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Research Article

Determinants of Job Satisfaction and Retention Among Medical Laboratory Professionals in Somalia

Shafie Abdulkadir Hassan* **and Mohamed Hassan Osman**

Department of Medical Laboratory Sciences, Faculty of Medicine and Health Sciences, Jamhuriya University of Science and Technology, Somalia

Abstract

Background: Job satisfaction among laboratory professionals is critical to healthcare quality and workforce retention in Somalia. Understanding job satisfaction factors is crucial for implementing targeted interventions to improve healthcare services. This study aimed to determine the factors influencing job satisfaction and retention among medical laboratory technologists in Somalia.

Methods: A descriptive cross-sectional study involving laboratory professionals in Mogadishu was conducted between October 2023 and March 2024. Structured questionnaires were used to gather the data. We used descriptive and logistic regression, such as binary and multivariate logistic regression, to identify the factors affecting job satisfaction. *P*-values <0.05 were considered significant.

Results: This study revealed a range of job satisfaction levels, with 43.3% of respondents dissatisfied and 56.7% satisfied. Significant factors influencing job satisfaction included gender (AOR = 2.054, 95% CI: 1.095–3.855, *P* = 0.025), education level (AOR = 3.086, 95% CI: 0.607–15.699, *P* = 0.036), years of experience (AOR = 5.894, 95% CI: 1.618–21.475, *P* = 0.001), facility level (AOR = 0.692, 95% CI: 0.364–1.316, *P* = 0.041), professional development (AOR = 2.374, 95% CI: 1.467–3.842, *P* = 0.003), management appreciation (AOR = 1.699, 95% CI: 1.011–2.855, *P* = 0.045), and vacation time (AOR = 1.972, 95% CI: 1.165–3.192, *P* = 0.011).

Conclusion: This study's results underscore the need for targeted interventions to address job dissatisfaction among laboratory professionals in Somalia. Recommendations include implementing gender-sensitive policies to promote equality, enhancing professional development programs to foster career growth, and improving management recognition and support to create a more conducive work environment and boost job satisfaction.

Keywords: job satisfaction, laboratory professionals, Somalia, healthcare workforce, work environment

Corresponding Author: Shafie Abdulkadir Hassan; email: Shafici@just.edu.so

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1. Introduction

Medical laboratory professionals play a critical role in healthcare by investigating body fluids to diagnose diseases and prevent potential health issues [1]. They are the cornerstone of healthcare settings, with approximately 75% of medical decisions relying on laboratory test results [2]. However, the landscape for laboratory professionals in Somalia underwent significant changes following the federal government's collapse. Many experienced professionals have retired, migrated, or passed away, leaving a gap that younger scientists strive to fill through education within and outside the country [3].

The efficiency of laboratory procedures depends on the technical expertise, quality management systems, and motivation of the workforce [4]. While highly trained professionals are essential for the quality of healthcare, their tendency to frequently switch jobs poses challenges [5]. Hospital managers often opt for less qualified professionals who are more likely to stay in their roles due to limited job opportunities than those with higher qualifications [6]. This preference for job retention over skill level can hinder the quality of laboratory services and impede progress in healthcare programs, as human capacity development remains a key barrier to quality improvement [7]. This shift in recruitment practices has resulted in a workforce that may lack the necessary skills and expertise to perform complex diagnostic procedures effectively, thus compromising the accuracy and reliability of test results [6]. This disrupts the flow of care and limits the opportunities for skill development and career advancement among laboratory professionals. The lack of incentives and supportive mechanisms for job retention has created a turnover cycle, further exacerbating the shortage of qualified personnel in the field [8].

Despite the critical importance of understanding factors that affect job satisfaction among medical professionals in Somalia, data on this subject are scarce due to the prioritization of immediate healthcare needs, limited research funding, and the nascent research stage in this area. Therefore, this study aimed to determine the factors influencing job satisfaction and retention among medical laboratory technologists in Somalia to shed light on the incentives needed to enhance job satisfaction rates among laboratory professionals, and ultimately contribute to improving healthcare services in the region.

2. Materials and Methods

2.1. Research design

A descriptive and cross-sectional study was conducted between October 2023 and March 2024 to study the current level of job satisfaction and related characteristics of laboratory specialists in this time frame. This design was chosen because it allows for rapid data collection without requiring follow-up, and is appropriate for the research questions.

2.2. Study population

The study population comprised male and female laboratory specialists who worked at various hospitals in Mogadishu. These professionals, who had multiple responsibilities within the laboratory, included technicians, technologists, scientists, assistants, and microscopists.

2.3. Inclusion and exclusion criteria

The study focused on laboratory professionals working full-time at the hospital for at least 12 months. Those who agreed to participate by giving their informed consent were included. Anyone who had been employed for less than 12 months, worked part-time, or did not provide informed consent was excluded.

2.4. Determining the sample size

To determine the sample size, the following calculation for a single population proportion was carried out:

$$N = \frac{Z^{2pq}}{d^2},$$

where d is the intended precision/margin of error (5%), p is the estimated proportion of the population (33%) [9], Z^2 is the level of significance (1.96), and N is the required sample size. By substituting these values into the formula, the calculation is as follows:

$$N = \frac{Z^{2pq}}{d^2}$$

$$N = \frac{(1.96)^2 * 0.33 * 0.67}{0.05^2}$$

$$N = 278.$$

The final sample size was determined to be 291, taking into account a 5% nonresponse rate.

2.5. Data collection tools and procedures

The study used a 13-item questionnaire adapted from the Copenhagen Psychosocial Questionnaire, Third Edition (COPSOQ III) [10]. This questionnaire included demographic characteristics such as sex, age, marital status, level of education, type of facility, years of work experience, and factors such as work demands, job satisfaction, interpersonal relations, and organizational aspects, the It was tested with a small group to clarify any unclear parts, and the results were then compared to those of other measures. Reliability was checked using Cronbach's alpha, which showed that the questions were consistent. An English-language version of the questionnaire has been uploaded as a supplementary file (Supplementary File S1).

2.6. Data analysis

Upon entry into the dataset, we carefully checked for errors and missing values, ensuring data quality and integrity. The dataset was imported into an Excel spreadsheet and analyzed using SPSS version 20.0. Descriptive statistics were used to determine the sociodemographic characteristics and levels of job satisfaction using frequency and percentage. Logistic regression, including binary and multivariate logistic regression, was employed to identify factors affecting job satisfaction. Results are presented with crude and adjusted ratios and confidence intervals, with a significance level set at $P < 0.05$.

3. Results

3.1. Sociodemographic characteristics of laboratory professionals

Male respondents comprised the majority (71.1%), while females constituted 28.9%. The most frequent age group was 20–25 (48.5%). Additionally, a significant percentage of participants held a bachelor's degree (82.8%). In terms of marital status, the majority were single (74.2%), while smaller proportions were married (24.4%) or

divorced (1.4%). The distribution of respondents across different facility levels indicates that Level 2 facilities had the highest representation, accounting for 39.2% of the sample, as shown in Table **1**.

3.2. Associations between sociodemographic characteristics and job satisfaction

Compared with female professionals, male professionals reported greater job satisfaction (AOR = 2.054 [95% CI: 1.095–3.855, *P*-value = 0.025]). Similarly, professionals with a degree showed a trend toward greater job satisfaction (AOR = 3.086 [95% CI: 0.607–15.699, *P*-value = 0.036]). Work experience also played a role, as professionals with 6–10 years of experience reported significantly higher job satisfaction levels (AOR = 5.894 [95% CI: 1.618–21.475, *P*-value = 0.001]). Furthermore, the level of the facility where professionals worked seemed to impact job satisfaction, with those in Level 3 facilities showing a low level of satisfaction (AOR = 0.692 [95% CI: 0.364–1.316, *P*-value = 0.041]), as indicated in Table **2**.

3.3. Determinants of job satisfaction among laboratory professionals

Professional development was a significant factor associated with job satisfaction (AOR = 2.374 (95% CI: 1.467-3.842, *P*-value = 0.003)). This suggests that professionals who underwent professional development were approximately 2.37 times more likely to report job satisfaction than those who did not. Appreciation from management (AOR = 1.699 [95% CI: 1.011–2.855, *P*-value = 0.045]) and vacation time (AOR = 1.972 [95% CI: 1.165–3.192, *P*-value = 0.011]) were also associated with job satisfaction, as shown in Table **3**.

4. Discussion

Our findings revealed that 43.3% of the respondents were unsatisfied with their jobs, while more than 56.7% expressed satisfaction. This is lower than the previous research conducted in Ghana, which reported a total job dissatisfaction rate of 67.4% [11]. Our study revealed that male laboratory professionals exhibited greater levels of job satisfaction than their female counterparts, which is different from the findings of a previous study, which showed no significant gender differences [12], and distinct from the result of prior research conducted in China, which revealed that females have greater satisfaction than males [13]. This underscores the critical need to address gender disparities within the workplace and foster a more inclusive and supportive environment conducive to heightened job satisfaction. Furthermore, our research demonstrated that professionals with advanced levels of education reported greater job satisfaction, which matches the results of another study that found that those with a degree or higher in the laboratory were 5.64 times more likely to be satisfied with their jobs than those with less education [14]. This highlights the importance of offering continuous education and training opportunities to develop careers and enhance satisfaction among laboratory professionals, encouraging perpetual learning and progression in the field.

Moreover, our research showed a significant relationship between laboratory professionals' job satisfaction and facility levels. Notably, professionals working in Level 4 facilities exhibited lower job satisfaction than those working in Level 1 facilities, consistent with prior studies [6]. This emphasizes the importance of enhancing working conditions and support structures across various facility levels to increase overall job satisfaction within the profession.

Table 1: Sociodemographic information of the laboratory professionals.

Variables	Frequency	Percentage (%)
Sex		
Male	207	71.1
Female	84	28.9
Age (yrs)		
20–25	141	48.5
26–30	84	28.9
31–35	30	10.3
<35	36	12.4
Marital status		
Single	216	74.2
Married	71	24.4
Divorced	4	1.4
Level of education		
Diploma	33	11.3
Bachelor	241	82.8
Master	17	5.8
Level of facility		
Level 1	90	30.9
Level 2	114	39.2
Level 3	60	20.6
Level 4	27	9.3
Working experience		
1–5	78	26.8
6–10	195	67.0
<10	18	6.2
Willingness to change profession		
Yes	165	56.7
No	84	28.9
Level of satisfaction		
Yes	165	56.7
No	126	43.3

Additionally, our findings indicated that professionals with 1–5 years of experience reported higher levels of job satisfaction than their counterparts with 6–10 years of experience, consistent with previous research [15]. This underscores the importance of implementing targeted strategies to support career development and well-being across different career stages, ensuring continual job satisfaction and retention among laboratory professionals.

Furthermore, our study highlighted a positive association between access to professional development opportunities and job satisfaction among laboratory professionals, which agrees with the findings of previous studies [16, 17]. It has been reported that training programs and initiatives for

Table 2: Associations between sociodemographic characteristics and job satisfaction.

Variables	Frequency	Are you satisfied with your job?		COR with 95% CI	AOR with 95%CI	*P*-value
		Satisfied	Dissatisfied			
		N %	*N* %			
Sex						
Male	207	117 (56.5%)	90 (43.5%)	0.667 (1.109–0.401)	2.054 (1.095–3.855)	0.025
Female	84	39 (46.4%)	45 (53.6%)	1	1	
Age (yrs)						
20–25	141	69 (48.9%)	72 (51.1%)	0.532 (0.306–0.928)	0.388 (0.115–1.313)	
26–30	84	54 (64.3%)	30 (35.7%)	0.639 (0.287– 1.424)	0.331 (0.096–1.148)	0.380
31–35	30	18 (60%)	12 (40%)	1.342 (0.640–2.813)	0.403 (0.106–1.527)	
<35	36	15 (41.7%)	21 (58.3%)	1	1	
Marital status						
Single	216	111 (51.4%)	105 (48.6%)	0.946 (0.131– 6.838)	1.675 (0.194–14.480)	
Married	71	43 (60.6%)	28 (39.4%)	0.651 (0.087–4.894)	0.768 (0.082–7.213)	
Divorced	4	2 (50%)	2 (50%)	1	1	
Level of education						
Diploma	33	24 (72.7%)	9 (27.3%)	0.422 (0.124–1.432)	1.120 (0.179–7.028)	
Degree	241	123 (51%)	118 (49%)	1.079 (0.403–2.891)	3.086 (0.607–15.699)	0.036
Master	17	9 (52.9%)	8 (47.1%)	1	1	
Level of facility						
Level 1	27	39 (43.3%)	18 (66.7%)	2.615 (1.061-6.447)	2.177 (0.813-5.831)	
Level 2	60	45 (39.5%)	33 (55%)	1.598 (0.828-3.085)	1.543 (0.714-3.331)	0.041
Level 3	114	33 (55%)	45 (39.5%)	0.853(0.487-1.495)	0.692 (0.364-1.316)	
Level 4	90	18 (66.7%)	39 (43.3%)	1	1	
Working experience (yrs)						
1–5	78	57 (73.1%)	21 (26.9%)	2.977 (1.677– 5.284)	3.341 (1.683–6.631)	0.001
6–10	195	93 (47.7%)	102 (52.3%)	5.429 (1.806–16.313)	5.894 (1.618–21.475)	
<10	18	6 (33.3%)	12 (66.7%)	1	1	

career advancement can foster a constructive work environment that nurtures continuous learning and personal growth, thereby elevating job satisfaction levels. Moreover, our research revealed the impact of management appreciation on job satisfaction, aligning with previous studies [17]. Fostering a culture of recognition and acknowledging the contributions of health professionals can significantly enhance morale, instill a sense of value and fulfillment in the workplace, and ultimately boost overall job satisfaction [18].

Finally, our study demonstrated that professionals with ample vacation time reported higher levels of job satisfaction, consistent with previous research [6]. Promoting and supporting work–life balance is crucial to avoid burnout and maintain job satisfaction among laboratory professionals [19]. This underscores the importance of prioritizing employee well-being and acknowledging the significance of downtime in sustaining job satisfaction and productivity within the profession.

Table 3: Determinants of job satisfaction among medical laboratory professionals.

Variables	Frequency	Are you satisfied with your job?		COR with 95% CI	AOR with 95% CI	*P*-value
		Satisfied	Dissatisfied			
		N %	*N* %			
Professional development						
Yes	242	118 (48.8%)	(124 (51.2%)	3.630 (1.773–7.434)	3.123 (1.485–6.564)	0.003
No	49	38 (77.6%)	11 (22.4%)	1	1	
Appreciation from management						
Yes	168	96 (57.1%)	60 (48.8%)	1.400 (0.877–2.234)	1.699 (1.011–2.855)	0.045
No	123	72 (42.9%)	63 (51.2%)	1	1	
Benefits						
Yes	191	92 (48.2%)	64 (64.0%)	1.913 (1.163–3.146)	1.473 (0.865–2.506)	0.154
No	100	99 (51.8%)	36 (36.0%)	1	1	
Working environment						
Yes	201	105 (52.2%)	51 (56.7%)	1.196 (0.725–1.972)	1.179 (0.677–2.053)	0.561
No	90	96 (47.8%)	39 (43.3%)	1	1	
Vacation						
Yes	155	71 (45.8%)	84 (54.2%)	1.972 (1.233–3.153)	1.928 (1.165–3.192)	0.011
No	136	85 (62.5%)	51 (37.5%)	1	1	

5. Conclusion

The study revealed a significant disparity in job satisfaction, with 43.3% of respondents reporting dissatisfaction and 56.7% expressing satisfaction. Job satisfaction was found to be significantly associated with factors like access to vacation time, management appreciation, years of experience, education level, gender, and facility level as well as professional development opportunities. Considering these results, it is recommended that targeted interventions focusing on gender equality in the workplace, continuous education and training programs, supportive management practices, and policies that promote a healthy work–life balance be implemented to improve overall job satisfaction among laboratory professionals in Somalia.

6. Limitations

This study's cross-sectional design and reliance on self-reported data may create biases despite efforts to assure representativeness. Additionally, the focus on selected factors may not fully capture the nuanced dynamics influencing job satisfaction among laboratory professionals in Somalia.

Declarations

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Ethical Considerations

Ethical approval for this research was provided by the Ethics Committee of Jamhuriya University of Science and Technology (Approval number: JUREC0049/FMHS0030/092023). All participants gave informed consent before data collection and measures were implemented to ensure patient confidentiality throughout the research.

Competing Interests

None.

Availability of Data and Material

The dataset used and analyzed during the current study is available from the corresponding author upon reasonable request.

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Abbreviations and Symbols

AOR: Adjusted odds ratio

CI: Confidence interval

COR: Crude odds ratio

SPSS: Statistical package for the social sciences

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