

## RESEARCH ARTICLE

**Determinants of Socio-Economic Condition of the Nurses at Sylhet in Bangladesh****Dr Md Taj Uddin<sup>1</sup>, Miss Iffat Ara Misty<sup>2</sup> and Zaki Farhana<sup>3\*</sup>**<sup>1</sup>*Faculty, Department of Statistics, SUST, Bangladesh*<sup>2</sup>*Assistant Director, Bangladesh Bank, Dhaka*<sup>3\*</sup>*Graduate student, Department of Statistics, SUST, Bangladesh***Received on: 01/12/2017, Revised on: 25/12/2017, Accepted on: 10/01/2018****ABSTRACT**

Nursing career is one of the fastest rising sectors all over the world. But Nurses and nursing profession are both deserted in Bangladesh. The study is an attempt to assess the socio-economic condition of the nurses at Sylhet district. A total of 151 nurses of both male and female are interviewed by a structure questionnaire. Descriptive statistics and multiple linear regression model are applied to analyze the data. The result depicts that majority of the nurses are from Sylhet division and the female nurses (95.4%) are comparatively more than that of male nurses. Majority (59.6%) of the nurses are married. The findings also show that more than two-third of the nurses have accomplished nursing diploma course. Most of the nurses (76.8%) are satisfied with their job. Average monthly income of the nurses is 27,843 (in Tk.). Only a few nurses (30.5%) have received training. The multiple linear regression analysis shows that nurse's satisfaction level and length of service are significant factors associated with their income.

**Key words:** Nurses, socio-economic, regression model, satisfaction level.**INTRODUCTION**

Nursing is a fundamental occupation to healing sufferings. Main focused of nursing profession is to recovery of individuals so that he may attain the quality of life. Florence Nightingale was the most famous name in nursing profession <sup>[1]</sup>. Nurse is a person who is trained to care for sick or injured persons and who usually works in a hospital or doctor's office <sup>[2]</sup>. Socioeconomic status (SES) is usually measured by determining education, income, occupation or a composite of these dimensions <sup>[3]</sup>.

The social business model provides a mechanism for releasing funds for education to those who are impoverished and a viable option for increasing the number of well-educated nurse leaders in developing countries <sup>[4]</sup>. The future legitimacy and success of public health nursing depends on recognizing and appropriately addressing the social, financial and political determinants of health in the populations served and there is an incontrovertible association between population health status, entire income levels and income inequality <sup>[5]</sup>. Professional nursing associations offer an opportunity for professional nurses to develop a bigger picture of nursing and health care overall <sup>[6]</sup>. There is an important link between

income inequality, social drawback and poor health status deserves careful consideration and action by the 21st century nursing profession <sup>[7]</sup>. The nurses in Bangladesh are facing a lot of problems including their status, dignity, work benefits, working atmosphere, service guaranty and social stigma and the risk of nursing service is high and nurses have no defined work policies <sup>[8]</sup>. Nurses in government hospitals spent only 5.3% of their working time in direct interaction with their patients. By contrast, nurses in the hospitals outside the government system were found to spend 22.7% directly with patients. Hospital support workers and patients' relatives acted as nurse surrogates <sup>[9]</sup>. Another study found that 96.9% of women and 96.7% of men has sleeping disorder and high prevalence of sleeping disorder among enrolled nurses-most probably because of shift working and extra working that needs a serious attention <sup>[10]</sup>.

The ongoing diploma nursing curriculum to be reviewed, updated considering the context of the country as well as need of the country, books to be developed as per the demand of present diploma nursing curriculum and should make those available <sup>[11]</sup>. Nursing is the most important career in health sector. Nurses help us in health related

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problem and in the absence of doctor nurses are our only support. As nurses serves as advocate of a healthy society their socio-economic status should be considered. Several studies have been done in this sector. However continuous research is essential to develop the nursing sector in Bangladesh. Therefore, the aim of the study is to assess the overall socio economic and demographic profile of the nurses at Sylhet in Bangladesh.

**METHODS AND MATERIALS**

The present study is based on data collected from Sylhet district in Bangladesh. A sample of 151 nurses has been interviewed through a structured questionnaire during November-December in 2017. The Percent Frequency distribution, multiple regression model and BMI are used to analyze the data. The data are analyzed by SPSS 21.0.

**Multiple Linear Regression Model**

How the monthly income is influenced by other factors under study, multiple regression model is used as follows:

$$y = \beta_0 + \beta_1x_1 + \beta_2x_2 + \beta_3x_3 + \beta_4x_4 + \beta_5x_5 + \beta_6x_6 + \beta_7x_7 + \beta_8x_8 + \varepsilon$$

Where,  $y$  = income of nurses,  $x_1$  = spouse profession of nurses,  $x_2$  = satisfaction level of nurses,  $x_3$  = health condition of nurses,  $x_4$  = length of service,  $x_5$  = religion,  $x_6$  = expenditure  $x_7$  = BMI,  $x_8$  = education,  $\beta_0$  is the intercept,  $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7, \beta_8$  are regression co-efficient and  $\varepsilon \sim N(0, \sigma^2)$ .

**BMI:** BMI is Body Mass Index. It is defined as persons weight in kilograms divided by the square of his height in meter ( $kg/m^2$ ). According to World Health Organization (WHO) criteria the following cut of points are used to determine the nutritional status in the present study.

Nutritional status	BMI
Under nutrition	Less than 18.5
Well nourished	18.51 to 24.99
Overweight	25 to 29.99
Obesity	30 and above

**RESULTS AND DISCUSSION**

**Socio-demographic characteristics of the nurses**

The findings of this study reveal that majority (72.8%) of the nurses are young having an average age 28.45 years. Most of the nurses

(72.8%) have been found out at their current age ranging from 20 to 29 years, about 14.6% nurses belonged to the age group 30 to 39 years, 11.9% nurses belonged to the age group 40 to 49 years and a very few nurses only 0.7% belonged to age group 50 to 59 years (Figure 1). It is clear that majority of the nurses are very young. The sex distribution of the nurses indicates that 95.4% of the nurses are female and 4.6% are male. The marital status of the nurses reveals that most of the nurses (59.6%) are married and 40.4% are unmarried. Most the nurses are Muslim that has approximately 69.5% and 30.5% are non-Muslim. The number of nuclear family is increasing day by day and it is true for our study. Almost 70.9% nurses belong to nuclear family and 29.1% are in joint family. It is noted that 96.7% of nurse of our sample are in favor of family planning and only 3.3% are in disfavor of family planning. It indicates that practice of birth control is widespread among the nurses. It is found that approximately 54.1% nurses have 1 child, 32.4% have 2 children, 12.2% have 3 children and only 1.4% has no child. It indicates that majority of the nurses has only one child (Table 1).

**Table 1: Socio demographic characteristics of the Nurses (n=151)**

Characteristics	Category	Frequency	Percentage (%)
Age	20-29	110	72.8
	30-39	22	14.6
	40-49	18	11.9
	50-59	1	0.7
Gender	Female	144	95.4
	Male	7	4.6
Marital status	Married	90	59.6
	Unmarried	61	40.4
Religion	Muslim	105	69.5
	Non-Muslim	46	30.5
Type of household	Nuclear	107	70.9
	Joint	44	29.1
Attitude of family planning	Favor	146	96.7
	Disfavor	5	3.3
Number of Children	0	2	1.3
	1	82	54.1
	2	49	32.4
	3 and above	18	12.2

**Socio-economic characteristics of the nurses**

According to home division of nurses, Sylhet is in top position. Approximately half of the nurses (47.7%) have come from Sylhet division and is followed by Dhaka division 24.5% and 10.6%

nurses have come from Chittagong division, 4.6% from Mymensingh, 4% from Rajshahi, 3.3% from Khulna and 2.6% from both Rangpur and Barisal. The present study tries to know the reason for choosing nursing profession. The results show that most of the nurses (82.1%) choose nursing as profession to serve the people, 9.9% for others reason, 0.7% for more income and 7.3 % for finding no other job. It is found that a few of nurses (4.6%) work more than 8 hours. The surveyed data represents that monthly income (in Tk.) of the nurse less than 15,000 have been found only 2%. On the contrary, about 82% have 15,000 to 30,000 and 16% have more than 30,000. The average monthly income (in Tk.) is 27,843. The majority of the spouses of the nurses (52.8%) of our sample are service holder, 44.9% are businessman and 2.2% do others job. From the surveyed data it is found that most of the nurses (56.3%) are serving for less than 1 year, 15.6% for 1-5 years, 7.9% for 5-10 years, 17.2% for 10-20 years and only 2% for more than 20 years. Majority of the nurses (95.4%) do not live in hospital quarters. Only 4.6% live in hospital quarters. It indicates that the quarter facility is not enough for the nurses. It is found that only 30.5% nurses have participated in different training program at their job period and 69.5% nurses have not participated any kind of training program. It clearly indicates that most of the nurses are not trained enough to serve the patients. If a person wants to be a nurse, he needs to complete nursing diploma course. Further he can take another degree. It is observed that two-third (68.9%) of the nurses have completed nursing diploma course and 31.1% have completed other courses. Satisfaction level is an important factor in any profession. The analysis reveals that most of the nurses (76.8%) of our sample are satisfied at their profession, 21.9% have average level of satisfaction and 1.3% is not satisfied at nursing profession (Table 2).

**Table 2: Socio-economic characteristics of the Nurses (n=151)**

Characteristics	Category	Frequency	Percentage (%)
Income of Nurse	Less than 15000	3	2
	15000-30000	124	81.1
	More than 30000	24	15.9
Working hours	6-7 hours	24	15.9
	7-8 hours	120	79.5
	More than 8 hours	7	4.6
Length of service	Less than 1 year	85	56.3
	1-5 years	25	15.6

	5-10 years	12	7.9
	10-20 years	26	17.2
	More than 20 years	3	2
Reason for nursing	Finding no other job	11	7.3
	To serve	125	82.1
	For more income	1	0.7
	Others	14	9.9
Division	Barisal	4	2.6
	Chittagong	16	10.6
	Dhaka	37	24.5
	Khulna	5	3.3
	Rajshahi	6	4
	Rangpur	4	2.6
	Sylhet	72	47.7
Residence of Nurses	Hospital quarter	7	4.6
	Others	144	95.4
Spouse profession	Service	47	52.8
	Business	40	44.9
	Others	2	2.2
Training	Yes	46	30.5
	No	105	69.5
Education	Nursing Diploma	104	68.9
	Others	47	31.1
Satisfaction level	Satisfied	116	76.8
	Average satisfied	33	21.9
	Not satisfied	2	1.3

### Entertainment and health’s condition of the Nurses

For entertainment 4% nurses of our sample watch cinema, 27.8% watch TV, 12.6% like gossiping and 55.6% do other things. Majority (80.1%) of nurses of our sample, almost 80.1% health condition is good, only 2.6% are not good and 7.2% have average level of health condition. Nutritional status of the nurses is measured by BMI. According to BMI, most of the nurses (76.8%) of our sample are well nourished, 13.2% are under nutrition, 7.9% are overweight and only 2% are obese. It is clear that majority of the nurses has good nutritional status. Majority (86.1%) nurses of our sample have normal blood pressure, 9.3% have high and 4.6% have low blood pressure. Most of the nurses (90.1%) have no diabetes and only 9.1% have diabetes. It is observed that majority (83.4%) of the nurses are free from any disease and 16.6% have diseases. Besides, 80.8% nurses have no problem in their

sleeping habit and 19.2% have sleeping problem (Table 3).

**Table 3: Entertainment and health's condition (self perceived) of the Nurses (n=151)**

Characteristics	Category	Frequency	Percentage (%)
Sources of entertainment	Cinema	6	4
	TV	42	27.8
	Gossiping	19	12.6
	Others	84	66.6
Health's condition	Good	121	80.1
	Not good	4	2.6
	Average	26	17.2
Blood Pressure	Normal	130	86.1
	High	14	9.3
	Low	7	4.6
Diabetes	Yes	15	9.9
	No	136	90.1
Sleeping disorder	Yes	29	19.2
	No	122	80.8
Suffering Diseases	Yes	25	16.6
	No	126	83.4
BMI	Under nutritional	20	13.2
	Well nourished	116	76.8
	Over weight	12	7.9
	Obese	3	2.0

**Results Of Linear Regression Analysis**

From the multiple regression analysis, it is observed that that length of service, satisfaction level, expenditure and BMI of the nurses are significant factors that influence the income of the nurses. The overall regression model is significant. The value of  $R^2$  shows that the given regression model has explained 70.4% variation of monthly income. The positive value of regression coefficients indicates that the corresponding factors influence the income positively. The negative value of regression coefficients indicates that the corresponding factors influence income negatively. The coefficient of length of service shows that the income is increased if length of service is increased (Table 4).

**Table 4: Multiple Linear Regression analysis of income of the nurses**

Variable	Coefficient	Standard error	t-value	p-value	F-value	p-value
(Constant)	6486.358	4381.859	1.480	.143	23.73	0.00
Spouse profession	1366.430	922.172	1.482	.142		
Length of service	31.704	8.095	3.916	.000		

Health Condition	-.809.692	599.851	-1.350	.181		
Satisfaction Level	-3887.270	1180.624	-3.293	.001		
BMI	330.685	147.640	2.240	.028		
Expenditure	0.381	0.062	6.136	.000		
Religion	158.586	1082.855	0.146	.884		
Education	1680.028	1222.922	1.374	.173		
R <sup>2</sup> -value	0.704					

**CONCLUSION AND RECOMMENDATION**

Various socio-economic and demographic characteristics that are related to the nurses have been studied in this paper. From this study it is found that nurses have positive and desirable attitude towards socio-economic and demographic factors. Our finding suggests that average age of the nurses is 28.45 years. Most of nurses completed diploma nursing. Most of the nurses in our sample are married and Muslim. Nurses were more serious about family planning. It is observed that that length of service, spouse profession, satisfaction level, expenditure and BMI of the nurses are significant factors that influence the income of the nurses. Most of the nurse's health is good. Since, only a few nurses are male, so more male nurses may be employed to reduce the gender inequality in this profession.

Nurses play an important role in delivering health care services. So we should take measures to improve socio-economic and health status of our nurses to build a healthy nation. Since the data is not a representative of the Bangladesh, generalizations of the findings and recommendations are risky. So, more studies at different points of the country should be carried out to know the overall socio-economic scenario of the nurses.

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