Ethiopian Medical Journal 2024, 62(2)
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ISSN 0014-1755 eISSN 2415-2420

Original Article

Healthcare Professionals' Job Motivation in a Federal Hospital in Ethiopia: A Cross-sectional Study

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Abstract

Background: *Healthcare professional motivation is crucial for delivering high-quality healthcare in any setting. However, low motivation is a significant challenge in developing countries like Ethiopia, where workforce shortages and a weak healthcare system strain to handle an increasing patient flow.This study aimed to assess the motivation levels and associated factors among healthcare professionals working at ALERT Comprehensive Specialized Hospital in Ethiopia.*

Methods: *A cross-sectional study was conducted from May to June 2022 among 293 healthcare professionals. Participants were selected from the pool of permanent hospital employees who were actively working at the time of the study. Data were collected using a pre-tested, structured, self-administered questionnaire. Motivation level was assessed using 23 questions under 7 constructs that are measured on a five-point likert scale and finally reported as a standardized percentage of scale maximum (% SM). To identify factors associated with motivation level, a multiple linear regression analysis was run at 5% level of significance, where regression coefficient (β) with 95% confidence interval (CI) was used to interpret significant results.*

Results: *The participants' job motivation level was 41.6% (95%CI: 39.8-43.6%). Being a doctor was associated with a significantly lower level of motivation than nurses (β=-7.94, 95%CI=-11.80, -4.07, p<0.001). On the other hand, significantly high motivation levels were associated with having a managerial role (β=3.95, 95% CI=0.74,7.15, p=0.016), availability of adequate resources for effective work performance (β=2.77, 95% CI=1.27,4.27, p<0.0001), and low practice of subjective performance appraisal system (β=2.41, 95% CI=1.02,3.79, p=0.001).*

Conclusion: *The healthcare professionals' level of motivation was moderate. Designing interventions to minimize workload, and improve decision making power, resources availability, and performance appraisal system is crucial. Further multi-center study using a mixed-methods design is essential to gain an in-depth understanding and reach a more generalizable finding.*

Keywords: *Motivation, healthcare professionals, federal hospital, specialized hospital, Ethiopia*
Citation : *Wagaye BW, Leulseged T, Gurara MA. et al Healthcare Professionals' Job Motivation in a Federal Hospital in Ethiopia: A Cross-sectional Study. Ethiop Med J 62 (2) 111 –119*
Submission date : *17 January 2024 Accepted: 29 March 2024 Published: 01 April 2024*

Background

Ensuring high-quality healthcare is fundamental to sustainable development. Recognizing this, the United Nations declared "ensuring healthy lives and promoting well-being for all at all ages" a core Sustainable Development Goal to be achieved by 2030 (1). While resource availability and skilled professionals are necessary for quality care, motivation is the vital spark that brings these inputs to life (2, 3). Workplace motivation, the dedication of employees to exerting and sustaining effort toward organizational goals, is a complex interplay of intrinsic and extrin-

sic factors which can directly impact how effectively and efficiently resources are used, and ultimately, whether organizational goals are met (4-7).

While there has been a significant improvement in professionals' motivation in recent years, particularly in wealthier nations due to various efforts, it remains a topic of concern in many countries (8-10). Studies reveal that a considerable proportion of healthcare professionals report low levels of motivation, with scores averaging around 50% (11-16). Several factors are identified to contribute to this, including personal aspects like age, gender, living conditions, family support, and level of qualification, as well as financial motives such as pay raises and compensations, and non-financial factors like working relationships with colleagues and supervisors, training opportunities, the nature of work, recognition systems, autonomy in patient care decisions, and physical work conditions (12-15, 24-29).

In developing countries, low staff motivation and workforce shortages often cripple healthcare systems, severely impacting their effectiveness (16, 17). Ethiopia, a developing nation with the second largest population in Africa, is particularly vulnerable to this challenge. Despite the recognized importance of motivation in improving service quality, the area is not well studied in Ethiopia. Previous research has focused primarily on semi-urban and rural settings, they fail to reflect the unique circumstances of large metropolitan federal level hospitals which provide care to a vast number of referrals, train specialists, and shoulder the immense responsibility of delivering high-quality service (8-10, 24-29). In recognition of this, this study addressed this critical gap by understanding the interplay between intrinsic and extrinsic factors driving motivation within the demanding context of a specialized hospital in order to inform future efforts to enact successful interventions. Therefore, this study aimed to assess the motivation levels and associated factors among healthcare professionals working at ALERT Comprehensive Specialized Hospital (ACSH) in Ethiopia.

Methods and Materials

Study Design and Setting

An analytic cross-sectional study was conducted from May to June, 2022 at ACSH, one of the five federal hospitals located in Addis Ababa, the capital city of Ethiopia, which was established in 1934. The hospital is a site for training of a post-graduate specialty programs including dermatology, traumatology and plastic surgery, where for such fields it is the highest level of referral for the country. As of February 2022, the hospital had a total of 1055 healthcare professionals (30).

Population and Eligibility criteria

The source population were all healthcare professionals who were employees of the hospital during the study period. From which those who were permanent employees and were not deployed to work in other institutions or were not on a leave of absence during the study period were selected to be included as a study population.

Sample Size Determination and Sampling Procedure

For the objective of determining the level of motivation, sample size was determined using single population proportion formula by taking proportion of good level of motivation as 50% (due to lack of comparable study), 5% level of significance, and 5% margin of error, giving a sample size of 384. For the objective of identifying factors associated with level of motivation, sample size was determined using double population proportion formula based on professional category with the following assumptions; 95% confidence level, power of 80%, proportion of doctors and nurses with good level of motivation as 40% and 60%, respectively, giving a sample size of 214. By taking the largest sample size from the two and adjusting for non-response rate of 10% and finite population correction, the final sample size was estimated to be 310.

Finally, from the sampling frame of the total employee list, the study participants were selected using a simple random sampling method using a table of random numbers.

Data Collection and Quality Assurance

Data were collected using a pre-tested, structured, self-administered questionnaire on socio-demographic, job and workplace related factors, and motivation level of the participants.

Data on workplace related factors were collected using a five-point likert scale. For positively worded questions the scale values were coded as 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, and 5=strongly agree. And for negatively worded questions the scale values were reverse coded as 1=strongly agree, 2=agree, 3=neutral, 4=disagree, and 5=strongly disagree so that high score implies strong disagreement to a negative sentence. Then the results were reported as the mean (μ) score ± standard deviation (SD) values.

Motivation level was assessed using 23 questions under 7 outcome constructs that is adopted from a validated tool in similar settings (9, 10, 22). Each question was measured on a five-point likert scale coded similarly as above. The $\mu \pm$ SD score for each construct and the overall motivation was calculated. Then, for the purpose of making it easier to compare these scores from different sets of data measured using different likert scales, the mean scores were standardized into a uniform measurement scale ranging from 0 to 100% by using standardized percentage of scale maximum (%SM).

The internal consistency of the scales for both the workplace related factors and motivation related questions showed good internal consistency with Cronbach's alpha value of 0.854 and 0.793, respectively.

Statistical Analysis

Data was summarized using frequencies with percentages, μ ± SD and %SM. To identify significant factors associated with motivation level, a linear regression model using General Linear Model was fitted. The final model, multiple linear regression, was run by including significant independent variables from the simple linear regression model which was run at 25% level of significance. From the final model, variables with p-value≤0.05 were considered to be significantly associated with the motivation level. For the significant variables, the direction and strength of association was measured using regression coefficient (β) with its 95% CI.

The presence of multicollinearity among the workplace related factors was assessed using VIF and the result showed no multicollinearity with VIF value ranging from 1.05 to 1.76 for all variables. The final model adequacy was tested using omnibus tests and it showed a good fit to the data ($p<0.0001$). All data management and analysis were done using SPSS software Version 25.0.

Results

Socio-demographic and Job-related factors

Out of the 314 participants, 293 returned a completed questionnaire, resulting in a 94% response rate. Nearly half of the participants (47.1%) were between the ages of 25 and 29 years, and 149 (50.9%) were males. More than half (57.3%) were single and 193 (65.9%) were followers of the Orthodox Christian religion.

The majority held a bachelor's degree (66.6%) and were nurses (including midwifery nurses) in profession (47.4%). The vast majority (84.6%) worked in clinical areas and more than half (52.2%) held managerial positions. Over half (51.2%) had work experience of 5 years or less and earned a monthly income between 5,000 and 10,000 ETB (59.4%). **(Table 1)**

Table 1: Socio-demographic and job-related characteristics of healthcare professionals working at ACSH in Addis Ababa, Ethiopia, 2022 (n=293)

Variable		Frequency	Percentage
Age category (in years)	20-24	27	9.2
	25-29	138	47.1
	30-34	84	28.7
	≥ 35	44	15.0
Sex	Male	149	50.9
	Female	144	49.1
Marital status	Single	168	57.3
	Married	119	40.6
	Divorced	6	2.0
Religion	Orthodox	193	65.9
	Muslim	31	10.6
	Protestant	56	19.1
	Others	13	4.4
Educational level	Diploma	19	6.5
	Bachelor's Degree	195	66.6
	Masters, Doctorate, and above	79	27.0
Profession	Nurse/Midwife	139	47.4
	General Practitioner	54	18.4
	Specialist Doctor	20	6.8
	Sub-specialist Doctor	7	2.4
	Laboratory	20	6.8
	Pharmacy	10	3.4
	Others	43	14.7
Area of work	Clinical area	248	84.6
	Office work	45	15.4
Managerial role	No	140	47.8
	Yes	153	52.2
Work experience (in years)	≤ 5	150	51.2
	6-9	70	23.9
	≥ 10	73	24.9
Income category (in ETB)	< 5,000	41	14.0
	5,000-10,000	174	59.4
	>10,000	78	26.6

Workplace related factors

Participants satisfaction within the workplace was assessed through three main areas: work environment, job characteristics, and rewards and recognition.

Work environment related factors revealed the strongest agreement among participants for having a good working relation with colleagues (μ: 4.11±1.00). The participants showed a low level of agreement about the presence of good physical conditions in the workplace (μ: 3.30±1.28) and they were somehow neutral about the presence of good management at work (μ: 3.08±1.23).

Job characteristics assessment yielded that the participants had a moderate agreement with enjoying their work (μ: 3.82±1.06) and having some say in decision-making (μ: 3.62±1.13). However, low level of agreement was recorded for job security (μ: 3.33±1.26) and clarity of organizational rules and guidelines (μ: 3.31±1.22). Furthermore, a slight disagreement was observed regarding availability of adequate resources for effective work performance (μ: 2.98±1.30).

Rewards and recognition showed the lowest overall agreement levels from all categories. Participants demonstrated a moderate to low agreement with their jobs enhancing social status (μ: 3.59±1.13), receiving fair performance appraisals (μ: 3.26±1.12), and having ample promotion opportunities (μ: 3.18±1.23). On the other hand, they slightly disagreed with the presence of continuous education opportunities (μ: 2.99±1.33), financial rewards (including good salary and overtime compensation) (μ: 2.86±1.39), and non-financial welfare benefits (including medical coverage, transportation, and housing) (μ: 2.77±1.37). **(Table 2)**

Table 2: Workplace related motivators of healthcare professionals working at ACSH in Addis Ababa, Ethiopia, 2022 (n=293)

Variables	Mean	SD
Work environment		
Good working relations with supervisors	3.71	1.07
Good working relations with colleagues	4.11	1.00
Good physical conditions	3.30	1.28
Good management	3.08	1.23
Job characteristics		
Enjoy the nature of my job	3.82	1.06
Job security	3.33	1.26
Clarity of rules and guidelines	3.31	1.22
Participation in decision making	3.62	1.13
Resource availability to perform job	2.98	1.30
Rewards and recognition		
Promotion opportunity	3.18	1.23
Social status of job	3.59	1.13
Education opportunity	2.99	1.33
Financial benefits	2.86	1.39
Non-financial benefits	2.77	1.37
Subjective performance appraisal	3.26	1.12

Level of motivation

The participants' motivation level was 41.6% (95%CI: 39.8-43.6%). Among the seven motivation dimensions, participants scored highest in conscientiousness (59.9%) and lowest in timeliness (45.2%). **(Figure 1)**

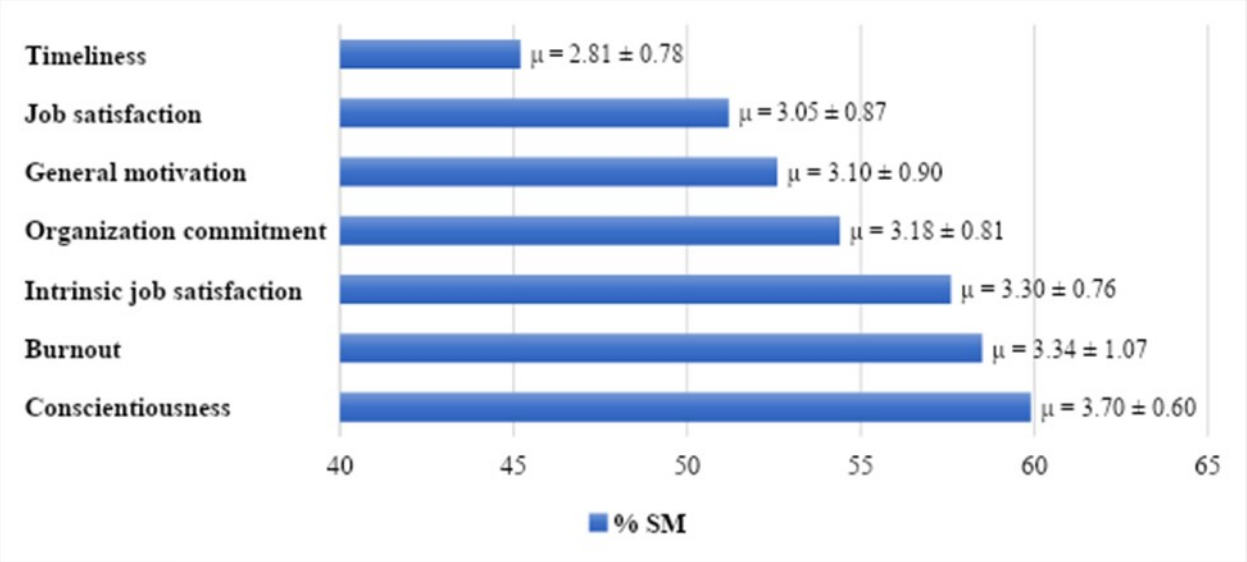

Figure 1: The mean score and % SM of the seven motivation dimensions measured among healthcare professionals working at ACSH in Addis Ababa, Ethiopia, 2022 (n=293)

Factors associated with level of motivation

The multiple linear regression analysis showed that motivation level was significantly associated with type of profession, managerial role, availability of resources, and performance appraisal system. Accordingly, after controlling for all the confounders in the model, the average level of motivation among doctors was 7.94% lower than that of nurses **(β=-7.94, 95%CI=-11.80,-4.07, p<0.001)**. Holding a managerial position was associated with a 3.95% higher average level of motivation **(β=3.95, 95%CI=0.74,7.15, p=0.016)**. A unit increase in the mean agreement level of respondents regarding the availability of resources to perform their job was associated with a 2.77% average increase in their motivation level **(β=2.77, 95%CI=1.27,4.27, p<0.0001)**.

Furthermore, a unit increase in the mean disagreement level of respondents regarding the practice of subjective performance appraisal at work was associated with a 2.41% average increase in their motivation level **(β=2.41, 95%CI=1.02,3.79, p=0.001). (Table 3)**

Discussion

Healthcare professionals' motivation level was found to be 41.6%. From the seven motivation dimensions, participants scored lowest in timeliness (45.2%) and highest in conscientiousness (59.9%). The level of motivation is moderate and is also lower than previous studies conducted in Ethiopia, where motivation levels of 58.3% to 63.6% were reported (13-15). However, the distribution of the dimensions is similar to a study conducted in West Amhara, Ethiopia (15). Similarly, conscientiousness ranked top among all dimensions, as reported in a study conducted in Zambia (22). On the contrary, in this study, timeliness ranked second, unlike the finding in our study where it ranked last and scored very low compared to the other dimensions (22). This discrepancy likely stems from the timing and locations of the referenced studies. All were conducted more than five years ago and were conducted in regional-level hospitals located in semi-urban and rural areas where the hospital setting and living environment are different from a federal hospital located in the main city. Both of these differences are associated with a change in population size, dynamics of the patient flow, and the healthcare system that resulted in a demanding work environment, resource limitations, and limited career advancement opportunities on top of a rising cost of living that can all contribute to decreased motivation in federal level hospital.

The significant factors associated with level of motivation were type of profession, managerial role, availability of resources, and performance appraisal system. The average level of motivation among doctors was 7.94% lower than that of nurses. Furthermore, other professions did not show a significant difference with nurses implying that doctors have lower motivation than all other professionals at the hospital.

Table 3: Factors associated with level of motivation of healthcare professionals working at ACSH in Addis Ababa, Ethiopia, 2022 (n=293)

Variables	Crude β (95% CI)	Adjusted β (95% CI)	p-value
Socio-demographic characteristics			
Age (in years) (R=20-24)			
25-29	-0.97 (-7.79, 5.86)	2.64 (-2.69, 7.96)	0.332
30-34	-3.69 (-10.88, 3.48)	-0.31 (-5.95, 5.33)	0.914
≥ 35	-4.21 (-12.14, 3.73)	3.73 (-2.51, 9.98)	0.241
Sex (Female vs. Male)	4.05 (0.27, 7.83)	2.99 (-0.02, 5.99)	0.051
Profession (R=Nurse)			
Doctor	-13.43 (-17.71, -9.15)	-7.94 (-11.80, -4.07)	<0.0001 *
Others	-7.47 (-11.89, -3.04)	-3.64 (-7.60, 0.32)	0.072
Job-related factors			
Managerial role (Yes vs. No)	8.20 (4.51, 11.89)	3.95 (0.74, 7.15)	0.016*
Working area (Office vs. Clinic)	-1.84 (-7.12, 3.44)	-3.24 (-7.71, 1.23)	0.156
Work experience (in years) (R= ≤ 5)			
6-9	-0.92 (-5.62, 3.79)	-0.65 (-4.44, 3.13)	0.736
≥ 10	2.38 (-2.26, 7.02)	-0.86 (-4.63, 2.91)	0.655
Work environment			
Good working relations with supervisors	2.62 (0.87, 4.37)	0.23 (-1.47, 1.94)	0.789
Good physical conditions	4.90 (3.52, 6.29)	1.15 (-0.33, 2.62)	0.127
Good management	4.61 (3.15, 6.07)	0.88 (-0.63, 2.38)	0.253
Job characteristics			
Enjoy the nature of my job	2.54 (0.76, 4.32)	0.51 (-1.06, 2.08)	0.526
Job security	2.92 (1.44, 4.40)	1.28 (-0.10, 2.66)	0.069
Clarity of rules and guidelines	2.03 (0.48, 3.58)	-0.74 (-2.18, 0.71)	0.318
Participation in decision making	4.47 (2.86, 6.08)	0.80 (-0.85, 2.44)	0.343
Resource availability to perform job	5.95 (4.65, 7.26)	2.77 (1.27, 4.27)	<0.0001 *
Rewards and recognition			
Promotion opportunity	4.56 (3.09, 6.03)	0.98 (-0.53, 2.49)	0.204
Social status of job	1.87 (0.194, 3.54)	-0.28 (-1.76, 1.19)	0.706
Education opportunity	4.89 (3.57, 6.21)	1.21 (-0.21, 2.64)	0.095
Financial benefits	4.07 (2.78, 5.35)	0.24 (-1.05, 1.52)	0.720
Non-financial benefits	3.29 (1.95, 4.63)	0.59 (-0.66, 1.84)	0.356
Subjective performance appraisal	4.08 (2.44, 5.72)	2.41 (1.02, 3.79)	0.001*

N.B.: β = regression coefficient, * = statistically significant

Doctors often face higher workloads and more complex responsibilities with more on-call demands impacting their work-life balance. In addition, the pressure to prioritize speed over patient care in an overburdened healthcare system on top of the disproportionate salary and compensation can all lead to burnout and losing a sense of purpose and satisfaction leading to decreased motivation. This finding is in line with previous reports too (9, 13, 15, 22).

Holding a managerial position was associated with a 3.95% higher average level of motivation. This increased motivation in managers could stem from greater autonomy and decision-making authority, a sense of ownership and responsibility for team success, opportunities for growth and learning, and the challenge and prestige associated with leadership roles. Other studies also showed a positive association with improvement in motivation and work performance (9, 12, 24).

Having access to more resources, as perceived by respondents, was linked to a 2.77% increase in their average motivation level. This could be due to a greater ability to achieve goals in the presence of all required inputs for work that will in turn enhance the sense of confidence and empowerment, reducing stress and frustration. Additionally, such employees may feel more valued and appreciated by their organization, further contributing to their motivation. A similar finding has been reported in other studies (15, 24).

The perception of the presence of an objective performance appraisal system in the hospital was associated with a 2.41% average increase in motivation level. The use of objective metrics gives professionals the confidence of getting proper acknowledgment for their achievements, giving them clarity on expectations, and ultimately making them stay motivated to achieve goals. Objective performance appraisal system was also reported to be a positive influence of motivation in other studies (10, 13, 15, 29).

The findings of the study add to the existing literature as there is a lack of similar studies conducted in the settings. However, certain limitations should be considered. Primarily, the study's focus on a single hospital limits its generalizability to the broader population of federal-level hospitals where differences in infrastructure, administrative systems, and resource availability that could influence the findings could exist. Additionally, incorporating qualitative research methods could have yielded deeper insights into some factors that need in -depth exploration.

Conclusions

The healthcare professionals' level of motivation was moderate, falling below the levels observed in previous studies conducted both in Ethiopia and abroad. Both intrinsic and extrinsic factors played a role in driving their motivation. It is crucial to design interventions that focus on reducing workload to improve work-life balance, improving involvement in decision making at every level, ensuring the availability of necessary resources, and implementing an objective performance appraisal system. Furthermore, conducting a multi-center study using a mixed-methods design is essential to gain an in-depth understanding and reach a more generalizable finding.

Declaration

Ethical Considerations: The study was conducted after obtaining ethical clearance from AHRI-ALERT Ethics Review Committee (Protocol number: PO-29-22, Issue date: October 11, 2022). Written informed consent was obtained from all participants. To safeguard confidentiality, data collection tools remained anonymous by omitting participants names and identifiers, and access to the collected data was strictly limited to the research team.

Data availability: All relevant data are available upon reasonable request.

Competing interests: The authors declare that they have no known competing interests

Funding source: This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Author's Contribution: BWW and TWL conceived and designed the study. MAG, BTG, YAM, YHG, ZTA, TTM, NTL, and SWB contributed to the conception and design of the study. BWW and TWL performed statistical analysis, and drafted the initial manuscript. MAG, BTG, YAM, and YHG contributed to the statistical analysis and interpretation of the findings. ZTA, TTM, NTL, and SWB contributed to the drafting of the initial manuscript. All authors revised and approved the final version of the manuscript.

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