: The Profession and Education of Nurses in South Africa. From <<http://www.bokus.com/bok/9780796922748/nursing-in-a-new-era>> (Retrieved on 2 March 2013).
- Brink HL, van Rensburg, G, van der Walt C 2012. *Fundamentals of Research Methodology for Health Care Professionals*. 3rd Edition, Pretoria: JUTA.
- Bryman A 2006. Integrating quantitative and qualitative research: How is it done? *Qualitative Research*, 6(1): 97-113.
- Crisp N, Chen L 2014. Global supply of health professionals. *New England Journal of Medicine*, 370(10): 950-957.
- Department of Public Service and Administration 2006. Department of Public Service and Administration Research Report. 2006. Conditions of Public Hospitals in South Africa. From <<http://www.gov.za>> (Retrieved on 1 March 2008).
- Engelbrecht MC, Yassi A, Spiegel JM, Van Rensburg AJ, O'Hara LM, Bryce EA, Nophale LE, Rau A 2015. Tuberculosis and blood-borne infectious diseases: Workplace conditions and practices of healthcare workers at three public hospitals in the Free State: Original research. *Southern African Journal of Infectious Diseases*, 30(1): 23-28.
- Furtado BMAS M, Araújo Jr JLCD 2010. Perception of nurses on working conditions in the emergency area of a hospital. *Acta Paulista de Enfermagem*, 23(2): 169-174.
- Gao T, Gurd B 2015. Meeting the challenge in performance management: the diffusion and implementation of the balanced scorecard in Chinese hospitals. *Health Policy and Planning*, 30(2): 234-241.
- Harrison D 2009. An overview of health and health care in South Africa 1994-2010: Priorities, Progress and Prospects for New Gains: Henry J Kaiser Family Foundation. From <www.bhfglobal.com/files/bhfg/overview1994-2010.pdf> (Retrieved on March 2008).
- Hashemi SH, Mamani M, Alizadeh N, Nazari M, Sedighi I 2014. Prevalence of tuberculosis infection among health care workers in Hamadan, West of Iran. *Avicenna Journal of Clinical Microbiology and Infection*, 1(1): 192-214.
- International Labour Office 2001. Guidelines on Occupational Safety and Health Management Systems. Geneva. From <http://www.ilo.org/safework/info/standards-and-instruments/WCMS_107727/lang-en/index.htm> (Retrieved on 23 March 2011).
- International Labour Conference 98th Session 2009. ILO Standards on Occupational Safety and Health: Promoting a Safe and Healthy Working Environment. International Labour Office Geneva From <<http://www.ilo.org/ilc/ILCSessions/98thSession/lang-it/index.htm>> (Retrieved on 23 March 2011).
- Irawanto DW 2015. Employee participation in decision making: Evidence from state owned enterprise in Indonesia. *Management Journal of Contemporary Management Issues*, 20(1): 159-172.
- Jo KW, Hong Y, Park JS, Bae IG, Eom JS, Lee SR, Cho OH, Choo EJ, Heo JY, Woo JH, Shim TS 2013. Prevalence of latent tuberculosis infection among health care workers in South Korea: A multicenter study. *Tuberculosis and Respiratory Diseases*, 75(1): 18-24.
- Joshi R, Reingold AL, Menzies D, Pai M 2006. Tuberculosis among health-care workers in low-and middle-income Countries: A systematic review. *PLoS Medicine*, 3(12): e494.
- Kisa S, Kisa A, Younis M 2009. A discussion of job dissatisfaction and burnout among public hospital physicians. *International Journal of Health Promotion and Education*, 47(4): 104-111.
- Kish-Gephart JJ, Detert JR, Treviño LK, Edmondson AC 2009. Silenced by fear: The nature, sources, and consequences of fear at work. *Research in Organizational Behavior*, 29: 163-193.
- Kowalik SA, Yoder LH 2010. A concept analysis of decisional involvement. *Nursing Administration Quarterly*, 34(3): 259-267.
- Légaré F, Stacey D, Pouliot S, Gauvin F, Desroches S, Kryworuchko J, Dunn S, Elwyn G, Frosch D, Gagnon M 2011. Interprofessionalism and shared decision-making in primary care: A stepwise approach towards a new model. *Journal of Interprofessional Care*, 25(1): 18-25.
- Leshabari MT, Muhondwa EP, Mwangi M, Mbembati NA 2008. Motivation of health care workers in Tanzania: A case study of Muhimbili National Hospital. *East African Journal of Public Health*, 5(1): 32-37.
- Lindelow M, Serneels P, Lemma T 2005. The performance of health workers in Ethiopia results from qualitative research. *Social Science and Medicine*, 62(9): 2225-2235.

- Manyisa ZM 2015. *A Conceptual Model for Improving Working Conditions in Public Hospitals in Mpumalanga Province: An Occupational Health and Safety Perspective*. Thesis, Unpublished. Pretoria: University of Limpopo.
- Menzies D, Joshi R, Pai M 2007. Risk of tuberculosis infection and disease associated with work in health care settings. Occupational lung disease in high-and low-income countries, edited by Chan-Yeung, M. *The International Journal of Tuberculosis and Lung Disease*, 11(6): 593-605.
- Nabirye RC, Brown KC, Pryor ER, Maples EH 2011. Occupational stress, job satisfaction and job performance among hospital nurses in Kampala, Uganda. *Journal of Nursing Management*, 19(6): 760-768.
- OSH 2001. Guidelines on Occupational Health Management Systems International, Labor offices, Geneva. From <<http://www.ilo.org/safework/info/publications/>> (Retrieved on 1 May 2008).
- O'Donoghue P, Stanton P, Bartram T 2011. Employee participation in the healthcare industry: The experience of three case studies. *Asia Pacific Journal of Human Resources*, 49(2): 193-212.
- Pillay R 2009. Work satisfaction of professional nurses in South Africa: A comparative analysis of the public and private sectors. *Human Resources for Health*, 7(1): 5.
- Podgorski D 2005. Workers' involvement. A missing component in the implementation of occupational safety and health management systems in enterprises. *International Journal of Occupational Safety and Ergonomics*, 11(3): 219-231.
- Rusli BN, Edimansyah BA, Naing L 2008. Working conditions, self-perceived stress, anxiety, depression and quality of life: A structural equation modeling approach. *BMC Public Health*, 8: 48-2458-8-48.
- Schablon A, Beckmann G, Harling M, Diel R, Nienhaus A 2009. Prevalence of latent tuberculosis infection among health care workers in a hospital for pulmonary diseases. *Journal of Occupational Med Toxicology*, 4(1): 1-7.
- Scheffler RM, Mahoney CB, Fulton BD, Dal Poz MR, Preker AS 2009. Estimates of health care professional shortages in sub-Saharan Africa by 2015. *Health Affairs*, 28(5): w849-w862.
- Schofield DJ, Fletcher SL, Callander EJ 2009. Ageing medical workforce in Australia-where will the medical educators come from. *Hum Resource Health*, 7(82): 16.
- Sissolak D, Marais F, Mehtar S 2011. TB infection prevention and control experiences of South African nurses -A phenomenological study. *BMC Public Health*, 11: 262-2458-11-262.
- Songstad NG, Rekdal OB, Massay DA, Blystad A 2011. Perceived unfairness in working conditions: The case of public health services in Tanzania. *BMC Health Services Research*, 11: 34.
- Taegtmeyer M, Suckling R, Nguku P, Meredith C, Kibaru J, Chakaya JM, Muchela H, Gilks C 2008. Working with risk: Occupational safety issues among health-care workers in Kenya. *AIDS Care*, 20(3): 304-310.
- Taran S 2011. An examination of the factors contributing to poor communication outside the physician-patient sphere. *McGill Journal of Medicine*, 13(1): 86.
- Taylor AL, Hwenda L, Larsen BI, Daulaire N 2011. Stemming the brain drain: A WHO global code of practice on international recruitment of health personnel. *New England Journal of Medicine*, 365(25): 2348-2351.
- van der Colff J, Rothmann S 2009. Occupational stress, sense of coherence, coping, burnout and work engagement of registered nurses in South Africa. *SA Journal of Industrial Psychology*, 35(1): 1-10.
- van der Doef M, Mbazzi FB, Verhoeven C 2012. Job conditions, job satisfaction, somatic complaints and burnout among East African nurses. *Journal of Clinical Nursing*, 21(11-12): 1763-1775.
- Wada K, Arimatsu M, Yoshikawa T, Oda S, Taniguchi H, Higashi T, Aizawa Y 2008. Factors on working conditions and prolonged fatigue among physicians in Japan. *International Archives of Occupational and Environmental Health*, 82(1): 59-66.