

Determinants of Physicians' Job Satisfaction

A national multi-centre study from the Sultanate of Oman

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ABSTRACT: Objectives: This study aimed to examine and assess job satisfaction of physicians across several factors, such as quality of care, ease of practice, relationship with leadership and inter-professional collaboration. **Methods:** The data for this descriptive cross-sectional study were collected between July 2019 and January 2020. Participants provided demographic information and completed surveys related to physician job satisfaction and inter-professional collaboration. Multiple linear regressions were used to determine the relationship between overall job satisfaction and demographic features and inter-professional collaboration. **Results:** Out of the 396 physicians contacted, 354 responded (response rate: 89.4%). Results showed that out of the 354 physicians, 4.3% were not satisfied with their jobs, 36.5% expressed a moderate level of satisfaction and 59.2% were highly satisfied. There was no difference in the mean job satisfaction score among different groups of study participants, except for gender and the working grade ($P < 0.05$). The overall job satisfaction rates were higher for the quality of care (mean = 3.93 ± 0.61) and ease of practice (mean = 3.89 ± 0.55) and lower for relationship with leadership (mean = 3.67 ± 0.86). Having a clinical postgraduate degree together with a PhD, a senior level of responsibility and good inter-professional relationship were associated with higher job satisfaction rates ($P = 0.003$ and 0.007 , respectively). **Conclusion:** Overall, the job satisfaction rate was high. There was no difference among different groups of study participants, except for the working grade. Having a clinical postgraduate degree, a senior level of responsibility and good inter-professional relationship were associated with higher job satisfaction rates. The overall job satisfaction rates were higher for the quality of care and for ease of practice and lower for relationship with the leadership. Relationship with leadership is a modifiable factor and efforts at enhancing the physician–leadership relationship may lead to even higher satisfaction rates.

Keywords: Interprofessional Relations; Job Satisfaction; Leadership; Physicians; Quality of Health Care; Oman.

ADVANCES IN KNOWLEDGE

- This study found that having a clinical postgraduate degree together with a PhD, a senior level of responsibility and good inter-professional relationship were significant determinants of physicians' job satisfaction.

APPLICATION TO PATIENT CARE

- Findings of this study inform policymakers of modifiable work-related factors that can enhance physicians' satisfaction.
- Healthcare providers' job satisfaction is positively correlated with the quality of care they provide.

JOB SATISFACTION IS DEFINED AS 'A PLEASURABLE or positive emotional state, resulting from the appraisal of one's job or job experiences'.¹ The interaction between work experience and organisational environment determines the satisfaction with the job. Satisfied physicians are known to provide better quality of care, are more conscientious with their attitude towards prescribing treatment and have less chances of making errors.^{2,3} Consequently, job satisfaction in physicians can lead to better patient outcomes and satisfied patients, also resulting in fewer litigations.⁴ On the other hand, a lack of job satisfaction is related to higher attrition rates, work-related stress, burnout and work–family conflict.^{3,5–7}

Several personal, workplace-specific and other modifiable factors contribute to job satisfaction in physicians, and these can be measured using different scales. For example, Domagała *et al.* used a 17-item questionnaire to measure the level of satisfaction

among physicians working in Polish hospitals in four domains: personal, professional, performance and inherent factors.⁸ Warr-Cook-Wall scale is a 10-item scale consisting of one item for overall job satisfaction and nine other items for different aspects of satisfaction, such as variety in job, opportunity to use abilities and freedom of working method.⁹ Factors that have been well-studied include professional autonomy, doctor-patient relationship, academic involvement and work-life balance.^{5,10,11} Other factors include quality of care, ease of practice, relationship with leadership and management and inter-professional relationship.⁸ A systematic review from 12 European countries consisting of 24 studies on more than 20,000 physicians identified several scales and classified the factors into three groups: personal, intrinsic and contextual.¹² The majority of contextual or professional-related factors are modifiable, such as the quality of care, the ease of practice, the opportunity

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for professional development, inter-professional collaboration and relationship with the leadership. Healthcare organisations can study these factors to modify the work environment, in turn facilitating and improving physician satisfaction.

Oman is one of the rapidly developing Arab countries, located in the southeast of the Arabian peninsula and with a population of approximately five million, of which 60% are Omani nationals, whose treatment expenses are fully covered by the government.¹³ As a result of effective planning, the healthcare system in Oman has seen significant advances in the last four decades.¹⁴ Oman spends 3.8% of its gross domestic product on health and is ranked 60th on the human development index, with an average life expectancy of 77.9 years.¹⁵ The World Health Organization ranked Oman's healthcare system as number 8 among all the member states based on population health indicators, such as the overall level of population health, health inequalities within the population, responsiveness of the healthcare system and the distribution of responsiveness and the healthcare system's financial resources within the population.¹⁶ Harvard University and other joint commissioned organisations have appreciated Oman's healthcare achievements and consider it a model for other countries.¹⁷ There are more than 6,500 physicians, including 2,400 specialists and consultants in Oman, with a density of 2.0 physicians per 1,000 population. However, only a few reports are available that assess job satisfaction among physicians in Oman.^{18,19} Almost all these available studies assessed various determinants of job satisfaction in physicians in the capital area, Muscat, and the last study was published more than 10 years ago. Over the last few years, the healthcare system in Oman has expanded and it is important to study the factors and determinants of physicians' job satisfaction, especially the modifiable factors.

The aims of the current study were two-fold: to examine physician job satisfaction rate and to assess job satisfaction across several factors including demographic features, quality of care, ease of practice, relationship with leadership and inter-professional collaboration.

Methods

A descriptive study using a cross-sectional design and a convenience-sampling method was carried out. Registered Omani and non-Omani physicians were eligible to participate in the study. The sample represented all geographical areas of Oman, including 11 governorates. The sample was proportional to the

healthcare facility (Ministry of Health [MoH], non-MoH and private hospitals). Data were collected between July 2019 and January 2020. The participants were assured of anonymity and confidentiality.

The purpose and significance of the study were discussed with hospital administrators. The consenting participants were contacted by one of the research officers and invited to participate voluntarily. The data were collected via a self-administered survey. A survey packet containing a letter explaining the purpose of the study and its significance and the instruments were handed to the physicians, together with a return envelope. Participants were asked to drop the completed surveys in a locked box in their unit. The surveys collected information related to participant's demographics, their satisfaction and their perception of inter-professional collaboration.

Information was collected using a demographic sheet developed by the authors. The validity of the instrument was assessed by three investigators from both academia and clinical settings. Information about participants' age, gender, educational level, nationality, years of work experience, marital status, place of work and position was obtained.

The Physician Satisfaction Survey, developed by Wolosin *et al.*, was used to assess physicians' job satisfaction.²⁰ The survey consists of 13 Likert-type items, on a scale from 1 to 5. The scale is divided into three subscales, with adequate degree of reliability: quality of patient care, ease of practice and relationship with leadership. The construct validity of the survey is well-established and the tool demonstrated acceptable level of reliability (Cronbach alpha [α] = 0.76–0.92 for the three scales).²⁰

Inter-professional collaboration is defined as the ability of every healthcare provider to effectively complement each other's roles, share the responsibility and work collaboratively to make decisions about patients' care. The Assessment for Collaborative Environment tool, developed by Tilden *et al.*, was used to measure physician's perceptions of the quality of inter-professional collaboration.²¹ The tool consists of 15 items rated on a four-point Likert scale, ranging from 1 for 'strongly disagree' to 4 for 'strongly agree'. The validity and reliability of this tool have been previously determined.^{21,22} The range of possible total scores is 15 (lowest possible score) to 60 (highest possible score). The higher the score, the higher is the perception of inter-professional collaboration. The reliability has been well-established (Cronbach's α = 0.80). The tool demonstrated acceptable convergent validity ($r = 0.81$).²¹

Table 1: Demographic characteristics and work environment (N = 354)

Demographic features	n (%)
Age in years	
Less than 30	26 (7.3)
30–40	123 (34.7)
41–50	80 (22.6)
51–66	49 (13.8)
No response	76 (21.4)
Gender	
Male	208 (58.7)
Female	124 (35.0)
No response	22 (6.2)
Nationality	
Omani	91 (25.7)
Non-Omani	238 (67.2)
No response	25 (7.0)
Marital status	
Single	34 (9.6)
Married	298 (84.2)
Divorced	2 (0.5)
No response	20 (5.6)
Number of children	
None	48 (13.5)
1–3	182 (51.4)
4 and more	40 (11.3)
No response	84 (23.7)
Highest educational level	
MD	99 (27.9)
Post-graduate degree	199 (56.2)
Clinical + PhD	26 (7.3)
PhD	4 (1.1)
No response	26 (7.3)
Employment status	
Full time	335 (94.6)
Part time	10 (2.8)
No response	9 (2.5)
Working environment	
Experience as a physician in years	
Less than 5	19 (5.3)
5–15	150 (42.4)
16 and more	149 (42.1)
No response	36 (10.2)
Experience in current working place in years	
Less than 5	90 (25.4)
5–15	164 (46.3)
16 and more	54 (15.2)
No response	46 (13.0)
Duration working with the team in years	
5 or less	150 (42.4)

More than 5	181 (51.1)
No response	23 (6.5)
Current grade	
Medical intern	15 (4.2)
Senior house officer	63 (17.8)
Specialist	139 (39.2)
Senior specialist	41 (11.6)
Consultant	27 (7.6)
Senior consultant	23 (6.5)
Others	24 (6.8)
No response	22 (6.2)
Specialty	
Obstetrics and gynaecology	55 (15.5)
General medicine	44 (12.4)
General surgery	39 (11.1)
Accident and emergency	30 (8.5)
ICU and anaesthesia	26 (7.3)
Child health	25 (7.1)
Others*	135 (38.1)
Place of work	
Public hospitals	308 (87.0)
Private hospitals	46 (13.0)

*Including internal medicine, cardiology, otorhinolaryngology, orthopaedics, behavioural medicine, radiology, urology, dermatology, ophthalmology, and oral health.

Using the standardised formula for calculating the sample size from the defined population, the estimated sample size was calculated to be 396 physicians with a 95% confidence interval (CI) and a *P* value of 0.05.²³

The Statistical Package for Social Sciences (SPSS), Version 22 (IBM Corporation, Armonk, New York, USA) was used for statistical analyses. The background variables of the participants were analysed using descriptive statistics. Overall job satisfaction was assessed by looking at the mean scores across all domains. Reliability was assessed using Cronbach α . Job satisfaction was plotted as 'low' (score ≤ 3), 'moderate' (score 3.01–3.75) or 'high' (score ≥ 3.76) level of satisfaction using bar charts. The relationship between job satisfaction and inter-professional collaboration was assessed through multiple linear regressions. The regression model was adjusted for participants' demographic data including age, gender, educational level, nationality, years of work experience, marital status and place of work. The four assumptions of linear regression (i.e. normality, linearity, homoscedasticity and independence) were assessed and found to be satisfactory.

This study was approved by the Medical Research Ethics Committee of the MoH (MoH/CSR/18/10004), the relevant participating hospitals not related to MoH

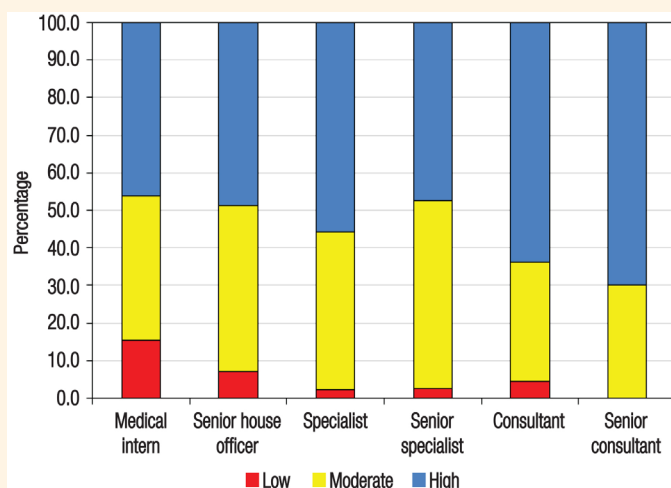


Figure 1: Job satisfaction rates according to responsibility (N = 354).

and the selected private hospitals. Informed consent was obtained from study participants.

Results

Over the study period, a total of 396 physicians were contacted, out of which 354 responded (response rate: 89.4%). The median age of study participants was 40 years and the vast majority of them were between the ages 30 and 40 years [Table 1]. The number of male physicians (n = 208, 58.7%) was higher than that of female physicians (n = 124, 35.0%). The majority of physicians were non-Omani (n = 238, 67.2%), married (n = 298, 84.2%), had 1–3 children (n = 182, 51.4%), had a postgraduate clinical degree (n = 255, 72.0%) and worked as full-time physicians (n = 335, 94.6%). A significant number of physicians had more than five years of overall work experience (n = 335, 94.6%), including experience in the place of work at the time of interview (n = 264, 74.6%). The vast majority of participants were working as specialists or senior house officers (n = 339, 95.8%).

The mean satisfaction rate on the job satisfaction scale was observed as 3.85 ± 0.55 . Overall, 4.3% of the physicians were not satisfied with their job (mean satisfaction score: <3.00), 36.5% exhibited moderate level of satisfaction (mean satisfaction score: 3.00 – 3.75) and 59.2% were highly satisfied with their job (mean satisfaction score: ≥ 3.76). There was no significant difference in the mean job satisfaction score among different groups of study participants, except for gender and the working grade. The mean satisfaction score among the 208 male physicians was 3.76 ± 0.54 compared to 3.90 ± 0.52 among the 124 female physicians ($P = 0.026$). Evidently, ‘moderate’ or ‘high’ level of satisfaction was reported by 93% of senior house officers, 97.7% of specialists and 97.4% of senior

specialists, whereas the vast majority of consultants (63.6%) and senior consultants (70%) expressed a ‘high’ level of satisfaction with their job [Figure 1].

The overall job satisfaction rate was 3.82 ± 0.55 . The rates for quality of care, ease of practice

Table 2: Job satisfaction using the Physician Satisfaction Survey (N = 354)

Item	Mean \pm SD	Cronbach α
Quality of care	3.93 ± 0.61	0.83
Quality of nursing staff	3.96 ± 0.76	
Staff's concern and interest in your patient	3.95 ± 0.79	
Timeliness of follow-through on written orders	3.85 ± 0.76	
Staff's reliability in recognising and reporting changes in patients' conditions	3.95 ± 0.70	
Ease of practice	3.89 ± 0.55	0.75
Turnaround for lab results	3.92 ± 0.70	
Ease of scheduling inpatient test/therapy	4.01 ± 0.69	
Ease of admitting patients	3.97 ± 0.77	
Medical technology and equipment available in ICU/CCU	3.91 ± 0.84	
Overall rating of the Emergency Department	3.65 ± 0.89	
Relationship with leadership	3.67 ± 0.86	0.89
Communication between yourself and the hospital administration	3.79 ± 0.86	
Responsiveness of the Hospital Administration to ideas and needs of medical staff members	3.57 ± 0.99	
Your confidence in the Hospital Administration to ideas and needs of medical staff members	3.65 ± 0.96	
Overall job satisfaction scale	3.85 ± 0.55	0.90

SD = standard deviation.

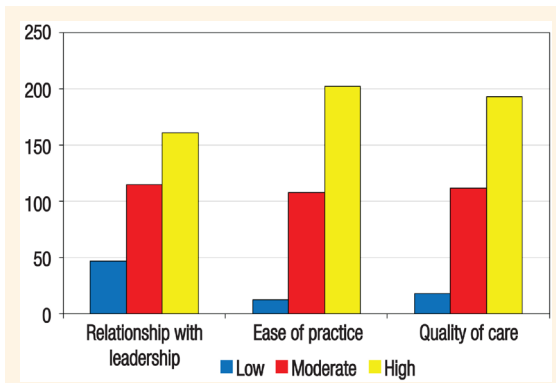


Figure 2: Job satisfaction rate according to Physician Satisfaction Survey.

Table 3: Inter-professional collaboration (N = 354)

Item	n	Mean ± SD
Team members contribute to setting and evaluating goals for improving the practice.	346	3.29 ± 0.59
The team has a culture of mutual continuous learning.	344	3.15 ± 0.59
The team fosters a culture of continuously improving communication.	338	3.19 ± 0.60
The team is well supported by the overall organisation (e.g. practice improvement is encouraged; team training is supported).	342	3.06 ± 0.67
Team members fail to appreciate each other's values and diversity.*	339	2.85 ± 0.77
Team members appreciate each other's roles and expertise.	346	3.11 ± 0.62
Team members have the autonomy to implement their part of the plan once the patient's needs and goals are clear.	343	3.13 ± 0.56
The team is effective in assigning and implementing administrative tasks (e.g. leadership, record keeping, meeting facilitation, etc.)	348	3.08 ± 0.63
Team members do not feel safe bringing up concerns about roles and responsibilities for discussion, proactive improvement, and prevention.*	339	2.83 ± 0.73
All voices on the team are heard and valued.	342	2.96 ± 0.69
The team encourages trust by paying attention to important personal or professional connections (e.g. celebrating achievements, milestones, etc.).	347	3.09 ± 0.54
Members of the team are active listeners and pay close attention to the contributions of others, including the patient and family.	345	3.17 ± 0.57
The team engages in routine, frequent, meaningful evaluation to improve its performance.	344	3.05 ± 0.58
Team members tend not to recognise their own limitations in knowledge and skills.*	342	2.78 ± 0.79
The team constructively manages disagreements among team members.	336	2.95 ± 0.60

SD = standard deviation.

*Item was reverse coded.

and relationship with leadership were 3.93 ± 0.61 , 3.89 ± 0.55 and 3.67 ± 0.55 , respectively. The overall satisfaction score, as well as satisfaction score across the three domains, showed a high level of internal consistency [Table 2].

Whereas the vast majority of physicians were 'moderately' or 'highly' satisfied with ease of practice and quality of care, 47 participants (13.3%) expressed a low level of satisfaction with their relationship with leadership [Figure 2]. Table 3 shows the data about physician's perceptions of the quality of inter-professional collaboration. The overall mean satisfaction rate was 3.045 ± 0.39 , and a high degree of internal consistency was observed (Cronbach's $\alpha = 0.89$). The results were consistent across the various items of the scale. Using linear regression, the relationship between demographic variables and physician's perception of inter-professional collaboration and overall job satisfaction was assessed. Overall, the results of this analysis indicate that physicians were satisfied or highly satisfied with the different dimensions of their job, especially if they had a clinical postgraduate degree together with a PhD ($P = 0.003$), were on a senior level of responsibility ($P = 0.007$) and enjoyed good inter-professional relationship ($P < 0.001$) [Table 4].

Discussion

This study describes the level and determinants of job satisfaction among physicians from various parts of Oman. Out of the 354 physicians who responded, 95% were satisfied with their jobs. The majority of satisfied physicians were women and senior consultants. Satisfaction was observed in different modifiable domains of patient care and it was higher in quality of care and ease of practice, but was marginally lower in relationship with the leadership. Physicians were also perceived to be satisfied with inter-professional collaboration. Majority of satisfied physicians had a postgraduate clinical degree, had been working for more than five years in the current job and were working at a rank of consultant or above.

The results of this study are not only reliable but also match the internal consistency mark reported in the literature.²⁰ Although the vast majority of physicians were satisfied or highly satisfied with the quality of care and the ease of practice, relationship with leadership was identified as an area in need of further improvement. The important determinates that could potentially enhance satisfaction were confidence of the leadership in the staff and responsiveness of the hospital administration to the ideas and needs of the medical staff members.

Table 4: Predictors of overall job satisfaction

Predictor	Unstandardised β	SE	Standardised β	T	P value	95% CI	
						Lower	Upper
Inter-professional collaboration	0.864	0.071	0.603	12.155	<0.001	0.724	1.004
Education							
MD	0.100	0.059	0.086	1.716	0.087	-0.015	0.216
Clinical + PhD	0.293	0.097	0.152	3.017	0.003	0.102	0.484
PhD	0.406	0.320	0.065	1.271	0.205	-0.223	1.036
Grade as physician							
Medical intern	-0.034	0.127	-0.014	-0.267	0.789	-0.284	0.216
Medical officer	-0.103	0.077	-0.069	-1.336	0.183	-0.256	0.049
Specialist	-0.136	0.081	-0.085	-1.672	0.096	-0.295	0.024
Senior specialist	-0.094	0.100	-0.048	-0.936	0.350	-0.291	0.103
Consultant	-0.107	0.126	-0.045	-0.844	0.400	-0.355	0.142
Senior Consultant	0.297	0.109	0.138	2.720	0.007	0.082	0.511

SE = standard error; CI = confidence interval.

Note: $r^2 = 0.453$; adjusted $r^2 = 0.404$.

In the highly complex working environment, healthcare organisations depend on collaborative work within teams and across different teams. Teamwork not only provides specialist care but also enhances quality of care. Team members' satisfaction is one of the important determinants of job satisfaction. In fact, team climate has been shown to be a better predictor of team satisfaction than team leadership.²⁴ The results of this study demonstrate that the majority of physicians had the perception of being satisfied with the quality of inter-professional collaboration. These results are consistent with the results of studies from an academic hospital in Brazil, family physicians in Canada and primary care physicians in Germany, where an important determinant of overall job satisfaction was having a good inter-professional relationship.^{9,25,26}

In terms of degree of satisfaction with the job, the current study found higher levels of satisfaction among physicians working in Oman than among physicians working in Saudi Arabia and Pakistan.²⁷⁻³⁰ A study involving a tertiary hospital in Saudi Arabia reported that as many as 30% of the 344 participants were dissatisfied with their job, mainly due to either the nature of the job (intensive care physicians) or low income.²⁷ Another study from Saudi Arabia on a tertiary medical centre demonstrated more than 30% of the 217 respondents to be dissatisfied with their job, mainly because of low income, health coverage and the overall benefit package.²⁶ A study on 237 family physicians from two different areas of Saudi Arabia revealed an overall job satisfaction rate of 62%. The factors significantly associated with professional dissatisfaction included the physicians having an opinion that they were not respected by community members and their own perception of being inferior to

other specialties.²⁸ A study from Pakistan conducted on hospital doctors revealed that only 35% had well-above-average or outstanding job satisfaction. The factors associated with lack of satisfaction with job included younger age, lower income, fewer number of years in service and a lack of postgraduate qualification.²⁹ Another study from Pakistan assessed job satisfaction using 35 questions about sources of work-related stress and satisfaction and concluded that the overall satisfaction rate was low at 2.69 ± 0.37 . Job dissatisfaction was higher among government sector doctors, whereas increase in age, duration of current posting and work experience positively correlated with the satisfaction level.³⁰

At least two other studies have been published from Oman that assess job satisfaction among physicians. Al Shafae used qualitative and quantitative tools to assess job satisfaction among 371 physicians working in the capital area, Muscat, and explored several organisational and job-related factors that influence the satisfaction rate.¹⁸ The job satisfaction rate was 68.4%. Physicians were satisfied with their professional status and teamwork; however, they were less satisfied with the administration, pay and workload. In the other study, Al Touby reported job satisfaction among 50 physicians working in two tertiary care hospitals in the capital area and identified younger age and fewer years of experience to be inversely related with job satisfaction.¹⁹ The current study was different from these two studies in several respects. The survey included physicians from all geographical areas of Oman, used a validated job satisfaction tool with high degree of internal validity, assessed modifiable factors in relation to job satisfaction and reported an overall satisfaction

rate of 95%. The results should be reassuring for the healthcare managers, as the level of job satisfaction among physicians in Oman is higher compared with many centres in the region. Furthermore, as the healthcare system in Oman continues to evolve and improve, it is important to note that the average job satisfaction rate has increased considerably compared with the two earlier studies.^{14,18,19} While there are ongoing efforts and initiatives to assess and improve satisfaction of healthcare professionals, this study provides areas and avenues for specific targets for improvement, including modifiable factors such as relationship with leadership.

There are several limitations of the study. Firstly, physician's income was not assessed in the relationship with job satisfaction. This has been shown to be inversely related to job satisfaction in several studies.^{7,29} However, over the last few years, the salary structure for physicians in the government sector in Oman has been revised and unified and is dependent on the grade. Grade of work is now assessed and inherent in the grade is the salary. Secondly, very few physicians working in private hospitals were invited to participate, or agreed to be surveyed. However, it may be of interest to note that healthcare in the private sector is only beginning to emerge in Oman and, at the moment, the vast majority of hospitals are government-managed facilities. The proportion of physicians surveyed in this study reflects the overall proportion of private hospitals in the healthcare sector. Thirdly, a higher level of job satisfaction was observed among female doctors. This was an important observation; however, the reasons behind this observation were not investigated and remain speculative. It may be argued that in a cross-sectional study design, only an association can be described and not causality. Longitudinal studies are needed to establish a causal relationship between dependent and independent variables. In addition, this study used a self-reported method, which may be associated with a response bias. To minimise the possibility of this bias, all data were collected anonymously, without collecting any identifying information. Furthermore, extraordinary circumstances, such as the COVID-19 pandemic, may affect job satisfaction levels, due to factors such as risk perception, psychological stress and burnout and other factors not studied here.^{31,32} However, data for the current study were acquired before the onset of the pandemic. Finally, organisational factors, such as human resource management, details of ancillary facilities and leadership factors, were not analysed separately. The primary aim of the study remained to assess job satisfaction across several factors such as quality of care, ease of practice, relationship with

leadership and inter-professional collaboration in the place or work. Therefore, the results and conclusions of the current study need to be interpreted with caution, as the management and leadership details specific to the site were not studied.

Conclusion

Job satisfaction among physicians in Oman was high and the majority of physicians were highly satisfied. There was no difference in the level of satisfaction among the different groups of study participants, except for the working grade. Having a clinical postgraduate degree, a senior level of responsibility and the perception of a good inter-professional relationship were associated with higher job satisfaction rates. The overall job satisfaction rates were higher for the quality of care and ease of practice, but lower for relationship with the leadership. Relationship with the leadership is a modifiable factor and healthcare policymakers should target interventional programmes to improve satisfaction of junior physicians. These results highlight areas of strength, as well as the area of opportunity, in which efforts could be made to enhance job satisfaction.

AUTHORS' CONTRIBUTION

IB prepared the manuscript. SAS conducted the analysis, interpreted the data and provided critical revisions for the manuscript. OA-R contributed substantially to the conception and design of the study. LJL and RA provided critical revisions for the article. All authors approved the final version of the manuscript.

CONFLICT OF INTEREST

The authors declare no conflicts of interest.

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