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# PERCEPTION OF CARING BEHAVIOURS AND ASSOCIATED FACTORS AMONG NURSES WORKING IN GONDAR UNIVERSITY AND FELEGE-HIWOT REFERRAL HOSPITALS, NORTHWEST ETHIOPIA: A CROSS- SECTIONAL STUDY

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**ABSTRACT**

Caring occur every time a nurse contact with a client and expressed through in concrete nursing acts and behaviours. Studies on the nurse's about their perception of caring behaviours regularly investigated to improve the quality of nursing care. However in Ethiopia no single study conducted on nurses' caring behaviours. This study assessed nurses' perception towards caring behaviours and associated factors in Gondar University and Felege-Hiwot referral hospitals, Northwest Ethiopia. Institutional based cross-sectional study was conducted among 387 nurses from February 01 to 20, 2014. Data were collected by using pretested and structured self-administered questionnaire. Descriptive and summary statistics were employed. Bivariate and multivariate logistic regression model was fitted to identify associated factors with perception of caring behaviours in nurses. An adjusted odds ratio with 95% confidence interval was computed to determine the level of significance. The proportion of nurses who had high perception caring behaviours was found to be 68.2%. Relatively, most of the respondents (80.4 %) highly perceived the technical -professional aspect of caring behaviours as their caring than the psychosocial caring behaviour aspects (58.7%). Work experience 6-10 years and above (AOR[95%CI] 4.68[1.70-12.89]), Job satisfaction with: personal satisfaction(AOR[95%CI]4.03[1.53-10.60]),professional satisfaction (AOR[95%CI] 2.83[1.07-4.99]), adequate staffing and support (AOR[95%CI] 2.82[1.30-6.13]), positive nurse doctor relationship (AOR[95%CI] 3.09[1.46-6.52]) had significant association with nurses perception towards nursing caring behaviours. The proportion of nurses who had high perception caring behaviours was found to be lower. This study indicates those associated factors had its own effect with caring behaviours. Therefore enhance nurses' satisfaction with their job and develop positive practice environment to improve the nurses' caring behaviours. Moreover caring behaviours may be influenced by many variable further nursing researches by using both quantitative and qualitative study recommend.

**Key words**: Caring behaviour, Nurse, Ethiopia.

**INTRODUCTION**

Caring is central in the art and science of nursing practice [1]. Caring always occur when a nurse comes in contact with a client and expressed through actual nursing acts and behaviours [2]. In hospital setting nurses involved in almost every aspect of patient or client's care closely more than any profession in every day of the year. Jean Watson explained that assessing the nurses caring behaviour is a means to understand how caring is offered in that institution [3].

Moreover, nurses have a professional responsibility to give a high quality nursing intervention for better outcomes. This nursing activity demonstrated

through nurses caring behaviours but lack of professional caring results in reducing wellbeing and health [4,5].

Consequently, nurses caring behaviours influence the patient satisfaction, quality of nursing care and plan to return to the institution for cares which are important indicators for quality services [6].

Even though it varies between institutions, most of the time, healthcare providers highly focus only treating the disease rather than treating the person as a whole. However, In the practice of caring, holistic approach care is fundamental in nursing. [7],

In many nursing literatures, caring categorized in two components instrumental and expressive. The instrumental caring itemize the physical and technical aspects of care, while expressive caring related to the psychosocial and emotional needs of the patients [8].

In substantial number of studies on nurses caring behaviours indicated nurses had focused only technical aspects of caring behaviours while others only the psychological aspect of caring behaviours perceived as their caring behaviours [9-11].

Although there are many determinants related to nurses caring behaviour. Evidences in the literature revealed that the nurses' perception of caring behaviour has been related with different dimensions of determinants, including the nurse's characteristics, educational background, workload, job satisfaction and working place [12].

Nurse's socio-demographic characteristics were found to be important in relation to perceived caring behaviours. In, United State of America (USA), the registered nurses socio demographic characteristics were studied in relation to perceived caring behaviours. In this study, the finding revealed that older age and longer year of experience were associated with perceived caring behaviours. Moreover, the study showed that caring behaviours perceived more in female nurses than male nurses [13]. In addition, another USA study strengthens this finding, in that there were significant association between year of experience and nurses perception towards caring[14].

Job satisfaction was also among the major determinant factors of perceived caring behaviours. For instant, two different USA studies showed that nurses job satisfaction were a significant association with perception of caring behaviour [15, 16] .Similarly, the Ireland [17] and Korea [18] studies showed the same results in that job satisfaction were a significant variable associated with nurses' perception of caring behaviours.

The care environment in which the nursing work performed was also the major factors influencing nurses caring behaviours.

An international sample of hospital study multivariate result showed that low staffing and support for nurses in the working environment were three times more likely express lower degree of caring behaviours compared to that those who had high staff and support [19] .Moreover, one Hong Kong, study revealed that nurses caring behaviours were related with staff shortage, work load, staff management and availability of resources in the working environment [20]. Furthermore, a Twain study also indicated that the hospital environment and nurses physician relationship were statistically significant predicators for nurses' quality of care [21].

In nursing studies throughout the globe, nurses' perception towards caring behaviours and its determinants has been investigated in different hospital setting to monitor and improve quality of care. Despite the availability of important evidences, particularly in developed countries, there was no single data throughout Ethiopia regarding nurses' perception towards nurses caring behaviours and its associated factors. Consequently, it remained difficult to set appropriate mechanism for quality of care. Therefore, this study was conducted to highlight the perception of nurses caring behaviours and significant related factors in a hospital setting as well as to recommend for better professional care in the context of the study area.

## MATERIALS AND METHODS

An Institution- based quantitative cross sectional study design was conducted from February 01-20, 2014 at Gondar University and Felege-Hiwot referral hospitals.

Gondar University Hospital is one of the tertiary level hospitals located in Gondar town, 740 km away from Addis Ababa to the Northwest Ethiopia. Currently the hospital has more than 400 inpatient beds. The Felege-Hiwot referral Hospital is also a tertiary level and referral hospital located in Bahir-dar town, 554 Km away from Addis Ababa to the Northwest Ethiopia. The hospital has 300 inpatient beds. Each hospital serves as a referral center for more than five million people in its catchment area.

The source populations of this study were all employed nurses of the two hospitals. Sample size was determined by using single population proportion formula by considering the following assumptions: 95 % confidence interval (CI), 50% proportion (because there was no previous study in the study area) and considering 5% margin of error, the final sample size was 384. However, the number of nurses who are working in both hospitals was 397, hence all nurses were included.

The primary outcome measure of interest was nurses' perception of caring behaviors measured by using caring dimension inventory (CDI) tool adapted from previous studies [22]. The CDI is mostly used tool for measuring nurses caring behavior and has two most clearly demonstrated dimensions to caring, the `psychosocial' and the 'technical- professional' aspect of caring . For this reason reality and its validity addressed most of caring literatures. The original CDI instrument questionnaire consists of 25 items however, after pre test and Content validity evaluation the questionnaires were

reduced to 23 core items because two of the questions were not appropriate in the context of Ethiopia. The items were answered on a five point Likert scale with the response options ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). Thus, possible score range was 23-115. A higher score indicated nurses had high perception caring behaviors.

The independent variables included socio-demographic characteristics (Age, sex, work experience, level of education, marital status, religion, working area). The job satisfaction and working environment characteristics measured by using item scales adapted from previous study [17]

Job satisfaction was measured by fifteen item scales that included three subscales Personal, professional and pay and prospect scale of satisfactions. All scale items were answered on a five point Likert scale with response options ranging from 1 (very dissatisfied) to 5 (very satisfied). A higher score indicated nurses satisfied on the selected aspect of job satisfaction subscales. In the same manner, the working environment characteristics measured by using sixteen item scales that included four subscales: adequate staffing and support, Nurse- Doctor Relationship, Nursing Management. These items also answered on a 5-point Likert scale with response options ranging from 1 (strongly disagree) to 5 (strongly agree). However, the Work load items were answered with response options ranging from 1 (always) to 5 (never). A higher score with in the subscales indicated positive working environment. [See Table 1 for the results of the Cronbach's alpha].

Data were collected by pre-tested and structured English version self administered questionnaires. Four BSc holders for data facilitating and two MSc students for supervision were recruited and one day's training was given. At each data collection site, the aim of the research was explained to the study subjects before they completed the questionnaire. Data quality was maintained by using the following methods. First, the data collection tools were evaluated and commented by five nursing lecturers for its content of the questionnaire invaluable for this study and necessary correction was made. Then the questionnaire was used after carefully adapting them in to the current context and without changing the original meaning. Second, the adapted questionnaires were pre-tested on sixteen nurses who were working out of the study area and necessary amendment was made accordingly. Third, training was given for data facilitator and supervisors. Fourth, supervision was done throughout the data collection period. Fifth, data were checked for consistency and completeness before entry to computer software for analysis. Finally, Epi Info software was used to control the potential errors associated with data entry.

The data were coded, entered into EPI- info version 3.5.3, and exported to SPSS version 20 statistical package for analysis. At the beginning of the analysis,

scores of the overall items and subscales for caring dimension inventory; and each subscale of job satisfaction and working environment characteristics were created by summation of the scores statements included within each sub scale. Then, the variables were re-coded and dichotomized.

Descriptive statistics were used to illustrate the means, standard deviations, medians and frequencies of the study variables. Tables were also be used for data presentation.

Bivariate logistic regression was used to identify factors associated with perception of caring behaviors among the nurses. Multivariate logistic regression model was fitted to control the possible effect of confounders and finally the variables which had independent association with perception of caring behaviors were identified on the basis of odds ratios with 95%CI and p-value less than 0.05. The variables were entered to the multivariate model using the Backward Stepwise (Likelihood Ratio) regression method. Model fitness was checked using Hosmer and Lemeshow goodness of a fit test (P= 0.78).

Ethical clearance was obtained from institutional ethical review board of University of Gondar. Moreover, letter of permission to conduct the study was obtained from each hospital. After explanation of the purpose, the benefits and the possible risk of the study written consent was obtained from all study subjects .To ensure confidentiality their name and other personal identification were not registered in the format**. To maintain privacy data was collected in a private room. It was explained to the participants that they have the right to not participate in the study or discontinued at any time. Finally, the questionnaires were kept locked after data entry had been completed.

**RESULTS**
**Socio-demographic characteristics of study participants**

Out of 397 proposed study participants 387 nurses were participated in the study giving response rate of 97.5%. The majority (56.6%) respondents were female. The mean ($\pm$ standard deviation) age of the respondents was 30 ($\pm$7) years. With regard to the religion most (85.5%) respondents were orthodox Christian followed by protestant (8.3%). Regarding the educational level of the respondents 252 (65.1%) had Bachelor of degree in nursing and most of the respondents were staff nurses (90.2%). The median (IQR) work experience as a nurse was 4 (3-8) years. Greater parts of the respondents' current working area were from surgical unit 105 (27.1%) [Table2].

**Job satisfaction and working environment characteristics**

In the context of job satisfaction, most of the respondents were satisfied personally and satisfied with the profession (75.2%, 74.2% respectively).However, majority

of the respondents were dissatisfied with pay and prospect (58.1%).

On the working environment characteristics, most of the respondents perceived their working environment had adequate staffing and support to perform the nursing practice and positive relationship and team work with doctors in the working environment(70 %, 66.1% respectively ) .Furthermore majority of the respondents perceived the nursing management were positive and supportive at the working environment (56.6%) [Table3].

**Perception of caring behaviors and associated factors**

The proportion of highly perceived caring behaviors among nurses was found to be 68.2%. In the other hand, most of the respondents (80.4 %) highly perceived the technical -professional aspect of caring behavior as their caring than the psychosocial caring behavior aspects (58.7%).

In the bivariate logistic regression analysis ; age, work experience as a nurse, educational level ,personal satisfaction, professional satisfaction , satisfaction with pay and prospect ,adequate staffing and resources, nurse-doctor relationship, nursing management were significantly associated with nurses caring behaviours. However, in the multivariate analysis; Work experience 6-10 and above 10 years, personal satisfaction, Professional satisfaction, adequate Staffing and resources and positive nurse- doctor relationship had significant association with perceived caring behaviours.

In this particular study, the work experiences of nurses were associated with perception of caring behaviors. Nurses who had 6- 10 years work experience were 4.68 times more likely to perceived caring behaviors than nurses who had less than 6 years of work experience (AOR [95% CI] 4.68 [1.70-12.89]) and nurses who had more than 10 years experience were 4.33 time more likely perceived caring behaviors than nurses less than 6 years of work experience (AOR [95% CI] 4.33 [1.24 -15.11])

On Job satisfaction scores, nurses who scored as personally satisfied were 4.03 times more likely perceived caring behaviors compare to nurses who scored as unsatisfied (AOR [95% CI] 4.03 [1.53-10.60]). The other significant factor was professional satisfaction. nurses who scored as satisfied with the profession were 2.83 times more likely perceived caring behaviors compare to nurses who scored as unsatisfied (AOR [95% CI] 2.83 [1.07-4.99]).

Among working environment characteristic scores, adequate staff and support in the nursing work environment was significant factor associated with perception of caring behaviors. Nurses who perceived they worked with adequate staff and supportive environment were 2.83 times more likely perceived caring behaviors compared to nurses perceived working with inadequate staff and support working environment (AOR [95% CI] 2.82 [1.30-6.13]). Moreover, nurses who perceived positive relationship and team work with physicians in the work environment were three times more likely to highly perceive caring behaviors compare to those who perceived negative relationship and less team work in their practice environment (AOR [95% CI] 3.09,[1.46-6.52]). However nurses who had high workload and stressful nursing practice environment were 0.42 times less likely to perceived caring behaviors than nurses who had less workload and stressful environment in the working area. (AOR [95% CI] 0.42, [0.20-0.86]) [Table 4].

**DISCUSSION**

In this study, the proportion of nurses who had high perception of overall caring behaviours was 68.2 %. However this finding can be difficult to compare with other studies but as caring is inherent to nursing, one would expect that all nurses could have high perception of caring behaviour. The reason might be caring has no universal definition therefore each study defined caring may differs. Moreover caring is both individual and professional judgement which may be the difference with in study participants.

**Table 1. Description of scales of caring dimension inventory, job satisfaction and working environment context used by the current study**

| Scale | Cronbach's Alpha | Number of items |
|---|---|---|
| **Overall caring behaviours** | 0.93 | 23 |
| Technical and professional caring behaviour | 0.83 | 11 |
| Psychosocial caring behaviour | 0.92 | 12 |
| **Overall Job satisfaction scales** | 0.87 | 15 |
| Personal satisfaction | 0.80 | 5 |
| Professional satisfaction | 0.77 | 5 |
| Satisfaction with pay and benefit | 0.88 | 5 |
| **Overall Working environment characteristics scales** | 0.93 | 16 |
| Adequate staffing and support | 0.86 | 4 |
| Nurse–doctor relationship | 0.91 | 3 |
| Nurse management | 0.83 | 5 |
| Workload | 0.85 | 4 |

**Table 2. Socio- demographic characteristics of nurses in Gondar university and Felege-Hiwot referral hospitals, Northwest Ethiopia, 2014 (n= 387)**

| Variable | Number | percent |
|---|---|---|
| **Sex** | | |
| Male | 168 | 43.4 |
| Female | 219 | 56.6 |
| **Age in years** | | |
| 20-29 | 240 | 62.0 |
| 30-39 | 107 | 27.7 |
| $\geq 40$ | 40 | 10.3 |
| **Work experience   as a nurse** | | |
| 0-5 years | 240 | 61.0 |
| 6- 10 years | 84 | 21.7 |
| $\geq 11$ year | 63 | 16.3 |
| **Highest level of nursing Education** | | |
| Diploma ( 2 or 3 years) | 135 | 34.9 |
| Bachelor degree | 252 | 65.1 |
| **Current working unit** | 105 | 27.1 |
| Surgical | 75 | 19.4 |
| Medical | 78 | 20.2 |
| Outpatient department | 41 | 10.6 |
| Pediatrics | 35 | 9.0 |
| Emergency Others[*] | 53 | 13.7 |

Others[*] refers to ophthalmic, Fistula and psychiatry department

**Table 3. Level of job satisfaction and working environment characteristics by different dimensions among nurses in Gondar university and Felege-Hiwot referral hospitals, Northwest Ethiopia, 2014 (n= 387)**

| Variable | Number | Percent |
|---|---|---|
| **JOB SATISFACTION** | | |
| **Personal satisfaction** | | |
| Unsatisfied | 96 | 24.8 |
| Satisfied | 291 | 75.2 |
| **Professional satisfaction** | | |
| Unsatisfied | 100 | 25.8 |
| Satisfied | 287 | 74.2 |
| **Satisfaction with Pay and prospect** | | |
| Unsatisfied | 225 | 58.1 |
| Satisfied | 162 | 41.9 |
| **WORKING ENVIRONMENT CHARACTERISTICS** | | |
| **Adequate staffing and support** | | |
| No | 116 | 30 |
| Yes | 271 | 70 |
| **Nurse–doctor relationship** | | |
| No | 131 | 33.9 |
| Yes | 256 | 66.1 |
| **Good Nursing management** | | |
| No | 168 | 43.4 |
| Yes | 219 | 56.6 |
| **Work load** | | |
| Low | 236 | 61 |
| High | 151 | 39 |

**Table 4. Bivariate and multivariate logistic regression analysis of factors associated with perception towards nursing caring behaviors among nurses working in Gondar university and Felege-Hiwot referral hospitals, Northwest Ethiopia, 2014 (n= 387)**

| Variables | High perception caring behaviours | | Crude odds ratio with 95% CI[a] | Adjusted odds ratio with 95% CI |
|---|---|---|---|---|
| | No | Yes | | |
| **Age in years** | | | | |
| 20-29 years | 99 | 141 | 1.00 | |
| 30-39 years | 22 | 85 | 2.71(1.58, 4.63) | |
| ≥40 years | 10 | 30 | 2.06(1.15,4.59) | |
| **Work experience as a nurse** | | | | |
| 0-5 years | 107 | 133 | 1.00 | **1.00** |
| 6- 10 years | 10 | 74 | 5.59(2.93, 12.08) | **4.68(1.70,12.89)\*\*** |
| ≥ 11 years | 6 | 57 | 7.64(3.17, 18.41) | **4.33(1.24, 15.11)\*** |
| **Highest level of nursing Education** | | | | |
| Diploma (2or 3 years) | 58 | 77 | 1.00 | |
| Bachelor degree | 65 | 187 | 2.17(1.39, 3.37) | |
| **Personal satisfaction** | | | | |
| Unsatisfied | 82 | 14 | 1.00 | **1.00** |
| Satisfied | 41 | 250 | 35.71(18.53,68.82) | **4.03(1.53, 10.60)\*\*** |
| **Professional satisfaction** | | | | |
| Unsatisfied | 85 | 15 | 1.00 | 1.00 |
| Satisfied | 38 | 249 | 37.13(19.46,70.87) | **2.83(1.07, 4.99)\*** |

CI[a]= confidence interval

Adjusted and unadjusted OR 1:00= Reference.

\*=P-Value<0.05, \*\*=P-Value<0.001

**Table 4. (continued) Bivariate and multivariate logistic regression analysis of factors associated with perception towards nursing caring behaviors among nurses working in Gondar university and Felege-Hiwot referral hospitals, Northwest Ethiopia, 2014 (n= 387)**

| Variables | High perception caring behaviours | | Crude odds ratio with 95% CI | Adjusted odds ratio with 95% CI |
|---|---|---|---|---|
| | No | Yes | | |
| **Work load** | | | | |
| Low | 27 | 209 | 1 | **1.00** |
| High | 96 | 55 | .074(.044, .125) | **.42(.20, .86)\*** |
| **Positive nurse doctor relation ship** | | | | |
| No | 92 | 39 | 1.00 | **1.00** |
| Yes | 31 | 225 | 17.12(10.08, 29.1) | **3.09(1.46, 6.52)\*\*** |
| **Good nurse management** | | | | |
| No | 100 | 68 | 1.00 | |
| Yes | 23 | 196 | 12.53(7.37, 21.30) | |

Adjusted and unadjusted OR 1:00= Reference.

\*=P-Value<0.05, \*\*=P-Value<0.001

Relatively, High proportion of nurses perceived the technical -professional aspect of caring behaviours than the psychosocial aspect of caring behaviours in the current study. This might be indicated that nurses more perceived the physical aspect of caring behaviours than expressive caring aspect. This finding is in agreement with a study done in Greece & Cyprus and Iran, in which nurses were perceived the technical and professional aspect of caring behaviours higher than the psychosocial caring behaviours [9, 10]. However, this finding differs from the study done

on Japan nurses in which the psychosocial caring behaviours were highly perceived than the technical aspect of caring [11] .This might be due to the aspects of nurse education curriculum and training or they may be because of the organizations in which the nurses working environment or could be cultural differences concerned with prevailing values in the society.

In this particular study, the duration of professional work experience was associated with perception of caring behaviours. Nurses who have had

longer duration work experience in their profession were more likely to perceived caring behaviours as compared to lesser working experience. Nurses who had 6- 10 years work experience were 4.68 times more likely to highly perceived caring behaviours than those less professional work experience and nurses who had more than 10 years experience were 4.33 time more likely perceived higher caring behaviours than those less work experienced nurses. This finding is similar with the study done in USA among nurses who showed that the longer the nurse had been in practice, the more frequently they perceived caring behaviour [14]. The reason might be the longer the work experience, the most understanding of the nursing profession value and increased the maturity level that becomes an expert level in nursing practice. Moreover Work experience is very important for every profession, especially in nursing.

The finding of this study revealed that nurse's job satisfaction factors were associated with perception of caring behaviours. Nurses who had personal satisfaction with their job were four times more likely to highly perceive caring behaviours compare to nurses who scored as unsatisfied. Moreover nurses who had professional satisfaction with the nursing work were almost three times more likely to highly perceived caring behaviours compare to professional unsatisfied nurses. This result is supported with other studies done in different countries [15-17].The reason could be caring is both personal and professional value and identity of nursing which may influence the perception of caring behaviours. Moreover a professional practice characteristic may be greatly led to job satisfaction that may improve their perception of professional caring behaviours. The working environment characteristics were found to be another factors associated with nurse's perception of caring behaviours.

Nurses who were worked within adequate staff and support nursing work environment were almost three times more likely to highly perceived caring behaviours compared to those who working with inadequate staff and support working environment. This result is supported with a study done in USA ,Nurse express low quality of caring were three times as likely in hospitals with low staffing and managerial support for nurses than hospitals with high staffing and managerial support [19].This might be due to caring behaviours needs a supporting organizational culture and conducive working environment to express holistic caring behaviours.

Furthermore, nurses who had positive relationship and team work with physicians were three times more likely to highly perceive caring behaviours compare to those who had negative relationships and less team work in their practice environment. The reason could be good working relationships between physicians and nurses helps for positive environment and more autonomy of nurses to express their professional caring for quality of care.

In the other hand, nurses who had high workload and stressful nursing practice environment were 0.42 times less likely to perceived caring behaviours than nurses who had less workload and stressful environment in the working area. The reason might be high work load is the main cause of stress and having enough time to spend with patients and to engage in practice without a constant feeling of stress is important to effective nurse–patient/family relationships that could be influencing the caring behaviours of nurses.

## CONCLUSION

The proportion of nurses who had high perception caring behaviours was found to be lower. Relatively, the physical aspect of caring behaviours was highly perceived by nurses than the psychosocial aspect of caring as their nursing practice.

This study found that among the socio demographic characteristics of nurse's longer professional experience had significant association for the perception of caring behaviours.

This study also found that nurses personal and professional satisfaction with the job were significant association with the perception of caring behaviours. Moreover, a positive and conducive caring environment in which the organization with adequate staffing and support and positive nurse-doctor relationship were statistically significant association with nurse's perception of caring behaviours. However nurses caring behaviours were less likely perceived due to high work load and stressful working environment.

## COMPETING INTERESTS

The authors declare that they have no competing interests.

## AUTHORS' CONTRIBUTIONS

TDA wrote the proposal, participated in data collection, analyzed the data and drafted the paper. NBT, DGG and MHG approved the proposal with revisions, participated in data analysis and revised subsequent drafts of the paper. All authors read and approved the final manuscript.

## ACKNOWLEDGEMENT

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