



## RESEARCH ARTICLE

## Study of Job Satisfaction and Stress among Doctors from Tertiary Care Institute at Rural Region of Central India

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### Abstract

**Introduction:** Stress and job dissatisfaction are more among doctors. It can affect their quality of health care.

**Objectives:** To determine the level of stress and job satisfaction among doctors, to find its association with socio-demographic characteristics and to assess factors affecting job satisfaction.

**Methodology:** Total 150 out of 176 doctors were selected from tertiary care institute of Sevagram Wardha. Data was collected through socio-demographic proforma, professional characteristics for job satisfaction and kessler10 psychological distress instrument.

**Results:** Majority (76%) of doctors were found to be dissatisfied with their job and almost half (48%) of them were stressful. Level of stress is negatively correlated with job satisfaction. Doctors were found to be least satisfied with their job on physical working conditions ( $2.20 \pm 1.12$ ), workload ( $2.07 \pm 1.09$ ), rate of pay and benefits ( $2.19 \pm 1.21$ ), safety and security ( $2.07 \pm 1.11$ ), professional growth ( $2.19 \pm 1.29$ ), autonomy ( $2.18 \pm 1.24$ ) and adequate resources ( $2.14 \pm 1.22$ ). The age, marital status, years since graduation and designation were found to be significantly correlated with job satisfaction ( $p < 0.05$ ). Age, marital status and severity of stress were factors affecting job satisfaction.

**Conclusion:** More than half of doctors (76%) were not satisfied with their job and more stressful. So, these factors need to be addressed by authority to increase level of satisfaction and improve health care.

### Keywords

Doctors, Job satisfaction, Stress, Tertiary care institute, Residents

### Introduction

Stress is defined as physical and psychological state that occurs when the individual is unable to cope with demands and pressure of situation [1]. Job satisfaction is defined as an attitudinal variable that represent the extent to which people dislike or like their jobs [2]. Level of stress and job satisfaction among doctors can affect the quality of health care [3].

The level of job satisfaction is affected by intrinsic and extrinsic factors, social relations with the group, quality of supervision and individual's success or failure in their work [4]. Job security interaction with colleagues, financial incentives and co-operative relationship with management were found to be predictors of job satisfaction among doctors in United States. Whereas opportunities for continuing education, collegial relationships, extent of administrative work, job security and access to specialized technology were contributing factors for satisfaction in Germany [5].

Job satisfaction/dissatisfaction affect one's administration behavior with co-workers and the patients. The doctor-patient relationship and quality of medical care provided is dependent on doctor's job satisfaction [6]. Previous studies reported that 68% of doctors were unsatisfied with their jobs and females were more dissatisfied as compared to their male counterparts [1]. A study among doctors in Delhi reported that more than half 55.2% was found to be dissatisfied [7].

In other studies, it was found that doctors were more satisfied with autonomy and working environment while clerical workload leads to dissatisfaction [8]. Those working in ambulatory care hospital setting were satisfied as observed by Akroyd and others [9]. A study by Sohag AA, et al. among doctors from teaching institute reported 76.2% job dissatisfaction with doctors working on lowest posts responded not satisfied with the job [10]. Doctors are considered to be at risk of stress and have higher degree of psychological morbidity, alcohol dependence and suicidal tendencies as compared to comparable social class [11-15].

Doctors are essential and integral component of our healthcare system, job satisfaction is linked to the productivity and quality of services provided by them [7], hence it becomes necessary to assess job satisfaction among doctors. In view of the above finding in literature, its impact on performance of doctors at hospital and healthcare delivery, this study need to be conducted among them. As such there is paucity of research on this topic in our region. The objectives of present study were to find level of job satisfaction and stress among residents and medical faculty of tertiary care institute; to demonstrate association between their overall job satisfaction and socio-demographic characteristics; and to assess factors affecting job satisfaction.

## Methodology

A cross-sectional study was conducted among doctors of Mahatma Gandhi Institute of Medical Sciences, Sevagram from city of Wardha, Maharashtra during March 2018. A total 150 out of 176 doctors who were employed for more 6 months and those involved directly with the patient care were included in the study. They include Post-Graduate students, Senior Residents, Assistant Professor, Associate Professor and Professors. Interns, doctors employed for less than 6 months, pre-clinical and para-clinical faculties who were not directly involved with the patient care provision were excluded from survey. They were explained about the nature and purpose of study; and information was collected through questionnaires mailed to them. A reminder was sent after a week to those who didn't respond. The approval was obtained from institutional ethics committee and data was collected using the following tools.

### Socio-demographic proforma

It includes age, gender, marital status, year since graduation, educational status, designation and average number of patients seen per week.

### Professional characteristics for job satisfaction

These are most frequently identified characteristic related to job satisfaction. It includes 10 variables: physical working condition, working relations with colleagues, recognition and motivation, safety and security, workload, professional growth and development, pay and benefits,

opportunity to use skills and ability, autonomy and adequate resources. The responses are graded on 5-point likert scale (1 = very low to 5 = very high). This was adopted from a study done by Khuwaja, et al. [3]. The cronbach's alpha reliabilities for variables were found to be 0.894 with p-value 0.0001 which is significant and reliable.

### Kessler10 psychological distress instrument (k10)

Developed by Kessler and colleagues. This instrument has been used widely to measure current (1-month) distress, to measure the level of stress and severity associated with psychological symptoms in population surveys. The k10 consists of 10 questions in the form of "how often in the past month did you feel ..." And offers specific symptoms, such as 'tired out for no good reason', 'nervous', and 'sad or depressed'. The five possible responses for each question range from 'none of the time' to 'all of the time' and were scored from 1 to 5 respectively. All the questions were collated to obtain a total score. The total score was interpreted as follows: a score of less than 20 was considered not to represent stress of any level while a score of 20-24

**Table 1:** Socio-demographic variables of study participants.

Variables	Number (n = 100)	Percentage (%)
Age Group (yrs)		
20-29 yrs	79	52.67
30-39 yrs	55	36.67
40-49 yrs	12	8.00
50-59 yrs	4	2.67
Gender		
Male	69	46.00
Female	81	54.00
Marital Status		
Single	72	48.00
Married	78	52.00
Years of experience		
< 10 years	34	22.67
≥ 10 years	116	77.33
Educational status		
MBBS Only	19	12.67
PG Diploma	30	20.00
MD/MS	101	67.33
Working Status (Designation)		
PG Students	61	40.67
Senior Residents	32	21.33
Asst. Prof	39	26
Asso. Prof	11	7.33
Professor	7	4.67
Average number of patients seen per day		
≤ 10	32	21.33
11-50	61	40.67
> 50	57	38.00

**Table 2:** Distribution of subjects according to overall job satisfaction level.

Overall (Mean)	No of patients	Percentage
≤ 30	114	76.00
> 30	36	24.00
Total	150	100

**Table 3:** Distribution of subjects according to Professional characteristics.

Professional characteristics	N	Minimum	Maximum	Mean	SD
Physical working conditions	150	1.00	5.00	2.20	1.12
Working relation with colleagues and fellows	150	1.00	5.00	3.46	0.57
Recognition and motivation	150	1.00	5.00	3.32	0.68
Safety and security	150	1.00	5.00	2.07	1.11
Workload	150	1.00	5.00	2.07	1.09
Rate of pay and benefits	150	1.00	5.00	2.19	1.21
Opportunity to use skills and ability	150	1.00	4.00	3.17	0.63
Professional Growth	150	1.00	5.00	2.19	1.29
Autonomy	150	1.00	5.00	2.18	1.24
Adequate Resources	150	1.00	5.00	2.14	1.22
<b>Overall</b>	150	12	43	25.02	7.55

**Table 4:** Severity of stress among study participants and its correlation with overall job satisfaction.

Severity of stress	No of subjects (%)	Mean $\pm$ SD	F-value
No Stress	78 (52%)	29.44 $\pm$ 6.00	36.15
Mild Stress	50 (33.33%)	21.84 $\pm$ 6.38	P = 0.0001, S
Moderate Stress	14 (9.3%)	17.25 $\pm$ 2.25	
Severe Stress	8 (5.3%)	16.14 $\pm$ 2.24	
Total	150 (100%)	25.02 $\pm$ 7.55	
Overall Stress	72 (48%)	20.22 $\pm$ 5.97	

**Table 5:** Correlation of demographic variables with overall job satisfaction score.

Demographic Variables	No of subjects	Mean $\pm$ SD	Test Value	P-value
<b>Age Group (yrs)</b>			<b>F-value</b>	<b>P-value</b>
20-29 yrs	79	23.65 $\pm$ 6.60	12.93	0.0001, S
30-39 yrs	55	24.20 $\pm$ 7.23		
40-49 yrs	12	32.83 $\pm$ 6.42		
50-59 yrs	4	39.75 $\pm$ 3.20		
<b>Gender</b>			<b>T-value</b>	<b>P-value</b>
Male	69	25.79 $\pm$ 8.32	1.16	0.16, NS
Female	81	24.35 $\pm$ 6.81		
<b>Marital Status</b>			<b>T-value</b>	<b>P-value</b>
Single	72	23.72 $\pm$ 6.99	2.04	0.043, S
Married	78	26.21 $\pm$ 7.88		
<b>Years of experience</b>			<b>T-value</b>	<b>P-value</b>
< 10 years	34	21.35 $\pm$ 7.57	3.32	0.001, S
$\geq$ 10 years	116	26.09 $\pm$ 7.23		
<b>Medical Qualification</b>			<b>F-value</b>	<b>P-value</b>
MBBS Only	19	24 $\pm$ 9.51	1.81	0.16, NS
PG Diploma	30	23.09 $\pm$ 7.92		
MD/MS	101	25.83 $\pm$ 6.93		
<b>Working Status</b>			<b>F-value</b>	<b>P-value</b>
PG Students	61	21.38 $\pm$ 6.74	12.77	0.0001, S
Senior Residents	32	23.33 $\pm$ 5.12		
Asst. Prof	39	22 $\pm$ 7.32		
Asso. Prof	11	26.28 $\pm$ 7.06		
Professor	7	36.27 $\pm$ 5.69		
<b>Average number of patients seen per day</b>			<b>F-value</b>	<b>P-value</b>
$\leq$ 10	32	25.48 $\pm$ 7.60	0.79	0.42, NS
11-50	61	25.68 $\pm$ 8.41		
> 50	57	24.01 $\pm$ 6.47		

represented mild stress, 25-29 represented moderate stress, and 30-50 represented severe stress [16]. The questionnaire had also additional questions relating to academic achievement, sources of stress, and any perceived medical illness.

### Statistical analysis

The analysis was done by descriptive and inferential statistics using Chi-square test, One-way ANOVA, student's unpaired t test and multiple logistic regression

analysis. Data were analyzed using SPSS version 17.0 and p-value < 0.05 considered as significant.

## Results

Among 176 doctors, 16 were excluded because some of them were didn't respond and submitted incomplete forms. Thus, total 150 participants were included in the present study. There were 46% male and 54% female doctors with majority of them were married (52%) and 30 years or older (52%). Most of them are post graduated (67.33%); had more than 10 years of work experience (77.33%) and 40% were seeing around 11-50 patients per day. Among study participants, 62% were residents and 38% were faculties (Table 1).

Majority (76%) of doctors were found to be not satisfied with their job with total job satisfaction low (25.02, sd 7.55). Professional characteristics with least satisfaction were physical working conditions (2.20 ± 1.12), safety and security (2.07 ± 1.11), workload (2.07 ± 1.09), rate of pay and benefits (2.19 ± 1.21), professional growth (2.19 ± 1.29), autonomy (2.18 ± 1.24) and adequate resources (2.14 ± 1.22) (Table 2 and Table 3).

Results also reported that the overall stress among doctors found to be 48% with mild, moderate and se-

vere stress were 33.3%, 9.3% and 5.3% respectively. Significant correlation was found between severity of stress and total job satisfaction ( $p = 0.0001$ ). As severity of stress increased job satisfaction level decreased (Table 4).

The demographic variables such as age, marital status, years since graduation and working status had significant correlation with job satisfaction ( $p < 0.05$ ); whereas gender, educational status and number of patients seen per day were not significantly correlated ( $p > 0.05$ ) (Table 5).

The multiple regression analysis showed that age, educational status and severity of stress were important predictors of job satisfaction among doctors (Table 6).

Factor analysis of job satisfaction characteristics reported in Table 7. KMO measures the sampling adequacy which determines if the responses given with the sample are adequate or not. Kaiser recommend 0.5 as minimum, values between 0.7-0.8 acceptable and values above 0.9 are superb. As shown in Table 7.1, KMO measure is 0.875, which is higher than 0.5 and therefore can be acceptable. The percentage of variance attributable to each factor after extraction noted in Table 7.2,

**Table 6:** Multiple Regression Analysis when overall job satisfaction score considered as dependent variable.

Variables	Unstandardized Coefficients		Standardized Coefficients	t	p-value	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
Overall Job Satisfaction Score	31.59	4.358					
Age	0.37	0.094	0.320	3.958	0.0001, S	0.185	0.555
Gender	- 0.70	0.911	- 0.047	0.779	0.438, NS	- 2.511	1.092
Marital Status	- 0.94	1.180	- 0.063	0.797	0.427, NS	- 3.273	1.392
Year since qualification	- 0.56	1.393	- 0.032	0.406	0.685, NS	- 3.321	2.189
Medical Qualification	- 2.22	0.811	- 0.210	2.741	0.007, S	- 3.825	- 0.619
Previous working experience	0.76	0.719	0.084	1.065	0.289, NS	- 0.655	2.187
Average patients seen	- 0.25	0.642	- 0.026	0.403	0.687, NS	- 1.529	1.011
Severity of stress	- 5.77	0.624	- 0.653	9.259	0.0001, S	- 7.008	- 4.542

**Table 7:** Factor Analysis of job satisfaction score.

**Table 7.1:** KMO and Bartlett's test.

<b>Kaiser-Meyer-Olkin Measure of Sampling Adequacy</b>		<b>0.875</b>
Bartlett's Test of Sphericity	Approx. Chi-Square	1173.49
	Df	45
	P-value	0.0001, S

**Table 7.2:** Total variance explained.

Component	Initial Eigen values			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.540	55.39	55.39	5.540	55.395	55.395
2	1.779	17.79	73.18	1.779	17.792	73.187
3	0.847	8.46	81.65			
4	0.434	4.33	85.99			
5	0.387	3.87	89.86			
6	0.357	3.57	93.43			
7	0.240	2.39	95.83			
8	0.163	1.62	97.46			
9	0.151	1.51	98.97			
10	0.103	1.02	100.00			

Extraction method: Principal component analysis.

first factor accounts of 55.39% of the variance and the second 17.79%. All the remaining factors are not significant. This value is of significance to us and therefore we determine in this step that there are two factors which contribute towards why subjects have the overall job satisfaction.

## Discussion

Results of present survey identified 76% doctors were dissatisfied with their jobs and females were found to be more dissatisfied as compare to males. Khuwaja, et al. in his study among doctors from teaching hospitals of Karachi reported 68% dissatisfaction with job [3]. While a study among doctors from AIIMS, Delhi showed 69.5% job satisfaction. Other study by Chaudhury, et al. among doctors identified only ~40% job satisfaction [17,18]. Previous studies also found that females were more dissatisfied compared to males with their profession which are in accordance with our results [3,7]. The variations in results of studies could be due to differences among study participants.

It has been observed that physical working conditions; safety and security; workload; rate of pay and benefits; professional growth; autonomy and adequate resources showing least mean score. However, the other professional characteristics such as relations with colleagues; recognition-motivation; and opportunity to use skills and ability showing better score. These findings are almost similar to those reported by Khuwaja, et al. [3]. Whereas study by Sohag AA, et al. demonstrated that “working condition/environment”, “pay & perks” and “work load” were showing least score as compared to “existing service structure”, “job prospects”, “appreciation/commendation by superiors”, “training and development opportunities” and “peer’s relationships” [10]. Some other studies attributed increased work load, job insecurity, non-recognition and stressful environment for dissatisfaction [19]. These findings report that professional characteristics influence satisfaction level among doctors.

The increase in age showed consistent increase in job satisfaction level with age being significantly correlated with overall satisfaction. Previous literature also indicated that job satisfaction showed positive correlation with increase in age [20,21]. While other study reported high satisfaction level among young doctors which fell abruptly after the age of 35 years and to rise again in fifth and sixth decade of life [17]. Doctors with > 10 years’ experience found to have high job satisfaction level with duration of experience being significantly associated with overall satisfaction. Previous literature also noticed that a large proportion of doctors expressed satisfaction when they just joined the profession, followed by significant fall in satisfaction level after they put in 5 to 10 years of service, and subsequently gradual increase over another decade or so [17].

Married doctors found to be more satisfied than unmarried one with marital status being significantly associated with job satisfaction. It could be hypothesized that good support helps in coping stressful situation and further lead to increase in satisfaction level. Doctors working as PG students and Senior Residents had higher dissatisfaction as comparison to those on post of Assistant Professor, Associate Professor and Professor with designation being significantly associated with total job satisfaction. Above findings are similar to results shown by Sohag AA, et al. in his study. This could be due to the fact that professors are having their peak designation related salary [10].

The other variables such as gender, educational status and number of patients seen per day had no significant association with job satisfaction level with comparatively more dissatisfaction among female participants, those with lowest educational status and more patients seen per day. Previous studies found that doctors who had more than 8 work hours per day and more night shifts were found to be more dissatisfied [22-24]. More dissatisfaction among doctors with lowest qualifications has also been reported [6,10]. These findings are almost similar to our study results.

The present study identified high prevalence of stress (48%) among doctors with significant difference for overall job satisfaction. There found to be negative correlation between job satisfaction and stress level ( $r = -0.612$ ,  $p$ -value = 0.0001). Past studies also found more stress level among doctors and many of them reported that job stress affects their physical as well as mental health [3,25]. Job stress leads to poor performance at workplace, poor quality of care, and difficulties in caring for patients, spending adequate time with patients and continuing good relationships [26,27].

This study reported age, educational status and severity of stress were potential influential factors for total job satisfaction among doctors. Ghazali, et al. found that service structure and low income were main factors contributing to job dissatisfaction [6]. Sohag AA, et al. identified that working environment; pay/perks and workload were important factors for job dissatisfaction [10]. These variations could be attributed to differences in study population; different variables and tools used; and cultural differences. So, it can be advised to focus on these issues to elaborate risk or influential factors for job satisfaction in future research.

## Strengths and Limitations

1. We selected doctors directly involved with patients care provision including PG trainees and faculties which is strength of our study.
2. We have included doctors from one medical college only and the sample size is small. Hence the results cannot be generalized.

## Conclusion

Majority of doctors were found to be unsatisfied with job and had more stress among them. Factors like age, educational status and severity of stress emerged as potential influential factors. Workload; pay and benefits; autonomy; safety and security; and workload were associated with more dissatisfaction. So, these factors should be addressed by institutional authority to raise job satisfaction among doctors, improve health care delivery, retention of faculties in college, to reduce stress level, to provide safety, to decrease workload and sufficient autonomy. The results of present study can help in future studies to identify the measures for improving satisfaction among doctors by addressing the identified risk factors.

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