Factors associated with job satisfaction among graduate nursing faculties in Nepal

Abja Sapkota (✉ abjasapkota@nmch.edu)  
Nepal Medical College  https://orcid.org/0000-0003-1610-5803

Usha Kiran Paudel  
Tribhuvan University Institute of Medicine

Jyotsana Pokhrel  
Nepal Medical College

Pratima Ghimire  
Nepal Medical College

Arun Sedhain  
Chitwan Medical College

Gandhi R Bhattarai  
OptumInsight Inc

Binu Thapa  
Kathmandu University School of Medical Sciences

Tulza KC  
Institute of Medicine Nursing Campus Maharajgunj

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Abstract

Background: Job satisfaction among nursing faculties is critical to improve quality of nursing education for producing future nurses whose action will be directly related to the health condition of the patients at local and national level. This study explores the factors associated with job satisfaction among graduate nursing faculties in different Universities of Nepal. Methods: A cross-sectional study was conducted among the nursing faculties with Masters’ level and higher qualification and completed at least one year of teaching in their respective institutions. A 36-question job satisfaction questionnaire with 6-point Likert type responses was administered online. The survey instrument was pre-tested with 30 faculties pooled from multiple institutions. Link to final survey was sent via e-mail to 327 nursing faculties working in 39 nursing colleges. Respondents were followed through email or phone, once a week for one month after survey was opened. Data analysis was carried out with SAS University Edition software. Chi-Square test and t-test were used for simple descriptive analysis. Results: The response rate was 54.4%. After retrospective cleaning of data, usable response rate was 52.3% (n=171). The average age of the nursing faculties was 36.8±7.0 years. Based on the overall job satisfaction score, 36.8% nursing faculties were satisfied with their current job. The coefficient for Cronbach’s alpha was 0.895 suggesting very good reliability of the overall measure. The significant factors associated with job satisfaction were the involvement of the faculties in decision making process related to the department (OR=4.83) and adequate access to reference materials (OR=2.90). Top three domain specific job satisfaction scores were coworkers (µ=18.3), communication (µ=17.3) and nature of work (µ=17.1). Lowest satisfaction scores were for promotion (µ=12.0), operating condition (µ=12.9) and contingency rewards (µ=13.1) and pay (µ=13.8) Conclusions: This study suggests that nursing faculties have positive attitude towards their job but are dissatisfied with the benefits offered to them as well as the operating condition of the institution they work for. A participatory approach in management and decision making within different level of the organization would boost their morale. Expanding teaching learning resources would be helpful in improving the quality of nursing education in Nepal.

Background

Job satisfaction is an important component to improve performance at work and maintain the overall quality of work in any organization. Job satisfaction has been defined as the fulfilment of an employee’s expectations for the work he or she performs [1]. It has also been described as a person’s attitude with a correlation between expectations and outcomes at work [2]. It is well established that persons who are satisfied with their job tend to be more creative and innovative for better organizational performance [3]. Therefore, the result of job satisfaction will have an impact not only at the individual level but also in the institutional, societal and national level. Multiple factors affect a person’s satisfaction at job that may not be limited only to the pay, benefit, and promotion but also to the working condition, leadership and social relationship, diversities of task involved, opportunities and challenges [4, 5].

Nursing teachers are expected to perform multiple tasks that ranges from teaching nursing students, undertaking research activities, fulfilling an administrative role and facilitating support staff in practice as
well as providing patient care [6]. In nursing education, it is quite important to maintain and evaluate the satisfaction of the faculties involved in teaching because it is related to the production of nursing personnel, who are directly involved to provide first hand health service to the patients. The production of quality nurses with better values depends, to some extent, on the quality of a teacher [7]. When nursing faculties are satisfied with their job, they become passionate about their work that would help in delivering quality education. It will result in lower faculty attrition, increased reputation of the institution and higher recruitment of most qualified students.

Such an important facet of job, which is of prime concern globally, has been rarely discussed and explored especially in developing countries like Nepal. Although limited studies have explored few components of job satisfaction [8, 9], there is paucity of information on the overall job satisfaction of nursing faculties at the national level. It is imperative to understand their need and expectations and address them sooner than later. This study aims to explore the level of job satisfaction and factors associated with it among the nursing faculties working in seven different Universities and Health Institutes in Nepal.

**Methods**

**Study Population**

A cross-sectional study was conducted to explore the level of job satisfaction and factors associated with it among graduate nursing faculties in Nepal. At the time of study initiation, 54 nursing colleges affiliated to seven universities offered baccalaureate or masters’ level nursing degrees. All the faculty members who held at least a master’s degree in nursing with current teaching responsibility at bachelors’ level or higher for more than one year at the same institution were the population for the study. A census sampling technique was applied for the study. Name of the college was identified through web search under each of the universities. Among the 54 colleges two colleges could not be reached due to scheduling conflict, five did not consent to participate in the study, and six colleges did not have faculties with a master’s degree. The number of nursing faculties with at least masters’ degree was 357 from the remaining 39 colleges.

**Ethical Clearance**

As the participants were from different institutions, ethical clearance was obtained from the institutional review committees of both Nepal Medical College (NMC), and Nepal Health Research Council (NHRC) before the initiation of the study. Upon approval from IRB, the campus chief from each nursing college was sent formal letter to receive their institutional approval to conduct the study with their faculties. The respondents were asked to read the instructions and given an opportunity to decide whether they wanted to accept or decline the survey.
Survey Instrument

A survey instrument was prepared for the study. The instrument was divided into three sections – the first and second sections included sociodemographic and organization related information. These sections were constructed by the researchers through the literature search [10] and discussion with the experts. Third section consisted of a 36-items ‘job satisfaction survey’ developed by Specter [11] and used with his permission. Each question included 6-point Likert scale responses (1: disagree very much, 2: disagree moderately, 3: disagree slightly, 4: agree slightly, 5: agree moderately, and 6: agree very much). These questions covered nine different domains and included four questions in each domain. The total score ranged from 108 to 216 and domain scores ranged from 4 to 24.

The survey instrument was posted online with the help of an expert in information technology. A link to the survey instrument was emailed to 30 randomly selected faculties as a pretest. They were followed up via email on weekly basis for one month. Valid response was received from 56.6% of the faculties during pretesting. Data from these faculties were excluded from the analysis.

Data Collection

Final survey via link to the online questionnaire was sent to 327 faculties (after excluding 30 pre-test sample). At least one facilitator was identified from each college, who would coordinate the timely delivery of the response from nursing faculties. The researchers remained in frequent touch with the facilitators throughout the data collection period. The facilitators were provided with a remuneration of Nepalese rupees 500 (equivalent to USD 5) for coordinating the research at local level.

Responses were received from 178 (54.4%) of population. A retrospective cleaning was done to remove those with less than one year of service, submitted a ‘declined’ response, or currently not teaching at graduate program. After this cleaning, 171 usable responses (52.3%) were included in the final analysis (Figure 1).

(Figure 1 about here)

Data analysis

Data analysis was done with SAS University Edition. Simple descriptive analysis was done for data exploration. Chi-square test of dependence (for categorical variables) and t-tests (for continuous variables) were performed to check the relationship between job satisfaction and individual variable. Multivariate binary logistic regression model was used to identify factors associated with nursing
faculties’ job satisfaction. Adjusted odds ratio was calculated and significance was considered at $p \leq 0.05$ at CI 95%.

Due to the design constrain during the delivery of online questions, few demographics and institutional related questions had some missing values. The missing rate was never higher than 7.5%. Simple imputation was done by replacing the missing values by the mean (continuous variables such as age) or largest class (such as involvement in departmental decision making). There were no missing values in the response for job satisfaction questions.

## Results

### Research participants’ profile

Out of 327 nursing faculties, who were sent questionnaire, 171 (52.3%) were included in final analysis. The average age was 36.8±7.0 years (range 26 to 57 years). Only 2.9% were male faculties. Majority of the faculty had Master of Nursing (MN) degree (55.6%), followed by Master of Science in Nursing (MSN, 40.9%) and Doctorate in Nursing (PhD, 3.5%).

The percentages of nursing faculties employed in private colleges and public colleges were 60.8% and 39.2% respectively. Overall 58.5% faculties were permanent (tenured) however there was huge disparities in tenure status among private colleges (45.2%) and public colleges (79.1%). Exactly two thirds of the faculties (66.7%) worked at Lecturer or lower position followed by 18.7% as Associate Professor or higher level and 14.6% as Assistant Professor. 38.0% of faculty had specialization in adult health (adult health nursing, medical-surgical nursing, critical care nursing and general nursing), followed by women's health (maternal health and women's health; 26.9%) and child health (pediatrics and children's health; 17.5%). Only 10.5% and 7.0% were specialized in psychiatric and mental health and community health respectively.

### Job satisfaction score

Slightly over one third (36.8%) of the graduate nursing faculties were satisfied with their job. Dissatisfaction about their current job was observed only in 14.6% faculties and majority (48.5%) had ambivalent feeling towards their job. Among the nine job satisfaction domains, highest job satisfaction was observed in coworkers (81.3%), followed by the nature of job (71.3%), communication (70.8%) and supervision (63.2%). Most dissatisfaction was towards lack of promotion (56.1%), contingency rewards (44.4%), operating condition (44.4%), pay (40.9%) and fringe benefits (35.1%). Only two domains, pay and supervision, have acceptable reliability score (Cronbach's alpha $\geq 0.70$). Hence, individual domain scores are not analyzed further and the satisfaction categories are presented for informational purpose. (Table 1)
Our primary objective of this study was to explore factors associated with overall job satisfaction among the graduate nursing faculty. Since majority of the respondents were ambivalent with few respondents expressively dissatisfied, we grouped these two categories as not-satisfied opposite to the respondents who were satisfied. This would allow us to run a multiple logistic regression model with a binary dependent variable (satisfied vs not-satisfied).

**Sociodemographic characteristics of graduate nursing faculties by job satisfaction**

The details of sociodemographic and organizational characteristics of the faculties are shown in Table 2.

**Organizations related characteristics of nursing faculties by job satisfaction**

Majority of the nursing faculties (60.8%) were from private organizations and 39.2% from the public institutions. While public institutions usually offer provident fund, grade and promotional opportunities for their employees, private institutions are also catching up with providing these benefits to both their tenured and non-tenured employees. For example, 76.6% faculties responded positively about grade opportunity and 63.7% reported having provident fund benefits even though the overall employment in public colleges was 39.2% and tenure (permanent) rate was only 58.5%.

A grade in Nepalese context is a periodic increment in the basic salary of employees after they completed certain years at service. In other word, it can be defined as steps within the same grade level in the USA. On the other hand, a provident fund is a pension fund scheme for employees of both the public and private sectors in Nepal. This fund is managed by a government institution which invests the money to generate profit for the depositors. Under this scheme, eligible employees contribute 10% of their basic salary and employer equally matches the fund. This scheme operates similar to a 401(K) savings plan in the USA.

Healthcare benefits was reported by 74.3%. Healthcare benefits in Nepalese context is employer provided welfare scheme that provides limited medical care within their network for employee and their dependents. Immediate family members including spouse and children plus parents of both spouses are usually covered by this benefit.

Majority of respondents reported the availability and easy access to textbooks (74.9%), reference books (66.1%), nursing and medical journals (57.3%) and internet facilities (83.6%). *(Table 3)*

**Characteristics associated with job satisfaction**
The descriptive results showed that some of the variables have stronger association with job satisfaction than others. In order to evaluate the effect of each of those factors while simultaneously controlling for other factors, a multiple logistic regression model was used in next step. All variables with an effect size greater than 0.15 (see the correlation coefficient or Cramer's V statistics in Table 2 and 3 above) were included in the initial model. Univariate logistic regression (not shown in these tables) also suggested the selection of these variables. All variables that were selected based on the high correlation with job satisfaction were further evaluated for possible collinearity and strong association among each other. Cramer's V test statistics were used to check for each pair of categorical variables. A cutoff point of 0.50 was established for unusually high correlation at which point two variables were probably measuring the same concept.

Being permanent had strong correlation with provident fund (0.70) and grade (0.54). In Nepalese context, whether it is a public or private institution, a permanent employment (tenured status) usually requires the employer to provide both provident fund and grade (0.59) but employers can extend these benefits to non-permanent employees at any time. Since majority of the faculty worked in private sector colleges, an employer matched provident fund may have greater value towards their saving for the future. Therefore, only provident fund benefit was chosen to enter the model. Similarly, strong association was detected between current position and level of primary teaching responsibility (0.57) and total compensation above median (0.52). However, effect size between master's program and total compensation was much lower (0.37) and both primary responsible program and total compensation were entered in the model without current position. Adequate textbook and reference book were also strongly related (0.64) and only adequate reference book which had higher correlation with outcome was selected.

(Figure 2 about here)

Table 4 shows the results from multiple logistic regression model where the job satisfaction is the function of many variables. The area under curve of the receiver operating curve showed very strong discriminatory power (AUC = 0.855) of the model. It means that the logistic regression model can accurately classify the predicted outcome as satisfied or not-satisfied for every possible pair of observations for 85.5% of the pairs. The likelihood ratio test (p<0.0001) and Hosmer and Lemeshow goodness of fit statistics (p=0.609) also indicate that the model is well behaved. However, majority of the individual variables included in the model do not have statistically significant coefficient and have a very wide odds ratio interval.

The researchers would like to point out that involvement in decision making (higher job satisfaction with higher involvement levels) and adequate reference books came out to be the only strongly significant variables (p<0.05) in the model. Faculties who were involved in departmental decision-making processes ‘sometimes’ and ‘often or always’ were 3.6 and 4.83 times more likely to be satisfied respectively than
those who were never or rarely involved. It is interesting to note that the lowest job satisfaction (Table 1) was in the domain “operating conditions”. It suggests that job satisfaction is high when faculties are included in the decision-making process and they feel part of the ‘system’. Similarly, their job satisfaction is higher (OR=2.92, p=0.050) reference books were adequately available for themselves and the student.

Although the adjusted odds ratios were not significant at 5% level of significance and 95% confidence interval, there were positive indicators of job satisfaction with various factors identified during the descriptive analysis. The nursing faculties were more likely to be satisfied with availability of medical or nursing journals (OR=2.32, p=0.090) and internet access (OR=3.92, p=0.100). They were 64% more likely to be satisfied (OR=1.64, p=0.378) when they were involved in setting questions for the final exams, which is often regarded a greater respect to the faculty in Nepal. They were more likely to be satisfied with their job when they did not have evening clinical (OR=3.30, p=0.069), could start their AM clinical 8 am or later instead of earlier in the morning (OR=1.54, p=0.352), had weekly work load of less than 42 hours (OR=1.98, p=0.198), had annual teaching load less than 125 hours (OR=2.41, p=0.082) and were provided with more than 5 days of professional development opportunities (OR=2.34, p=0.072).

Discussion

This study was conducted to explore the factors associated with job satisfaction among the nursing faculties teaching at the baccalaureate level and above in different nursing colleges under seven Universities of Nepal. The findings would be helpful to identify the factors that may be modified to improve job satisfaction among these faculties which eventually helps in higher retention of these faculties and improve the overall quality of nursing education.

There have been few small-scale job satisfaction studies in Nepal with varying results prior to this study. A study done among the nursing faculties working in the Kathmandu valley of Nepal showed that only one third of the participants were satisfied with their job [9]. Another study done in central part of Nepal found that a majority of the faculties (80.8%) had ambivalent feelings and none of the faculties were satisfied with their jobs. This study found that organizational commitment was an important factor to maintain the job satisfaction among nursing faculties. [8].

In contrast to the several studies conducted in the United States of America and Australia where job satisfaction among nursing faculties was reported between 18% and 45% [10, 12-14], the 36.8% job satisfaction rate of this study seems reasonable.

Moody et al found a significant positive relationship between years at the current institution and satisfaction with pay, coworkers, and the job in general [10]. In current study, faculties seemed to be least satisfied with their current opportunities for promotion, contingency rewards, operating conditions, payment and fringe benefits. Nursing faculties seemed to be dissatisfied with their professional promotion in this study, which is consistent with the studies done in Canada [15] and the USA [16]. Promotion of nursing faculties often tied with their participation in research activities. 45% of the nursing faculties were already working 42 hours or more per week (table 1). A promotion criterion based on
number of research publications in peer reviewed journals often created additional burden on those faculties. Barret et al had found that the nursing faculties were least satisfied with the extrinsic factor like their participation in research related activities [16].

As seen in the domain wise job satisfaction scores, faculties were least satisfied with the existing operating condition that involved excessive work load, lots of paperwork, non-participatory decision making, and many rules and regulations that would make their job more difficult. These findings are in congruence to the study by Barrett et al that showed that the faculties were least satisfied with the excessive workload [15]. In a study in the United Kingdom, McHale found that the nursing teachers were dissatisfied with the excessive paper work and it has been suggested for examination of teacher’s workload to alleviate both quantitative and qualitative overload [17]. Shortage of nursing faculties, often resulting in higher student-faculty ratio, and vague job descriptions could be some of the reasons faculties feel burden at work.

Low satisfaction regarding the payment was similar to the results of a study by Thies et al [18]. The nursing faculties in the current study were satisfied with the coworkers, nature of work, communication and supervision, and this finding is similar to the reports from a number of other studies [10, 16-19].

Multiple regression analysis showed that an easy access to adequate reference books, internet facilities and clinical/nursing journals in their workplace were some of the key factors in the faculties’ job satisfaction. The availability of adequate references books and its access acts as resources that can be the cornerstone in the improvement of the knowledge and skills of both the nurses working in hospitals [20, 21] and nursing faculties working in colleges.

The faculties’ involvement in decision making process was another significant key factor of job satisfaction. A study conducted in the United States also showed faculties participation in decision making which comes under the autonomy (intrinsic factors) as the key factor for job satisfaction [16].

Although we selected the variables based on their high correlation with the outcome from the univariate analysis, most variables were not statistically significant in the multiple regression model. This suggests that job satisfaction as outcome is the result of many interrelated variables. While individual variables were strongly related with the outcome during univariate analysis, their effect was neutralized in the presence of other variables. However, collectively the set of variables used in the model was able to discriminate job satisfaction outcome with very high degree of accuracy. The researchers suggest that the association between individual variable and outcome be taken as indicative than deterministic of overall job satisfaction.

Limitations

One of the limitations of this study was that being an online survey only highly motivated faculties were willing to participate in the study which may have introduced some outcome bias. Moreover, few of the participants did not have easy access to internet and did not respond to emails frequently, which limited
the timely delivery of the response. Due to the lack of national registry system with the contact details of the nursing faculties working in different organization in the country, it was difficult to retrieve the contact details of the participants and some of the surveys were returned as undeliverable.

**Conclusions**

Findings from this study shows only a few faculties were satisfied with their opportunities and criteria used for promotion, contingency rewards, operating conditions, payment and fringe benefits. The operating conditions included many rules and procedures resulting in lower work efficiency and new ideas not being promoted as needed that could encourage faculty innovation. Although, the payment was one of the lowest ranked job satisfaction domains many non-monetary factors played key role in their overall job satisfaction. While many variables had individually strong correlation with job satisfaction, the contribution from each of those variables were smaller when controlling for each other in a multivariate analysis. Therefore, the researchers suggest that the association between

**Abbreviations**

BPKIHS- BP Koirala Institute of Health Sciences  
KU- Kathmandu University  
MN- Masters’ in Nursing,  
MSc Nursing- Masters’ in Science in Nursing,  
NAMS- National Academy of Medical Sciences  
NHRC- Nepal Health Research Council,  
NMC- Nepal Medical College,  
PAHS- Patan Academy of Health Sciences  
PD- Professional Development,  
PhD- Doctorate in philosophy,  
PokhU- Pokhara University  
PU- Purbanchal University  
SPSS- Statistical Package for the Social Sciences,  
TU Tribhuvan University
Declarations

Ethics approval and consent to participate

Written permission was taken from the author of job satisfaction survey (JSS). Written administrative approval from organizational authorities of each college and ethical approval from Institutional Review committee of Nepal Medical college (NMC-IRC) was obtained (Approval date: 25 June, 2017- Ref no- 34-072/073). Written informed consent was taken from the respondents and their rights were protected by maintaining confidentiality and privacy. Anonymity was assured by requesting respondents not to write their names or any identifiable marks on the questionnaires.

Consent for publication

Not applicable as no individual detail is presented in this report.

Availability of data and material

The dataset used and analyzed during the study is available in the figshare repository, the address of which is: https://figshare.com/articles/Job_Satisfaction_among_Nepalese_nursing_faculties/8247017

Competing interests

The authors declare that they have no competing interests.

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Authors' contributions

AS- conceptualized the study, coordinated with the authorities of different nursing colleges, collected data, entered the data and analyzed them, and also developed the final manuscript. UKP- Collected data and analyzed the data. AS- Conceptualized the study, reviewed the literature and prepared the manuscript. GRB- statistical analysis, prepared and thoroughly reviewed the final manuscript. JP, PG, BT & TKC- Conceptualized the study, collected data and frequently coordinated with the faculties. All authors read and approved the final manuscript.
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References

1. Hayne AN, Gerhardt C, Davis J. Filipino nurses in the United States recruitment, retention, occupational stress, and job satisfaction. Journal of Transcultural Nursing. 2009;20(3),313-22. doi: 10.1177/1043659609334927
2. McKenna, E. Business Psychology and Organizational Behavior: A Student’s Handbook, third ed. Psychology Press, Philadelphia. 2000.
3. Bakotić D. Relationship between job satisfaction and organizational performance. Economic Research-Ekonomska Istraživanja, 2016; 29(1), 118-30. http://dx.doi.org/10.1080/1331677X.2016.1163946
4. Al-Hussami M, Saleh MYN, Abdalkader RH & Mahadeen Al. Predictors of nursing faculty members’ organizational commitment in governmental universities. J of Nurs Manag. 2011;19:556-66. doi: 10.1111/j.1365-2834
5. Miao RT. Perceived Organizational Support, Job Satisfaction, Task Performance and Organizational Citizenship Behavior in China. Ins of behav and applied manag 2011;1:105-27.
6. Spector PE. Job Satisfaction: Application, Assessment, Causes and Consequences. SAGE Publications, London. 1997.
7. Kenny P, Reeve R, Hall J. Satisfaction with nursing education, job satisfaction, and work intentions of new graduate nurses. Nurse Educ Today. 2016;36:230-5. doi: 10.1016/j.nedt.15.10.023.
8. Baral, R, Bhatta R. Job Satisfaction among Nursing Faculties of Chitwan District. Journal of College of Medical Sciences-Nepal. 2018;14(4), 221-4. doi: https://doi.org/10.3126/jcmsn.v14i4.22559
9. Timalsina R, KC S, Rai N, Chhantyal A. Predictors of organizational commitment among university nursing Faculty of Kathmandu Valley, Nepal. BMC Nursing (2018) 17:30. doi: https://doi.org/10.1186/s12912-018-0298-7
10. Moody NB. Nurse faculty job satisfaction: a national survey. J Prof Nurs. 1996;12(5):277-88.
11. Spector PE. Job Satisfaction Survey, JSS Page Retrieved on 4/21/2017 from http://shell.cas.usf.edu/~pspector/scales/jsspag.html
12. Jackson, Annette J. Nurse Faculty Job Satisfaction: Development and Evaluation of the Nurse Educator Satisfaction Index. Doctorate of Nursing Science Dissertations. Wellstar School of Nursing,
13. Westphal J, Marnocha S, Chapin T. A pilot study to explore nurse educator workforce issues. Nursing education perspectives. 2016;37(3):171-3. doi: 10.5480/14-1332

14. Sayers JM, Salamonson Y, DiGiacomo M, Davidson P. Nurse educators in Australia: High job satisfaction despite role ambiguity. Journal of Nursing Education and Practice. 2015;5(4):41-51. Doi: https://doi.org/10.5430/jnep.v5n4p41

15. Barrett MC, Goldenberg D, Faux S. Career patterns and job satisfaction of Canadian nurse educators. Journal of Advanced Nursing. 1992;17:1002-11. Doi: https://doi.org/10.1111/j.1365-2648.1992.tb02030.x

16. Snarr CE, Krochalk PC. Job satisfaction and organizational characteristics: Results of a nationwide survey of baccalaureate nursing faculty in the United States. Journal of Advanced Nursing. 1996;24,405-12. Doi: https://doi.org/10.1046/j.1365-2648.1996.19725.x

17. McHale C. Job mobility among nurse teachers. Nursing Standard. 1991;6(1):30-2. doi: 10.7748/ns.6.1.30.s47

18. Thies KM, Serratt T. Evaluating Association Degree Nursing Faculty Job Satisfaction. Teaching and Learning in Nursing. 2018;13:71-4. Doi: https://doi.org/10.1016/j.teln.2017.12.008

19. Disch, J, Edwardson,S, Adwan, J. Nursing faculties satisfaction with individual, institutional factors, leadership factors. Journal of Professional nursing. 2004;20:323-31. DOI: 10.1016/j.profnurs.2004.07.011

20. Grandjean BD, Aiken LH, Bonjean CM. Professional autonomy and the work satisfaction of nursing educators. Nursing Research. 1976;25(3):216-21. DOI: http://dx.doi.org/10.1097/00006199-197605000-00018

21. Laschinger HK. Job and career satisfaction and turnover intentions of newly graduated nurses. J Nurs Manag. 2012;20(4):472-84. doi: 10.1111/j.1365-2834.2011.01293.x

Tables

Table 1 Job Satisfaction of graduate nursing faculties
## Job Satisfaction Domains

| Domains          | Score (n=171) | Satisfied | Ambivalent | Dissatisfied | Reliability² |
|------------------|---------------|-----------|------------|--------------|--------------|
|                  | μ±σ           | Count     | %          | Count        | %            |             |
| Pay              | 13.8±4.9      | 59        | 34.5%      | 42           | 24.6%        | 70          | 40.9%  | 0.771 |
| Promotion        | 12.0±4.1      | 42        | 24.6%      | 33           | 19.3%        | 96          | 56.1%  | 0.446 |
| Supervision      | 16.7±4.5      | 108       | 63.2%      | 39           | 22.8%        | 24          | 14.0%  | 0.795 |
| Fringe Benefits  | 14.1±4.3      | 62        | 36.3%      | 49           | 28.7%        | 60          | 35.1%  | 0.527 |
| Contingency Rewards | 13.1±4.1       | 50        | 29.2%      | 45           | 26.3%        | 76          | 44.4%  | 0.569 |
| Operating Conditions | 12.9±3.2          | 30        | 17.5%      | 65           | 38.0%        | 76          | 44.4%  | 0.098 |
| Coworkers        | 18.3±3.4      | 139       | 81.3%      | 25           | 14.6%        | 7           | 4.1%   | 0.675 |
| Nature of work   | 17.1±3.4      | 122       | 71.3%      | 30           | 17.5%        | 19          | 11.1%  | 0.601 |
| Communication    | 17.3±3.8      | 121       | 70.8%      | 31           | 18.1%        | 19          | 11.1%  | 0.606 |
| Overall          | 135.3±24.8    | 63        | 36.8%      | 83           | 48.5%        | 25          | 14.6%  | 0.895 |

1Overall satisfaction - Satisfied: >=144, Ambivalent: 109-143, Dissatisfied: 36-108

1Sub-domain satisfaction - Satisfied: >=16, Ambivalent: 13-15, Dissatisfied: 4-12

2Reliability or internal construct validity is given as Cronbach’s alpha coefficient

Table 2: Sociodemographic characteristics of graduate nursing faculty
| Characteristics          | Total (N=171) | Not-Satisfied (n0=108) | Satisfied (n1=63) | p-value<sup>1</sup> | Effect Size<sup>2</sup> |
|-------------------------|---------------|------------------------|-------------------|---------------------|-------------------------|
|                         | Count % or µ±σ | % or µ±σ               | % or µ±σ          |                     |                         |
| **Age category**         |               |                        |                   |                     |                         |
| 35 or younger           | 91            | 53.2%                  | 61.1%             | 39.7%               | 0.011 0.230             |
| 36 to 45 years          | 56            | 32.7%                  | 29.6%             | 28.1%               |                         |
| 46 and older            | 24            | 14.0%                  | 9.3%              | 22.2%               |                         |
| **Sex**                 |               |                        |                   |                     |                         |
| Female                  | 166           | 97.1%                  | 99.1%             | 93.7%               | 0.056 0.155             |
| Male                    | 5             | 2.9%                   | 0.9%              | 6.4%                |                         |
| **Current Position**    |               |                        |                   |                     |                         |
| Lecturer or lower       | 114           | 66.7%                  | 74.1%             | 54.0%               | 0.027 0.206             |
| Assistant Professor     | 25            | 14.6%                  | 11.1%             | 20.6%               |                         |
| Associate Professor +   | 32            | 18.7%                  | 14.8%             | 25.4%               |                         |
| **Highest Degree**      |               |                        |                   |                     |                         |
| Masters in Nursing      | 95            | 55.6%                  | 56.5%             | 54.0%               | 0.781 0.054             |
| MSc in Nursing          | 70            | 40.9%                  | 40.7%             | 41.3%               |                         |
| PhD in Nursing          | 6             | 3.5%                   | 2.8%              | 4.8%                |                         |
| **Specialty in Nursing**|               |                        |                   |                     |                         |
| Child Health            | 30            | 17.5%                  | 16.7%             | 19.1%               | 0.785 0.101             |
| Community Health        | 12            | 7.0%                   | 7.4%              | 6.4%                |                         |
| Adult Health            | 65            | 38.0%                  | 40.7%             | 33.3%               |                         |
| Mental Health           | 18            | 10.5%                  | 11.1%             | 9.5%                |                         |
| Maternal Health         | 46            | 26.9%                  | 24.1%             | 31.8%               |                         |
| **Primary Responsibility**|             |                        |                   |                     |                         |
| BSN Level               | 146           | 85.4%                  | 90.7%             | 76.2%               | 0.009 0.199             |
| MSN Level               | 25            | 14.6%                  | 9.3%              | 23.8%               |                         |
| **Tenure status**       |               |                        |                   |                     |                         |
| Temporary               | 71            | 41.5%                  | 51.9%             | 23.8%               | 0.000 0.275             |
| Permanent               | 100           | 58.5%                  | 48.1%             | 76.2%               |                         |
### Teaching Experience (Years)

|                          | After Master’s degree | At current institution | At current position |
|--------------------------|-----------------------|------------------------|---------------------|
|                          | 5.5±4.8               | 4.9±4.6                | 3.2±3.1             |
|                          | 4.7±3.9               | 3.7±3.0                | 2.7±2.0             |
|                          | 6.8±5.7               | 7.1±6.0                | 3.9±4.4             |
|                          | 0.014                 | <.0001                 | 0.054               |
|                          | 0.209                 | 0.362                  | 0.176               |

### Salary and Benefits (‘00,000)

|                             | Monthly Gross Salary (NRs) | Monthly Basic Salary (NRs) |
|-----------------------------|----------------------------|----------------------------|
|                             | 5.5±1.5                    | 3.6±1.5                    |
|                             | 5.2±1.1                    | 3.3±1.0                    |
|                             | 6.1±2.0                    | 4.3±1.9                    |
|                             | 0.001                      | 0.000                      |
|                             | 0.307                      | 0.327                      |

### Age (in years)

|                             | 36.8±7.0                   | 35.7±6.2                   | 38.8±7.8             |
|-----------------------------|----------------------------|----------------------------|---------------------|
|                             | 0.008                      | 0.008                      | 0.217               |

Notes:

1. *p*-value: *p*-values are based on chi-square test statistics for categorical variables and t-test statistics for continuous variables between satisfied and not-satisfied.

2. Effect size: the magnitude and direction of relationship with outcome are based on Cramer’s V statistics for categorical variables and point biserial correlation (Pearson) for continuous variables.

3. Salary levels: basic salary is the fixed monthly salary whereas gross salary includes provident fund, grades and health benefits.

Table 3 Organization related characteristic of nursing faculty
| Characteristics                      | Total  | Not-Satisfied | Satisfied | p-value $^1$ | Effect Size $^2$ |
|--------------------------------------|--------|---------------|-----------|--------------|-----------------|
|                                      | (N=171)| (n$_0$=108)   | (n$_1$=63)|              |                 |
|                                      | Count  | %             | %         |              |                 |
| **Type of Institution**              |        |               |           |              |                 |
| Private                              | 104    | 60.8%         | 67.6%     | 49.2%        | 0.018           | 0.182           |
| Public                               | 67     | 39.2%         | 32.4%     | 50.8%        |                 |                 |
| **Promotional opportunity**          | 97     | 56.7%         | 47.2%     | 73.0%        | 0.001           | 0.251           |
| **Grade opportunity**                | 131    | 76.6%         | 69.4%     | 88.9%        | 0.004           | 0.222           |
| **Provident fund benefits**          | 109    | 63.7%         | 50.0%     | 87.3%        | <.0001          | 0.374           |
| **Healthcare benefits**              | 127    | 74.3%         | 66.7%     | 87.3%        | 0.003           | 0.228           |
| **Involved in decision making**      |        |               |           |              |                 |
| Never or Rarely                      | 55     | 32.2%         | 40.7%     | 17.5%        | 0.002           | 0.274           |
| Sometimes                            | 59     | 34.5%         | 34.3%     | 34.9%        |                 |                 |
| Often or Always                      | 57     | 33.3%         | 25.0%     | 47.6%        |                 |                 |
| **Provision of supervisory Pay**     | 56     | 32.7%         | 33.3%     | 31.8%        | 0.831           | -0.016          |
| **Provision of clinical Pay**        | 31     | 18.1%         | 14.8%     | 23.8%        | 0.141           | 0.113           |
| **PM clinical**                      | 147    | 86.0%         | 91.7%     | 76.2%        | 0.005           | -0.215          |
| **AM clinical starting ≥ 8 am**      | 79     | 46.2%         | 41.7%     | 54.0%        | 0.120           | 0.119           |
| **Clinical duty ≥ 7 hours**          | 77     | 45.0%         | 39.8%     | 54.0%        | 0.073           | 0.137           |
| **Overall workload**                 |        |               |           |              |                 |
| Normal (≤ 41 hours)                  | 94     | 55.0%         | 59.3%     | 47.6%        | 0.140           | 0.113           |
| Overload (≥ 42 hours)                | 77     | 45.0%         | 40.7%     | 52.4%        |                 |                 |
| **Teaching load per year**           |        |               |           |              |                 |
| ≤ 124 hours                         | 75     | 43.9%         | 38.0%     | 54.0%        | 0.042           | -0.156          |
| ≥ 125 hours                         | 96     | 56.1%         | 62.0%     | 46.0%        |                 |                 |
| **Professional Development**         |        |               |           |              |                 |
| ≤ 4 days                             | 95     | 55.6%         | 65.7%     | 38.1%        | 0.000           | 0.268           |
| ≥ 5 days                             | 76     | 44.4%         | 34.3%     | 61.9%        |                 |                 |
| **Adequate textbook**                | 128    | 74.9%         | 66.7%     | 88.9%        | 0.001           | 0.247           |
| **Adequate reference book**          | 113    | 66.1%         | 55.6%     | 84.1%        | 0.000           | 0.291           |
Adequate Med/Nursing Journals  |  98  | 57.3%  | 45.4%  | 77.8%  | <.0001  | 0.316  
Adequate internet facilities | 143  | 83.6%  | 77.8%  | 93.7%  | 0.007   | 0.207  
Question setting for tests   | 85   | 49.7%  | 41.7%  | 63.5%  | 0.006   | 0.211  
Benefits offered (µ=Rs56K)   |      |        |        |        |         |        
Below average                | 118  | 69.0%  | 75.9%  | 57.1%  | 0.010   | 0.196  
Above average                | 53   | 31.0%  | 24.1%  | 42.9%  |         |        

Notes:

1. p-value: all p-values are based on Chi-square test statistics
2. Effect size: the magnitude and direction of relationship of all categorical variables with the outcome are based on Cramer’s V test statistics

Table 4 Results of Multiple Logistic Regression Model
| Parameter                                      | Estimate | Pr > ChiSq | Odds Ratio | 95% CI Odds Ratio |
|-----------------------------------------------|----------|------------|------------|------------------|
| Intercept                                     | -7.437   | 0.000      | Point      |                  |
| Age Group (ref: <=35 years)                   |          |            |            |                  |
| Age 36-45 years                               | -0.067   | 0.900      | 0.935      | 0.325 2.645      |
| Age 46 and older                              | 0.539    | 0.485      | 1.714      | 0.368 7.864      |
| Male Gender                                   | 0.255    | 0.858      | 1.290      | 0.097 37.071     |
| Specialty (ref: Adult Health)                 |          |            |            |                  |
| Child Health                                  | 0.563    | 0.347      | 1.756      | 0.543 5.785      |
| Community Health                              | -0.327   | 0.746      | 0.721      | 0.094 5.254      |
| Mental Health                                 | 0.533    | 0.517      | 1.704      | 0.330 8.571      |
| Maternal Health                               | 0.685    | 0.209      | 1.984      | 0.685 5.895      |
| Responsibility in MSN                         | -0.115   | 0.885      | 0.892      | 0.181 4.165      |
| Public Institution                            | 0.085    | 0.866      | 1.088      | 0.403 2.910      |
| Provident Fund Benefits                       | 0.842    | 0.155      | 2.320      | 0.737 7.685      |
| Healthcare Benefits                           | 0.299    | 0.618      | 1.348      | 0.416 4.491      |
| Decision Making (ref: Never or Rarely)        |          |            |            |                  |
| Sometimes                                     | 1.282    | 0.044      | 3.602      | 1.073 13.335     |
| Often or Always                               | 1.575    | 0.019      | 4.833      | 1.353 19.111     |
| No clinical in PM                             | 1.194    | 0.069      | 3.299      | 0.924 12.357     |
| AM Clinical after 7AM                         | 0.435    | 0.352      | 1.544      | 0.617 3.894      |
| Weekly Work Overload (ref: <42 hrs/wk)        | 0.683    | 0.198      | 1.979      | 0.720 5.844      |
| Lower Course Load (ref: >=125 hrs/yr)         | 0.881    | 0.082      | 2.414      | 0.907 6.726      |
| Professional Development (ref: <5 days)       | 0.852    | 0.072      | 2.343      | 0.933 6.053      |
| Adequate Reference Books                      | 1.072    | 0.050      | 2.922      | 1.026 8.953      |
| Adequate Medical/Nursing Journals             | 0.842    | 0.090      | 2.321      | 0.888 6.299      |
| Adequate Internet Access                      | 1.367    | 0.100      | 3.922      | 0.856 23.701     |
| Privilege to Set Questions for Test           | 0.495    | 0.378      | 1.641      | 0.541 4.966      |
| Total compensation above median               | 0.093    | 0.852      | 1.098      | 0.408 2.940      |
| Long Institutional Tenure (ref: <7 yrs)       | 0.427    | 0.442      | 1.533      | 0.516 4.628      |
Model Performance Measures:

| Measure                                           | Value   |
|---------------------------------------------------|---------|
| Max-rescaled R-Square                             | 0.469   |
| Likelihood Ratio Test (p-value)                   | <.0001  |
| Area Under Receiver Operating Curve               | 0.855   |
| Hosmer-Lameshow Goodness-of-Fit (p-value)         | 0.609   |

**Figures**

**Figure 1**

Recruitment process of nursing faculties
Figure 2

Area Under the Curve for the Multiple Logistic Regression Model

Supplementary Files

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