

RESEARCH ARTICLE

Job satisfaction amongst surgical healthcare professionals during Hajj and Non-Hajj periods: An analytical multi-center cross-sectional study in the holy city of Makkah, Saudi Arabia

Ahmad Abdulrauf Mirza¹, Ahmed Hassan Badrek-Amoudi², Mian Ushman Farooq³, Hussam Ahmed Senan⁴, Rakan Hamzah Aun⁵, Abdulrahim Abdulraoof Mirza⁶, Mohammed Saleh Binsaad⁷, Mohamed Amine Haireche⁸, Ziad Abdulaziz Al-Ahmadi⁹, Mohammed Aiman Halawani¹⁰

Abstract

Objective: To assess the job satisfaction of surgical healthcare professionals working during Hajj, and to determine the potential predictors of overall job satisfaction in Hajj and non-Hajj periods.

Methods: A multicenter cross-sectional study was conducted at King Abdullah Medical City, King Faisal Hospital and Al-Noor Specialist Hospital, Makkah, Saudi Arabia, from August 27 to September 5, 2018, which represented the period of 10 days following the Hajj season in that year. All surgeons who were employed during Hajj were interviewed regarding their job satisfaction in-Hajj versus non-Hajj periods using the Warr-Cook-Wall job satisfaction scale. A stepwise multiple linear regression was carried out to analyse predictors of overall job satisfaction in both Hajj and non-Hajj periods separately. SPSS 16 was used for data analysis.

Results: Of the 146 participants, 28(19.18%) were consultants, 61(41.78%) specialists and 57(39.04%) were residents. Overall job satisfaction scores in Hajj period was 5.53 ± 1.19 compared to 5.40 ± 1.33 in non-Hajj period ($p > 0.05$). During Hajj period, the participants were significantly more satisfied in terms of "amount of variety in work" ($p < 0.05$), while they were significantly dissatisfied with regard to "physical working condition", "hours of work" and "attention paid to suggestions" ($p < 0.05$).

Conclusion: The variety of cases encountered by surgeons during Hajj contributed significantly to job satisfaction. However, lack of attention to physicians' suggestions, extended hours of work and physical working condition during Hajj were potential factors causing less Job satisfaction during Hajj duty.

Keywords: Job satisfaction, Surgeons, Hajj, Pilgrimage, Mass gathering, Medicine.

(JPMA 70: 1371; 2020). <https://doi.org/10.5455/JPMA.28809>

Introduction

Hajj is one of the biggest mass gatherings in the world¹ that requires huge organisational and material efforts, including health services for the visitors. The Saudi authorities have assigned 25,000 health workers and

prepared 25 hospitals, 155 permanent and seasonal health centres and 100 highly equipped mobile intensive care units (ICUs) to medically assist more than 3 million pilgrims at the 4 major rituals' localities: Mina, Arafat, and the two Holy Mosques of Makkah and Madinah.²⁻⁴ These seasonal health facilities have an inpatient capacity of 5000 beds, including 500 intensive care (IC) beds, where all health services are free of charge, including surgeries.²

Each new Hajj season brings new challenges that add to the experience of the staff and the authorities.^{1,5} However, like in every other healthcare system, the quality of care in Hajj depends on several parameters, including the well-being of clinicians and their job satisfaction.

There is rising evidence that job satisfaction of clinicians impacts the quality of healthcare and patients' satisfaction; as well as malpractice is significantly associated with low

¹Department of Otolaryngology, Head and Neck Surgery, King Abdulaziz University, Jeddah, Saudi Arabia; ²Department of Surgery, Umm Al-Qura University, Makkah, Saudi Arabia; ³Department of Strategic Planning and Institutional Advancement, King Abdullah Medical City, Makkah, Saudi Arabia; ⁴Department of Otolaryngology, Head and Neck Surgery, Al Noor Specialist Hospital, Makkah, Saudi Arabia; ⁵Dr. Soliman Fakeeh Hospital, Jeddah, Saudi Arabia; ⁶Department of Surgery-Division of Urology, Ministry of National Guard - Health Affairs, Jeddah, Saudi Arabia; ^{7,10}Umm Al Qura University, Makkah, Saudi Arabia; ⁸WAX Clinical Research Skills Limited, Birmingham, United Kingdom; ⁹Department of Internal Medicine, King Abdulaziz Medical City, Jeddah, Saudi Arabia.

Correspondence: Ahmad Abdulrauf Mirza. e-mail: aamirza1@kau.edu.sa

Orcid ID: Ahmad Abdulrauf Mirza (<https://orcid.org/0000-0001-6035-9566>)

job satisfaction.⁶⁻⁸ In order to improve the quality of care, many studies have investigated the job satisfaction and the associated factors among practitioners of different specialties.⁸⁻¹² In addition, many instruments have been used to measure job satisfaction in healthcare professionals.¹³⁻¹⁵ However, no published results have so far focussed on job satisfaction of surgeons working during the Hajj.

The current study was planned to assess the level of satisfaction of surgical healthcare professionals during Hajj. In addition, the potential determinants of satisfaction and dissatisfaction in correlation with the working conditions during Hajj and non-Hajj periods were investigated.

Subjects and Methods

This multicenter cross-sectional study was conducted at King Abdullah Medical City (KAMC), King Faisal Hospital (KFH) and Al-Noor Specialist Hospital (NHS), Makkah, Saudi Arabia, from August 27 to September 5, 2018, which represented the period of 10 days following the Hajj season in that year. After approval by the review committee of King Abdulaziz University, Jeddah, Saudi Arabia, all residents, specialists and consultants of surgical specialties who were regularly employed in the three hospitals for a minimum period of six months and had also performed the special Hajj duty were considered as the study population.

The total number of participants to be included in the study was carried out first by the attainment of study population list with their names and job locations followed by calculating the percentage of each hospital's eligible surgeons from the total study population. The total number of study participants were then stratified and surveyed.

After verbal informed consent from each participant, data was collected using a questionnaire to conduct face-to-face interviews. The questionnaire had two parts. The first part explored demographic data, job designation and the healthcare centre. The second part explored the core of the study and consisted of a short version of Warr-Cook-Wall (WCW) job satisfaction scale. It had 11 relevant items out of the original 15. For each of these items, satisfaction level was measured using a 7-point Likert scale ranging from 1=extreme dissatisfaction to 7=extreme satisfaction.

The 11 WCW items retained were: "physical working

condition", "your immediate boss", "your colleagues and fellow workers", "amount of responsibility", "hours of work", "freedom to choose your own method of work", "opportunity to use abilities", "attention paid to suggestions", "recognition you get for good work", "rate of pay", "amount of variety in work".¹⁵ Another item, "overall satisfaction", was included as the outcome variable.

The questionnaires were dispensed by eight medical students of Umm-al-Qurra University, Makkah, who volunteered to carry out data collection. These medical students were informed of the objectives of the study, and were trained over two 30-minute sessions regarding the data collection tool and the methodology of data attainment. The data, including the satisfaction levels, was assessed and recorded at the same time by the students for two distinct non-Hajj and Hajj periods.

The manually-collected data was transferred to computer by the researchers. Data had been saved with de-identification in order to ensure confidentiality of the participants. Data quality checks had been done by data analyst, and queries about any missing values were returned to the respective volunteer for resolution. The data was analysed using SPSS 16. It was subjected to descriptive analysis. Measurement data was expressed as mean $\pm$ standard deviation (SD), while categorical data was detailed as frequencies and percentages. Job satisfaction score was taken as a continuous variable and was subjected to normality evaluation by Shapiro-Wilk normality test. Questionnaire stability, that is, internal consistency, was measured by Cronbach's alpha. Face validity of the questionnaire was confirmed by a research consultant, biostatistician and a surgeon.

Differences between Non-Hajj and Hajj job satisfactions scores were analysed using paired student's t-test for continuous variables. Stepwise multiple linear regression was performed using overall job satisfaction (12th question) as the dependent variable, and questions 1-11 were considered independent variables. Regression analysis was carried out for Hajj and Non-Hajj periods separately. $P < 0.05$ was considered statistically significant.

Results

Of the 174 subjects approached, 150(86%) responded, but 4(2.6%) of these questionnaires were excluded because of deficient/missing data, and the final sample stood at 146(97.3%). Of them, 63(43.2%) belonged to NHS; 118(80.8%) were males; and 79(54.5%) were non-Saudis.

Table-1: Participants' characteristics.

Characteristic	Category	n (%)
Job Designations	Consultants	28 (19.18)
	Specialist	61 (41.78)
	Residents	57 (39.04)
Job Locations	NHS	63 (43.2)
	KFH	22 (15.1)
	KAMC	61 (41.8)
Gender	Male	118 (80.82)
	Female	28 (19.18)
Nationality	Saudi	66 (45.52)
	Non-Saudi	79 (54.48)

KFH: King Faisal Hospital; KAMC: King Abdullah Medical City

NSH: Al-Noor Specialist Hospital

Table-2: Comparison of Job Satisfaction between Hajj and Non-Hajj Periods.

Job Satisfaction Items	Cronbach's Alpha [‡]	Hajj Mean±SD	Non-Hajj Mean±SD	Mean Difference (95% CI)	p-value
Physical working condition	0.924	4.87±1.44	5.35±1.23	-0.48 (-0.72, -0.24)	<0.0001*
Your immediate boss	0.922	6.10±1.23	6.00±1.23	0.10 (-0.07, 0.27)	0.27
Your colleagues and fellow workers	0.923	6.33±1.05	6.17±1.14	0.16 (-0.03, 0.35)	0.11
Amount of responsibility	0.921	5.55±1.45	5.56±1.32	-0.01 (-0.22, 0.20)	0.95
Hours of Work	0.923	4.91±1.72	5.32±1.54	-0.41 (-0.71, -0.11)	<0.0001*
Freedom to choose your own method of work	0.918	5.05±1.65	5.16±1.56	-0.12 (-0.34, 0.11)	0.31
Opportunity to use abilities	0.917	5.39±1.45	5.37±1.34	0.02 (-0.18, 0.22)	0.84
Attention paid to suggestions	0.918	5.09±1.59	5.32±1.46	-0.23 (-0.42, -0.05)	0.02*
Recognition you get for good work	0.917	5.06±1.55	5.16±1.53	-0.10 (-0.26, 0.07)	0.26
Rate of pay	0.920	5.14±1.80	5.13±1.53	0.01 (-0.22, 0.23)	0.95
Amount of Variety in Work	0.920	5.53±1.34	5.32±1.37	0.22 (0.01, 0.43)	<0.05*
Overall Job Satisfaction	0.917	5.53±1.19	5.40±1.33	0.12 (-0.11, 0.35)	0.29

SD: Standard Deviation; CI: Confidence interval; n: number of participants; ‡ Cronbach's alpha if item is deleted;

* Significant result (p<0.05).

Table-3: Predictors of surgeons' overall job satisfaction during Hajj period.

Predictor	Step 1	Step 2	Step 3	Step 4	Step 5
Opportunity to use abilities	0.64	0.57	0.48	0.49	0.60
Hours of Work		0.27	0.27	0.33	0.47
Rate of pay			0.38	0.35	0.55
Physical working condition				0.17	0.22
Amount of responsibility					0.46
R ²	0.64	0.76	0.78	0.80	0.81
F change for R ²	98.7*	57.7*	13.3*	13.2*	6.96**
df [†]	(1, 144)	(1, 143)	(1, 142)	(1, 141)	(1, 140)

Stepwise linear regression. Only coefficients with statistically significant correlation; (p<0.05) are reported; *p < 0.001; **p = 0.009; † degree of freedom.

The mean age of the sample was 37.47±9.94 years. Of the total, 28(19.18%) were consultants, 61(41.78%) were specialists and 57(39.04%) were residents (Table 1). The mean response of matched pairs was 0.12±1.4 and was normally distributed. The Cronbach's alpha reliability of the 12-item scale was 0.91, indicating that the scale has good reliability.

Participants were significantly more satisfied about "variety

Table-4: Predictors of surgeons' overall job satisfaction during non-Hajj period.

Predictor	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6
Recognition you get for good work	0.61	0.60	0.61	0.58	0.42	0.50
Opportunity to use abilities		0.56	0.60	0.54	0.23	0.38
Rate of pay			0.40	0.48	0.41	0.45
Hours of work				0.40	0.21	0.37
Your colleagues and fellow workers					0.32	0.37
Amount of Variety in Work						0.16
R ²	0.37	0.47	0.54	0.58	0.60	0.62
F change for R ²	85.4*	25.8*	23.3*	12.9*	7.5**	7.6**
df [†]	(1, 144)	(1, 143)	(1, 142)	(1, 141)	(1, 140)	(1, 139)

Stepwise linear regression. Only coefficients with statistically significant correlation (p<0.05) are reported; *p < 0.001; **p = 0.007; † degree of freedom.

of work" during Hajj period than the non-Hajj period (p<0.05). However, they were significantly dissatisfied with respect to "physical working condition", "hours of work" and "attention paid to suggestions" (p<0.05). Overall job satisfaction was higher during Hajj than the non-Hajj period, but the difference was not significant (p=0.29) (Table 2).

For the Hajj period, in the first step of the stepwise regression model, the item 'Opportunity

to use abilities' showed the highest score of explained variance in overall job satisfaction, followed by 'hours of work' (Table 3).

For non-Hajj period, in the first step of the stepwise regression analysis, the item 'recognition you get for good work' showed the highest score followed by "opportunity to use abilities" (Table 4).

Discussion

It is important to assess and improve job satisfaction among healthcare providers during Hajj, as this enhances the quality of care provided to the pilgrims and reduces the risk of working stress, burnout and malpractice.^{6-8,16} The current study explored for the first time the level and predictors of job satisfaction among surgeons working during Hajj. Working as a healthcare provider during Hajj may be an exciting experience and an excellent learning opportunity, as it represents the largest mass gathering in the world, with people coming from almost all the countries.¹ This brings a diversity of clinical cases, notably

in surgery where a large variety of procedures can be carried out in a single working day. In this study, working during Hajj versus non-Hajj was associated with higher satisfaction regarding variety of work among surgeons; although it was not a predictor of overall job satisfaction. In line with this observation, several studies demonstrated that variety of work is an important component of professional fulfilment and a preventive factor against turnover intention.^{11,17} On the other hand, working during Hajj is often associated with increased amount of responsibility and workload which may constitute the major factor that counterweighs variety of work on the satisfaction scale. During Hajj period, there is limited number of physicians providing care for a large flow of pilgrims. Results of this study confirm that physical working condition (flow of work) is a major concern for surgeons working during Hajj as they were remarkably dissatisfied with the Hajj condition. Besides, it was one of the significant predictors of overall job satisfaction during Hajj.

The other concerning element perceived by the physician working during Hajj was "attention paid to their suggestions". This factor, as well as opportunity to use ability, which was the strongest predictor of overall job satisfaction, are related to working autonomy and decision latitude, which was demonstrated to be an important factor of job satisfaction among several categories of social and health workers.^{16,18,19}

In the current study, "satisfaction about working hours" was another concern of the physicians working in this pilgrimage and was also demonstrated to be a predictor of overall job satisfaction both in Hajj and non-Hajj periods. Several studies have addressed the importance of working hours as a major determinant of job satisfaction and working stress; especially among female practitioners who were more prone to stress and burnout, and display more concern about job demands on family and social life.^{9,18-20} Furthermore, it was previously demonstrated that working >40 hours per week was associated with high rates of turnover intention among physicians.¹¹ During Hajj, the extended hours in the duty (12 hours) may be not appropriate for all physicians, and should be as much as possible adapted on a case-by-case basis to prevent burnouts or resignations.^{7,16}

Income was not significantly different in Hajj and non-Hajj periods. The extra payment earned by the physicians during Hajj might not be adequately compensating and

encouraging for healthcare workers to take part in Hajj duties. The additional workload and longer shifts in Hajj might counterweigh the extra payment received. This can be noticeably expected as income was one of the significant positive predictors of overall job satisfaction both in Hajj and non-Hajj periods.

Conclusion

There was no remarkable change in job satisfaction during Hajj and non-Hajj periods. By contrast to non-Hajj period, physicians were less satisfied with regard to the physical working condition, extended hours of work and attention paid to their suggestions; however, they were more satisfied in terms of the variety of work. The three strongest predictors of overall job satisfaction during Hajj were "opportunity to use ability", "hours of work" and "income".

Acknowledgement: The authors are thankful to Ghada M. Beyari, Nada Bukhary, Wajd M. Benjabi and Abdulrahman J. Bakhsh, medical students/interns enrolled at Faculty of Medicine, Umm Al-Qura University, Makkah, Saudi Arabia for their contribution in data collection during Hajj 1439H/2018AD. The authors express their sincere thanks to Prof. Ahmed A. Aljohaney for reviewing the study protocol.

Disclaimer: None.

Conflict of Interest: None.

Source of Funding: None.

References

1. Al-Tawfiq JA, Memish ZA. Mass gathering medicine: 2014 Hajj and Umra preparation as a leading example. *Int J Infect Dis*. 2014;27:26-31.
2. Saudi Ministry Of Health. Health Regulations for Travellers to KSA for Hajj - Health Regulations for Travellers to Saudi Arabia for Umrah & Pilgrimage (Hajj)-1435 H; 2015.
3. WHO. Saudi health authorities ready to assist Hajj pilgrims. *World Health Organization*; 2013.
4. Memish ZA, Zumla A, Alhakeem RF, Assiri A, Turkestani A, Al Harby KD, et al. Hajj: infectious disease surveillance and control. *Lancet*. 2014;383:2073-82.
5. Ahmed QA, Arabi YM, Memish ZA. Health risks at the Hajj. *Lancet*. 2006;367:1008-15.
6. Chen K-Y, Yang C-M, Lien C-H, Chiou H-Y, Lin M-R, Chang H-R, et al. Burnout, job satisfaction, and medical malpractice among physicians. *Int J Med Sci*. 2013;10:1471-8.
7. Shanafelt TD, Boone S, Tan L, Dyrbye LN, Sotile W, Satele D, et al. Burnout and satisfaction with work-life balance among US physicians relative to the general US population. *Arch Intern Med*. 2012;172:1377-85.
8. Mache S, Vitzthum K, Klapp BF, Groneberg DA. Improving quality of medical treatment and care: are surgeons' working conditions and job satisfaction associated to patient satisfaction? *Langenbecks*

- Arch Surg. 2012;397:973-82.
9. Goetz K, Musselmann B, Szecsenyi J, Joos S. The influence of workload and health behavior on job satisfaction of general practitioners. *Fam Med*. 2013;45:95-101.
 10. Goetz K, Campbell SM, Steinhäuser J, Broge B, Willms S, Szecsenyi J. Evaluation of job satisfaction of practice staff and general practitioners: an exploratory study. *BMC Fam Pract*. 2011;12:137.
 11. Jadoo SAA, Aljunid SM, Dastan I, Tawfeeq RS, Mustafa MA, Ganasegeran K, et al. Job satisfaction and turnover intention among Iraqi doctors-a descriptive cross-sectional multicentre study. *Hum Resour Health*. 2015;13:21.
 12. Raptis DA, Schlegel A, Tschuor C, Clavien P-A. Job Satisfaction Among Young Board-Certified Surgeons at Academic Centers in Europe and North America. *Ann Surg*. 2012;256:796-805.
 13. Van Saane N, Sluiter JK, Verbeek J, Frings-Dresen MHW. Reliability and validity of instruments measuring job satisfaction – a systematic review. *Occup Med (Chic Ill)*. 2003;53:191-200.
 14. Kumar P, Khan AM. Development of job satisfaction scale for health care providers. *Indian J Public Health*. 2014;58:249-55.
 15. WARR P, COOK J, WALL T. Scales for the measurement of some work attitudes and aspects of psychological well-being. *J Occup Psychol*. 1979;52:129-48.
 16. Ge C, Fu J, Chang Y, Wang L. Factors associated with job satisfaction among Chinese community health workers: a cross-sectional study. *BMC Public Health*. 2011;11:884.
 17. Cartwright A, Anderson R. *General Practice Revisited* Tavistock. London; 1981.
 18. Cooper CL, Rout U, Faragher B. Mental health, job satisfaction, and job stress among general practitioners. *BMJ*. 1989;298:366-70.
 19. Goetz K, Campbell SM, Broge B, Dörfer CE, Brodowski M, Szecsenyi J. The impact of intrinsic and extrinsic factors on the job satisfaction of dentists. *Community Dent Oral Epidemiol*. 2012;40:474-80.
 20. Kluger MT, Townend K, Laidlaw T. Job satisfaction, stress and burnout in Australian specialist anaesthetists. *Anaesthesia*. 2003;58:339-45.
-