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7 **Determinants of Physicians' Job Satisfaction**

8 *A national multi-centre study from the Sultanate of Oman*

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17 18 **Abstract**

19 **Objectives:** Physician satisfaction with their job can lead to a better quality of care, fewer
20 chances of making errors, and better patient outcomes. The purpose of the study was to examine
21 physician satisfaction; and to assess job satisfaction across several factors, such as quality of
22 care, ease of practice, relationship with leadership, and inter-professional collaboration. **Method:**
23 A descriptive cross-sectional design was used. Data were collected between July 2019 and
24 January 2020. Participants provided demographic information and completed surveys related to
25 physician satisfaction (13-item Likert type items on a scale from 1 to 5), and inter-professional
26 collaboration (15-item, 4-point Likert scale, ranging from 1 for “strongly disagree” to 4 for
27 “strongly agree”). Multiple linear regressions were used to determine the relationship between
28 overall job satisfaction and demographic features and inter-professional collaboration. **Results:**
29 Out of 396 physicians who were contacted, 354 responded (response rate = 89.4%). The median
30 age was 40 years, and there were 208 male and 124 female physicians. The vast majority

31 (238/354 = 62%) were expatriates. Seventy percent had a post-graduate degree. The vast
32 majority (308 = 87%) worked in government hospitals. Results showed that 15 (5%) of the
33 physicians were not satisfied with their job (<3.00), 179 (40%) expressed a moderate level of
34 satisfaction (3.00 – 3.75), and 129 (55%) were highly satisfied (>3.76). There was no difference
35 in mean job satisfaction score among different groups of study participants, except for gender,
36 and the working grade ($p < 0.05$). The overall job satisfaction rates were higher for the quality of
37 care ($M = 3.93$, $SD = 0.61$), and for ease of practice ($M = 3.89$, $SD = 0.55$) and lower for the
38 relationship with leadership ($M = 3.67$, $SD = 0.86$). Having a clinical postgraduate degree
39 together with a PhD, a senior level of responsibility and good inter-professional relationship
40 were associated with higher job satisfaction rates ($p = 0.003$ and 0.007 , respectively).

41 **Conclusion:** Overall, the job satisfaction rate was high. There was no difference among different
42 groups of study participants, except for the working grade. Having a clinical postgraduate
43 degree, a senior level of responsibility, and good inter-professional relationship were associated
44 with higher job satisfaction rates. The overall job satisfaction rates were higher for the quality of
45 care, and for ease of practice, and lower for relationship with the leadership. Relationship with
46 the leadership is a modifiable factor and efforts at enhancing the physician-leadership
47 relationship may lead to even higher satisfaction rates.

48 **Keywords:** Interprofessional relations; Job Satisfaction; Leadership; Oman; Physician; Quality of
49 health care

50

51 **Advances in Knowledge**

- 52 • This is the first multi-center study to report job satisfaction of physicians from the
53 Sultanate of Oman.
- 54 • Working in an environment that facilitates interprofessional collaboration has a positive
55 impact on physicians' job satisfaction.

56

57 **Application to Patient Care**

- 58 • The current study findings inform policy-makers of modifiable work-related factors that
59 can enhance physicians' satisfaction.
- 60 • Health care providers' job satisfaction is positively correlated with the quality of care they
61 provide.

62

63 Introduction

64 Job satisfaction is defined as ‘a pleasurable or positive emotional state, resulting from the
65 appraisal of one’s job or job experiences’.¹ Interaction between work experience and
66 organizational environment determine satisfaction with the job. Physician satisfaction with their
67 job can lead to better patient outcomes and satisfied patients which can lead to better outcomes
68 and fewer litigations.² Furthermore, satisfied physicians are known to provide a better quality of
69 care, are more conscientious with their attitude towards prescribing treatment, and have less
70 chances of making errors.^{3,4} On the other hand, a lack of job satisfaction is related to higher
71 attrition rates, work-related stress, burnout, and work-family conflict.^{3,5-7}

72

73 Several personal, workplace-specific and other modifiable factors contribute to physician
74 satisfaction, and these can be measured using different scales. For example, Domagala et al. used
75 a 17-item questionnaire to measure the level of physicians' satisfaction working in Polish
76 hospitals in four domains; personal, professional, performance, and inherent factors.⁸ Warr-
77 Cook-Wall scale is a 10-item scale consisting of one item for overall job satisfaction and 9 other
78 items for different aspects of satisfaction, such as variety in job, opportunity to use abilities,
79 freedom of working method.⁹ Factors which have been well studied include professional
80 autonomy, doctor-patient relationship, academic involvement, and work-life balance.^{5,10,11} Other
81 factors include quality of care, ease of practice, relationship with leadership and management,
82 and inter-professional relationship.⁸ A systematic review from 12 European countries consisting
83 of 24 studies on more than 20,000 physicians identified several scales and classified the factors
84 into three groups: personal, intrinsic, and contextual.¹² The majority of contextual or
85 professional-related factors are modifiable, such as, the quality of care, the ease of practice, the
86 opportunity for professional development, inter-professional collaboration, and relationship with
87 the leadership. Healthcare organizations can study these factors to modify the work environment,
88 in turn facilitating and improving physician satisfaction.

89

90 Oman is one of the rapidly developing Arab countries, located in southeast of the Arabian
91 peninsula, with a population of around 5 million, of which 60% are Omani nationals, and their
92 treatment expenses are fully covered by the government.¹³ As a result of effective planning, the

93 health care system in Oman has seen significant advances in the last 4 decades.¹⁴ Oman spends
94 3.8% of its Gross Domestic Product (GDP) on health and is placed at number 60 on the human
95 development index (HDI), with an average life expectancy of 77.9 years at birth.¹⁵ The World
96 Health Organization (WHO) ranked Oman's healthcare system as number 8 among all the
97 member states based on population health indicators, such as, the overall level of population
98 health, health inequalities within the population, responsiveness of the health system, and the
99 distribution of responsiveness and health system's financial resources within the population.¹⁶
100 Harvard University and other joint commissioned organizations appreciated Oman's healthcare
101 achievements and consider it as a model for other countries.¹⁷ There are more than 6,500
102 physicians, including 2400 specialists and consultants in Oman, with a density of 2.0 physicians
103 per 1,000 population. However, there are only a few reports assessing physician satisfaction with
104 their job in Oman.^{18,19} Almost all these studies assessed various determinants of physician
105 satisfaction in the capital area, Muscat, and the last study was published more than 10 years
106 back. Over the last few years, healthcare system in Oman has expanded, and it is important to
107 study the factors and determinants of physician satisfaction, especially the modifiable factors.

108
109 The aims of the current study were twofold: To examine physician job satisfaction rate; and to
110 assess job satisfaction across several factors including demographic features, quality of care, ease
111 of practice, relationship with leadership, and inter-professional collaboration.

112 113 **Methods**

114 *Study design*

115 A descriptive study using a cross-sectional design, and a convenience-sampling method was
116 carried out.

117 118 *Participants*

119 Registered Omani and non-Omani physicians were eligible to participate in the study. The
120 sample represented all geographical areas of Oman including 11 governorates. The sample was
121 proportional to the healthcare facility (Ministry of Health (MoH), non-MoH and private
122 hospitals). The study approval was obtained from the Medical Research Ethics Committee of the
123 MoH, the relevant participating hospitals not related to MoH, and the selected private hospitals.

124 Data were collected between July 2019 and January 2020. Informed consent was obtained from
125 study participants. The participants were assured of anonymity and confidentiality.
126 The purpose and significance of the study was discussed with hospital administrators.
127 Consenting participants were contacted by one of the research officers and invited to participate
128 voluntarily. The data was collected via a self-filling questionnaire. A survey packet containing a
129 letter explaining the purpose of study and its significance, and the instruments were handed to
130 the physicians, together with a return envelope. Participants were asked to drop the completed
131 surveys in a locked box in their unit.

132

133 *Instruments*

134 Data were collected using three paper-based self-reported surveys to collect information related
135 to participant's demographics, satisfaction, and their perception of interprofessional
136 collaboration.

137

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

142

143 ***Job satisfaction.*** The Physician Satisfaction Survey, developed by Wolosin et al.²¹ was used to
144 assess physician's satisfaction. The survey consists of 13 Likert-type items, on a scale from 1 to
145 5. The scale is divided into three subscales, with adequate degree of reliability: quality of patient
146 care; ease of practice; and relationship with leadership. The construct validity of the survey is
147 well established and the tool demonstrated acceptable level of reliability. (Cronbach $\alpha = 0.76$ to
148 0.92 for the three scales).²¹

149

150 ***Inter-professional Collaboration*** is defined as the ability of every health care provider to effectively
151 complement each other roles, share the responsibility and work collaboratively to make decisions about
152 patients' care. The Assessment for Collaborative Environment tool, developed by Tilden et al.,²²
153 was used to measure physician's perceptions of the quality of inter-professional collaboration.
154 The tool consists of 15 items rated on a four-point Likert scale, ranging from 1 for "strongly

155 disagree” to 4 for “strongly agree”. The validity and reliability has been well-established.^{22,23}
156 The range of possible total scores is 15 (lowest possible score) to 60 (highest possible score).
157 The higher the score; the higher is the perception of interprofessional collaboration. The
158 reliability has been well-established (Cronbach’s alpha of 0.80). The tool demonstrated
159 acceptable convergent validity ($r = 0.81$).²²

160

161 *Sample size*

162 Using the standardized formula for calculating sample size from the defined population, the
163 estimated sample size was calculated to be 396 physicians with a 95% CI and a p-value of 0.05.²⁰

164

165 *Statistical methods*

166 The Statistical Package for Social Sciences software (SPSS) version 22 was used for analysis.
167 Participant’s background variables were analyzed using descriptive statistics. Overall job
168 satisfaction was assessed by looking at the mean scores across all domains. Reliability was
169 assessed using Cronbach α . Job satisfaction was plotted as, ‘low’ (score ≤ 3 , ‘moderate’ (score
170 3.01 – 3.76), or ‘high’ (score ≥ 3.76) level of satisfaction using bar charts. The relationship between
171 job satisfaction and interprofessional collaboration was assessed using multiple linear regression.
172 The regression model was adjusted for participants’ demographic data including age, gender,
173 educational level, nationality, years of work experience, marital status, and place of work. The
174 four assumptions of linear regression including normality, linearity, homoscedasticity, and
175 independence, were assessed and found to be satisfactory.

176

177 **Results**

178 Over the study period, a total of 396 physicians were contacted, and 354 responded (response rate
179 89.4%). Characteristics of study participants are shown in table 1. The median age of study
180 participants was 40 years; the vast majority of participants were between the ages 30 and 40 years.
181 There were more males than female physicians. The majority of physicians were non-Omani,
182 married, had 1-3 children, had a postgraduate clinical degree, and worked as full-time physicians.
183 A significant number of physicians had more than 5 years of overall work experience, and
184 experience in the place of work at the time of interview. The vast majority of participants were
185 working as specialist or senior house officer.

186
187 The mean satisfaction rate was 3.85 ± 0.55 on the job satisfaction scale. Overall, 5% of the
188 physicians were not satisfied with their job (mean satisfaction score <3.00), 40 % had moderate
189 level of satisfaction (mean satisfaction score, 3.00-3.75), and 55% were highly satisfied with their
190 job (mean satisfaction score >3.76). There was no difference in mean job satisfaction score among
191 different groups of study participants, except for gender, and the working grade. The means score
192 amongst the 208 male physicians was 3.76 ± 0.54 compared to 124 female physicians (3.90 ± 0.52 ;
193 p-value 0.026 using ANOVA). Figure 1 shows job satisfaction rates according to the working
194 grade. Almost equal number of senior house officers, specialists and senior specialists expressed
195 'moderate' or 'high' level of satisfaction, whereas, the vast majority of consultants and senior
196 consultants had a 'high' level of satisfaction with their job.

197
198 Mean satisfactions scores across the three domains and the 13 items are shown in table 2. The
199 overall job satisfaction rate was 3.82 ± 0.55 ; for quality of care the rate was 3.93 ± 0.61 ; for ease
200 of practice 3.89 ± 0.55 , and for relationship with leadership, the score was 3.67 ± 0.55 . Overall
201 satisfaction score, as well as across the 3 domains showed a high level of internal consistency.
202 Please see the table for Cronbach α levels.

203
204 Whereas, the vast majority of physicians were 'moderately' or 'highly' satisfied with ease of
205 practice, and quality of care, 14.5% expressed a low level of satisfaction with their relationship
206 with leadership [Figure 2]. Table 3 shows the results of physician's perceptions of the quality of
207 inter-professional collaboration. The overall mean satisfaction rate was 3.045 ± 0.39 , and the
208 results showed a high degree of internal consistency (Cronbach's $\alpha = 0.89$). The results were
209 consistent across the various items of the scale. The relationship between demographic variables
210 and physician's perception of inter-professional collaboration and overall job satisfaction was
211 assessed using linear regression. Overall, the results indicate that physicians were satisfied or
212 highly-satisfied with different dimensions of their job, especially, if they had a clinical
213 postgraduate degree together with a PhD ($p = 0.003$), were on a senior level of responsibility ($p =$
214 0.007), and had good inter-professional relationship ($p < 0.001$) [Table 4].

215

216 **Discussion**

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

225
226 A validated, 13-item Physician Satisfaction Survey measuring physician satisfaction across the
227 three domains of professional practice was employed.²¹ The domains included quality of patient
228 care, ease of practice, and relationship with leadership. The scale has a high degree of internal
229 consistency, and our results are not only reliable, but match the internal consistency mark
230 reported in the literature. Although the vast majority of physicians were satisfied or highly
231 satisfied, with the quality of care and the ease of practice, relationship with leadership was
232 identified as an area of opportunity for further improvement. The important determinates which
233 could potentially enhance satisfaction were confidence of the leadership in the staff, and
234 responsiveness of the hospital administration to the ideas and needs of the medical staff
235 members.

236
237 In the highly complex working environment, health organizations depend on collaborative work
238 within teams and across different teams. Teamwork not only provides specialist care, but also
239 enhances quality of care. Team member satisfaction is one of the important determinants of job
240 satisfaction. In fact, team climate has been shown to be a better predictor of team satisfaction
241 than team leadership.²⁴ The results demonstrate that the majority of physicians had the
242 perception of being satisfied with the quality of inter-professional collaboration. Our results are
243 consistent with the results of studies from an academic hospital in Brazil, family physicians in
244 Canada, and primary care physicians in Germany, where an important determinant of overall job
245 satisfaction was having a good inter-professional relationship.^{9,25-26}

246 In terms of degree of satisfaction with the job, the current study findings showed that physicians
247 working in Oman reported higher levels of satisfaction compared with physicians working at

248 Saudi Arabia, Iraq, and Pakistan. The study from a tertiary hospital in Saudi Arabia reported that
249 as many as 30% of the 344 participants were dissatisfied with their job, mainly either due to the
250 nature of job (intensive care physicians), or low income.²⁷ Another study from Saudi from a
251 tertiary medical center demonstrated more than 30% of the 217 respondents to be dissatisfied
252 with their job, mainly because of low income, health coverage and the overall benefit package.²⁶
253 A study on 237 family physicians from two different areas of Saudi Arabia revealed an overall
254 job satisfaction rate of 62%. Factors significantly associated with professional dissatisfaction
255 included the physicians having an opinion that they were not respected by community members
256 and their own perception of being inferior to other specialties.²⁸ A study from Pakistan
257 conducted on hospital doctors revealed that only 35% had well-above-average or outstanding job
258 satisfaction. Factors associated with lack of satisfaction with job included younger age, lower
259 income, fewer number of years in service, and a lack of postgraduate qualification.²⁹ Another
260 study from Pakistan assessed job satisfaction using 35 questions about sources of work-related
261 stress and satisfaction, and concluded that overall satisfaction rate was low at 2.69 ± 0.37 . Job
262 dissatisfaction was more amongst government sector doctors; whereas, increasing age, duration
263 of current posting and work experience positively correlated with satisfaction level.³⁰
264
265 There are at least two other studies from Oman assessing job satisfaction of physicians. Al
266 Shafae¹⁸ used qualitative and quantitative tools to assess job satisfaction amongst physicians
267 working in the capital area, Muscat governorate, and explored several organizational and job-
268 related factors which influence satisfaction rate. Amongst the 371 physicians, the job satisfaction
269 rate was 68.4%. Physicians were satisfied with their professional status and teamwork, however,
270 they were less satisfied with administration, pay and workload. Al Touby¹⁹ reported job
271 satisfaction amongst 50 physicians working in two tertiary care hospitals in the capital area, and
272 identified younger age and fewer years of experience to be inversely related with job satisfaction.
273 The current study was different in several respects. The survey included physicians from all
274 geographical areas of Oman, used a validated job satisfaction tool with high degree of internal
275 validity, assessed modifiable factors in relation to job satisfaction, and reported an overall
276 satisfaction rate of 95%. The results should be reassuring for the health managers, as the level of
277 job satisfaction amongst physicians in the Sultanate of Oman is higher compared to many centers
278 in the region. Furthermore, as the health care system in Oman continues to evolve and improve,¹⁴

279 it should be satisfying to note that that the average job satisfaction rate has increased
280 considerably compared to the two earlier studies^{18, 19}. While there are ongoing efforts and
281 initiatives to assess and improve satisfaction of healthcare professionals¹⁴, this study provides
282 areas and avenues for specific targets for improvement, including the modifiable factors, such as,
283 relationship with leadership.

284

285 *Study Limitations*

286 There are several limitations of the study. Physician's income was not assessed in relationship
287 with job satisfaction. This has been shown to be inversely related to job satisfaction in several
288 studies. However, over the last few years, the salary structure for physicians in the government
289 sector in Oman has been revised and unified, and is dependent on the grade. Grade of work was
290 assessed, and inherent in the grade is the salary. Secondly, very few physicians working in
291 private hospitals were invited to participate, or agreed to be surveyed. However, it may be of
292 interest to note that healthcare in private sector is only beginning to emerge in Oman, and at the
293 moment, the vast majority of hospitals are government-managed facilities. The proportion of
294 physicians surveyed in this study reflect the overall proportion of private hospitals in healthcare
295 sector. Thirdly, a higher level of job satisfactions was observed amongst female doctors. This
296 was an important observation from this study, however, reasons were not explored further and
297 remain speculative. It may be argued that in a cross-sectional study design, only an association
298 can be described and not causality. Longitudinal studies are needed to establish causal
299 relationship between dependent and independent variables. In addition, this study used a self-
300 reported method, which may be associated with a response bias. To minimize the possibility of
301 this bias, all data were collected anonymously, without collecting any identification information.
302 Furthermore, extra-ordinary circumstances, such as, COVID-19 pandemic may affect job
303 satisfaction levels, due to factors such as, risk perception, psychological stress and burnout, and
304 other factors, not studied here^{31, 32}. However, data for the current study were acquired before the
305 onset of the pandemic. Finally, organizational factors, such as, human resource management,
306 details of ancillary facilities and leadership factors were not analyzed separately. The primary
307 aim of the study remained to assess job satisfaction across several factors, such as, quality of
308 care, ease of practice, relationship with leadership, and inter-professional collaboration in the

309 area / place or work. Therefore, the current study results and conclusions need to be interpreted
310 with caution, as the management and leadership details specific to the site were not studied.

311

312 **Conclusion**

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

323

324 **Conflict of Interest**

325 The authors declare no conflicts of interest.

326

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330

331 **Authors Contribution**

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

336

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340

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 432 association with work environment, empowerment and psychological stress during COVID-19
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 434

435 **Table 1:** Demographic Characteristics and Work Environment

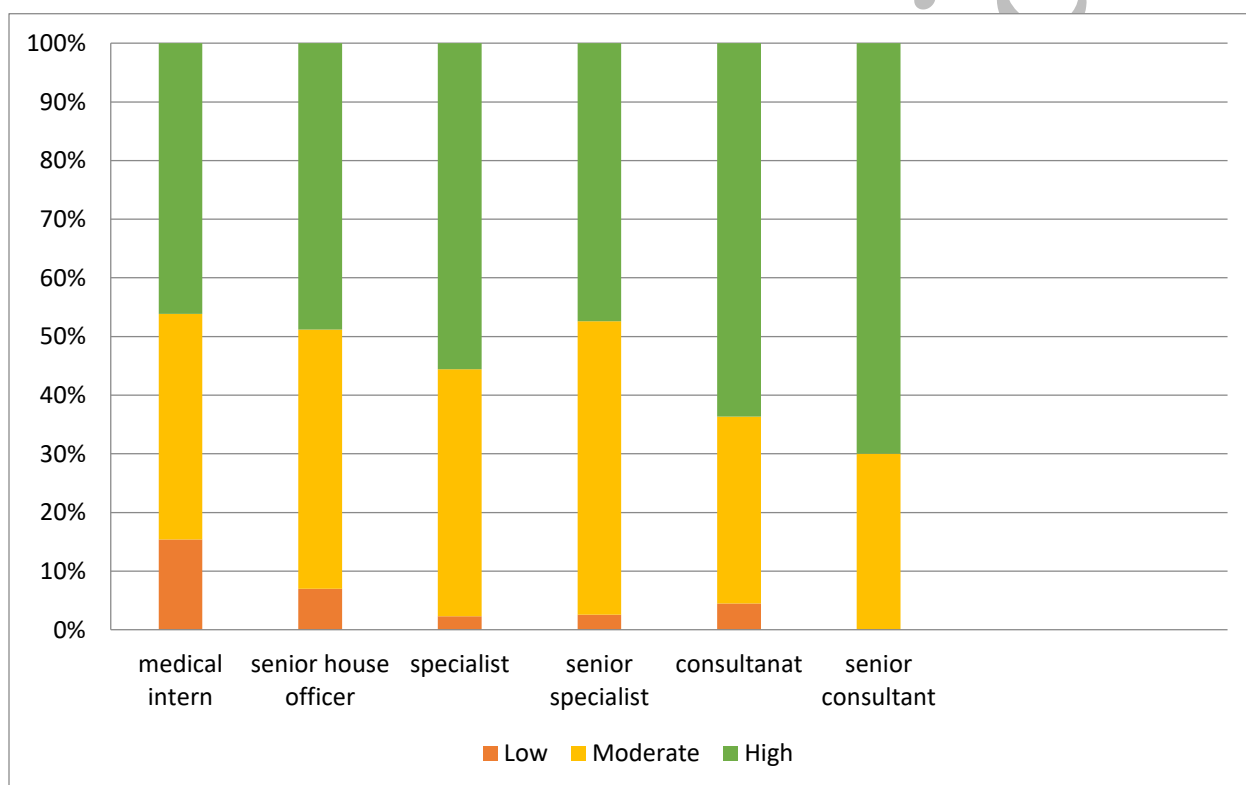
Demographic features		Working environment	
Age (years)		Experience as a Physician (years)	
Less than 30	26 (7.4%)	Less than 5	19 (5.3%)
30 – 40	123 (34.8%)	5-15	150 (42.4%)
41 – 50	80 (22.7%)	16 and more	149 (42.2%) 36 (10.2%)
51 – 66	49 (13.9%)	Experience in Current Working Place (years)	
N/R	76 (21.4%)		
Gender		Less than 5	90 (25.4%)
Male	208 (58.7%)	5-15	164 (46.3%)
Female	124 (35%)	16 and more	54 (15.2%)
N/R	22 (6.6%)		46 (13%)
Nationality		Duration working with the team (years)	
Omani	91 (25.7%)	5 or less	150 (42.4%)
Non-Omani	238 (67.2%)	More than 5	181 (51.1%)
N/R	25 (7%)		23 (6.5%)
Marital Status		Current Grade	
Single	34 (10%)	Medical intern	15 (4.2%)
Married	298 (89.2)	Senior house officer	63 (17.7%)
Divorced	2 (.05%)	Specialist	139 (39.2%)
N/R	20 (5.6%)		
Number of Children		Senior specialist	41 (11.6%)
None	48 (13.5%)	Consultant	27 (7.6%)
1-3	182 (51.4%)	Senior Consultant	23 (6.4%)
4 and more	40 (11.2%) 84 (23.7%)	Others	24 (6.7%) 22 (6.1%)
Highest Educational Level		Specialty	
MD	99 (27.9%)	Obstetrics & Gynecology	55 (17%)
Post-graduate degree	199 (56.2%)	General Medicine	44 (13.6%)
Clinical + PhD	26 (7.3%)	General Surgery	39 (12%)
PhD	4 (<1%) 26 7%)	Accident & Emergency	30 (9.2%)
Employment Status		ICU and Anesthesia	26 (8%)

Full time	335 (94.6%)	Child Health	25 (7.7%)
Part time	10 (2.8%) 9 (2.5%)	Others	104 (32.2%)
		Place of Work	
		Public hospitals	308 (87%)
		Private hospitals	46 (13%)

436 *Note. N/R: no response*

437 ***include internal medicine, cardiology, otorhinolaryngology, orthopedics, behavioral*
 438 *medicine, radiology, urology, dermatology, ophthalmology, and oral health*

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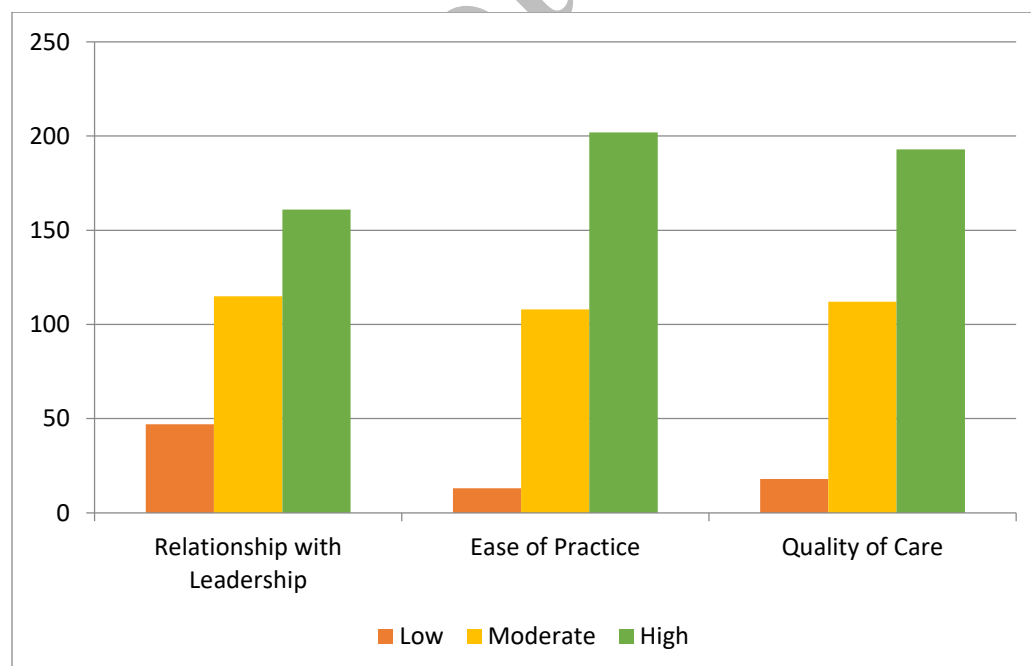
441 **Figure 1: Job Satisfaction Rate According to Responsibility**

442 **Table 2:** Job satisfaction using the Physician Satisfaction Survey

	Mean	Cronbach alpha
Quality of Care	3.932 ±0.61	.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 recognizing and reporting changes in patients' conditions	3.95 ±0.70	
Ease of Practice	3.889 ±0.55	.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	3.670 ±0.86	.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	3.846 ±0.55	.90

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Figure 2: Job Satisfaction rate according to Physician Satisfaction Survey

447 **Table 3:** Inter-professional Collaboration

	N	Mean \pm SD
1. Team members contribute to setting and evaluating goals for improving the practice.	346	3.29 \pm 0.59
2. The team has a culture of mutual continuous learning.	344	3.15 \pm 0.59
3. The team fosters a culture of continuously improving communication.	338	3.19 \pm 0.60
4. The team is well supported by the overall organization (e.g., practice improvement is encouraged; team training is supported).	342	3.06 \pm 0.67
5. Team members fail to appreciate each other's values and diversity.	339	2.85 \pm 0.77
6. Team members appreciate each other's roles and expertise.	346	3.11 \pm 0.62
7. Team members have the autonomy to implement their part of the plan once the patient's needs and goals are clear.	343	3.13 \pm 0.56
8. The team is effective in assigning and implementing administrative tasks (e.g., leadership, record keeping, meeting facilitation, etc.)	348	3.08 \pm 0.63
9. Team members do not feel safe bringing up concerns about roles and responsibilities for discussion, proactive improvement, and prevention.	339	2.83 \pm 0.73
10. All voices on the team are heard and valued.	342	2.96 \pm 0.69
11. The team encourages trust by paying attention to important personal or professional connections (e.g., celebrating achievements, milestones, etc.).	347	3.09 \pm 0.54

12. 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
13. The team engages in routine, frequent, meaningful evaluation to improve its performance.	344	3.05 ±0.58
14. Team members tend not to recognize their own limitations in knowledge and skills.	342	2.78 ±0.79
15. The team constructively manages disagreements among team members.	336	2.95 ±0.60

448 *Note: Item numbers 5, 9, and 14 were reversed coded.*

449

450 **Table 4.** Predictors of overall job satisfaction

Predictor	Unstandardized β	S.E	Standardized β	t	p-value	95% CI	
						Lower	Upper
Inter-professional collaboration	.864	.071	.603	12.155	<0.001	.724	1.004
Education							
MD	.100	.059	.086	1.716	.087	-.015	.216
Clinical + PhD	.293	.097	.152	3.017	.003	.102	.484
PhD	.406	.320	.065	1.271	.205	-.223	1.036
Grade as physician							
Medical intern	-.034	.127	-.014	-.267	.789	-.284	.216
Medical officer	-.103	.077	-.069	-1.336	.183	-.256	.049
Specialist	-.136	.081	-.085	-1.672	.096	-.295	.024
Senior specialist	-.094	.100	-.048	-.936	.350	-.291	.103
Consultant	-.107	.126	-.045	-.844	.400	-.355	.142
Senior Consultant	.297	.109	.138	2.720	.007	.082	.511

451 *Note. $r^2 = 0.453$; Adjusted $r^2 = 0.404$*