



The level of job satisfaction and factors affecting job satisfaction
of Emergency medicine residents in Ethiopia: A CROSSSECTIONAL
STUDY FROM OCTOBER- NOVEMBER, 2023

A RESEARCH THESIS TO BE SUBMITTED TO ADDIS ABABA UNIVERSITY,
COLLEGE OF HEALTH SCIENCES; SCHOOL OF MEDICINE, DEPARTMENT OF
EMERGENCY MEDICINE IN PARTIAL FULFILMENT OF THE REQUIREMENT
FOR THE POSTGRADUATE SPECIALTY CERTIFICATE PROGRAM IN
EMERGENCY AND CRITICAL CARE MEDICINE

BY: ESKAHUN TILAHUN (EMERGENCY AND CRITICAL CARE MEDICINE YEAR III
RESIDENT) MARCH, 2024
ADDIS ABABA, ETHIOPIA

**ADDIS ABABA UNIVERSITY COLLEGE OF HEALTH
SCIENCE SCHOOL OF MEDICINE DEPARTMENT OF
EMERGENCY AND CRITICAL CARE MEDICINE**

The level of job satisfaction and factors affecting job satisfaction
of Emergency medicine residents in Ethiopia: A CROSSSECTIONAL
STUDY FROM OCTOBER- NOVEMBER, 2023

INVESTIGATOR: Eskahun Tilahun Gute (Emergency and critical care year III resident)

ADVISORS: Dr. Yared Boru (Emergency and critical care consultant)

And

Dr Bitania Debalkew (Emergency and critical care consultant)

March , 2024
Addis Ababa, Ethiopia

APPROVAL SHEET

**ADDIS ABABA UNIVERSITY COLLEGE OF HEALTH SCIENCE SCHOOL OF
MEDICINE DEPARTMENT OF EMERGENCY AND CRITICAL CARE MEDICINE**

I, the undersigned EMERGENCY AND CRITICAL CARE MEDICINE resident, declare that this my original work and I have submitted my original thesis on a title “The level of job satisfaction and factors affecting job satisfaction of Emergency medicine residents in Ethiopia”, in partial fulfillment of the specialty program.

Submitted by:

Dr. Eskahun Tilahun

Name of resident	signature	date
-------------------------	------------------	-------------

This proposal work has been submitted with my approval as an advisor,

Approved by:

1. Dr. Yared Boru

Advisor name	signature	date
---------------------	------------------	-------------

2. Dr Bitania Debalkew

Advisor Name	signature	date
---------------------	------------------	-------------

Acknowledgment

First of all, I would like to express my deepest gratitude to Addis Ababa University College of Health Sciences, Department of Emergency and Critical Care for helping us in every step of the process to the final completion of the proposal.

Next, I would like to express my sincere gratitude to my advisors Dr. Yared Boru, and Dr. Bitania Debalkew for their invaluable comments throughout the development of this proposal and their interest and readiness to help me until the end the completion of this proposal.

Last but not list I would also like to thank my family and friends for their invaluable guidance and support throughout my life.

Acronym

AAU.....	Addis Ababa University
ED	Emergency Department
EM.....	Emergency Medicine
EMR.....	Electronic Medical Record
EPs	Emergency Physicians
EPJS	Emergency Physician Job Satisfaction
ETH.....	Ethiopia
GJS.....	Global Job Satisfaction
PI.....	Primary Investigator
SPSS.....	Statistical Package for Social Sciences
USA.....	United States of America

Table of Contents

<i>Acknowledgment</i>	<u>III</u>
<i>Acronyms</i>	<u>IV</u>
<i>List of tables</i>	<u>VII</u>
<i>List of figures</i>	<u>VIII</u>
<i>Abstract</i>	<u>IX</u>
1. INTRODUCTION	1
1.1.BACKGROUND	1
1.2.SIGNIFICANCE OF THE STUDY.....	2
1.3.STATEMENT OF THE PROBLEM.....	2
1.4.SCOPE AND LIMITATIONS OF THE STUDY.....	3
2. LITERATURE REVIEW	4
3. OBJECTIVES OF THE STUDY	7
GENERAL OBJECTIVE	7
SPECIFIC OBJECTIVES.....	7
4. CONCEPTUAL FRAMEWORK	8
5. METHODOLOGY	9
5.1. STUDY AREA AND PERIOD	9
5.2. STUDY DESIGN	9
5.3. POPULATION.....	9
5.4 SAMPLE SIZE AND SAMPLING.....	9
5.5. INCLUSION AND EXCLUSION CRITERIA.....	10
5.6. STUDY VARIABLES	10
5.7. DATA COLLECTION	11
5.8 DATA QUALITY CONTROL	11
5.9. STATISTICAL ANALYSIS.....	12
5.10. ETHICAL CONSIDERATIONS.....	12
5.11. OPERATIONAL DEFINITIONS	13
6. RESULT	14

7. **DISCUSSION**.....17

8. **CONCLUSION AND RECOMMENDATION**.....19

9. **STRENGTHS AND LIMITATIONS**.....19

References..... 20

Annex.....23

Annex I. Consent note.....23

Annex II. Questionnaire..... 24

List of Tables

1. Table 1. Cronbach alpha coefficient of the different domains of job satisfaction.....12
2. Table 2. Description of socio-demographic characteristics by level of job satisfaction among residents in teaching hospital, Addis Ababa, Ethiopia, October to November2023.....14
3. Table 3: Correlations between job satisfaction outcome and domains of job satisfaction of the study participants, in teaching institutes in Ethiopia, 2023.....16

List of figures

1. Figure 1. Conceptual framework for job satisfaction8
2. Figure 2. The overall job satisfaction distribution and mean
job satisfaction of study participants in teaching hospitals
in Addis Ababa, Ethiopia, from October to November 2023.....15
3. Figure 3. Percentage job satisfaction of the different domains and
the overall job satisfaction among study participants in teaching
hospitals in Addis Ababa, Ethiopia, from October to November 2023.16

ABSTRACT

Background: Human resources are a very important component of a health system for delivering health services, and health institutions system will have difficulty to function effectively without having a well-supported health workers who are also sufficient in numbers, well trained, and motivated. Job satisfaction of employees can be defined as the level to which employees have a positive feeling towards global or specific aspect of job of an organization is a very important aspect in the health system.

Methodology: A multiple institution based cross-sectional study design was used to collect primary data from study participants. Calculated sample size was 132 and the sample size was proportionally allocated among the 5 institutions and non-probability consecutive sampling method with proportional allocation was used. Data was collected using self-administered questionnaire online using google form. Finally descriptive analysis and also association of the independent and dependent variables was done using either frequency, mean, median, percentages, Pearson's correlation or Mann Whittney test as appropriate using SPSS version 27.0.

Result: a total of 115 residents were involved in the study. The overall mean total job satisfaction was -2.50(SD=3.987) (score ranges b/n -15 and 15) and the overall level of job satisfaction is -2.50 (41.7%). The result also showed that only 34(29.6%) of study participants were satisfied. All the predictor variables administrative authority, clinical authority, availability of resource, work place relationship and lifestyle had significant and strong association with job satisfaction with p values < 0.01.

Conclusion: The level of job satisfaction of residents was found to be low. Therefore, further studies are needed to know if this level of job satisfaction is having an impact on the residency program and also corrective actions should be taken by responsible bodies to increase the job satisfaction of emergency residents.

1. INTRODUCTION

1.1. BACKGROUND

Human resources are a very important component of a health system for delivering health services, and health institutions system will have difficulty to function effectively without having a well-supported health workers who are also sufficient in numbers, well trained, and motivated. [1].

Developing capable, motivated, and supported health workers is very essential to overcome bottlenecks, in order to achieve the national and global health goals. The work force is central to advancing health in every health system [2]. Job satisfaction of employees can be defined as the level to which employees have a positive feeling towards global or specific aspect of job of an organization is a very important aspect in the health system [3].

Residents in emergency medicine are a crucial component of the healthcare system since they offer patients in dire need of care. The time of residency is also a critical time for a doctor, and as such great attention should be given for residency programs [1]. Therefore, job satisfaction of emergency medicine residents is among the critical factors in patient outcomes and health system performance [2]. Job satisfaction can be measured by how employees feel about their jobs in total or also on the different components of their jobs and it is a very important factor in work and organizational psychology, and is a crucial variable used to determine the quality of healthcare systems [4]. In other words, it measures measure cognitive and behavioral aspects of workers towards their job [5].

Previous studies have shown a positive relationship between job satisfaction and individual performance, which in turn will impact patient satisfaction and there for a positive impact on the continuum of care. And conversely job dissatisfaction is associated with a significant impact on performance of health care providers as it is associated with high rates of work-related accidents, organizational conflicts, and also high rates of medical errors, which will jeopardize patients' safety [4, 6, and 7]. However, there is a need for further job satisfaction research in the context of emergency medicine residents.

Studies show that Emergency Departments are constantly overloaded and have workflow interruptions and multitasking activities and substantial amount of time is dedicated to these multitasking demands. Working in the ED is therefore a very challenging area for many healthcare workers, including residents in teaching hospitals in different parts of the world. Many countries have tried to combat these challenges which health workers, working in the ED, are facing and many studies have been conducted to see these challenges and also to see how healthcare providers feel about the challenges they are facing, how they cope with them and the negative impacts of the challenges as well [8]. As such, this research will examine emergency medicine residents' job satisfaction and identify the factors that influence it.

1.2. SIGNIFICANCE OF THE STUDY

There is a paucity of studies done job satisfaction of Emergency Residents in developing countries like Ethiopia. Therefore, studying job satisfaction among emergency medicine residents is important for several reasons. First, residents in emergency medicine play a crucial role in the healthcare system by providing patients with urgent care. Their level of job satisfaction is a key factor in determining how engaged and committed they are to the work. Second, job satisfaction has been associated with several advantageous outcomes, such as improved patient outcomes, less turnover, and enhanced productivity [2]. Thirdly, understanding the elements that influence emergency medicine residents' job satisfaction can help develop retention and improvement measures for them. And in addition, research on job satisfaction among emergency medicine residents can help shape policies and procedures to raise the standard of patient care while also revealing possibilities and obstacles faced by the profession. This research proposal aims to investigate the job satisfaction of emergency medicine residents in Ethiopia and identify the factors contributing to their job satisfaction. The results of study will shed important light on emergency medicine residents' job satisfaction and identify the facilitating and inhibiting factors.

1.3. STATEMENT OF THE PROBLEM

The satisfaction of healthcare providers with their job is a major challenge in Ethiopia, including emergency medicine residents. Job satisfaction is affected by both intrinsic and extrinsic factors. Both these factors are compromised in developing countries; hence this can have a significant negative effect on patient outcome and quality of health care. Lack of job satisfaction is also associated with high professional turn over and professionals leaving their work due to dissatisfaction with their job. And especially the field of emergency medicine in Ethiopia is a very young field that has counted just over a decade. Hence, there is a lack of research on the job satisfaction of emergency medicine residents in Ethiopia.

1.4. SCOPE AND LIMITATIONS OF THE STUDY

The purpose of this study is to know the level of job satisfaction of emergency residents and factors associated with job satisfaction. This study will include all emergency and critical care medicine residents in the study period. The level of satisfaction of residents on the residency program is not the aim of the study. But as one might have an impact on the other, further researches might be done in the future on the level of Job satisfaction and the level of satisfaction on the residency program and the impact of one on the other.

2. LITERATURE REVIEW

The emergency department is a very complex area for most health workers and is a very challenging area because it usually involves working under limited conditions including limited time, resources and investigation results. On top of this intense productivity expectation, conflicting management relationships, and unrealistic demands can bring about a significant impact on the job satisfaction of emergency room providers [9].

In a studies done in European and westerns set up the overall job satisfaction was higher. In a cross-sectional survey done in 2020, in 49 residency programs in USA, that included a final of 265 respondents, assessment overall job satisfaction and other respondent characteristics was done. The median Global Job Satisfaction (GJS) (GJS has a theoretical range of -36 to 36) score among respondents was 12, and only 22% reported to be dissatisfied. [10] In one study done in January 2016 in Italy, who has a five-year emergency medicine residency training program, a total of 89 emergency medicine residents participated in the survey. According to the study 55 residents (61.8%) were satisfied with the residency program they were attending. It was found out that one of the factors positively associated with satisfaction were estimating oneself competent [1].

In a survey conducted in Tehran, Iran that included all emergency medicine specialists and residents a total, 210 respondents were included. The overall satisfaction in specialists and residents was 50% and 42%, respectively ($P < 0.05$) with a conclusion that both residents and specialist satisfaction rate were at a moderate level [12]. In another study done in china on 205 emergency physicians in 3 general hospitals the percentage of physicians who are satisfied was 36% (74) the overall job satisfaction of the participants was moderately satisfied. In addition they found out that job satisfaction of emergency physicians in the study when compared to previous studies in overall health workers was significantly lower and they found a negative correlation between burnout and job satisfaction[23].

Although studies on Emergency department especially Emergency physicians and residents job satisfaction was not done in developing countries studies done on overall physicians working in tertiary hospitals like those done in Pakistan, Sri Lanka and India found out that job satisfaction of physicians was lower than those of the developed countries. Proportion of physicians satisfied with their job for the studies mentioned earlier were 32%, 43.6%, and 59.6% respectively. The factors associated with job satisfaction in these studies were payment, safety and security, workload, gender and age [24-26].

Workflow interruptions, multitasking and workload demands are frequently encountered conditions in emergency departments (ED) work systems. With regard to this one study was done in Germany, regarding Work conditions, mental workload and patient care quality. The study found out that there are significant negative associations between ED personnel's mental workload and patients' perceived quality of care. Conversely, workflow interruptions were positively associated with patient-related information on discharge and overall quality of transfer. And concluded that interruptions and multitasking in the ED environment have the complex effects on safe and efficient ED work [8].

Another survey conducted to evaluate the predictive validity of the Emergency Physician Job Satisfaction (EPJS) and GJS instruments, in Canada which included 221 Canadian emergency physicians (EPs). Of the respondents, 39.8% had either left their original job or left the EM department all in all. Shift work was the highest as a reason to leave Emergency medicine. The EPJS and GJS instruments were found to be reliable and valid, based on available measures of construct validity [11].

In one qualitative study regarding Job and life satisfaction among emergency physicians done in Toronto, Canada in 2020, involving 23 emergency physicians across ten hospitals, it was found out that emergency physicians had two common threats to their job satisfaction: the first is local hospital administration that was not supportive of their role and the other is Electronic Medical Record (EMR) [13].

In a review of 8 literature done in Ethiopia (one study was a single center but the rest were done in multiple institutions including hospitals and health centers) the overall level of job satisfaction of health care workers was found to be b/n 31.7% and 54% (with an average of 38.8%) and the level of job satisfaction being rated as low or most being dissatisfied with their job. Factors which were found to be associated with job satisfaction were different for each of the study site but the most common ones for most of the studies were salary and other payments, organization and facility issues, and management and leadership styles. Others which were not common for most were profession, age, presence of guidelines, educational status, marital status, service year, attitude of the health care provider, type of facility, supportive supervision etc. And in one study workload was associated positively with job satisfaction and having high workload was associated with 3.99 times more satisfaction than those having low workload [14-21].

The only study in Ethiopia that included emergency medicine residents, was the study conducted in Black Lion specialized hospital in the year 2019, including a total of 84 individuals who answered the questionnaire: 54 were nurses; 25 were residents and 5 were specialists. From the residents who participated in this study 18(72%) reported being satisfied. Comparing the different job categories it also found that residents were more satisfied than nurses and specialists. Among all factors significant association to overall job satisfaction was associated with educational level, distance from home and monthly income [3].

3. OBJECTIVES OF THE STUDY

GENERAL OBJECTIVE

The study aims to empirically examine the level of job satisfaction and the factors associated with job satisfaction among Emergency medicine residents in Ethiopia.

SPECIFIC OBJECTIVES

- To assess the level of job satisfaction of emergency medicine residents
- To explore difference in the level of job satisfaction of emergency medicine residents based on gender, place of residency, and other characteristics of the study participants.
- To examine factors affecting job satisfaction of emergency medicine residents.

4. CONCEPTUAL FRAMEWORK

This conceptual frame work was derived from the survey tool to be used in this study, to study Emergency physicians' job satisfaction. The EPJS was originally derived in 1990 and it was the first of its kind specifically designed for emergency physicians. The survey tool had a good reliability, as well as face, content, and constructs validity. It also had good internal consistency and was also stable over time [22]. In addition, it will address all the three specific objectives of study.

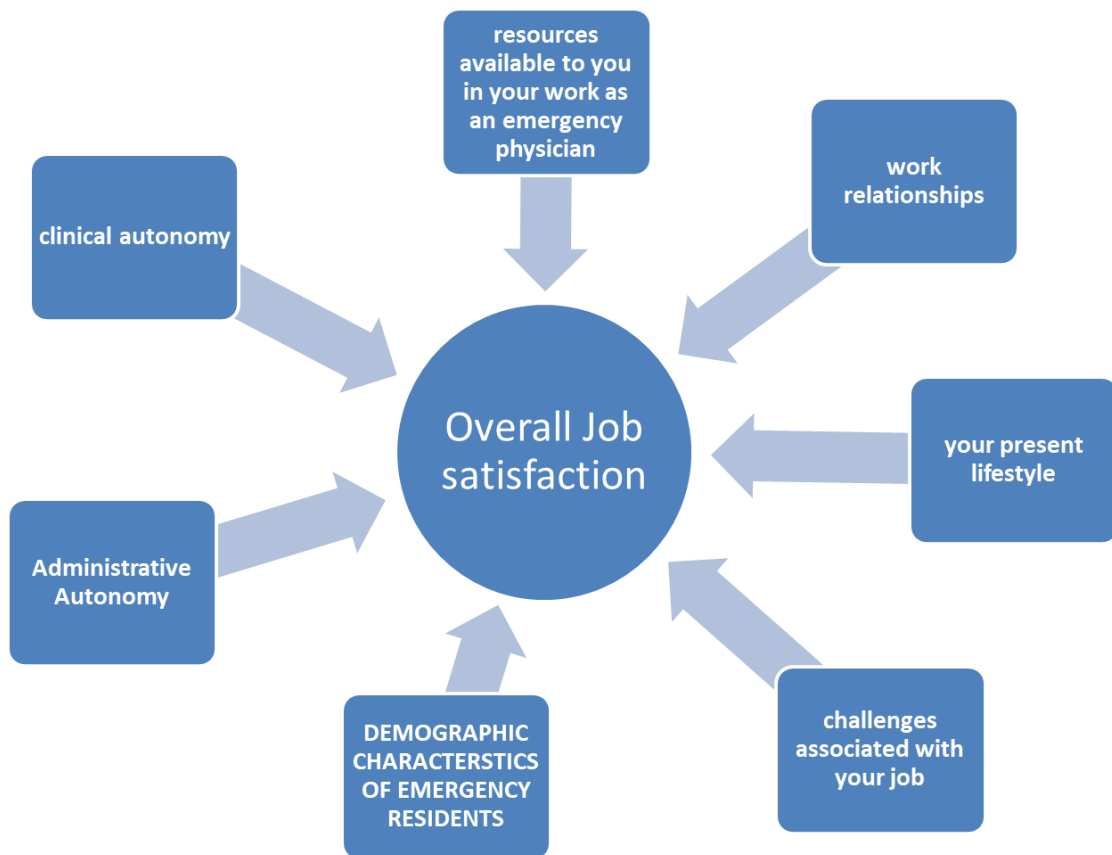


Figure 1. Conceptual framework for job satisfaction

5. METHODOLOGY

5.1. STUDY AREA AND PERIOD

The study areas included in the study are 5 institutions with emergency residency program. The study areas were Tikur Anbessa Specialized Hospital, and St. Paul Hospital Millennium Medical College, Hawasa Comprehensive Specialized Hospital, Jimma University Specialized Hospital, and Haramaya General Hospital. The study was conducted from October to November 2023.

5.2. STUDY DESIGN

A multiple institution based cross-sectional study design was used to collect primary data from study participants.

5.3. POPULATION

5.3.1. SOURCE POPULATION

The source population was all Emergency medicine and critical care residents in Ethiopia in the given study period.

5.3.2. STUDY POPULATION AND STUDY UNIT

The study population were residents found in the 5 institutions listed above in the study area. The study units are individual residents.

5.4 SAMPLE SIZE AND SAMPLING

The sample size was calculated using the formula for calculating sample size calculation for single population proportion and was calculated to be 132. Sample proportion of 0.5 was used b/c there was no previous study done on job satisfaction in emergency residents. After calculating the sample non probability sampling method, with consecutive sampling method was used until the sample size was reached for every institution using proportional allocation.

Formula

$$n = N * X / (X + N - 1),$$

Where,

$$X = \frac{Z^2 * p * (1-p)}{d^2}$$

- First step- sample size for infinite population

$$X = Z_{\alpha/2}^2 * p * (1-p) / d^2$$

$$X = 1.96 * 1.96 * 0.5 * (1-0.5) / (0.05 * 0.05)$$

$$X = 384$$

- Second step- finite population correction

$$n = N * X / (X + N - 1),$$

$$n = 201 * 384 / (384 + 201 - 1)$$

$$n = 132$$

$Z_{\alpha/2}$ is the critical value of the normal distribution (95% confidence interval was assigned) and the critical value is 1.96.

d = is the margin of error and is 0.05 (for 95% confidence interval)

N= total population

p= is the sample proportion

X= is the sample size for infinite population N=

is the source population

n= sample size

5.5. INCLUSION AND EXCLUSION CRITERIA

5.5.1. INCLUSION CRITERIA

All emergency medicine residents during the study period, and who have worked in the study area for greater than 6 months.

5.5.2. EXCLUSION CRITERIA

The exclusion criteria is those residents who have worked less than 6 months in their institution and also the principal investigator was also excluded.

5.6. STUDY VARIABLES

5.6.1. INDEPENDENT VARIABLES:

- Demographic variables (Age, Gender, Marital status, Educational level, Work experience, monthly income, Means of Transportation, The institution for the residency program)

- Challenges and opportunities associated with your job
- Present lifestyle
- Work relationships
- Availability of resources
- Clinical autonomy
- Administrative autonomy

5.6.2. DEPENDENT VARIABLE:

Level of job satisfaction

5.7. DATA COLLECTION TOOL AND PROCEDURE

In our survey also the researcher used a structured questionnaire to collect quantitative data from emergency medicine residents in Ethiopia during the study period, using a modified emergency physician job satisfaction measurement tool (22), to measure job satisfaction levels using Likert scales. Job satisfaction was measured using the sum of the six domains (which are also the independent factors which will be analyzed in the final regression model). The six domains of this job satisfaction questionnaire *with the number of questions in each item are listed as follows*. 1. Administrative autonomy (10 questions) 2. Clinical autonomy (8 questions) 3. Availability of resources (8 questions) 4. Work relationships (15 questions) 5. Present lifestyle (12 questions) 6. Challenges and opportunities associated with your job (5 questions). As such, an online questionnaire using google form was prepared and sent to all eligible population either through SMS or telegram. So, after sending the online questionnaire everybody was contacted directly through phone and an explanation about the research and the questionnaire was given. And a second and even third time communication done on phone if they said they haven't filled the questionnaire on the second contact and are willing to fill. Before starting filling the questionnaire the objective of the study was clarified in the introduction part and that confidentiality of the respondents was also addressed and lastly consent to answer the question was taken first and subsequently only those who consented to fill the questionnaire were involved in the study. Questionnaires with significant missing data were planned to be removed from the study but in our study the missing data for every participant was less than 2% and every filled questionnaire was used for the data analysis.

Table 1. Cronbach alpha coefficient of the different domains of job satisfaction

Item	Cronbach's alpha	No of items
Administrative autonomy	0.842	10
Clinical autonomy	0.848	8
Availability of resources	0.818	8
Work relationship	0.810	15
Present life style	0.830	12
Challenges and opportunities associated with your job	0.474	5
Overall Cronbach alpha	0.925	58

Each domain has multiple questions items and the level of satisfaction for each domain is calculated using the mean of the individual question within the domain. The individual questions measure the satisfaction score using a 7-point Likert scale (-3[highly unsatisfied], -2[moderately unsatisfied], -1[mildly unsatisfied], 0[neutral], 1[mildly satisfied], 2[moderately satisfied], 3[highly satisfied]). The individual domains have a score ranging from -3 to 3 and the final job satisfaction score is the sum of the individual domains and ranges from -15 to 15 (not -18 to 18 because one of the domain which is challenges and opportunities associated with your job was not included in the final analysis because the Cronbach's alpha was less than 0.7). Finally, the final job satisfaction score which ranges from -15 to 15 will be converted to percentage with -15 corresponding to 0% and 15 being 100%. 0 value will have a value of 50% and it will be the cut off value including and above this value in which study participants will be considered satisfied and those scoring below 0 will be considered unsatisfied.

5.8. DATA QUALITY MANAGEMENT

Data was collected online by sharing the question through email, telegram using a google form. The validity, practicability, and interpretability of responses for each question on the tool were confirmed by conducting a pretest on 5% of the sample sizes (7 respondents). In addition, based on the feedback from the pre-test study, some of questions with negative statements were corrected and refined. After the data was collected the data quality was checked by the PI for the competence readability the entire data collection period. Moreover, reminder was sent to the study participants to respond to the shared questionnaires in a timely manner.

5.9. DATA ANALYSIS

The data were evaluated for completeness, cleaned, coded, and entered into *excel* for validation. SPSS version 27 was used for the analysis of the data. Descriptive analysis was performed to summarize the findings while tables and graph were used to present the information. Correlation was done using Pearson's correlation. Moreover, reliability of the questionnaire for internal consistency was checked using Cronbach's alpha and those with Cronbach alpha >0.7 used for factor analysis. A statistically significant association was declared at a cut-off p-value of $p < 0.05$.

5.10. ETHICAL CONSIDERATIONS

Before data collection, a letter of permission and Ethical clearance was written by the Institutional Research Board for grant of permission for the research in each institution where the study will be conducted. There were no identifiers used so anonymity of participant was kept. Participants were given clarification about the study and consent was asked before starting to fill the questionnaire and only those who gave consent were included in the study.

5.11. OPERATIONAL DEFINITION

Job satisfaction level- satisfaction will be measured on a 7 scale Likert scale ranging from -3 to 3. Satisfaction level 0 and above will be considered satisfied and less than 0 is considered dissatisfied. This is set as the cut of point using 50% as a cut of value to say satisfied or not and also from the original development of the questionnaire it was used as a cut of value [22].

6. RESULTS

Out of one hundred thirty-two 115 samples were included in the analysis, giving a response rate of 87.1%. The majority of the study participants were male 90 (78.3%) and from Addis Ababa university 44 (38.1%) followed by St. Paul Millennium medical college 39(33.9%) (Table 2).

Table 2. Description of socio-demographic characteristics by level of job satisfaction among residents in teaching hospital, Addis Ababa, Ethiopia, October to November2023.

Variable	Categories	Total sample (percent)	Job satisfaction		p value
			Unsatisfied No. (%)	Satisfied No. (%)	
	Total	115 (100.00%)	81 (70.43)	34 (29.57)	
Age*		29 (28 - 32)	29 (28 - 31)	29 (28 - 32)	0.61
Monthly Income in birr*		12579 (11305-17000)	12579 (11,000-20000)	13500 (11000-20000)	0.70
Work experience*		3(2-5)	3(2-5)	3(2-4)	0.50
Sex	Male	90 (78.26%)	60 (66.67)	30 (33.33)	0.14
	Female	25 (21.74%)	21 (84.00)	4 (16.00)	
Year of residency	First year	38 (33.04%)	22 (57.89)	16 (42.11)	0.04
	Second year	41 (35.65%)	35 (85.37)	6 (14.63)	
	Third year	36 (31.30%)	24 (66.67)	12 (33.33)	
Means of transport	Own car	4 (3.51%)	4 (100.00)	0 (0.00)	0.40
	Public transport	84 (73.68%)	58 (69.05)	26 (30.95%)	
	On foot	26 (22.81%)	19 (73.08)	7 (26.92)	
Marital status	Single	63 (55.26%)	46 (73.02)	17 (26.98)	0.54
	Married	51 (44.74%)	34 (66.67)	17 (33.33)	
Institution of residency	AAU Tikur Anbesa specialized Hospital	44(38.3)	33(75)	11(25)	0.64
	St. Paul millenium medical college	39(33.9)	26(66.7)	13(33.3)	
	Haramaya University comprehensive specialized Hospital	8(7)	4(50)	4(50)	
	Hawasa Comprehensive Specialized Hospital	8(7)	6(75)	2(25)	
	Jimma University Specialized Hospital	16(13.9)	11(75)	4(25)	

- * Mann-Whitney test was done.

The overall job satisfaction score calculated as percentage was 41.7%. And the overall mean job satisfaction of the study participants was -2.50(SD=3.987) on a score ranging from -15 to 15. (Figure 1).

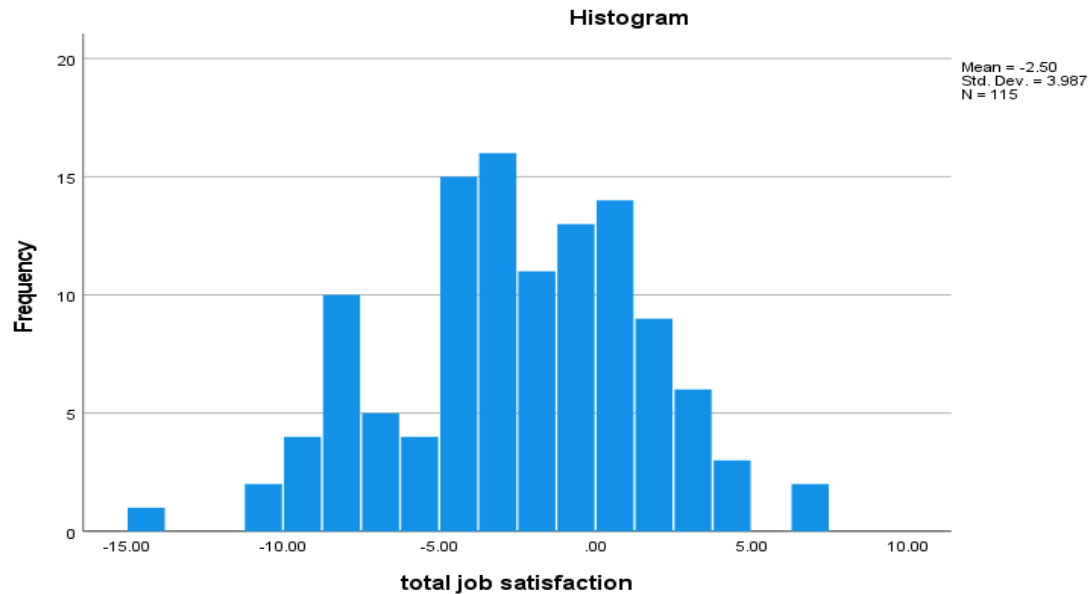


Figure 2. The overall job satisfaction distribution and mean job satisfaction of study participants in teaching hospitals in Addis Ababa, Ethiopia, from October to November 2023.

The percentage of satisfaction of the study participants of each domain and also the total job satisfaction was also analyzed and presented in the figure below, and it shows that work area relationship has the highest satisfaction level of 57.7% satisfaction while life style had the lowest level of satisfaction level of 31.3% (Figure 3).

Pearson’s correlation analysis was also done and the result shows that the different domains are all significantly associated with the outcome variable. And from the demographic variables only year of residency had a significant association with the outcome variable but the strength of association was very weak. Strength of association using Pearson’s correlation is ranked if the $|R| \leq 0.2$ as very weak if, weak if b/n 0.2-0.4, moderate if b/n 0.4-0.6, strong if b/n 0.6- 0.8, and very strong if ≥ 0.8 . Further break down of the domains shows that clinical autonomy has a positive relationship which is also a very strong association with the outcome variable with (R=0.813, p value <0.001), with the least correlated domain being availability of resource, which was also a positive relationship but with only a strong level of association with correlation value (R= 0.410, p value <0.001) (Table 3).

Figure 3. Percentage job satisfaction of the different domains and the overall job satisfaction among study participants in teaching hospitals in Addis Ababa, Ethiopia, from October to November 2023.

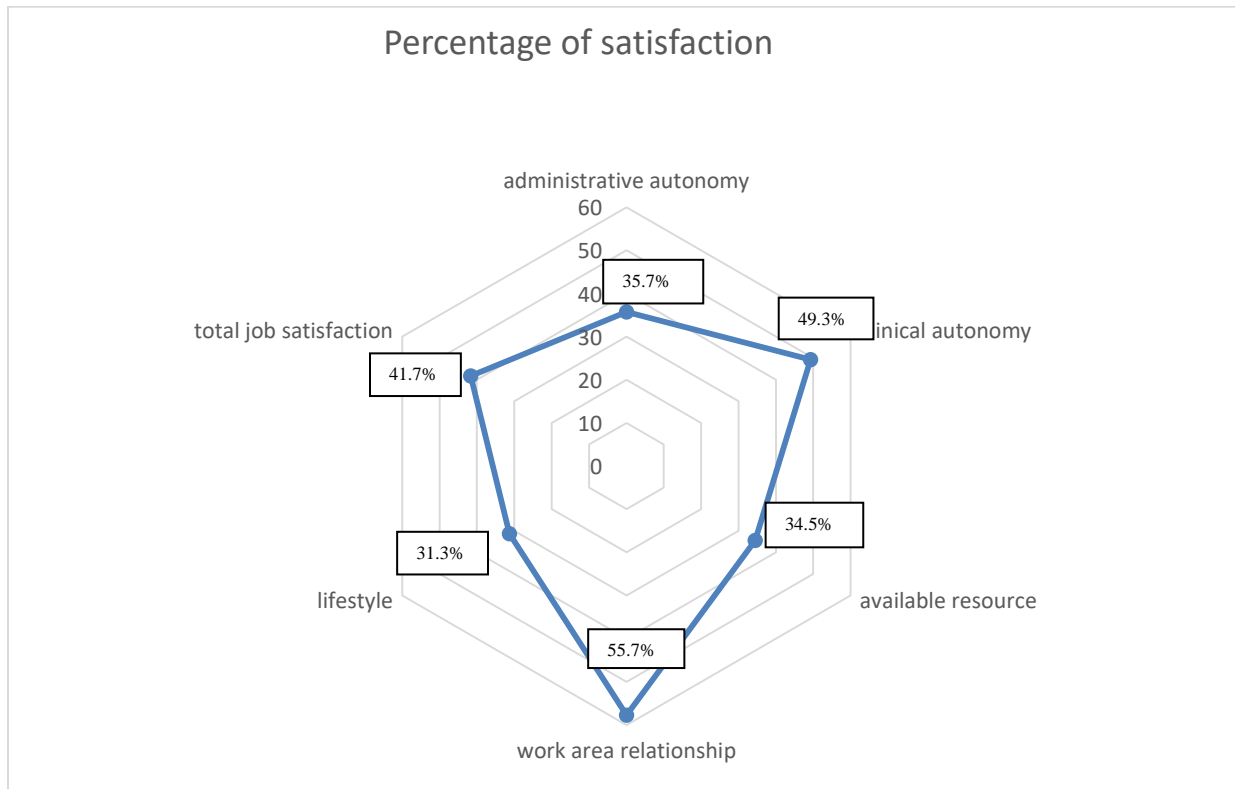


Table 3: Correlations between job satisfaction outcome and domains of job satisfaction of ECCM residents in teaching institutes in Ethiopia, 2023

	Administrative autonomy	clinical autonomy	Availability of resource	Work place relationship	lifestyle
Clinical autonomy	.492**				
Availability of resource	.391**	.361**			
work place relationship	.627**	.567**	.320**		
Lifestyle	.414**	.551**	.168	.469**	
total job satisfaction score	.779**	.813**	.636**	.776**	.691**

• ** Significant at p value < 0.001.

7. DISCUSSION

Previous studies regarding emergency physician's job satisfaction are scarce in developing nations and no study was found in Africa and in Ethiopia. So, it may be very difficult to make direct comparison in the given context in which our country is found. However, we found out that most of the predictor variables were significantly associated with the outcome variable and also job satisfaction level of study participants was low.

The overall level of job satisfaction in this study is 41.7% and the overall no of participants who were satisfied were 34(29.6%) and the rest were unsatisfied, that is 81(70.4%). This compares closely to the overall job satisfaction of 41.46%, in the study done by Beyazin Kebede et.al in 2007, in health professionals in Horro Guduru Wollega, Oromia Regional State, West Ethiopia [2]. But our study is significantly different from the study done in Black lion specialized hospital in health professionals working in ED in 2019 in which 18(72%) from the 25 residents who participated in this study were satisfied. But in this study when all health professional were included the overall percent of professionals who were satisfied was 44% [3].

In another study that was conducted in Tehran, Iran, and published in 2018, which was on job satisfaction comparing ER residents and specialist, it was found that the overall job satisfaction of residents was 42% which was comparable with our study. In this study some of the reasons for the decreased job satisfaction were assumed to be attributed to lower mean age(32.7 years) and higher percentage of single(38%) because this group of population are highly associated with stress and depression which are in turn associate with decreased job satisfaction inferred from another study done by Whitley et al. in 1989, which assessed association of stress and depression with demographic variables of study participants [12,27]. In our study the mean age was (30.14 ± 2.72) and the percent of single population was 58.4% which was having a lower mean age and higher percentage of single population which might have even further decreased the level of job satisfaction in our study.

The analysis of the factors which are associated with job satisfaction showed that all administrative authority, clinical authority, availability of resources, work area relationship and lifestyle were significantly associated having a strong to very strong association with overall job satisfaction. Similar to our study in a review of literatures done in Ethiopia health institution the common

themes found to be significantly associated with job satisfaction were payments, organization and facility issues, and management and leadership styles. In these literatures the overall job satisfaction of health professional was b/n 31.7% and 54%, which is also comparable to our study [14-21].

In a study done by Lloyd et al. done in emergency physicians and published in 2004 which compared the job satisfaction level of those emergency physicians, using the same EPJS scale used in this study, b/n the groups who stayed in the emergency department, those who left the previous work place and those who left the EM totally had a mean and standard deviation of job satisfaction scores were 2.48 (3.66), 2.42 (3.58), 1.59 (4.41) respectively with no significant difference amongst the groups because a score difference of 2 was assumed to be significant at the start of the research [11]. In our study the mean and SD of the study participants was -2.50 ($SD=3.987$) which is significantly lower than the mean scores of their counter parts in USA and Canada. And having this level of lower score might lead to changing of work place and also total leaving the EM specialty as a whole in the future.

Knowing the highest rated reasons that residents attribute to their overall job satisfaction level is of significant importance because it is a clue to what things and why physicians working very closely with their patients and colleagues get stressed or dissatisfied. And in our study the results like administrative authority, clinical authority, availability of resource and life style which are all measuring the extrinsic component of job satisfaction are modifiable and are amenable to change.

8. CONCLUSION AND RECOMMENDATION

This study enquired the opinion of residents about their feeling on the working conditions they are currently working at. And from the study it can be concluded that the level of job satisfaction of residents is low and working environment is sub optimal and issues which were found to have significant impact on the job satisfaction of participants are especially having a greater impact. Although it was not in the scope of the study the impact of job satisfaction of residents on the residency program might be significant and hence needs further study. Therefore, the researcher strongly recommends further follow up studies as to whether the results of this study are consistent thought the study areas and across time also and further corrective actions planned.

9. STRENGTHS AND LIMITATIONS

Our study used a 7 scale Likert scale which is very good to have a reliable choice of scale of opinion, because experts in scale development suggest the minimum number of response categories be in the region of 5-7 [27]. So, our study chose a data collection tool which has a 7 Likert scale meaning that a better understanding of the opinion is reached than using scales less than 5 Likert scales.

The limitations of this study are that the intended sample size was not reached and from the study areas two of the study areas could not be addressed in this study b/c of inability to reach the study participants online because internet was blocked in these areas. Also, there are no studies done in our country on emergency physicians or residents. We were not able make comparison and detect the trends in job satisfaction so that we know the current level of job satisfaction in improving or decreasing from the previous baseline value. The other limitation is the conceptual framework model was designed from a > 40 years old literature.

References

1. Giacomo veronese et.al. What makes emergency medicine residents satisfied? A web based national survey. Italian journal of Emergency medicine (June 2017).
doi.org/10.23832/ITJEM.2017.015
2. Beyazin Kebede et.al. *Health professionals' job satisfaction and associated factors at public health centers in West Ethiopia. Human Resources for Health, 15(1), 2017.*
3. Birhanu Tesfaye. A descriptive cross-sectional study on job satisfaction among emergency department staff working in Addis Ababa University Tikur Anbessa specialized hospital, Addis Ababa, Ethiopia, 2019.
4. Khamlub S. et.al. J. Job satisfaction of health-care workers at health centers in Vientiane Capital and Bolikhamsai Province, Lao PDR. Nagoya J Med Sci. 2013 Aug;75(3-4):233-41. PMID: 24640179; PMCID: PMC4345678.
5. Abate HK, and Mekonnen CK. Job Satisfaction and Associated Factors Among Health Care Professionals Working in Public Health Facilities in Ethiopia: A Systematic Review. J Multidiscip Healthc. 2021 Apr 13; 14:821-830. doi: 10.2147/JMDH.S300118. PMID: 33880031; PMCID: PMC8053506.
6. A Study of Nurses' Job Satisfaction: The Relationship to Organizational Commitment, Perceived Organizational Support. European Journal of Scientific Research. ISSN 1450-216X Vol.22 No.2 (2008), pp.286-295.
7. Fahrenkopf AM et.al. (2008). *Rates of medication errors among depressed and burn out residents: prospective cohort study. BMJ. 2008 Mar1; 336(7642), 488–491.*
doi:10.1136/bmj.39469.763218.be
8. Weigl M, et.al. *Work conditions, mental workload and patient care quality: a multisource study in the emergency department. BMJ Quality & Safety, bmjqs-2014-003744–, 2015; Doi: 10.1136/bmjqs-2014-003744.*
9. Kendra Osei-Wusu (October 2022). Focused group meetings to promote job satisfaction for emergency department advanced providers. *Doctoral Dissertations and Projects. 4000.*
<https://digitalcommons.liberty.edu/doctoral/4000>.

10. Chapman J, Barrett M, Thompson M, et al. A National Survey of Job Satisfaction and Workload Among Emergency Medicine (EM) Residency Faculty. *Cureus* 15(2),(February 14, 2023); e34982. doi:10.7759/cureus.34982.
11. Lloyd S, Streiner D, Shannon S. Predictive validity of the emergency physician and global job satisfaction instruments. *Acad Emerg Med.* 1998 Mar; 5(3):234-41. doi: 10.1111/j.1553-2712.1998.tb02619.x. PMID: 9523932.
12. Javad Seyedhosseini et.al .Job Satisfaction of Emergency Medicine Residents and Specialists in Iran; A Cross-Sectional Study. *Trauma Mon. In Press (In Press):e55963.*
13. Kase J, Doolittle B. Job and life satisfaction among emergency physicians: A qualitative study. *PLoS ONE* ,2023;18(2): e0279425.
14. Mulugeta Mekuria Mengistu, Ayele Geleto Bali. Factors Associated to Job Satisfaction Among Healthcare Workers at Public Hospitals of West Shoa Zone, Oromia Regional State, Ethiopia: A Cross Sectional Study. *Science Journal of Public Health.* Vol. 3, No. 2, 2015, pp. 161-167.doi: 10.11648/j.sjph.20150302.12.
15. Yami A, et.al. Sudhakar M. Job satisfaction and its determinants among health workers in Jimma University specialized hospital, southwest Ethiopia. *Ethiop J Health Sci.* 2011 Aug 21 (Suppl 1):19-27. PMID: 22435005; PMCID: PMC3275875.
16. Tirhas Tadesse, et.al. Assessment of factors influencing job satisfaction among health care providers, federal police referral hospital, Addis Ababa, Ethiopia. *Ethiopia. J. Health Dev.* 2015; 29(2):119-126].
17. Geleto, Ayele et.al. *Job satisfaction and associated factors among health care providers at public health institutions in Harari region, eastern Ethiopia: a cross-sectional study. BMC Research Notes*, 2015; 8(1), 394 –. Doi: 10.1186/s13104-015-1368-5.
18. Temesgen, Kalkidan et.al. *Job satisfaction and associated factors among health professionals working at Western Amhara Region, Ethiopia. Health and Quality of Life Outcomes*, 2018; 16(1), 65–. Doi: 10.1186/s12955-018-0898-7.
19. Gedif, Genet; Sisay, Yetnayet; Alebel, Animut; Belay, Yihalem Abebe (2018). Level of job satisfaction and associated factors among health care professionals working at University of Gondar Referral Hospital, Northwest Ethiopia: a cross-sectional study. *BMC Research Notes*, 11(1), 824. Doi: 10.1186/s13104-018-3918-0.

20. Perina DG, Marco CA, Smith-Coggins R, Kowalenko T, Johnston MM, Harvey A. Well-Being among Emergency Medicine Resident Physicians: Results from the ABEM Longitudinal Study of Emergency Medicine Residents. *J Emerg Med.* 2018 Jul; 55(1):101-109.e2. doi: 10.1016/j.jemermed.2018.04.003. PMID: 29759656.
21. Merga, Hailu; Fufa, Tilahun (2019). *Impacts of working environment and benefits packages on the health professionals' job satisfaction in selected public health facilities in eastern Ethiopia: using principal component analysis.* *BMC Health Services Research, 19(1), 494–.* doi:10.1186/s12913-019-4317-5.
22. Lloyd, Stephen; Streiner, David; Hahn, Ernest; Shannon, Sue . *Development of the emergency physician job satisfaction measurement instrument.* 1994; *12(1), 1–10.* doi:10.1016/0735-6757(94)90187-2.
23. Xiao Y, Wang J, chen S, Wu Z, Cai J, Weng Z, Li X Zhang X. psychological distress, burnout level and job satisfaction in emergency medicine: A cross-sectional study of physicians in china. *Emer Med Australas.* 2014 Dec;26(6):538-42.
24. Khuwaja AK, Qureshi R, Andrades M, Fatmi Z, Khuwaja NK. Comparison of job satisfaction and stress among male and female doctors in teaching hospitals of Karachi. *J Ayub Med Coll Abbottabad.* 2004 Jan- Mar 16 (1):23-7. PMID: 15125175.
25. Rodrigo MDS, Dissanayake A, Galhenage J, Wijesinghe S, Kuruppuarachchi K. Job satisfaction and mental health of Sri Lankan doctor. *South Asian Journal of Psychiatry* 2013; 3(1):14-17.
26. Bhattacharjee S, Ray K, Kumar Roy j, Mukherjee A, Roy H, Datta S. Job satisfaction among Doctors of a Government Medical college and Hospital of eastern India. *Nepal J Epidemiol.* 2016 Oct 3;6(3):596-602.
27. Whitley TW, Gallery ME, Allison EJ Jr, Revicki DA. Factors associated with stress among emergency medicine residents. *Ann Emerg Med.* 1989; 18 (11):1157–61. doi: 10.1016/S0196-0644(89)80051-4. [PubMed:2817559]

ANNEXES

ANNEX I

ADDIS ABABA UNIVERSITY COLLAGE OF HEALTH SCIENCE DEPARTMENT OF EMERGENCY MEDICINE

Informed consent

This questionnaire is prepared by me, the principal investigator, Eskahun Tilahun. I am a third year Emergency and critical care medicine resident in Addis Ababa University.

I kindly invited you to take part in this research because your invaluable participation in this study will lay the ground work for further studies and also might aid in further improvements in residency programs and work place improvements. Participation in the study is voluntarily and right to withdraw is kept. There is no risk or incentive associated with the study and confidentiality and anonymity of the respondents will be assured. Identification will be changed to codes before analysis is done.

The questionnaire has six parts starting from socio-demographics, administrative autonomy, clinical autonomy, availability of resources at work, work area relationship, challenges and opportunities on clinical activities, and personal life.

The questions from part 3 to 7 have a likert scale ranging from -3 to 3. -3 is the most unsatisfied, 0 is neutral, and 3 is the most satisfied.

If you have any questions, you can contact the principal investigator at the following address:

Persons to contact for further information:

Name : Eskahun Tilahun

Mob. No: 0913-00-67-60

E-mail: eskahuntilahunblh@gmail.com

Do you volunteer to participate in this study?

*

Yes

No

ANNEX II

QUESTIONNAIRE

1. DEMOGRAPHIC CHARACTERISTICS OF EMERGENCY RESIDENTS

1. Gender Male Female
2. Age Less than 30 31-40 41-50 Above 50
3. Year of residency First yr. Second yr. Third yr.
5. Means of transportation public own car on foot
6. Marital status single married Divorced
- Widowed/widower
7. Work Experience as physician _____
8. Place of residency _____

2. Questions regarding job satisfaction

I. Questions about Your Administrative Autonomy.

1. Our suggestions about the administration of my department are given adequate attention.
-3 -2 -1 0 1 2 3
2. There is a mechanism for dealing with EP complaints about other physicians, nurses or consultants that allows problems to be resolved.
-3 -2 -1 0 1 2 3
3. I have a feeling that the administration frustrates my efforts to get committee work done.
-3 -2 -1 0 1 2 3
4. I am satisfied with the way our department is administratively organized.
-3 -2 -1 0 1 2 3
5. I have enough say in the development and maintenance of the nurses' skills.
-3 -2 -1 0 1 2 3
6. My current method of payment is satisfactory enough for me.
-3 -2 -1 0 1 2 3

7. Our Emergency department administration asks and involves us about everyday problems.

-3 -2 -1 0 1 2 3

8. The hospital administration makes it difficult to deal with the everyday problems in our department.

-3 -2 -1 0 1 2 3

9. I think out patients' complaints are dealt with adequately in our department.

-3 -2 -1 0 1 2 3

10. I am satisfied with the way our department is managed.

-3 -2 -1 0 1 2 3

II. Questions about your clinical autonomy.

1. My hospital non-emergency clinical colleagues make decisions that affect my practice and I have little direct control over it.

-3 -2 -1 0 1 2 3

2. I Feel there are conflicting clinical directive\ from my non-emergency physician colleagues

-3 -2 -1 0 1 2 3

3. I fell I have sufficient input into decisions that affect the way I practice.

-3 -2 -1 0 1 2 3

4. The hospital administration control of my clinical practice too much.

-3

-2 -1 0 1 2 3

5. I am frustrated by decisions made at an administrative level, which I feel limits the type of patients I see. eg. pediatrics. trauma

-3 -2 -1 0 1 2 3

6. I am allowed to handle the care of my patients in my own way.

-3 -2 -1 0 1 2 3

7. Sometimes, I am required to do things at work that are against my better clinical judgment

-3 -2 -1 0 1 2 3

8. Administrative decisions at this hospital interfere too much with the care I give for my patients.

-3 -2 -1 0 1 2 3

III. This section considers the resources available to you in your work as an emergency physician.

1. Our department has old/ out-of-date/ equipment.

-3 -2 -1 0 1 2 3

2. Our department is organized enough to facilitate the flow of patients.

-3 -2 -1 0 1 2 3

3. I am satisfied with our department's level involvement on the trauma team.

-3 -2 -1 0 1 2 3

4. There are bottlenecks to patients flow in our department especially at peak times.

-3 -2 -1 0 1 2 3

5. I am satisfied with the degree to which I can delegate routine tasks to nurses or aides.

-3 -2 -1 0 1 2 3

6. A shortage and availability of clerical staff in our department results in delays in patient care

-3 -2 -1 0 1 2 3

7. A shortage of nursing staff in our department results in delays in patient care.

-3 -2 -1 0 1 2 3

8. Dealing with admitted patients who do not have an inpatient bed has clearly altered our work environment.

-3 -2 -1 0 1 2 3

IV. This section looks at your work area relationships.

i. Questions regarding your relationship with your work colleagues

1. There is a good teamwork and cooperation between the various levels of medical personnel on my service.

-3 -2 -1 0 1 2 3

2. New employees are quickly made to 'feel at home' in my department. Eg. New residents or nurses

-3 -2 -1 0 1 2 3

3. I am satisfied with the communication I have with my junior and/or senior residents concerning our work

-3 -2 -1 0 1 2 3

4. I am comfortable enough with my senior consultants when discussing about patients

-3 -2 -1 0 1 2 3

5. I have good level support by our senior consultant when problems arise in the emergency department

-3 -2 -1 0 1 2 3

6. I have good communication with my junior and/or senior residents regarding our patients and work in the ED

-3 -2 -1 0 1 2 3

7. There are no nursing staff in our department with whom I don't like to work with.

-3 -2 -1 0 1 2 3

8. The nursing staff at this hospital complain a lot about their work.

-3 -2 -1 0 1 2 3

9. I feel our nursing staff does not take the responsibility for problems with patient flow but they blame others.

-3 -2 -1 0 1 2 3

10. The nursing personnel on my service don't hesitate to involve and help when things get busy

-3 -2 -1 0 1 2 3

11. All our nursing staff care for their patients adequate enough.

-3 -2 -1 0 1 2 3

ii) *Questions regarding your relationship with patients*

1. My patients do not falsely exaggerate their physical complaints.

-3 -2 -1 0 1 2 3

2. My patients complain no matter what I do for them.

-3 -2 -1 0 1 2 3

3. The emergency patients that I treat have a realistic expectation of my role in their health care.

-3 -2 -1 0 1 2 3

4. Many patients that come to the emergency department are manipulative.

-3 -2 -1 0 1 2 3

V. This section contains questions relating to your present lifestyle.

1. I worry about my personal life even when I am at work.

-3 -2 -1 0 1 2 3

2. My friends understand about the work commitments I have.

-3 -2 -1 0 1 2 3

3. Even when I am home, I worry about my job.

-2 -1 0 1 2 3

-3

4. I feel torn between my personal life and the demands of my job.

-3 -2 -1 0 1 2 3

5. I receive recognition from others for the nature and demand of my work.

-3 -2 -1 0 1 2 3

6. I do feel that I have the standard of living I deserve.

-3 -2 -1 0 1 2 3

7. I have maintained good physical health since I started my present job.

-3 -2 -1 0 1 2 3

8. I am often physically too tired

-3 -2 -1 0 1 2 3

9. I have enough money to do whatever I want with my leisure time.

-3 -2 -1 0 1 2 3

10. The people I live with are supportive enough when it comes to my work.

-3 -2 -1 0 1 2 3

11. I am satisfied with my present state of health.

-3 -2 -1 0 1 2 3

12. I have enough time off for leisure.

-3 -2 -1 0 1 2 3

VI. This section is regarding the challenges and opportunities relating your clinical activities

1. I have the opportunity to manage a variety of interesting cases.

-3 -2 -1 0 1 2 3

2. I see too many non-emergency patients in my department.

-3 -2 -1 0 1 2 3

3. I see an adequate mix of acute and chronic cases.

-3 -2 -1 0 1 2 3

4. The majority of patients seen in our ED do not present a clinical challenge.

-3 -2 -1 0 1 2 3

5. My work gives me adequate opportunity to feel that I have done a good job of case management.

-3 -2 -1 0 1 2 3