



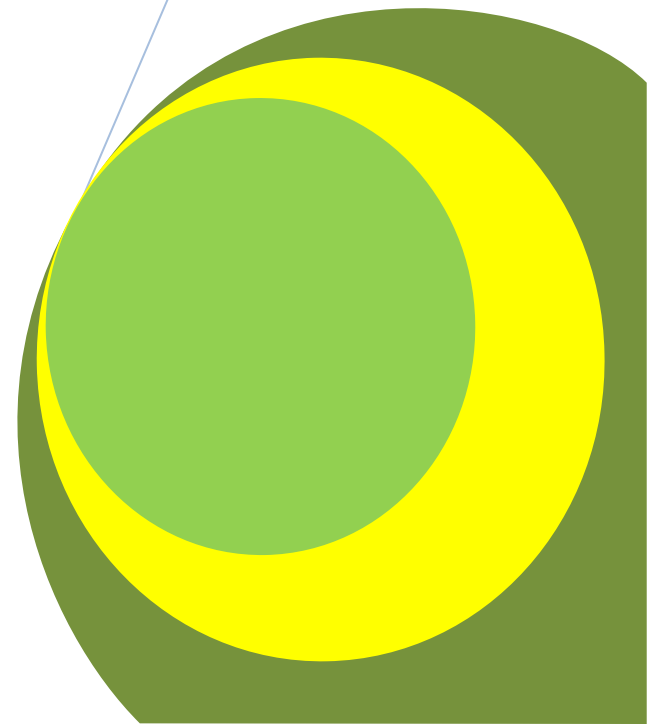
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Job Satisfaction of Nurses and Associated Factors in Public Hospitals in Tigray Region, Northern Ethiopia

By

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Research Article

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ABSTRACT

Background: Job satisfaction is an important component of nurses' lives that can impact on patient safety, productivity and performance, quality of care, retention and turnover, commitment to the organization and the profession. One of the primary reasons nurses leave the profession is dissatisfaction with their practice environment. The aim of this study was to assess job satisfaction of nurses and associated factors in public hospitals, Tigray, Northern Ethiopia.

Methods: Institutional based cross sectional study was carried out from February to March 2011 using both quantitative and qualitative methods of data collection. A total of 255 nurses were selected using simple random sampling method and key informants for the in-depth interview were selected conveniently from the two-third of the total hospitals in the region. Descriptive statistics, bivariate analysis and multivariable logistic regression analyses were employed to identify factors associated with job satisfaction of nurses.

Result: Fifty Eight percent of the participants were satisfied about their relationship with physicians. Greater than half of the nurses were dissatisfied with administrative support in nurse-physician relationships. Age, work experience, staff shortage subscales was found to be positive predictors of the nurses satisfaction with their relation with physicians.

Conclusion: Almost half of the participants were dissatisfied with current job. The study reveals that there is poor work relationship between nurses and physicians. Hospital leaders should focus in improving nurse-physician work relationships; team conferences and interdisciplinary round.

Keywords: Job satisfaction, Nurse-physician relationships, Nurses .

INTRODUCTION

Job satisfaction is an important component of nurses' lives that can impact on patient safety, productivity and performance, quality of care, retention and turnover, commitment to the organization and the profession. One of the reasons nurses leave the profession is dissatisfaction with their practice environment (Bayram Demir; Aytül Kasapoglu 2008, AONE 2002).

In health sector the most important duties are carried out by nurses and physicians; so that nurse-physician collaboration is a key factor in nurse job satisfaction, retention, and job valuation and for efficient delivery of health care (Baggs JG, et al 1999). The patient and the patient's family benefit from care delivered by the team practicing within this environment. Decreased risk-adjusted mortality and length of stay, fewer negative patient outcomes, and enhanced patient satisfaction have also been associated with better nurses' job satisfaction (Rosenstein, A.H. 2002; Schmalenberg C, et al. 2005). Findings indicate collaboration and communication as the key ingredients to improved Nurse-Physician relationships and can improve job satisfaction among the two professionals and improve patients' satisfaction and quality of care and outcomes (Ogbimi and Adebamowo 2006, Dorethea T 2009).

Almost in the world 40% higher in hospitals where nurses had less satisfactory relations with physicians (Rosenstein, A.H. 2002). Nurse-physician relationships have been shown to have a significant impact on the job satisfaction and retention of nurses; in combination with other workplace factors, disruptive behavior contributes significantly to increased workplace stress and burnout and strongly influences nurses' job satisfaction and decisions to leave the profession (S.Vazirani. et al. 2005, U. Krogstad et al. 2004). Negative nurse-physician relationships have proven to strain the role of the nurse, resulting in job dissatisfaction, and more nurses leaving the profession. Negative patient outcomes, related to the decrease in nursing staff (Manojlovich M, DeCicco B. 2 0 0 7) .

The nursing shortage is not affecting only nurses but also services have been reduced and surgeries canceled. Consequently, patient satisfaction has decreased, quality of care and patient safety have been compromised, and the rate of medical errors has risen (AONE 2002).

In spite of nursing playing an extremely important role; they may be the most dissatisfied professionals in the world today. Job dissatisfaction among the hospital nurses is 4 times greater than the average for all other workers. One in five hospital nurses plan to leave their current jobs within a year. About 33% of the nurses below age of thirty are planning to leave their job within the year. Thus there is an aging work force with the mean age of nurses being 45.2, higher than most professions. Job dissatisfaction has been identified as the main factor for nurses leaving the profession earlier than anticipated (AONE, 2002). Dissatisfied providers not only give poor quality, less efficient care, there is also evidence of a positive correlation between professional satisfaction and patient satisfaction and outcomes. Nurses who were not satisfied at work were also found to distance themselves from their patients and their nursing chores, resulting in suboptimal quality of care (Rosenstein AH, et.al 2005).

In four Belgian acute-care hospitals, approximately three of four nurses reported that joint practice exists between nurses and physicians and that they have good working relationships with physicians which is associated with a 2.5 fold increase in the odds of reporting high job satisfaction and was significantly associated with a fourfold increase in the odds of reporting excellent nurse-perceived quality of care (Linda O'Brien-Pallas et al. 2005).

Studies within the United States, in 2002, the Veterans Health Administration West Coast hospital system conducted a nurse-physician relationship survey that targeted nurses, physicians, and hospital administrators within this large hospital network nurses' responses revealed that nurse-physician relationships strongly impact nursing morale and job satisfaction (Rosenstein, A.H. 2002).

Studies in Japan hospitals 2005, greater than half of nurses scored high on burnout and dissatisfied with their jobs, and ranked quality of care as only fair or poor. The study demonstrated that inadequate staffing and relationships with physicians are significantly associated with burnout, as measured by emotional exhaustion, and dissatisfaction, both precursors to voluntary resignations. The results suggest that individual nurse burnout and dissatisfaction and poorer quality of care are associated with workplaces that have larger percentages of inexperienced nurses (El-Jardali et al 2009).

A study conducted in south Africa in the Western Cape, Free State, Kwa-Zulu Natal and Gauteng in public and private sectors, Female nurses were generally more satisfied with resources than their male colleagues ($p < 0.05$), while nurses above age 40 were significantly more satisfied than their younger colleagues with their relationships with doctors ($p < 0.01$). Nurses with more than 20 years' experience were also significantly more satisfied than their less-experienced colleagues with most of the facets of their work (R. Pillay 2009).

Research into job satisfaction of nurses is timely as efforts to implement healthy workplaces, improve working relationships between doctors and nurses through improved training and better working conditions, to create better working environment which will improve the retention of staff, job satisfaction and efficiency of health care delivery system in Ethiopia specifically in Tigray. The aim of this study was to assess job satisfaction of Nurses in public hospitals in Tigray, Northern Ethiopia.

METHOD AND MATERIALS

The study was conducted in Tigray Region which is the northernmost of the nine ethnic regions of Ethiopia containing the homeland of the Tigray people. Its capital is Mekelle which is 783km from the capital Addis Ababa. The study was conducted from February 28 to March 20, 2011.

The Study design was institution based cross-sectional quantitative and qualitative approaches. The Study subjects for the quantitative part were randomly selected nurses who were engaged in giving direct patient care, work as full timer in public hospitals and who had 6 months and above work experience. For the in-depth interview: Physicians, Nursing directors, Medical directors and CEO of the hospitals were involved in the study. Two hundred and fifty five samples for the quantitative study were determined using single population proportion and correction formula. Eight in-depth interviews were conducted to collect the required information purposively for the qualitative study. Two-third of 14 public hospitals in the region were selected using lottery method and then the required numbers of nurses to be included from each study hospital were proportionally selected. Data were collected using a structured questionnaire that was adopted and adapted from the NWI-R and from reviewing literatures of similar studies (5, 14 and 25). The questionnaire had three major parts. Socio-demographic characteristics, Organizational factors; Nurse-physician work relationships subscale were included in the measurement. In the instruments of job satisfaction responses Likert scale was used. The validity and reliability of the instrument was tested with pretest prior to main data collection time. Data were collected by using self-administrated questionnaire by the help of nine trained BSc nurse data collection facilitators and three supervisors. Written guideline was given to administrator of the questionnaire to assure that every nurse received the same directions and information. Anonymous of the

participant was kept by informing them not to write their name. The in-depth interview had broad questions that could elicit information regarding the research objectives and used as a guide for semi-structured interview. Data were collected by principal investigator and the three supervisors from the key informants and information was tape recorded and filled note was taken.

Formal letter was obtained from Jimma University Ethical Review Committee College of public health and Medical science and Tigray Health Bureau and communicated with respective hospitals. Then letter of permission was secured from administrative bodies of the area to communicate with relevant bodies at the hospital. All of the study participants were informed about the purpose of the survey, their right to participate or to terminate at any time if they want and respondents were ensured about the confidentiality of information obtained. Verbal consent was obtained for their participation.

In order to assure the quality of data the questionnaire was initially prepared in English and translated into local language (Tigrigna) and retranslated to check consistency. Pretest was also conducted in 10% of sample size in Quiha hospital. The data collection facilitators and supervisors were recruited and trained for two days on the objective of the study and about the questionnaire by the PI. The PI and three recruited supervisors were responsible for supportive supervision on the spot and on reviewing all filled questionnaires on daily basis.

The collected data were checked for its completeness every day, coded, entered into a computer, cleaned and analyzed using SPSS version 16.0 analyzed accordingly. The data were summarized and descriptive statistics was computed for all variables Job satisfaction subscales were computed. Cross tabulation was used to see the frequency and percentage of socio-demographic characteristics with nurse-physician relationships and job satisfaction. The mean scores were calculated for each nurse-physician relationship and nurses job satisfaction subscale and the overall satisfaction of those whose score were above the mean were considered as satisfied and those whose score were less than or equal to the mean were considered as dissatisfied focused on nurse-physician relationships. Crude odds and adjusted odds ratio was calculated for each exposure variables using 95% (CI. Finally, variables that are found statistically significant under bivariate analysis were entered into multiple logistic regression models in order to identify independent predictors of nurse's job satisfaction. The tape-recorded qualitative data was transcribed and translated to English under selected themes based on the question guides and summarized manually. It was presented in narratives triangulated with the quantitative results.

RESULT

Out of 255 participants from the total of nine hospitals 246 completed and returned the questionnaire and making a response rate of 96.5%. But only 242(94.9%) provided usable surveys and demographic information. The study subjects were predominately females 154 (63.6%). The mean age of the respondents was 32.72 (± 8.58) years with minimum of 18 and maximum 58 years of age. About 46 % of participants were less than 30 years of age and 129 (53.3) of them were married (Table 1).

Table 1: Socio-demographic characteristics of nurses, Tigray Region, Public hospitals, 2011.

Socio-demographic characteristics	Frequency	Percent
Sex		
Male	88	36.4
Female	154	63.6
Age		
<30 years	111	45.9
30 to 39 years	72	29.8
40 and above years	59	24.3
Marital status		
Married	129	53.3
Single	88	36.4
Divorced/Widowed	25	10.3
Religion		
Orthodox	220	90.9
Muslim	16	6.6
Catholic	6	2.5

Work experience in Nursing		
< 10 years	140	57.9
10 to 19 years	54	22.3
>19 years	48	19.8
Highest attained nursing education		
Diploma clinical nurse	146	60.3
Diploma OR nurse	10	4.1
Diploma midwifery	32	13.2
BSc. Nurse	43	17.8
Others*	11	4.6

Other work related organizational factors that nurses complain as some of the factors that can affect nurse-physician work relationships and nurses job satisfaction staff shortage 210(86.8%), work overload 202(83.5%), inadequate resource 178(73.6%), lack of nurse skill and knowledge 160(66.1%), inadequate attention to patients 138(59.1%), poor work attitude 102(42.2%) were the most common complains.

Job satisfaction subscales

Nurses' general attitude on the atmosphere of the hospital subscale for the study hospitals item was the highest items mean score which was 6.92 ± 2.73 with a range of scores from 1 to 10. The lowest level of job satisfaction item mean were reported for nurses work environment (Mean= 2.70 ± 0.99) with a range in scores 1 to 5 (Table 2).

Table 2: Descriptive statistics, analysis of variability among units for job satisfaction subscale item mean, Tigray , Public hospitals, 2011.

Subscale	Number of items	Mean \pm SD
Nurses' perception their relationship	6	6.92 ± 2.73
Work environment	8	2.70 ± 0.99
Clinical autonomy of nurses'	6	3.53 ± 1.26
Administrative support nurse-physician r/ship	3	3.02 ± 1.29
Recognition of nurses' role by physicians	3	3.37 ± 1.16
Perceived alternative for job/education	2	2.85 ± 1.38

The overall job satisfaction mean score were reported (59.5 ± 13.72) with a range in scores 28 to 98. Nurses' general attitude on the atmosphere of the hospital job satisfaction subscale mean score was the highest which was (41.53 ± 12.8) with a range in scores from 6 to 60, and followed by clinical autonomy of nurses subscale which was 27.81 ± 6.12 with a range in scores from 6 to 30 (Table 3).

Table 3: Descriptive statistics among units for nurse-physician relationship with nurses' job satisfaction subscale mean score, Tigray Region, Public hospitals, 2011.

Subscales	Minimum	Maximum	Mean	SD
Overall nurses job satisfaction	28	98	59.50	13.719
Attitude of nurses on hospital atmosphere	6	60	41.53	12.798
Nurses work environment	8	32	22.40	4.717
Clinical autonomy of nurses	6	30	20.00	6.118
Administrative support of nurses in nurse-physician relationship	3	15	9.06	3.195
Recognition of nurses work by physicians	3	15	10.11	2.863
Perceived alternative job/education	2	10	5.10	2.513

Perception of nurses on general atmosphere of their working hospital

The mean rating of all respondents (n = 242) about the general atmosphere of their hospital by 10 Likert scale and 10 indicates the most positive. Almost in all the items to be rated were rated as in a moderately positive aspects. The mean score of the overall atmosphere of nurse–physician relationships at the hospital was (7.2 ± 2.56). The mean rating of all respondents on the significance of nurse–physician relationships at their hospital was (7.71 ± 2.425). The mean rating of physician awareness of the importance of the nurse–physician relationship to nurses' satisfaction was (7.16±2.467). The mean rating of all respondents' physicians' value and respect for nurse input and collaboration was (7.25±2.702). Those participants who were asked to rate their perceptions of administrative support of nurses in conflicts with physicians. The mean response rate was (6.00±3.201) and this was the lowest mean score in the survey with this scale. And also they rate their perceptions of physician support of nurses in nurse–physician conflicts and the mean response rate was (6.22±3.034) the second lowest mean score among all scores in the survey (Table-4), *in the in-depth interview, inpatient nurse director stated* "....actually the nurse-physician relationship here is not bad but good relationship is important for the quality of service delivered to clients and for the two professionals' job satisfaction. If the two professionals value and respect their collaboration and trust each other, their nurse-physician relationship will be good....., team work and collaboration will be increased....It results job satisfaction of the two professionals, as result good quality of care will be delivered to patients."

The mean score in the attitude of participants towards general atmosphere of their working hospital were 41.53. Of the total participants 124(51.2%) had positive attitude towards the general atmosphere of the hospital but the remaining had negative perception towards the general atmosphere of their working hospital (Table 4).

Table 4: Nurses perception on general atmosphere of their hospital descriptive statistical analysis Tigray Region public hospitals, 2011.

Nurses' general perceptions on	N	Mean	SD
Overall atmosphere of nurse-physician work relationships	242	7.18	2.555
Overall significance of nurse-physician work relationships	242	7.71	2.425
Physician awareness on nurses' job satisfaction			
Administrative support for nurses in case of conflict	242	7.16	2.467
Physician value and respect on nurses' input and collaboration	242	7.25	2.702
Physicians' support for nurses in case of conflict with physicians	242	6.00	3.201
	242	6.22	3.034

One hundred forty (57.9%) respondents were satisfied with the general atmosphere of their hospital while the remaining of respondent answered as they were dissatisfied with this aspect. Of these respondents 98(40.5%) had positive attitude and were satisfied but 76(31.4) had negative attitude and were dissatisfied. Of the 118 nurses who had negative attitude around 60% of the respondents were dissatisfied with their relationship with physicians (Figure 1).

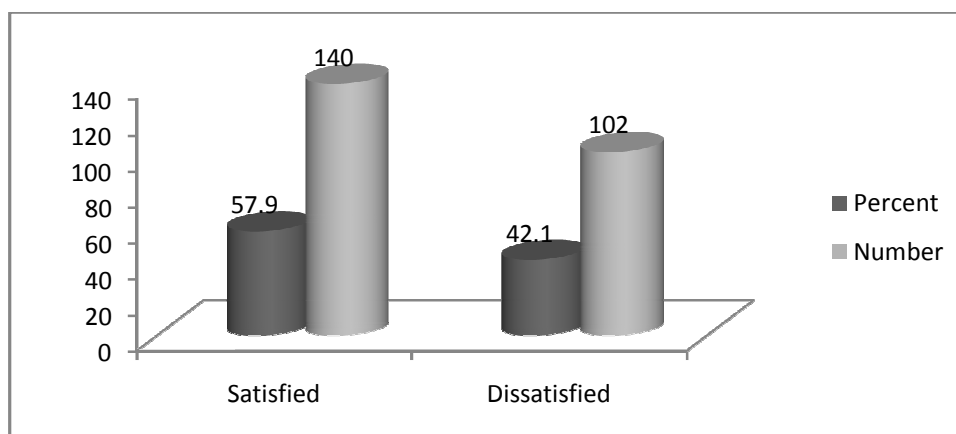


Figure 1: Satisfaction level and attitude nurses towards general atmosphere of their working hospital, Tigray region, public hospitals,2011.

Nurses work environment subscale

Almost majority (64%) of the respondents replied that they were satisfied with their relationship with physicians. About two-third (66%) of the respondents reported that physicians and nurses have good working collaboration or joint practices suggest that they were satisfied with their collaboration or joint practice. With respect to existence of team work between nurses and physicians, almost three in five nurses reported that there was a lot of teamwork or joint practices between nurses and physicians. Of the total participant nurses 208 (86%) of them reported that, as there was inter-professional relationship in their hospital. Of the total 242 respondents, 147(60.7%) of them were satisfied with physicians behavior in their hospital (Table 5).

Majority 109(45.1%) and 91(37.6%) of the study subjects said the facility is doing to facilitate collaboration and team work between nurses and physicians by team conferences and interdisciplinary rounds respectively. And the remaining participants said nothing is done to increase the relationships between nurses and physicians. *One of the key informant stated "to improve an interdisciplinary relationship in our hospital....., just we use review meeting every two weeks in each case team mainly in their communication and relationships with their case team mates as well as adequacy of resources and we also introducing interdisciplinary round even if it is an infant...."*

Most of the respondents 146(60.4%) said the process is believe it's not at all effective (Table 5). But on the opposite, on the contrary on the qualitative data *a nurse director of one hospital stated ".....most of the physicians and nurses are senior and experienced no common disruptive behavior but ...rare conflict might occur between the two professionals and it will be solved by the case team manager through discussion. If still it cannot be solved the issue will be discussed in the matron office and finally... if not solved will be reported to the administration office to discuss the case with task centered."*

Table 5: Perception of nurse on the work environment, Tigray Region Public hospitals, 2011.

Nurses Work environment	Frequency	Percent
With Nurse-physician relationship		
Dissatisfied	87	36.0
Satisfied	155	64.0
Collaboration or joint practice with physicians		
Dissatisfied	83	34.3
Satisfied	159	65.7
With Inter-professional existence with physicians		
Dissatisfied	208	86
Satisfied	32	14
Extent of team work between nurse and physicians		
Dissatisfied	99	40.9
Satisfied	143	59.1
Physician behavior		
Dissatisfied	95	39.3
Satisfied	147	60.7
Facility uses to facilitate inter-disciplinary collaboration		
Team conferences	109	45.1
Interdisciplinary round	91	37.6
Nothing is done	42	17.4
Effectiveness with dealing physicians disruptive behavior		
Was not effective	146	60.4
Was effective	96	39.7

Here's how nurses characterize their relationships with physicians in their clinical settings, 98(40.5%) of the respondents said as, had collegial relationships with physicians of these 22(51.2%) were BSc.nurses and followed by 91(37.6%) of the respondents "believe that nurses are subordinates of physicians (fig 2), *key informant (28 years) female said* '..... As a physician, if I accept the reality that I am employed here is to save lives..., with the auxiliary health personnel. Auxiliary health personnel are assistants to the physicians. This does not necessarily mean that they are the slaves of physicians. Their task is to assist physicians and work in accordance with this division of labor.nurses does not want to accept that they are subordinates of physicians.....' But a nurse director stated "....nurses have equal power and position with physicians but physicians do not perceive this due to the culture that they adopted"

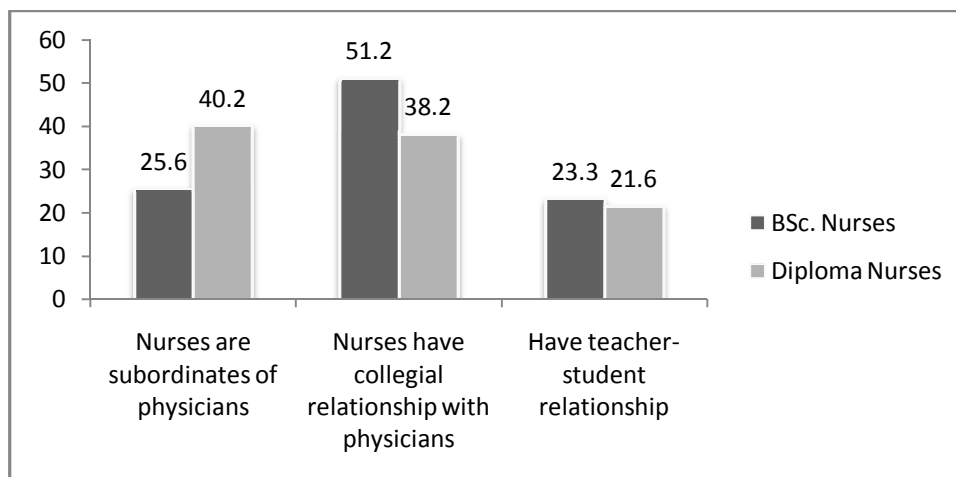


Figure 2: Type of nurse-physician relationships of study participants by highest attained nursing education, Tigray Region, Public hospitals, 2011.

Clinical autonomy subscale of nurses

Of the total 242 respondents who responded about the clinical autonomy of nurses, 164(67.8%) were consulted about nursing care by physicians suggest that they were satisfied with their consultation about nursing care by physicians. From the total nurses participated in the study, about 33.9% reported that; they did not have the right in decision making role about nursing care but most of the nurses were satisfied with this aspect. From total respondents, three in five nurses believe that physicians with whom they work respect the nurses judgment about patient care and they feel satisfied. Greater than half of the respondents, 132(54.5%) reported that they were satisfied with physicians support nurses in decision making about patient care. About 55% of the respondents in the study were satisfied with physicians support to be to be fully accountable about nursing care to their patient. Around 57.9% of the nurses who were participated in the study were given a freedom by physicians to be autonomous in decision making about patient care but the remaining do not supported by physicians in decision making (Table 6).

Table 6: Perception of respondents in clinical autonomy of nurses given by physicians, Tigray Region public hospitals, 2011.

Clinical autonomy items	Frequency	Percent
Consultation of nurses about nursing care by physicians	78	32.2
Dissatisfied	164	67.8
Satisfied		
Right of nurses' in decision making about nursing care	82	33.9
Dissatisfied	160	66.1
Satisfied		
Physicians respect in nurses judgment about pt care	98	40.5
Dissatisfied	144	59.5
Satisfied		

Extent of physicians support for nurses in decision making	110	45.5
Dissatisfied	132	54.5
Satisfied		
Extent of support by physicians to nurses to make fully accountable on these nursing care decisions	109	45.0
Dissatisfied	133	55.0
Satisfied		
Freedom given to nurses by physicians to be autonomous in decision making about pt care		
Dissatisfied	102	42.1
Satisfied	140	57.9

In overall, total mean score of clinical autonomy subscale was (21.81±6.12) with range of 6 to 30. From 242 respondents, 143(59.1%) replied that they were satisfied with clinical autonomy given by physicians in decision making in their working hospitals and this was the highest level of satisfaction subscale in this study and significant number of participants 99(40.9%) were dissatisfied with this aspect in decision making role. Out of the total diploma nurses participated in the study about 64% were satisfied with their clinical autonomy given by physicians for decision making about patient care but of the 43 BSc. Nurses who were participated in the study, about 61% were dissatisfied with their current clinical autonomy given by physicians. *In the qualitative study, one CEO of a hospital stated " ...the roles, functions, and kinds of expertise nurses and physicians have may be different, but they're equally important to patient care and she believes that physicians are more likely to respect and appreciate nurses' knowledge and skills when they work closely with nurses and get to know them well in decision making."*

Administrative support in nurse-physician relationships

Of the total respondents, 122 (50.4%) claimed that they were satisfied with administrative support to create nurse-physician relationships in their hospital. Of the total respondents who 11(4.9%) and 130(53.7%) were dissatisfied about the extent of administrative support for personal growth in education & with conflict resolution in their hospitals respectively (Table 7).

Table 7: Respondent perception on administrative support in nurse- physician relationships, Tigray Region public, 2011.

Administrative subscale items	Frequency	Percent
Administrative support in nurse physician relationships		
Dissatisfied	120	49.6
Satisfied	122	50.4
Extent of administrative support for personal growth in education		
Dissatisfied	111	45.9
Satisfied	131	54.1
Conflict resolution		
Dissatisfied	130	53.7
Satisfied	112	46.3

In general, the total mean score of administrative support in nurse-physician relationship was 9.06(SD=3.2) with range of 3 to 15. Of the total respondents, (52.5%) were dissatisfied with administrative support for their work relationship with physicians while the remaining 115(47.5%) of respondent answered as they were satisfied with this aspect. Out of the total 110 respondents less than 30 years of age about 68% were dissatisfied with their administrative support in nurse-physician relationships where as from the 59 nurses 40 and above years participated in the study around 66% of them were satisfied with administrative support in nurse-physician relationships (fig 3).

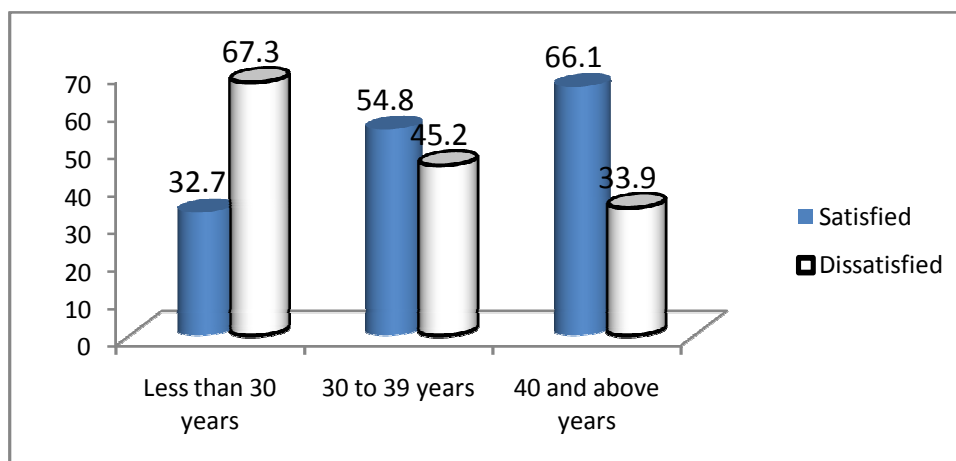


Figure 3: Satisfaction level with administrative support in nurse-physician relationship by age Tigray Region, Public hospitals, 2011.

Recognition of nurses' role by physicians in patient care

Of the 242 survey respondents, 109(45%) of them perceive a gap in physicians' understanding of nurses' roles and responsibilities as a nurse and cite ongoing problems with communication and collaboration which results this with dissatisfaction. Of the total participants in the study, 169(69.8%) were satisfied with competency of nurses on their professional skill and knowledge of nurses who were working in their hospital. Regarding recognition of nurses' work by physicians, 147(60.7%) nurses were report as their work is recognized by physicians which is satisfactory (Table 8). On the contrary, a nurse director of one hospital stated "...I feel that some physicians don't always recognize the knowledge, and experience base that nurses have."

Table 8: Perception of respondent on recognition of nurses' role by physicians, Tigray Region Public hospitals, 2011.

Recognition items	Frequency	Percent
Most physicians' understanding about nurses' role		
Dissatisfied	109	45.0
Satisfied	133	55.0
Nurses' professional competency and knowledge		
Dissatisfied	73	30.2
Satisfied	169	69.8
Recognition of nurses work by physicians		
Dissatisfied	95	39.3
Satisfied	147	60.7

In general, the total mean score of recognition of nurses role and responsibilities by physician in patient care was (10.11 ± 2.86) with range of 3 to 15. From the total 242 respondent, almost half of the participants 122(50.4%) were dissatisfied with the lack of appreciation of nurses role and responsibilities in patient care by physicians while the remaining of respondent answered as they were satisfied with this aspect. Out of the 140 nurses participated having work experience less than ten years in nursing, about 65% of them were dissatisfied with recognition of their role by physicians where as from 54 participants with work experience in nursing 10 to 19 years were about 74% were satisfied with recognition of their role by physicians (fig 4). On the contrary on the qualitative analysis One CEO stated "...Some of the nurses are very competent with their professional skill and knowledge more than that of some of the physicians that we cannot get them elsewhere but not mean that all the nurses are competent enough...."

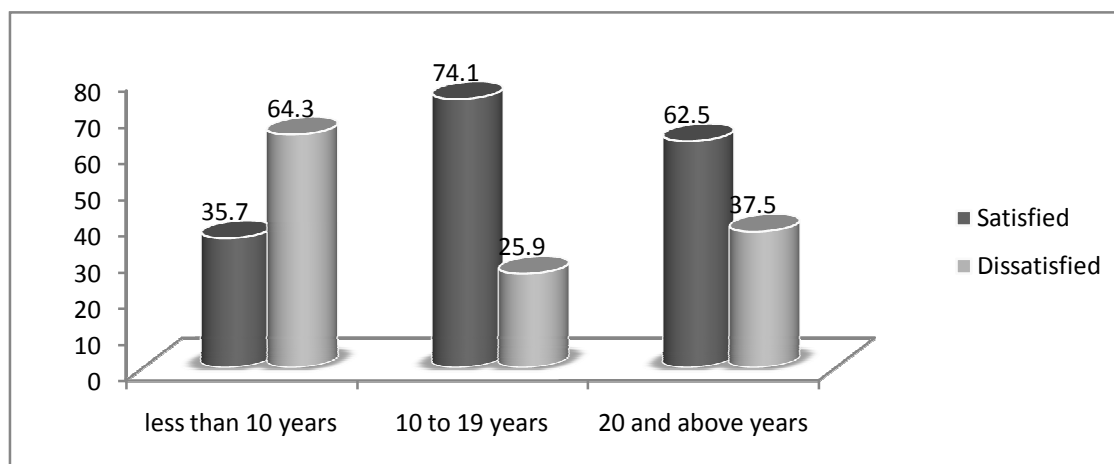


Figure 4: Satisfaction level of nurses with recognition of nurses' role by physicians subscale by work experience in nursing in Tigray Region, Public hospitals, 2011.

Perceived alternative for job/education subscale

Most of the nurses 134(55.4%) would not like to change their profession and 114(47.1%) respondents would like to continue working in their current hospital and 40(16.5%) of the respondents prefer to change their occupational field (Table 8). *Key informant stated*“.....nurses who leave the hospital are those with the younger age, less work experience and those who are single or not married to other organization and some of them even change their profession.”

Table 9: Nurses perceived alternative for job/education Tigray Region, Public hospitals,2011.

Perceived alternative for job/education	Frequency	Percent
Education opportunities out of nursing profession		
Dissatisfied	134	55.4
Satisfied	108	44.6
What would you do if your nurse-physician relationship is good?		
I would continue working in this hospital		
I would switch to another organization of the same field		
I would switch to another occupational field	114	47.1
I am already fed up working completely with this profession	31	12.8
I am planned to leave the country	40	16.5
	52	21.5
	5	2.1

Nurses who were satisfied about perceived alternative for job/education 102(42.1%) and this indicates to change the current working hospital or to change the profession, while 140 (57.9%) of nurses responded as they were not satisfied with alternative for job/education this suggest that they intent stay in the profession or in current job. Of the total 140 nurses having less than 10 years service, 80(57.1%) of the respondents were satisfy to leave their current hospital or their profession but with the 10 to 19 years service 44(81.5%) dissatisfy to find other job or education out of nursing (Fig 5).

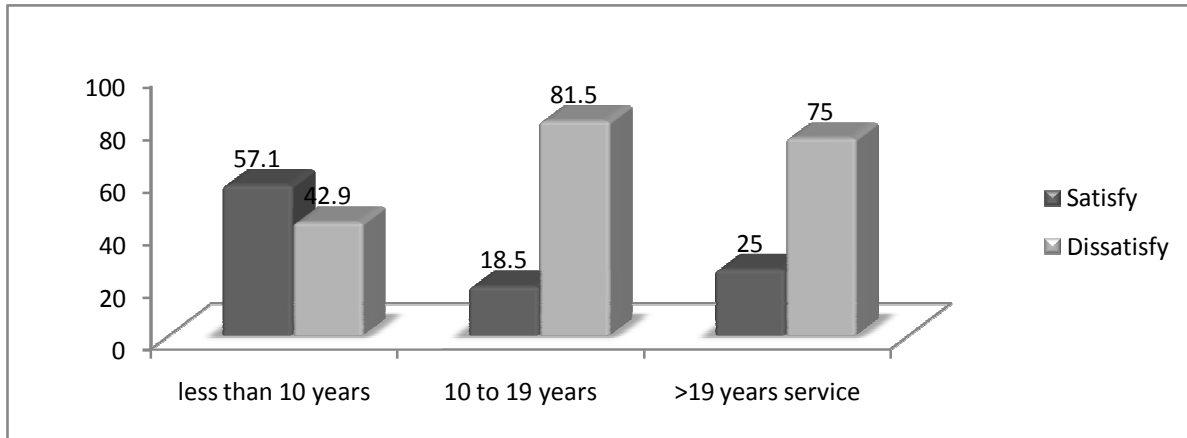


Figure 5: Satisfaction level of perceived alternative for job/education of nurses by work experience in nursing Tigray Region, Public hospitals, 2011

From the nurses' job satisfaction subscale 59.1% of the nurses were satisfied with their clinical autonomy. About respondents 52.5% and 50.4% were dissatisfied with administrative support in nurse-physician relationships and recognition of nurses' role by physicians respectively

Table 2: Satisfaction level of nurses for job satisfaction subscale, public hospitals, Tigray 2011

Subscale	Satisfied Frequency (%)	Dissatisfied Frequency (%)
Nurses' perception their r/ships	124(57.9)	118(42.1)
Nurses Work environment	139(57.4)	103(42.6)
Clinical autonomy of nurses'	143(59.1)	99(40.9)
Administrative support for nurse-physician relationship	115(47.5)	127(52.5)
Recognition of nurses' role by physicians	120(49.6)	122(50.4)
Perceived alternative for job/education	140(57.9)	102(42.1)

Overall job satisfaction

In this study finding, 140 (57.9%) of nurses indicated job satisfaction from nurse-physician relationships (fig 6) and also in the qualitative study, one nurse director stated, "...I think nurse takes satisfaction from their quality of care deliver to the client and "God" as well as from relation and collaboration with their working mate physicians and their peers apart from other aspect administration support and carrier structures and as well as other incentives...and overall they are somewhat satisfied..."

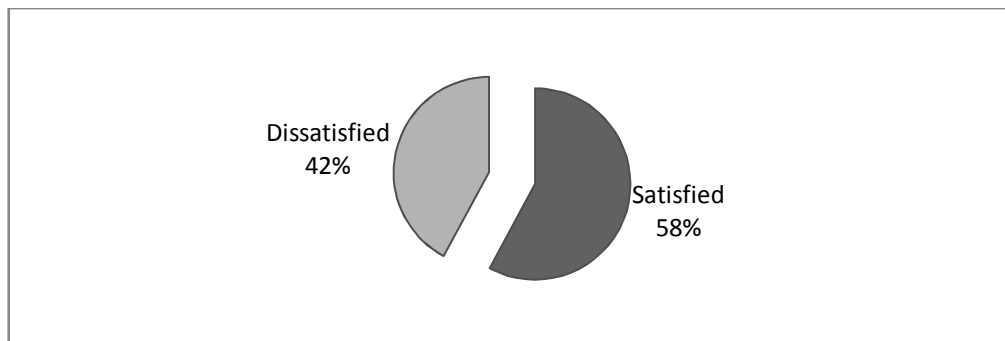


Figure 6: Overall job satisfaction of nurses with in nurse-physician relationships in Tigray Region, Public hospitals, 2011.

Predictors of nurse overall job satisfaction

In multiple logistic regressions, age of participants, work experience in nursing and staff shortage were potent predictors of nurse's job satisfaction. Nurses with age group 40 and above years were four fold more likely to satisfy with their current job as compared to nurses with aged below 30 years of age (AOR=3.77,[95% CI=1.02, 13.95]). Moreover, nurses within the age group 30 to 39 years had three times more likely to be satisfy as compared to nurses with below 30 years old (AOR=3.29,[95%CI=1.40,7.69]).

Nurses who had work experience 10 to 19 years in nursing were over four times more likely to be satisfied than nurses who had below 10 years work experience (AOR = 4.42, CI: 1.48, 13.22). Nurses who do not mention staff shortage as a factor that can affect nurse-physician relationship were four times more likely to be satisfied as compared to those who mention staff shortage as a factor (AOR=4.24, [95%CI: 1.62, 11.10]) (Table 11).

Table 3: Unadjusted and Adjusted Odds ratio of 95% CI of logistic regression with predictor variables on job satisfaction of nurses, Tigray Region, Public hospitals, 2011

Predictor Variables	Job satisfaction		COR 95% CI	AOR 95% CI
	Dissatisfied	Satisfied		
Age of respondent				
< 30 years	73(71.6%)	37(26.4%)	1	1
30 to 39 years	17(16.7%)	56(40%)	6.5(3.32, 12.72)**	3.286(1.4, 7.69)**
40 and above years	12(11.8%)	47(33.6%)	7.73(3.66, 16.31)**	3.77(1.02, 13.95)**
Work experience				
<10 years	84(82.4%)	56(40.0%)	1	1
10 to 19 years	7(6.9%)	47(33.6%)	10.07(4.25, 23.87)**	4.42(1.48, 13.22)**
>19 years	11(10.8%)	37(26.4%)	5.05(2.38, 10.72)**	2.1(.58, 7.68)
Nursing education				
Diploma	74(72.5%)	125(89%)	1	1
BSc. Nurse	28(27.5%)	15(11%)	0.317(.159, .632)**	0.541(0.247, 1.89)
Staff shortage				
Yes	95(93.1%)	115(82%)	1	1
No	7(6.9%)	25(18%)	2.95(1.23, 6.97)*	4.24(1.62, 11.1)**

Nurses who were not satisfied with their work environment were 94% less likely to satisfy with their current job as compared with those who were satisfied with their work environment (AOR=0.06,[95%CI=0.014,0.24]). Nurses who were not autonomous in decision making about patient care were 98% less likely to be satisfied as compared to those who were autonomous in decision making about patient care (AOR=0.02,[95%CI=0.003,0.066]). There was statistically significant effect on the nurses' job satisfaction of administrative support in nurse-physician relationships, those who had administrative support in their relationship with physicians were almost seven times (AOR=6.81, [CI=1.67, 27.82) more likely satisfied with their current job than those who were not satisfied with administrative support in nurse-physician relationships. Nurses who had not recognize their roles and responsibilities by physicians were 94% less likely to be satisfied with their current job as compared to with those their role were recognized (AOR=0.06,[95%CI=0.012,0.24]) (Table 12).

Table 4: Binary and multiple logistic regression model predicting satisfaction with respect to nurse-physician relationships and job satisfaction subscale, Tigray region, public hospitals, 2011

Job satisfaction subscale	COR(95% CI)	AOR(95% CI)
Attitude of nurses towards atmosphere of hospital		
Dissatisfied	0.18(0.083,0.26)**	0.43(0.099,1.88)
Satisfied	1	1
Nurses work environment		
Dissatisfied	0.022(0.01,0.047)**	0.06(0.014,0.24)**
Satisfied	1	1
Clinical autonomy of nurses		
Dissatisfied	0.006(0.002,0.016)**	0.02(0.003,0.066)**
Satisfied	1	1
Administrative support in nurse-physician		
Dissatisfied	1	1
Satisfied	16.28(8.3, 31.95)**	6.81(1.67,27.82)*
Recognition of nurses' role by physicians		
Dissatisfied	0.021(0.009,0.05)**	0.053(0.012, 0.237)**
Satisfied	1	1
Perceived alternative job/ education		
Dissatisfied	0.032(0.016,0.064)**	0.37(0.068,2.02)
Satisfied	1	1

N.B. ** Significant at $P < 0.001$, CI=confidence interval, *significant at $p < 0.01$ COR(Crude Odd Ratio), AOR(Adjusted Odds Ratio)

DISCUSSION

In the present study nurses' job satisfaction in relation of nurse-physician relationships was assessed because excellent working relationships between nurses and physicians are important in creating safe and satisfying practice environment to furnish quality of nursing care and job satisfaction of the two professionals (AONE 2002).

Nurses in with age group 40 and above years as were 4 times more satisfied as compared to aged below 30 years of age (AOR=3.77, CI=1.02, 13.95). This finding also supported by the in depth interview "...nurses in our hospital are senior and experienced.....and have an intimate relationship with physicians like a family and becomes more satisfied." This study is consistent with similar study conducted in South Africa in the Western Cape with nurses above age 40 were significantly more satisfied than their younger colleagues with their relationships with doctors ($p < 0.01$) (R. Pillay, 2009).

Nurses who had work experience 10 to 19 years in nursing were over four times more likely to be satisfied than nurses with below 10 years work experience (AOR = 4.42, CI: 1.48, 13.22). But nurses who had work experience of 20 and above were not statistically significantly associated with job satisfaction of nurses in relation with nurse-physician relationship even if they were two times more satisfied with work experience less than 10 years. This is inconsistent with similar study in South Africa hospitals, nurses with more than 20 years' experience were also significantly more satisfied than their less-experienced colleagues with physicians ($p < 0.05$) (R. Pillay, 2009).

Nurses who do not mention staff shortage as a factor that can affect nurse-physician relationship were more likely over four fold more satisfied as compared to those who mention staff shortage as a factor (AOR=4.24, [95%CI: 1.62, 11.10]). This is consistent with findings of other studies about nurse-physician relationship conducted in Nigeria showed that this factor also plays an important role in poor nurse-physician relationship ($p=0.004$) (Ogbimi and Adebamowo, 2006).

Physician-nurse relationships based on mutual power, trust, and respect are more instrumental in enabling quality patient care (Kramer M, Schmalenberg 2008). In this study finding on nurse-physician relationship showed about two in three nurses who were participated in the study were satisfied with their good working relationship with physicians in their hospitals. This study finding were lower than with previous similar study conducted in four Belgian acute-care hospitals over 3 in 4 nurses reported had good working relationship with physicians and associated with a 2.5 fold increase in the odds of reporting high job satisfaction(L. O'Brien-Pallas et al. 2005). This might be due to difference in Socio-demographic characteristics, culture of the hospital.

About two-third of the respondents had good collaboration or joint practice with physicians. This is slightly lower as compared to study conducted in Belgium acute hospitals, approximately 75% of nurses reported that collaboration (joint practice) exists between nurses and physicians. Almost majority (86%) of the study participants were reported the existence of inter-professional relationship in their working hospital. this is higher than finding of study in 15 Norwegian hospitals indicated that majority of nurses (71%) satisfied with the inter-professional relationships (U. Krogstad et al. 2004). This difference may be due to socio-demographic characteristics, culture of the study area difference.

The participants believe that nurses are subordinates of physicians (37.6%) and have collegial relationships with physicians (40.5%). This was supported by the qualitative study "... if I accept the reality that I am employed here is to save lives..., with the auxiliary health personnel. Auxiliary health personnel are assistants to the physicians. Their task is to assist physicians and work in accordance with this division of labor,....nurses do not want to accept that they are subordinates of physicians."

Improving team work between nurses and physicians may enhance satisfaction among nurses, physicians, and patients; increase the quality of care, and reduce costs. This can be facilitated by team conferences, interdisciplinary round, and morning session. About 45% of the study participants reported that their facility uses team conferences and also 37.6% interdisciplinary round to facilitate collaboration and team work between nurses and physicians and this was also supported by the qualitative study "... to improve an interdisciplinary relationship in our hospital, ...we use review meeting at least every two weeks in each case team mainly in their communication and relationships as well as adequacy of resources and also introducing interdisciplinary round even if it is an infant"

About 31% of respondents perceive a gap in physicians' understanding of nurses' roles and responsibilities as a nurse and cite ongoing problems with communication and collaboration. This was also supported by the qualitative study "...I feel that some physicians don't always recognize the knowledge, and experience base that nurses have and often overlook it as a resource." This value was lower than similar study conducted in United States conducted in 2008 which was about 70% said that physicians don't understand their roles and responsibilities as a nurse (Bruyneel et al. 2009). This could be due to culture and socio-demographic characteristics of the study sites.

Nurses who were not satisfied with their work environment were 94% less likely to satisfy with their current job as compared with those who were satisfied with their work environment (AOR=0.06,[95%CI=0.014,0.24]).This was consistent with study conducted New York, University of Pennsylvania about nurses work environment (P<0.05) (34). Clinical nurses need to improve relationships with physicians and quality of patient care by participating in interdisciplinary collaborative patient rounds, resolving conflict constructively, performing competently, and demonstrating self-confidence (Vahey et al. 2004).

Clinical autonomy was the other predictor of nurse-physician relationships in this study, nurses who were not autonomous in decision making about patient care were 98% less likely to be satisfied as compared to those who were autonomous in decision making about patient care (AOR=0.02,[95%CI=0.003,0.066]). This study findings found with strong positive correlation($r=0.896$) with overall job satisfaction. This is consistent with the study conducted in Ain Shams University by H. Fatuma with $P<0.001$ (H Fatma, 2002).

Most of nurses were dissatisfied 127(52.5%) with administrative support in nurse-physician relationships and were statistically significant on the nurses' job satisfaction of administrative support in nurse-physician relationships. Nurses who had administrative support in nurse-physician relationship were more satisfied as compared with those who had less administrative support (AOR=6.81,[95%CI=1.67, 27.82]) with their current job. This was consistent with the study conducted in Belgium hospitals on nurses work environment. Nurse Management at the unit level had a significant positive association with the satisfaction of nurses with their current job (Van Bogaert et al. 2009). Half of the nurses were dissatisfied 122(50.4%) with recognition of nurses role by physicians and Nurses who had not recognize their roles and responsibilities by physicians were 94% less likely to be satisfied with their current job as compared to those whose role were recognized (AOR=0.06,[95%CI=0.012,0.24]). This is consistent with study conducted in Nigeria there was perception of lack of appreciation of the knowledge of the nurses by physicians ($p=0.004$) and Ain Shams University ($P<0.001$). (Ogbimi and Adebamowo 2006, H Fatma, 2002).

CONCLUSION

Significant number of nurses who were working in Tigray public hospitals had poor nurse-physician work relationships, team work and conflict management methods and working as subordinates of physicians.

A considerable number of nurses were dissatisfied with overall nurse-physician relationships, administrative support in nurse-physician relationships, and recognition of nurses' role by physicians and work environment. Staff and equipment shortage were also the major factor that causes poor nurse-physician relationships and dissatisfaction of nurses with their work environment.

RECOMMENDATIONS

Based on the findings of the study the following recommendations are forwarded:

To health bureau and hospital leaders to

- Create more opportunities for collaborative communication through open forums, group discussions, and workshops between nurses and physicians.
- Increase availability of training and educational programs for nurses and physicians that focus on improving teamwork and working relationships.
- Encourage team conferences and interdisciplinary round with different.
- Improve organizational processes by requiring administrators to take a more proactive approach to avoiding potential confrontations related to staffing and equipment.
- Disseminate policies, job descriptions in relation to the scope they practice to patient care and reporting guidelines to both nurses and physicians and apply policies consistently.

Competing interests

The authors declare that they have no competing interests

Authors' contributions

GG conceived and designed the study, performed analysis and interpretation of data and drafted the manuscript. HB assisted with the design conception, analysis and interpretation of data, and the critical review of the manuscript. Both authors read and approved the final manuscript.

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