

Understanding the work of hospital managers in the public sector in Saudi Arabia

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Abstract

This paper reports some of the preliminary findings of research that proposes to explore the nature of the hospital managers' work, their opinions about the most essential functions, roles, skills and training courses needed to manage the Ministry of Health (MOH) hospitals in Saudi Arabia (SA). It intends to describe four types of hospital managers according to their educational background and managerial experience.

Self-administered postal questionnaires were distributed to 218 managers working in MOH hospitals across the country. The use of postal survey allowed coverage of a sample across a wide geographical region. 72.9% of questionnaires were completed, which were valid for descriptive and univariate analysis.

Preliminary results show 35.8% of the respondent had a technical (allied health personnel) background, while 33.3% of the managers were doctors. Health management, business or public administration, and other backgrounds represented around 10% of the managers in the sample. More than 70% of the respondents believed that a Bachelor's or Master's degree, either in management or health management was an appropriate qualification for hospital managers. There was also a significant association between the hospital size and years of managerial experience. Also there were other findings regarding the motivation for being a manager, level of satisfaction and the way that hospital manager had developed their skills as effective managers.

This paper describes the characteristics of hospital manager in the MOH in Saudi Arabia. The Saudi health system is undergoing rapid changes and the type of managers will have a major impact on how services are delivered and managed in MOH hospitals.

Introduction

Management is defined as the "working with and through other people to accomplish the objectives of both the organization and its members (Patrick J. Montana & Charnov 2000). A manager is defined as a person who plans, organizes, and directs the activities of others in a formal organization (Hampton 1981:9; Huse 1982:6; Robbins & Decenzo 2001:3-4). DuBrin (2000:2) defines the manager as a person who is responsible for the work performance of subordinates. Managers have a variety of functions, a range of roles and they need high level skills to carry out the managerial works in order to perform well.

Health services management, as a profession, deals with management of human, financial, physical, and information resources to meet the goals and objectives of health care organizations (Seidel, Gorsky et al. 1995:3; Shortell & Kaluzny 2006). The goal of health service managers is to help preserve and improve the health of the public (Shortell & Kaluzny 1997:7). The challenges for health services managers are to provide a high level of healthcare and to apply knowledge and skills to meet people's needs, as efficiently, effectively and beneficially as possible (Macara 2002:239; Ziegenfuss 2002:2; Harris 2006) The competencies expected of a professional health services manager encompass wide ranging knowledge and skills to function in such a dynamic environment (Seidel, Gorsky et al. 1995:4).

The present study focuses on the managerial functions, roles and skills of hospital managers employed in public hospitals by the Ministry of Health (MOH) in Saudi Arabia. In particular, this research aims to answer the following research questions:

1. What are the main characteristics of hospital managers; and how do the managerial functions of hospital managers differ according to their qualifications and experience?
2. What are the external and internal factors that influence the work of hospital managers?
3. What are the major challenges facing hospital managers in their work?
4. What types of on-the-job training courses do hospital managers believe they need in order to improve their performance?

The findings reported in this paper provide preliminary findings relation to the first research question.

Background to healthcare system in Saudi Arabia

The Saudi health system is constantly evolving to meet the needs of the growing population. Currently there are thirteen independent health agencies in Saudi Arabia which provide health services to their individual target populations (Saltman 1988:258; Health Statistical Year Book 2006). Each agency has its own budget, recruits its own personnel, and is responsible for running its health care system. The Ministry of Health (MOH), the largest single provider, is responsible for providing health services to the general public in the whole country for citizens and non-citizens. Other government ministries provide health care services to their own employees and their dependants such as Ministry of Education, Ministry of Interior, Ministry of Defense and the National Guard (Schieber 2002:18). In addition, there are a number of private hospitals, dispensaries and clinics which provide health services for profit (Health Statistical Year Book 2006).

The MOH directly provides health services through three levels; primary, secondary and tertiary (Schieber 2002:19). Primary healthcare centres form the first level, general hospitals the second level, while the third level is represented by tertiary hospitals. Figure 1 shows the health service structure in Saudi Arabia and the proportion of hospital beds in various health sectors.

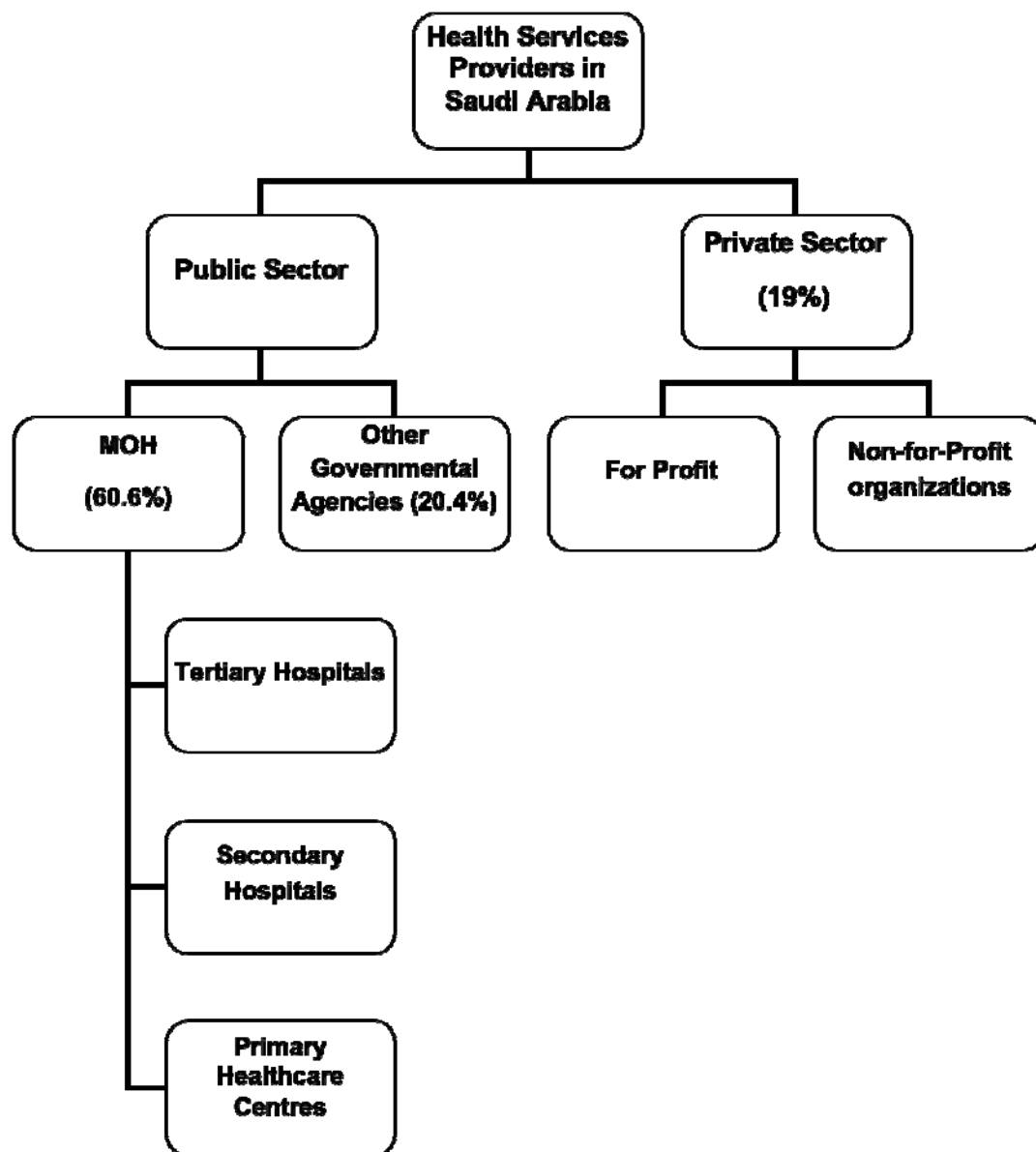


Figure 1. The health service structure in SA and the percentages of beds (adapted from Health Statistical Year Book 2006)

This study focused on the MOH general hospitals at secondary level and specialist hospitals at tertiary level. In the context of the MOH hospitals in Saudi Arabia, managerial workforce comprised of four distinct groups:

1. Physicians: those who had medical qualifications in different specialties of medicine.
2. Administrators: those who had management qualification (e.g. in the field of public administration, business administration, health service management).
3. Technicians: personnel with allied health qualifications and/or practice background personnel (e.g. nursing, assistant pharmacists, x-ray technicians, and lab technicians).
4. Others: those who had other degrees (e.g. art, history, linguistics, etc.)

Methodology

The present study was based on a quantitative descriptive design to collect information on hospital managers, and was conducted using a cross-sectional survey (Fink 2003:33). The survey instrument was a self-administered questionnaire, a commonly used technique for gathering data in survey research (Bourque & Fielder 2003:2).

The target population was all the MOH hospitals in Saudi Arabia. There are 218 MOH hospitals in Saudi Arabia (Health Statistical Year Book 2006:214). Each hospital has one manager (i.e. Chief Executive Officer 'CEO' as shown in the MOH organizational chart, Figure 2). At the time of sampling (April 2007), there were 218 hospital managers in the MOH. As the target population of 218 was small, the research aimed to target all managers in the MOH hospitals in Saudi Arabia (i.e., access 100% of the target population) as the sample for the present study. Thus the sampling procedure used was a saturation survey (Sarantakos 2005).

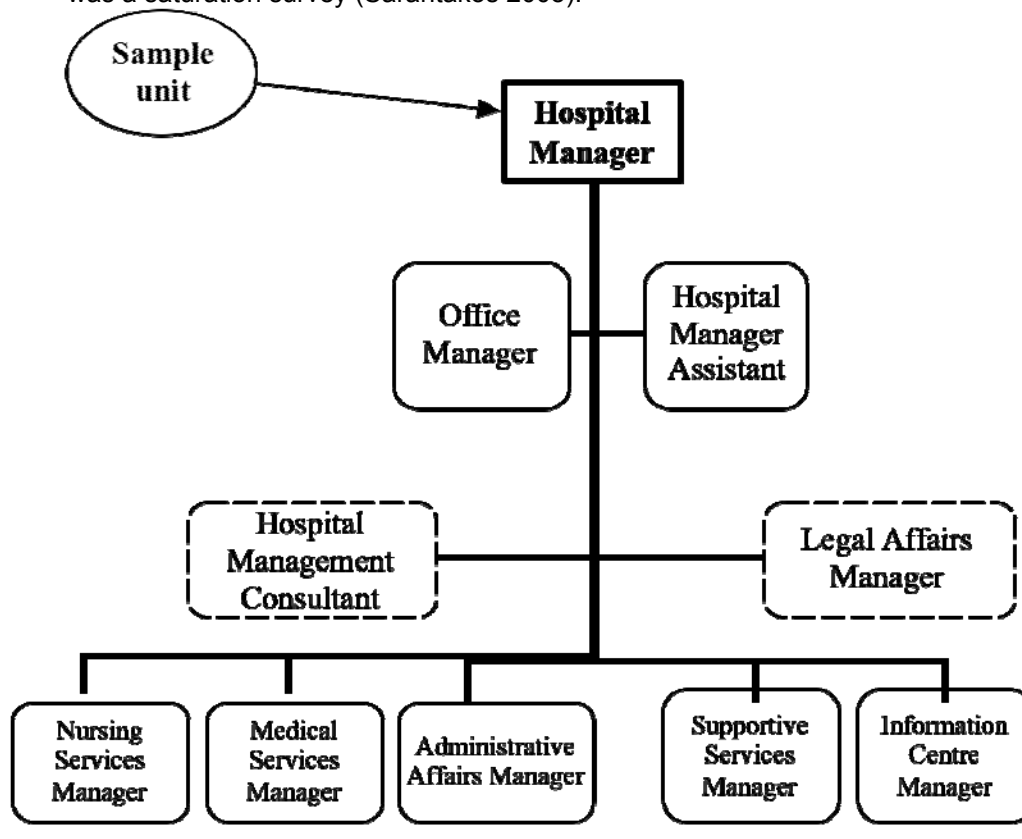


Figure 2: Sample unit within the organizational chart for the MOH hospitals (Organizational structure for the MOH hospitals 2003)

Survey instrument

The survey instrument was based on an extensive review of the literature, and contained four sections. The first part comprised eight questions regarding the demographic and background characteristics of the respondents. The second part comprised five questions which sought information regarding some managerial functions carried out by hospital managers in MOH hospitals such as; planning, organizing, leading and controlling. The third part comprised three subsections which sought views on training courses needed, the most important skills required by hospital managers and the major challenges that may be faced by hospital managers in their work. All three sections of the questionnaire were pre-coded to facilitate data entry at a later stage.

The fourth and last part of the questionnaire comprised two open-ended questions. The first question aimed to identify respondents' opinions about the requisite qualifications, skills and experiences that hospital managers needed in order to effectively execute their managerial responsibilities. The second question aimed to elicit any further comments and/or suggestions for improving the work performance and conditions of hospital managers. This paper reports partially on the first and third parts of the questionnaire.

Data collection

The survey was conducted during April to June 2007. A survey package was mailed to each hospital manager, which included an introductory letter from the MOH¹, an information sheet, a letter from the researcher, a copy of the questionnaire in two languages (English and Arabic), and a self-addressed pre-paid envelope. None of the survey forms were returned as undelivered since official mailing addresses provided by the MOH were used. Within three weeks of the mail out, 35% (n=76) of the questionnaires had been returned. A follow-up letter (first reminder) was sent, three weeks after the initial mailout, along with a copy of the questionnaire to the remaining participants, requesting that they fill out and mail the questionnaire. A second reminder was sent three weeks after the first reminder, via mail and fax, to those who had still not responded. The response rate increased to 60% (n=130). By the end of the eighth week, 70% (n=152) of the questionnaires had been returned. A final reminder was sent after two weeks. By the end of the tenth week of the initial mail out, 165 questionnaires were returned, which provided a final response rate of 75.6%. However, on further examination, responses from six questionnaires were considered incomplete due to invalid or missing information. As a result, there were 159 (72.9%) valid questionnaires that were used for analysis

Data analysis

Data from coded sections of the questionnaires was entered directly into a statistical software program (SPSS)². The first step in the analysis was to identify relationships between the individual independent variables and the dependent variables. Independent variables in the present survey data consisted of age, level of education, length of experience, type of qualification educational and hospital size. Dependent variables included hospital managers' opinions of managerial functions, roles and skills, and their need for training courses.

The MOH managers were classified into four categories based on their reported qualifications: administrators, physicians, technicians and others. To examine associations between these groups, descriptive and univariate statistical methods including chi-square test for independence and normal z-scores were used. Chi-square tests were used to measure differences between these four groups. When a statistically significant relationship between variables was found, further analysis was performed to test which table entries contribute most to the value of chi-square (χ^2). In particular, for each cell, a standardized value (z-score) was computed and tested for significance at the 0.05 level.

Reliability and Validity

Reliability refers to the probability that the research instrument will produce similar outcome each time it is used (Buckingham & Saunders 2004:294). In other words, it is 'a statistical measure of how reproducible the survey instrument's data are' (Fink & Litwin 1995:8). Generally, there are three types of reliability assessment; alternative-

¹ The researcher obtained an introductory letter from the Director of the General Directorate for Health Research at MOH. The letter stated that the present research had been approved by the Medical Research Ethical Committee (MREC), and it encouraged hospital managers to participate in the present research.

² SPSS version 16.0 for Windows was the statistical software package used to analyze the data. SPSS stands for Statistical Package for the Social Sciences (Bulkinghan & Saunders 2004:295)

form, test-retest, and internal consistency (Fink & Litwin 1995:8). The scales developed for the survey instrument used in the present study had not been previously used; therefore alternative-form and test-retest assessment could not be undertaken. Internal reliability was calculated using a 'Cronbach's alpha' which reflects the homogeneity of the scale (Fink & Litwin 1995:24). For this study, a reliability analysis was conducted on the three main subscales measuring 'problems facing hospital managers', 'training courses needed', and 'skills needed for hospital managers'. Cronbach's alpha was analyzed for each variable, with a value of greater than 0.7 indicative of a reliable scale (Hair, Anderson et al. 1998). The results showed that for 'problems facing hospital managers', a 17-item subscale, Cronbach's alpha was 0.731. For 'Training courses needed', a 9-item subscale, Cronbach's alpha was 0.718. For 'Skills needed for hospital managers', a 8-item subscale, Cronbach's alpha was 0.716.

Validity refers to the extent to which a question or statement in the questionnaire is measuring what it claims to be measuring (Buckingham & Litwin 1995). In the present research, content validity was assessed since the content of the survey instrument was reviewed by professionals to ensure that it included only the important components related to the research. The survey instrument underwent subjective assessment by groups of experts. Peat et al (2002:108) recommend that review of a survey instrument by expert groups allows for 'expert perception of the acceptance, appropriateness and precision of the instrument or questionnaire'.

This was achieved using three small surveys groups during the pilot testing stage. The first pilot involved some colleagues (n=7) from the School of Health (SOH) at the University of New England (UNE). The second pilot involved former hospital managers in Saudi Arabia (n=10). The last pilot was conducted using academics based in health management in Saudi Arabia (n=2). Additionally, face validity was also assessed through a brief review of the questionnaire items by some people not related to the field to review whether the instrument items were easy to understand. In fact, during the questionnaire design and pilot testing stage, many questions were reworded, changed, eliminated and replaced to enhance the instrument's validity.

Results

Background Characteristics

The background characteristics include; hospital size, gender and age, education, managerial experiences and developing the managerial work.

Hospital size

The MOH has 218 hospitals that range in size from 30-bed hospitals to major tertiary referral facilities that have more than 300 beds. It was found that 32.1% of the hospitals had 30-50 beds, 21.4% had 51-100 beds, 23.9% had 101-200 beds, 16.4% had 201-300 beds, and 6.3% of the hospitals were even larger, with more than 300 beds. Most of the larger hospitals (above 100 beds) are located in the main cities. Smaller hospitals (100 beds or less) are located in regional and rural centres and largely serve for the health needs of the immediate catchment population. The proportion of rural/regional hospitals was roughly 54% while the remaining 46% of hospitals were located in urban areas. Therefore, in this paper the term urban hospital refers to larger hospitals (over 100 beds) while rural/regional hospital refers to small hospitals.

Age and Gender

Of the total sample of 218 managers invited to participate in this study, 159 (72.9%) responded to the survey. All of the 159 participants in respondent group were male. There was only one hospital in the sample which had a female manager, who unfortunately did not respond to the survey.

The age distribution of the MOH managers included in the study showed that over half (52.8%) of the sample were aged 41-50 years, while nearly a third (34.0%) were aged 30-40 years, and the remaining (13.2%) of the sample was older (aged 51-60 years). Although two additional age categories (less than 30 years and more than 60 years) were included in the questionnaire, no respondents were found in these categories.

The survey results showed that there was a significant association between the age of the respondents and hospital size. Younger managers (those aged 40 years old or younger) were more likely to manage smaller hospitals in comparison with older managers ($\chi^2= 16.303$, $p=0.038$). Table 1 reports on the association between the age and hospital size.

Table 1: Association between age and hospital size

	Hospital size					P-value
	30-50	51-100	101-200	201-300	301+	
Age:	n (%)	n (%)	n (%)	n (%)	n (%)	0.038
30-40	22 (43)	12 (35)	11 (29)	9 (35)	0 (0)	
41-50	21 (42)	20 (59)	25 (66)	11 (42)	7 (70)	
51-60	8 (15)	2 (6)	2 (5)	6 (23)	3 (30)	

Data presented in Table 2 indicates that there was a significant association between the age of the respondents and duration of experience as a hospital manager. Younger managers tended to have less experience in comparison with older managers ($\chi^2= 61.104$, $p< 0.0005$).

Table 2: Association between age and years of experience

	Years of Experience					P-value
	3 or less	4-6	7-9	10-12	13+	
Age:	n (%)	n (%)	n (%)	n (%)	n (%)	0.000
30-40	19 (73)	23 (52)	10 (26)	1 (4)	1 (4)	
41-50	7 (27)	20 (46)	24 (63)	20 (74)	13 (54)	
51-60	0 (0)	1 (2)	4 (11)	6 (22)	10 (42)	

Managerial Experiences

Over half of the participants (51.6%) in this study had managerial experience between 4 to 9 years, while almost one-third of the respondents had longer managerial experience (more than 10 years). In particular, the study found that 51 (32.1%) of the respondents had more than 10 years of experience, while 16.4% of the participants had less than three years experience.

Table 3 reports on the association between experience of hospital managers and hospital size. In this regard, there was a significant association between the hospital size and years of experience ($\chi^2= 32.592$, $p= 0.008$). Small hospitals (30-50 beds)

were more likely to be managed by those with either less than 3 years of experience ($z=2.1$, $p=0.036$) and those with 4-6 years experience ($z=2.2$, $p=0.028$). Mid-sized hospitals (51-200 beds) had a significantly higher proportion of managers with 7-9 years experience. Large-sized hospitals (200 beds and more) had a significantly higher proportion of managers with more than 9 years experience ($z=2.6$, $p=0.009$). The study did not ask individual managers to report on their past experience in relation to hospital size but the common pattern in MOH hospitals in Saudi Arabia is to be first posted as a manager to a smaller regional hospital to gain experience before working in larger hospitals.

Table 3: Association between the experiences and size of the hospital

	Hospital size					P-value
	30-50 n (%)	51-100 n (%)	101-200 n (%)	201-300 n (%)	301+ n (%)	
Years of experience:						
< 3 years	13 (25)	6 (18)	4 (11)	3 (11)	0 (0)	
4-6 years	19 (37)	8 (23)	10 (26)	6 (23)	1 (10)	
7-9 years	9 (18)	12 (35)	13 (34)	2 (8)	2 (20)	0.008
10-12 years	8 (16)	4 (12)	4 (11)	7 (27)	4 (40)	<i>Education</i>
13 +	2 (4)	4 (12)	7 (18)	8 (31)	3 (30)	

The most frequently reported level of formally completed education was Associate Diploma (28.9%), followed by Bachelor degree (28.3%) and PhD or equivalent (22.6%). Of those with PhD or equivalent ($n=36$), 91.7% ($n=33$) had medical qualifications in different specialties of medicine. Masters degree qualification was completed by 15.1%, with only 5% of the sample reporting High School education as their highest level of formal academic qualification.

The present study found that technicians³ represented 35.8% of the sample, followed closely by medical doctors (33.3%). Health management, business or public administration, and other backgrounds represented approximately 10% each. Due to small numbers, the categories health management, business administration and public administration were merged into one composite category called "Management" which represented 20.2% of the sample.

It was found that participants that had less than a bachelor's degree were more likely to have a technical (allied health personnel) type of qualification ($z=5.6$, $p<0.0005$) whereas participants with a masters degree were more likely to have a management education ($z=2.8$, $p=0.005$). It was also found that those who had a PhD were more likely to have prior medical qualification ($z=6.1$, $p<0.0005$). Table 4 reports on this association.

³ Technicians: personnel with allied health qualifications and/or practice background personnel (e.g. nursing, assistant pharmacists, x-ray technicians, and lab technicians). The majority of the technicians with diploma qualification (2-3 years after high school).

Table 4: Association between the level of education and the type of qualification

Level of Education	Type of Qualification				P-value
	Medical	Technical	Management	Others	
	n (%)	n (%)	n (%)	n (%)	
Less than Bachelor*	0 (0)	44 (81.5)	5 (9.3)	5 (9.3)	0.000
Bachelor	9 (20)	10 (22.2)	14 (31.1)	12 (26.7)	
Master	11 (45.8)	2 (8.3)	11 (45.8)	0 (0)	
PhD or Equivalent	33 (91.7)	1 (2.8)	2 (5.6)	0 (0)	

* This category contained High School and Associate Diploma.

Table 5 shows the association between the hospital size and both educational level and type of qualification of MOH managers. A highly significant association was observed for the association between hospital size and educational level of the managers ($\chi^2= 161.221$, $p<0.0005$). Small hospitals were more likely to be managed by those who had less education, while large hospitals were more likely to be managed by those with more education. For instance, 43 of 51 hospitals with 30-50 beds had a manager without a bachelor's degree ($z=6.2$, $p<0.0005$), and each of the 10 hospitals with over 300 beds were managed by someone with a PhD or equivalent qualifications ($z=5.1$, $p<0.0005$).

Moreover there was a highly significant association between hospital size and the educational background of the managers ($\chi^2= 138.847$, $p<0.0005$). Larger hospitals were managed by those with medical qualifications (physicians), while smaller hospitals were managed by those from non-medical fields. For participants that worked in a small hospital (30-50 beds) it was found that they were more likely to have technical education (allied health field) ($z=5.5$, $p<0.0005$). Whereas participants managing mid-sized hospitals (51-100 beds) were more likely to have management qualifications ($z=3.9$, $p<0.05$).

Table 5: Association between the size of hospital and 'level and type of qualification'

	Hospital size(number of beds)					P-value
	30-50 n (%)	51-100 n (%)	101-200 n (%)	201-300 n (%)	301+ n (%)	
Level of Education						
Less than Bachelor	43 (80)	8 (15)	3 (6)	0 (0)	0 (0)	
Bachelor	7 (15)	22 (49)	12 (27)	4 (9)	0 (0)	0.000
Master	1 (4)	3 (12)	13 (54)	7 (29)	0 (0)	
PhD or Equivalent	0 (0)	1 (3)	10 (28)	15 (48)	10 (28)	
Type of Qualification						
Medical (Physician)	0 (0)	3 (6)	18 (34)	22 (42)	10 (19)	
Technical	42 (74)	6 (11)	6 (10)	3 (5)	0 (0)	0.000
Management	5 (16)	17 (53)	10 (31)	0 (0)	0 (0)	
Other	4 (23)	8 (47)	4 (24)	1 (6)	0 (0)	

Developing the managerial work

The survey asked the managers about the processes through which they had developed their skills as effective managers. Respondents were asked whether they had strengthened their managerial skills through academic education, professional experience, leadership personality, working with professionals and attending training courses. Respondents were allowed to choose more than one category that they felt had helped them to develop their managerial skills, and most managers ticked more than one option. Only 20.8% reported that they have learned about managerial work through academic education, whereas 88.7%, had improved their knowledge and skills through professional experience, 34.6% through leadership personality, 59.7% through working with professionals, and 39.6%, by attending training courses, (see Table 6).

Table 6: The way that the hospital managers learn about the managerial work

	Number *	%	Mean Rank**
Professional experience	141	88.7	4.00
Working with professionals	95	59.7	3.28
Training courses	63	39.6	2.77
Leadership personality	55	34.6	2.65
Academic education	33	20.8	2.30

* Respondents were allowed to choose more than one option. ** Friedman Test (Chi-Square=168.7, P-value < 0.001)

Motivation

Respondents were also asked about their key motivations in working as hospital managers. Five options were presented, and respondents were allowed to choose more than one. The options included to have higher authority decision, to achieve social prestige, to obtain financial incentives, to gain personal recognition, and other. Interestingly, the category "other" was the most commonly selected. More than 70% of the respondents chose "other" motivation factors, and most of the respondents who listed "other" specified that their motivation was a desire to contribute to an improved society. A little less than half of the sample (47.8%) wanted to gain personal recognition, 27.7% stated that a key motivation was to have higher authority decision, while 18.9% listed a key motivation as achievement of social prestige. Only one respondent (0.6%) mentioned that his key motivation was to obtain financial incentives.

Satisfaction

Only 17% of the participants said that they were "not satisfied" with their current position, while 25.2% reported that they were "somewhat satisfied". As for the remaining participants in the study, 46.5% and 11.3% reported that they were "satisfied" and "very satisfied" respectively.

Table 7 reports on the association between the level of satisfaction and different characteristics of hospital managers. Their background features; level of education, type of qualification and hospital size were found to be significantly associated. It was found that there was association between satisfaction and level of education for the respondents ($\chi^2 = 87.091$, $p < 0.05$). Participants that had PhD-level qualifications reported to be "not satisfied," which was a statistically significant finding ($z = 6.4$, $p < 0.0005$). Also, it was found that there was a significant association between satisfaction and the type of qualification for the respondents ($\chi^2 = 51.690$, $p < 0.05$). Those in the medical field expressed that they were "not satisfied," ($z = 4.0$, $p < 0.0005$), while those in the technical field were "very satisfied" ($z = 2.0$, $p = 0.046$). In addition, it was found that there was a significant association between satisfaction and the hospital size ($\chi^2 = 77.92$, $p < 0.05$). The hospital managers that worked in a small hospital (30-50 beds) reported being "very satisfied," which was statistically significant ($z = 2.6$, $p = 0.009$). There was no significant relationship between the other demographic variables tested such as age and experience, and level of satisfaction with the current job.

Table 7: Association between the level of satisfaction and different characteristics of hospital managers

		Satisfaction level				
		Not satisfied	Somewhat satisfied	Satisfied	Very satisfied	P-value
		n (%)	n (%)	n (%)	n (%)	
Age						
	30-40	8 (15)	14 (26)	24 (44)	8 (15)	.353
	41-50	13 (16)	23 (27)	42 (50)	6 (7)	
	51-60	6 (29)	3 (14)	8 (38)	4 (19)	
level of education						
	Less than Bachelor	1 (2)	9 (17)	34 (63)	10 (18)	.000
	Bachelor	1 (2)	9 (20)	28 (62)	7 (16)	
	Master	3 (13)	12 (50)	8 (33)	1(4)	
	PhD or Equivalent	22 (61)	10 (28)	4 (11)	0 (0)	
Type of qualification						
	Medical – Physician	21 (40)	19 (36)	12 (23)	1 (2)	.000
	Technical	3 (5)	9 (16)	37 (65)	8 (14)	
	Management	2 (6)	11 (34)	13 (41)	6 (19)	
	Other	1 (6)	1 (6)	12 (70)	3 (18)	
Years of experience						
	Less than 3 years	6 (23)	4 (15)	12 (47)	4 (15)	.300
	4-6 years	4 (9)	14 (32)	20 (45)	6 (14)	
	7-9 years	4 (10)	8 (22)	22 (58)	4 (10)	
	10-12 years	5 (19)	6 (22)	13 (48)	3 (11)	
	More than 13 years	8 (33)	8 (33)	7 (30)	1 (4)	
Hospital size (Number of beds)						
	30-50	0 (0)	6 (12)	33 (65)	12 (23)	.000
	51-100	0 (0)	6 (18)	24 (70)	4 (12)	
	101-200	9 (24)	16 (42)	11 (29)	2 (5)	
Summary	201-300	13 (50)	8 (31)	5 (19)	0 (0)	
The	301+	5 (50)	4 (40)	1 (10)	0 (0)	

present paper reports preliminary findings from a recent survey of hospital managers working in Ministry of Health hospitals in Saudi Arabia. The study found that there were

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several significant relationships between the characteristics of the hospital managers and their perceptions and attitudes towards managerial work. It was found that the level of education, type of qualification and size of the hospital the manager worked in were significantly related to whether they were satisfied with their position. The motivation to work as hospital manager varied but except for one participants all others indicated a combination of other factors including wanting to contribute to the Saudi healthcare system, personal recognition, achieving higher authority as well as social prestige associated with being a hospital manager.

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