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Ergonomic assessment of job satisfaction level among nurses of Ludhiana city

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Abstract
Nursing profession has been an important part of both the 'curative and preventive' aspects of the country's health organization. Nurses may be the best friends of patients. Although they get paid for their job, but the concern and care they show for the patients are incomparable and most of the time goes beyond any financial remuneration. In health care profession, the component of service to humanity is very strong and is characterized by typical traditions, knowledge and skill of a subject field. Nurses are accessible even doctors are not available and supply health care or attention at the doorstep. Responsibilities and roles of nursing have multiplied over the year, but there are immense concerns with respect to the development of the pre-service and in-service education and human resources topic for their career growth. Therefore, the present study was undertaken to know the job profile of the nurses, to assess job satisfaction level among nurses and to find out correlation between personal factors and job satisfaction level of the nurses engaged in hospitals of Ludhiana city by using subjective scale. The results showed that maximum numbers of respondents were having medium level of job satisfaction followed by low.

Keywords: Job satisfaction level, musculoskeletal, stress, analysis, ergonomic

Introduction
Private and government healthcare organizations run parallel in India. Although, some healthcare sectors have the advanced infrastructure facilities but some healthcare workers have to work without suitable infrastructure. There are always hard demands for medical services in both the private and government health care sectors. Working hours in healthcare centers much involve extended work shifts (sometimes longer than 12 hours per day), on-call work, long work hours (greater than 42 hours per week), shift work (work times other than 8:00 A.M. to 8:00 P.M.) and compulsory overtime to meet the patient attention round the clock. Nursing services is established as a psychologically and physically demanding profession with high degree of musculoskeletal ailments. The main motivating components are salary and benefits to maintain a decent standard of living and to support their family. Job satisfaction, burnout and stress are major factors that nurses have to deal with often while in their work environment. Job satisfaction is an important parameter for nurses that can affect patient's safety, productivity and performance quality. Job satisfaction in health care centers and the consequences of that satisfaction are good indicators of well-being and quality of life of the nurses (Peter 2008) [2].) observed that job satisfaction as the end state of feeling, the feeling that is experienced after a task is accomplished. The feeling could be positive and negative depending on the outcome of the task undertaken. So the present study was undertaken with the following objectives.
1. To know the job profile and relationship at workplace of the nurses
2. To assess the job satisfaction level of the respondents
3. To measure the relationship between socio-economic factors and job satisfaction by using correlation coefficient

Materials and methods
The current study was conducted in multispecialty hospitals of Ludhiana city among nurses. 120 nurses were selected randomly. For data collection, job satisfaction scale was used to know the job satisfaction level of the nurses and spearman's rank correlation coefficient was used to measure the degree of relationship between socio-economic factors of nurses and their job satisfaction. The mean score were calculated to find job satisfaction level of nurses on the basis of five point scale and applying correlation coefficient rank test by using the following formula:

$$\text{Mean score} = \frac{\Sigma Sn}{N}$$

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S= Score assigned to respondents, n=Frequency distribution, N=Total number of respondents.
Further the ranks were given on the basis of mean score.

$$Z = \frac{\hat{p} - p_0}{\sqrt{\frac{p_0(1-p_0)}{N}}}$$

$\hat{p}$= sample proportion, P_o = population proportion, n = sample size

Spearman's rank of correlation (r)
The Spearman correlation coefficient is defined as the Pearson correlation coefficient between the rank variables. For a sample of size n, the n row score Xi, Yi are converted to ranks xi, yi and p is computed from

$$\rho = 1 - [6\sum d_i^2 / n\,(n^2-1)]$$

Where di= xi – yi, is the difference between rank.

Frequency and Percentage
Frequency and percentage were worked out to find out the distribution of respondents according to burnout level of respondents.

Results and discussion
The data collected on various aspects by respondents have been analyzed and presented in Table 1, 2 and 3 and Fig 1: Job profile includes information related to the job of the respondents like job category, distance from home to hospital, various tasks they are performing in the hospital and various facilities provided in the hospitals. it is clear from table 1 that two-third of the respondents (67.50%) were working in private hospitals. Whereas, 32.50 percent of the respondents were working in government hospitals. Half of respondents (51.67%) had personal monthly income in the range of Rs 5000-16000/-per month. Whereas, 27.50percent of the respondents had personal monthly income in the range Rs 16000-27000/-per month and 20.83 per cent of respondents earned between Rs 42000-58000/ month. The average monthly income was found as Rs 18016/-per month. Table 1 showed that more than half of the respondents (57.50%) were travelling 1-3 km daily from home to workplace. Whereas, 23.33 per cent respondents were covering 3-5km daily to reach to the hospital and 12.50per cent respondents were travelling more than 5km daily. Only 6.6 percent respondents were travelling less than one km to reach their work place from home. It was found from table 1 that 42.50 per cent of respondents were working 6-8 hours/day and 40.83 per cent of respondents were working 10- 12 hours/day. Only 16.67percent of the respondents were working 8-10 hours/day.

Table 1: Job profile of respondents n=120

Job profile	Frequency	Percentage (%)
Job category		
Government	39	32.50
Private	81	67.50
Personal Monthly income (Rs)		
5000-16000	62	51.67
16000-27000	33	27.50
27000-38000	25	20.83
Average	Rs 18016/-	
SD	9890.13	
Distance from working place to home		
Less than 1km	8	6.67
1-3 km	69	57.50
3-5 km	28	23.33
More than 5	15	12.50
Working hours		
6-8 hours	51	42.50
8-10 hours	20	16.67
10-12 hours	49	40.83

*Multiple responses

Table 2: Type of relationship at workplace n=120

Relationship at workplace	Frequency	Percentage (%)
With doctors		
Dominant	23	19.17
Strict	29	24.17
Understanding and Polite	68	56.66
With colleagues		
Friendly	53	44.16
Jealous	6	5.00
Co-operative	61	50.84
With office-staff		
Friendly	52	43.34
Co-operative	68	56.66

*Multiple responses

With doctors

It is evident from table 2 that maximum number of respondents (56.66%) felt that their senior doctors are of understanding nature as they did not create any problem while taking leave in any emergency. Whereas, 24.17 per cent of respondents were demoralized due to strict behavior of their senior doctors. Some respondents (19.17%) also felt that their senior doctors forced their decision on them due to their dominating behavior and rarely listened to their problems.

With colleagues

Table 2 shows that half of the respondents (50.84%) observed that their colleagues were of co-operative nature as they always help them and do adjustment at workplace (like shifting of time, attend emergency at night). Whereas, 44.16 per cent respondents felt that their colleagues are of friendly nature as they were share their family and personal issues with them. They also got motivation from them in odd situations. Whereas, a very less number of respondents (5.00%) felt that their colleagues are jealous from them.

With office-staff

Data enfolded in table 2 show that 56.66 per cent respondents reported that their office-staff are co-operative. Whereas, 43.34 per cent respondents felt that their office-staff are friendly in nature. Ippolito (1997) also found that if the health workers have good relationship with doctors, colleagues and office staff, their working efficiency can be increased.

Assessment of job satisfaction of respondents by using job satisfaction scale (Kishore Oza 2005) [1]

Saiyadain (2007) observed the job satisfaction as the end state of feeling, the feeling that is experienced after a task is accomplished. The feeling could be positive and negative depending on the outcome of the task undertaken. For assessing job satisfaction of respondents, job satisfaction scale by Kishore Oza (2005) [1] was used in which 30 statements were there on 5 point scale. The mean score for each statement was calculated and mean ranks were assigned accordingly and have been presented in Annexure VII.

Three categories of low, medium, and high were formed according to maximum (120) and minimum (40) job satisfaction score, which are presented in fig 1. Maximum numbers of respondents (57.50%) were having medium level of job satisfaction followed by low (24.16%). Only 18.33 per cent of respondents had high job satisfaction level. This may be due to the reason that in maximum of the hospitals lack of basic facilities and ergonomically designed equipment along with low salary which made them dissatisfied with the existing working condition. This should be provided to raise their satisfaction level which in turn can increase their working efficiency. According to Vroom (1978) observed that positive attitude towards the job is conceptually equivalent to job satisfaction and negative attitude towards the job indicated job satisfaction. Sinha and Agarwal (1971) [4] studied job satisfaction as a persistent affective state which has arisen in the individual as a function of the perceived characteristics of his job in relation to his frame of reference. Arnold and Fieldman (1986) defined it as the amount of overall positive effect or feeling that an individual has toward their job.
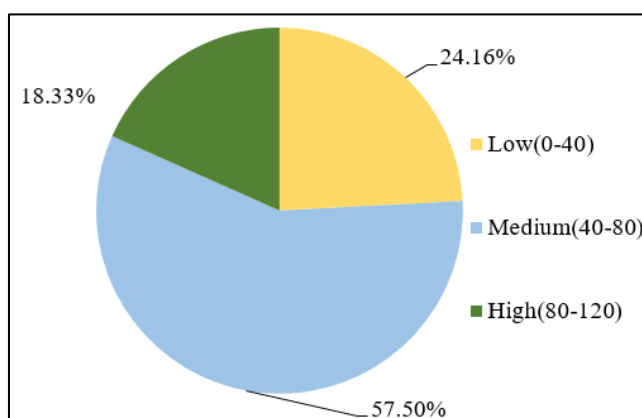

Fig 1: Distribution of respondents according to job satisfaction scale

Table 3: Correlation between Socio-economic/personal factors of respondents and Job Satisfaction level n=120

Socio-economic/personal factors of respondents	Job satisfaction level
Age	0.330**
Family income	0.373**
Education	0.422**
Personal income	0.404**
Good relationship with doctors	0.297**
Good relation with colleagues	0.290**
Good relationship with office staff	0.292**

** Significant at 1% level

Job satisfaction is an important parameter for nurses that can affect patient's safety, productivity and performance quality. Job satisfaction in health care centers and the consequences of that satisfaction are good indicators of well-being and quality of life of the nurses (Peter 2008) [2]. Spearman's rank correlation coefficient was used in present study to measure the degree of relationship between socio-economic/personal factors of nurses and their job satisfaction. It is a two way statistical technique aims to examine the relationship of variables like age, family income, education, monthly income and good relationship with doctors, colleagues and office staff with job satisfaction of respondents. Table 3 shows that age

was positively correlated with job satisfaction which indicates that older nurses are more satisfied with their job than younger nurses. It may be due to high perks they are getting due to their experience. Data indicate that education was positively correlated with job satisfaction which shows that nurses with higher education were more satisfied with their job than those having low level of education. Family and personal income were also found positively correlated with job satisfaction because they had enough money to support their home and maintain a decent standard of living. Good relationship with doctors, colleagues and office staff were also the factors which were positively correlated with job satisfaction because if they have congenial environment due to good relationship with doctors, colleagues and office staff in the hospital, their satisfaction level will also be increased. So it can be concluded that all socio-economic factors are positively correlated with job satisfaction. Ippolito (1997) also found in his study that if health care workers have good relationship with doctors and colleagues, their working efficiency can be increased.

Conclusion
On the basis of above findings it can be concluded that maintaining a positive outlook, staying healthy and sharing concerns with trusted colleagues, nurses can better cope with potential stressors, leading to better patient care, and increased job and personal satisfaction. It was observed that, maximum numbers of respondents were having moderate job satisfaction with score of 40-80. Different socio-economic/personal factors like age, family income, education, and personal income, good relationship with doctors, colleagues and office staff were positively and significantly correlated with job satisfaction of respondents. Nurses experience a range of emotions in their daily work. These can include everything from feeling challenged, stimulated, overwhelmed, anxious, and frustrated, feeling competent, confident, and rewarded.

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