

Missed Nursing Care and Associated Factors Among Nurses in Public Hospitals, South West Ethiopia

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Abstract

Background: Nursing care play essential role in determining quality health care services and patient outcomes. Missed nursing care (MNC) is any required patient care omitted in part or in whole, or significantly delayed by nurses. There is paucity of studies addressing Missed nursing care in hospital setting in Ethiopia. Thus, this study aimed to identify amount, type and distribution of missed nursing care across public hospital in southwestern Ethiopia.

Methods: Facility based cross-sectional study using quantitative methods was conducted in eight public hospitals found in south west Ethiopia from March to April, 2018 using a modified miss care survey tool. All nurses working in inpatient units (422) were requested to participate and 386 of them respond to questioner, yield response rate of (91.4%). Descriptive statistics was performed for socio-demographic and work related characteristics. Multivariable linear regression was conducted using SPSS version 20 to identify the potential predictors of missed nursing care.

Result: The average score for missed nursing care was 63.24 out of 120 (95 % CI 62.2–64.3) and the average emerged for each nursing intervention was 2.6 out of 5 (95 % CI 2.59–2.68). From the items of nursing interventions assessed, 289(74%) of nursing staff reported ambulation of patient of as the most frequently MNC, while only 134(34.7%) of nursing staff reported wound care procedure was frequently missed. Basic care intervention dimension was found to be the most frequently missed dimension with mean score of (2.86B0.5) and individual need care intervention dimension lowest mean score (2.41a0.4). Female in gender ($\beta = -1.828, p < 0.001$), working in tertiary hospital ($\beta = -3.576, p = 0.001$) and increased satisfaction to the level of team work ($\beta = -2.635, p = 0.001$) showed significant and protective factor for missed nursing care. Whereas absent from work ($\beta = 10.337, p < 0.001$) and increased patient load ($\beta = .253, p = 0.003$) found to be contributing factor for the overall MNC.

Conclusion and recommendation: Essential Nursing cares are being missed frequently by significant proportion of nurses. This indicates the need to collaborative effort to reduce occurrence of MNC and improve quality nursing care.

Background

Nursing care refer to activities that are planned and delivered by the nursing staff, such as administering medication, patient ambulation, changes of position, bathing patients, mouth care, recording vital signs, intake and output documentation, nutrition, and education for hospital discharge, among others. When these essential elements of care are not offered to the patient, it is known as missed nursing care. The phenomenon of missed nursing care was first identified by [Beatrice J. Kalisch](#) in which she identified through qualitative study aimed at addressing nursing care missed in the process of delivering patient care [1]. MNC was studied like the terms nursing care left undone [2], implicit rationing of nursing care [3] and all terms imply to which nursing activities were either partially or fully omitted when different factors make delivering all necessary care impossible.

Missed nursing care is a widespread phenomenon that threatens patient safety across all type of health care facilities. A review of study conducted on MNC revealed that in acute care hospitals MNC has been reported as high as 55-98% in which nursing staff missed delivering of nursing care for patients and it has consistently been associated with patient, nurse and organizational outcome(3).

Quality of nursing care has been recognized as the critical determinant of patient outcome by Institute of Medicine. Whenever nursing care is incomplete, delayed or missed it compromises quality of care and threatens patient safety. For example MNC has been reported as there is significant association between patient fall and pressure ulcer [4, 5]. Explicitly similar finding was obtained as failure to ambulate and positioning patient as ordered has been reported as the most frequently missed nursing care and related to pneumonia, delayed wound healing and increased length of hospital stay [6-9].

Hospital is a stressful environment which can be emotionally devastating to patients. However emotional support for patients by nurses were reported to be missed most frequently and patients received emotional support show less anxiety compared to those not received [10,11]. Similarly, delayed medication administration and conducting adequate patient assessment has been reported as the frequently missed nursing care and has significant association with increased health care associated infection [12]. Moreover MNC may influence negatively job related outcomes like job satisfaction which can result in intention to leave their profession or the unit/facility they work [13].

In health care facility different factors have been reported contributing for the occurrence of missed nursing care among nursing staff. Mainly lack of effective communication, shift type, work load, nurses' satisfaction with their current job and their intention to remain working were among others [14]. Another study also reported that units with higher rates of missed care and absenteeism had more staff with intention to leave [15].

The burden of missed nursing care needs to be emphasized not only because of the large number of patients affected every day, but also for its substantial influence in terms of excess costs, prolonged hospital stays, attributable mortality, and other complications. Currently patient outcomes like inpatient mortality, medication errors, patient falls, pressure ulcers and nosocomial infections were reported as being the consequences of missed nursing care [13,16].

Amount and type of missed nursing care across acute care hospital is known to be variable based on the type and capacity of the hospital services; however few studies have quantified the difference only in developed countries [2, 17]. Therefore, this study aimed at identifying amount, type, distribution of missed nursing care and associated factors across public hospitals in south west Ethiopia.

Methods

Study design and setting

Facility based cross sectional study design was conducted in eight public hospitals found in three zones of Oromia region namely Jimma, Illu Aba bora and Buno Bedelle zone, south west Ethiopia. Four primary hospitals, two general hospitals and one tertiary hospital were included. The hospitals have out-patient and inpatient services, maternal and child health services, referral and follow-up services, rehabilitative services, Intensive care and recovery services. The population being served by the hospitals is estimated to be more than 15 million annually including people from border zones and South Sudan while Jimma Medical center (tertiary hospital) has a Lion share. These hospitals have a total of 810 nurses.

Sample and sampling

The study population consisted of nursing professionals active in direct care delivery to admitted patients in selected hospitals. The sample for this study consisted of all nurses (n=422) providing direct nursing care and working in inpatient unit of eight public hospitals. Specifically, Nurses working in Medical, Surgical, Gynecology, Maternity and labor, pediatrics and ICU were included. Sample was allocated by proportional probability to size (PPS) technique for each Hospital based on number of nurses working there. Nurses with less than six-month work experience, who were absent during the data collection period, for reasons of illness or vacation, were excluded; as were those who did not want to participate.

The overall response rate was 386(91.4 %.). Simple random sampling technique was used after allocating the sample size by

Variables and measurement

Dependent variable: Nurses reported missed nursing care. Overall mean missed care score.

Independent variables: Age, Sex, Educational level, Work experience, type of hospital, Work schedules/shift, Perceived staffing adequacy, Absenteeism, on job training, Patient load, Satisfaction to being a nurse, Satisfaction to the current job, Satisfaction to the level of team work.

Data collection Tools and procedure

For perception of nurses on MNC the Modified MISSCARE (“Missed Nursing Care”) survey which is self-administered questioner designed by Kalisch and Williams was adapted and used [18]. The questionnaire comprised of missed nursing care elements of the survey in which respondents were required to indicate, on a five-point Likert-type scale, how often each care was missed in the last working shifts. Response options are Likert-type and range from high to low: 5-always, 4-often, 3-occasionally, 2-rarely, and 1-never for all 24 listed nursing care which can result total score of minimum 24 and maximum of 120. The highest score implied highest missed nursing care. Cronbach’s alpha obtained for this section was 0.83. This section has four dimensions (basic care interventions, interventions to attend to individual needs, discharge planning and patient education, and care interventions with continuous assessment).

In addition, a cover page containing open-ended questions collecting demographic and professional data of the respondents was included such as: age, gender, education, and marital status, working hospital and unit, length of experience in nursing, extra hours worked, and absenteeism in the last 3 months. Additionally, participants were asked to report the patient load on the last shift, frequency of perceived staff adequacy (1 for 0% of the time to 5 for 100% of the time), received on job training in the last one year (Yes, No), plan to leave the current job (1-in the next six month, 2- in the next year, 3 – No plan to leave) and satisfaction toward : current job, being nurse and team work of the unit using a 5-point Likert scale (1—very Dissatisfied, 5—very satisfied).

Data were collected over one-month period by 20 BSc nurses after assigning ten of them to Jimma zone and ten of them for the other two zones based on the sample size allocated. Two supervisors with MSc qualification were recruited to conduct supervision. Training was provided for the data collectors and supervisor for two days by the project members. To assure the quality of data validated tool was used. Pretesting of the data collection

tools was conducted at Nekemte general Hospital using 5% (21nurses) of the total sample and then the tool was improved in terms of its clarity and simplicity in collecting the data required for the study. Data collectors and supervisors were checking for completeness data every day.

Data processing and analysis

Data were entered into Epi Data version 3.1 and exported to SPSS version 20.0 for analysis. Descriptive statistics was performed for socio demographic, job related characteristics and items of missed nursing care. Regarding frequency of missed nursing care description items of nursing care reported as occasionally, frequently and always missed were considered as MNC.

Individual mean missed care scores for each respondent were calculated for each hospitals and dimensions. In addition, an overall missed care score was calculated for each of the cares – thus giving a missed care score for each individual (minimum 24 and maximum of 120). Multivariable linear regression analysis was done through backward method to identify the most significant predictors of MNC. The assumptions in multiple linear regressions (linearity, normality, and constant variance) were checked. Significant independent predictor was declared at 95% confidence interval and P-value of less than 0.05 and unstandardized β was used for interpretation.

Ethical consideration

Ethical clearance was obtained from Institutional Review board of Jimma University. A formal letter from Institute of health was submitted to all the three zone departments and hospitals in each zone. Informed consent was taken from respondents .

Result

Participant characteristics

Out of the expected 422 respondents, 386 participated in the study, yielding a response rate of 91.4%. Majority (59.1%) of the respondents were female. Almost half (49.7%) of the respondents were diploma holders and also more than half (51.8%) of the respondents were married. The mean age of participants' was 27.9 (SD =4.7) years and 57.5% the respondents age was between 25 and 35. As for most frequent or descriptive working shift or schedule in the last one month, almost half of the respondents 186 (48.2%) work in the rotation shift between day and night. Around a quarter (27.2%) of the respondents had an intension to leave their current job in the next six months, whereas (39.6.%) have no plan to leave their job. See table (1).

Facility related characteristics

Majority of the participants (57.5%) from Jimma University Medical Center (JUMC) while medical surgical nurses accounts for more than half of the respondents units with 53.8%. See **table (2)**.

This study also revealed that mean number of patients cared by nurses in their last working hour was 11.97 ± 3.87 with minimum 2 and maximum of 24 patients. The nurses working in the ICU reported that they gave care

for maximum of 4 and minimum of 2, while those nurses working in the major wards reported that they gave care for minimum of six and maximum of 24 patients in the last working hour.

Work related satisfaction and staff adequacy

From the 386 respondents 230(59%) of them were dissatisfied to their current job, while more than three fourth of the nurses (77%) reported that they were satisfied to the level of team work with in their unit. More than half (56%) of the respondents were satisfied to being a nurse. Regarding the adequacy of the staff almost half of the nurses (50.2%) reported that they feel the staff was adequate most of the time (>75%) whereas only less than 5% of the respondents reported that the staff is never adequate throughout their working hospitals. **See Table 3.**

Missed nursing care

In all, the average score for missed nursing care was 63.24 out of 120 (95 % CI 62.2–64.3) and the average emerged for each nursing intervention was 2.6 out of 5 (95 % CI 2.59–2.68) which means nursing care missed “occasionally”.

From the twenty-four list of nursing care interventions assessed majority of participants reported patient ambulation (74.8%), patient bathing (73.8%), positioning (73.6%) as the most frequently MNC respectively. Whereas wound care ,medication administration within 30-minute window period, responding to patient call within five minutes, performing focused assessment and conducting round/ consultation were reported as the least frequently MNC by nurses. **See table 4.**

Regarding the dimension of MNC basic care intervention dimension was the most frequently reported missed nursing care with the mean of 2.85 and SD 0.54. Whereas individual need care intervention dimension was reported as the least frequently missed nursing care with mean of 2.49 and SD of 0.51. See **table 5.**

Hospital variations of missed nursing care

The distribution and frequency of MNC item was relatively similar across all eight hospitals involved in the study. However, when comparing the overall mean score of MNC for each hospital differences were observed. Accordingly, mean MNC in Darimu hospital was the highest (3.12) while that of Agaro Hospital was the least (2.47). See figure 1.

The levels of missed nursing care in all relevant units of each hospital were also compared for the mean of missed nursing care. As a result, the lowest mean missed nursing care was reported from the nurses working in the ICU while the highest score for missed nursing care was reported from nurse working in the pediatrics department/unit. **See figure 2.**

Factors affecting missed nursing care

Candidate predictor variables from bivariate regression were entered into multiple linear regressions. Even though 13 predictor variables were significant ($p < 0.25$) in the bivariate model, only patient load, Sex, No of days

absent, type of hospital and satisfaction toward team work) were the statistically significant predictors of missed nursing care with p value of <0.05 were found to be the final predictor of missed nursing care. The overall model was significant ($F = 81.79, p < 0.001$) and the value of the adjusted R^2 was 0.62.

When the variance explained by all other variables in the model is controlled, female in gender ($\beta = -1.828, p < 0.001$), working in tertiary hospital ($\beta = -3.576, p = 0.001$) and satisfaction to the level of team work ($\beta = -2.635, p = 0.001$) showed significant and negative relationship with overall missed nursing care. However days of absent from work ($\beta = 10.337, p < 0.001$) and patient load showed significant but positive relationship with the MNC ($\beta = .253, p = 0.003$), the rest of the variables were not significantly associated with overall MNC (Table 7)

The model explains 62% of the variance in the outcome variable. Those nurses who were female were 1.83 times less likely to miss nursing care. Those nurses working in tertiary hospital report MNC 3.56 times less likely compared to those working in primary hospitals. A unit increase in satisfaction to the level of team work score would result in the overall MNC score dropping by 3.76 units. A unit increase in the patient load score would result in the overall MNC score increasing by 0.25 units. A unit increase in the days of absent from work score would result in the overall MNC score increasing by 10.33 units.

Discussion

The purpose of this study was to assess the level of missed nursing care and illustrate the variation of missed nursing care among nursing staff working in different levels of hospitals (primary to tertiary) found in south west Ethiopia.

This study revealed that average score for missed nursing care was 63.24 out of 120 (95 % CI 62.2–64.3) and the average emerged for each nursing intervention was 2.6 out of 5 (95 % CI 2.59–2.68). That means nearly more than half of clinically relevant nursing cares for admitted patients are being missed. This finding is much higher than study conducted in Italy, the average score for MNC was 51.6 out of 120 (95 % CI 49.5–53.8) and the average emerged for each nursing intervention was 2.1 out of 5 (95 % CI 2.0–2.2) [6]. Similarly this study report is much higher compared to the study conducted in united states in which mean for each MNC was 1.56 [17]. The discrepancy may be due to difference in human resource capacity, health care system and infrastructure difference between developing i.e. Ethiopia and developed countries.

This report shows that within the overall nursing care items, the most frequently missed nursing care items by nursing staff were ambulation (74.8%), patient bathing (73.8%), emotional support for patient/family (65.7%), mouth care (62.2%) and turning or positioning patient (60.8%). Studies that examined the frequency of missed nursing care report similar to these finding. For example, study conducted in Italy reveal that ambulation was the highest (91%) missed nursing care reported by nursing staff, followed by patient positioning (74.2%), mouth care(59.6%) , emotional support (57.0%)(19). From these items except patient bathing similar finding was reported (all of them were reported as the most frequently missed nursing care items) by different studies. A possible explanation for discrepancy of the patient bathing report between this and other studies, this study was conducted in a set up where shortage of continuous running water is common and hold back the possibilities and frequency of patient bathing.

From all study participants the least frequently reported MNC were wound care procedure, medication administration within 30 minutes and patient assessment each shift respectively. Study conducted by Rebecca P

et.al was supportive of this study finding concerning patient assessment and vital sign assessment, which were the least frequently, missed nursing care. Nevertheless, in the same literature timeliness of medication administration was reported as one of the most frequently missed nursing cares, which is in contrast with this study finding. This may be due to the time limit difference to say medication is administered on time(19). Also study conducted by in Italy [6] showed that wound care and vital sign assessments were the least frequently missed nursing care. The possible suggestion for why these items missed lower than that of others is due to it is significant that those missed care elements with the highest scores are those cares that when missed are unlikely to have immediate consequences to the patient and from supervisor or head nurse to the staff nurses.

The nurses reported that dimensions where more nursing care is omitted are related to basic care interventions $2.8 \pm .54$ followed by interventions to satisfy individual needs $2.57 \pm .55$. Whereas patient education and discharge planning dimension and individual need care intervention dimension were relatively the least frequently reported missed nursing care (2.4961 ± 0.51 and 2.5604 ± 0.57) respectively. Studies on missed nursing care report basic intervention dimension as the most frequently missed nursing care [10].

The trends in frequency and types of missed care were similar across studied hospitals. However, nurses working in the specialized/tertiary hospital reported relatively lower score of missed nursing care compared to the primary hospital nurses. This may be due to nurses working in specialized hospital were performing their task under clear job description. Whereas, nurses in other hospitals can be assigned to different tasks other than nursing care.

The results of the current study revealed that higher patient load and absenteeism from work were contributing factors for high MNC this is supported by study conducted by Palese A. [6] and Ausserhofer D.[2] report consistent finding on the higher number of patients and more days absent from work contributing for MNC. On the other hand this study revealed female in gender, higher satisfaction to the level of team work and working in tertiary hospital were reported as protective factor for MNC. However study in other country revealed that lower incidence of MNC was reported in primary hospitals (20)

Conclusion

Significant proportion of nurses working in public hospitals reported that they miss essential nursing care. In spite of clearly different healthcare tier systems, organizational structures and budget, the pattern of missed nursing care appears to be similar across studied hospitals.

Most frequently reported missed nursing care reflects physical care (ambulation, bathing and positioning) whereas care with continuous assessment and monitoring (vital sign, medication administration, wound care and glucose monitoring) were reported to be missed less frequently.

Nurses working in tertiary hospital, being female and satisfaction to the level of team work were find to be protective factor for the phenomenon of missed nursing care while high number of patient per nurse and more days absent from work reported as the contributing factors.

Developing standard protocol to monitor missed nursing care regularly is a critical point for all hospitals. As a professional when you recognize that you are not delivering the required care for your patient, it imposes negative consequences not only to patients but also to nurses themselves and organization as well. Therefore

administrative efforts are essential to create better working environment for nurses through assigning manageable number of patients per nurse, enhancing team work spirit. Moreover, further research is needed mainly on the impacts of missed nursing care on patient and nurse outcomes.

Abbreviations

CI: Confidence interval

ICU: Intensive care Unit

IOM: Institution Medicine

JMC: Jimma Medical center

MNC: Missed nursing care

SD: Standard deviation

Declarations

Ethics approval and consent to participate

Ethical approval was obtained from Jimma University institutional review board to conduct the study. Permission was sought from all institutions where the study was conducted. All participants granted written informed consent to participate in the study.

Consent for publication

Participating students consented to both possible publication of their information and participating in the study.

Availability of data and material

The data set is available with corresponding author and can be availed by request

Competing interests

The authors declare that they have no competing interests" in this section.

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Authors' contributions

Beshea Gelana initiate the idea, proposal writing, data collection and analysis, along with Sena Belina, Desalegn Tamiruand, Gelila Abraham and Admassu Belay.

Fikadu Balcha, Gugsu Nemera, and Kidus Yitbarik discussed the results and contributed to the interpretation of the data and writing of the manuscript. All authors have approved the manuscript for submission.

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Tables

Table 1. Participants characteristics (n=386)

Characteristic	Group	N	%
Gender	Male	158	40.9
	Female	228	59.1
Marital status	Single	179	46.4
	Married	200	51.8
	Divorce	7	1.8
Educational level	Diploma	192	49.7
	Bachelor's degree	188	48.7
	Graduate degree	6	1.6
Experience in nursing in years	<2 years	148	38.3
	2 - 5 years	197	51.0
	5-10 years	29	7.5
	>10 years	12	3.1
Age category	<25	130	33.7
	25-35	222	57.5
	36-45	29	7.5
	>45	5	1.3
Shift/ work schedule in the last month	Day8hour	148	38.3
	Nights12hour	52	13.5
	Rotation	186	48.2

On job training in the last 12 months	Yes	153	39.6
	No	233	60.4
Average hours of overtime in the last three month per month	None	100	25.9
	1-12hour	100	25.9
	Morethan12hour	186	48.2
Days or shifts absent in the last three months	None	266	68.9
	1-3days	99	25.6
	4 days/shifts and above	21	5.4
Plan to leave current job	In the next 6 months	105	27.2
	In the next year	128	33.2
	No plan to leave	153	39.6

Table 2: Facility related characteristics of nurses. (n=386)

Characteristic	Group	n	%
Working Hospital	Jimma medical CENTERcenter	222	57.5
	Shenan Gibe Hospital	24	6.2
	Limmu Genet Hospital	21	5.4
	Seka Hospital	18	4.7
	Agaro Hospital	30	7.8
	Bedelle Hospital	19	4.9
	Mattu Karl Hospital	29	7.5
	Darimu Hospital	23	6.0
	Working Units	Medical	109
Surgical		99	25.6
Gynecology		46	11.9
Maternity and labor		56	14.5
pediatrics		57	14.8
ICU		19	4.9

Table 3. Work related satisfaction and perceived staff adequacy (n=386)

<u>Satisfaction to their current role</u>	N	%
Very dissatisfied	38	9.8
Dissatisfied	192	49.7
Satisfied	123	31.9
Very satisfied	33	8.5
<u>Satisfaction to being nurse</u>		
Very dissatisfied	72	18.7
dissatisfied	99	25.6
satisfied	172	44.6
very satisfied	43	11.1
<u>Satisfaction to the level of team work</u>		
Very dissatisfied	23	6.0
dissatisfied	63	16.3
satisfied	121	31.3
very satisfied	143	37.0
<u>How often do you feel staff is adequate</u>		
100% of the time	38	9.8
75%of the time	156	40.4
50%ofthe time	97	25.1
25%of the time	88	22.8
0%of the time	7	1.8

Table 4: Missed nursing care among nurses in public Hospitals of southwest Ethiopia (n=386).

Item	Never No (%)	Rarely No (%)	Occasionally No (%)	Frequently No (%)	Always No (%)	Missed care %
Basic care intervention dimension						
Ambulation of the patient	20 (5.2)	77 (19.9)	166 (43.0)	104 (26.9)	19 (4.9)	74.8
Turning patient as needed	16 (4.1)	86(22.3)	145 (37.6)	114 (29.5)	25 (6.5)	73.6
Feeding patient when food is warm	28 (7.3)	118 (30.6)	162 (42)	66 (17.1)	12 (3.1)	62.2
Dietary advice & communicating meal providers	38 (9.8)	113 (29.3)	143 (37.0)	77 (19.9)	15 (3.9)	60.8
Wound or skin care	82 (21.2)	170 (44.0)	104 (26.9)	30 (7.8)	0(0)	34.7
Patient bathing	15 (3.9)	86 (22.3)	159 (41.2)	93 (24.1)	33 (8.5)	73.8
Mouth care	16 (4.1)	130 (33.7)	131 (33.9)	86 (22.3)	23 (6.0)	58.2
Care with continuous assessment dimension						
Vital sign assessment as needed/ordered	39 (10.1)	168 (43.5)	124 (32.1)	47 (12.2)	8 (2.1)	46.4
Monitoring intake & out put	49 (12.7)	130 (33.7)	124 (32.1)	66 (17.1)	17 (4.4)	53.6
Full documentation of all necessary data	35 (9.1)	119 (30.8)	150 (38.9)	71 (18.4)	11 (2.8)	60.1
Hand washing	32 (8.3)	146 (37.8)	134 (34.7)	66 (17.1)	8 (2.1)	53.9
Bedside glucose monitoring	18 (4.7)	186 (48.2)	129 (33.4)	49 (12.7)	4 (1.0)	47.1
Patient assessment each shift	73 (18.9)	134 (34.7)	128 (33.2)	46 (11.9)	5 (1.3)	46.4
Focused reassessment as patient condition	43 (11.1)	169 (43.8)	119 (30.8)	49 (12.7)	6 (1.6)	42.1
IV, catheter/central line care	50 (13.0)	149 (38.6)	150 (38.9)	28 (7.3)	9 (2.3)	48.5
Individual need intervention dimension						
Medicating administration within 30 minutes	73 (18.9)	171 (44.3)	83 (21.5)	42 (10.9)	17 (4.4)	36.8
Assisting patient for toilet within 5	37	183	123 (31.9)	41 (10.6)	2 (.5)	43

minutes of request	(9.6)	(47.4)				
Emotional support for patient/family	24 (6.2)	108 (28.0)	153 (39.6)	82 (21.2)	19 (4.9)	65.7
Assessing effectiveness of the medication	56 (14.5)	165 (42.7)	132 (34.2)	30 (7.8)	3 (.8)	42.8
PRN medication request reacted with in 15 minutes	55 (14.2)	157 (40.7)	127 (32.9)	44 (11.4)	3 (.8)	45.1
Response to patient call or alarm within 5 minutes	44 (11.4)	180 (46.6)	117 (30.3)	42 (10.9)	3 (0.8)	42
Planning and teaching						
Patient discharge planning	48 (12.4)	124 (32.1)	159 (41.2)	51 (13.2)	4 (1.0)	55.4
Patient teaching	51 (13.2)	119 (30.8)	120 (31.1)	85 (22.0)	11 (2.8)	55.9
Attending interdisciplinary conference (round)	55 (14.2)	164 (42.5)	135 (35.0)	24 (6.2)	8 (2.1)	42.3

Table 5: Mean score of missed nursing care dimensions (n=386)

Dimension of nursing care	n	Min	Max	Mean	SD
Basic care intervention	386	1.57	4.43	2.857	.543
Care with continuous assessment	386	1.13	4.75	2.572	.552
individual need care intervention	386	1.17	4.33	2.496	.512
patient teaching and discharge planning	386	1.33	4.33	2.560	.572

Figures

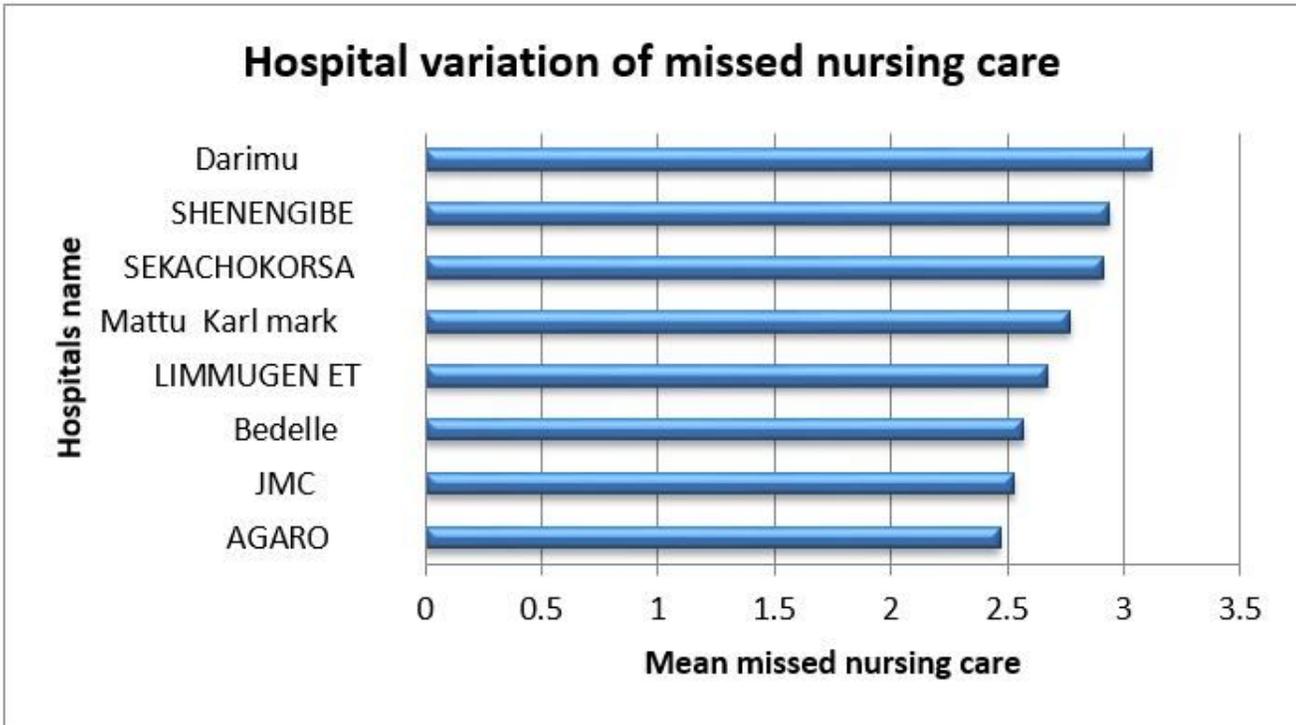


Figure 1

Hospital variations of Mean missed nursing care in public hospital in south west Ethiopia, 2018 n=286

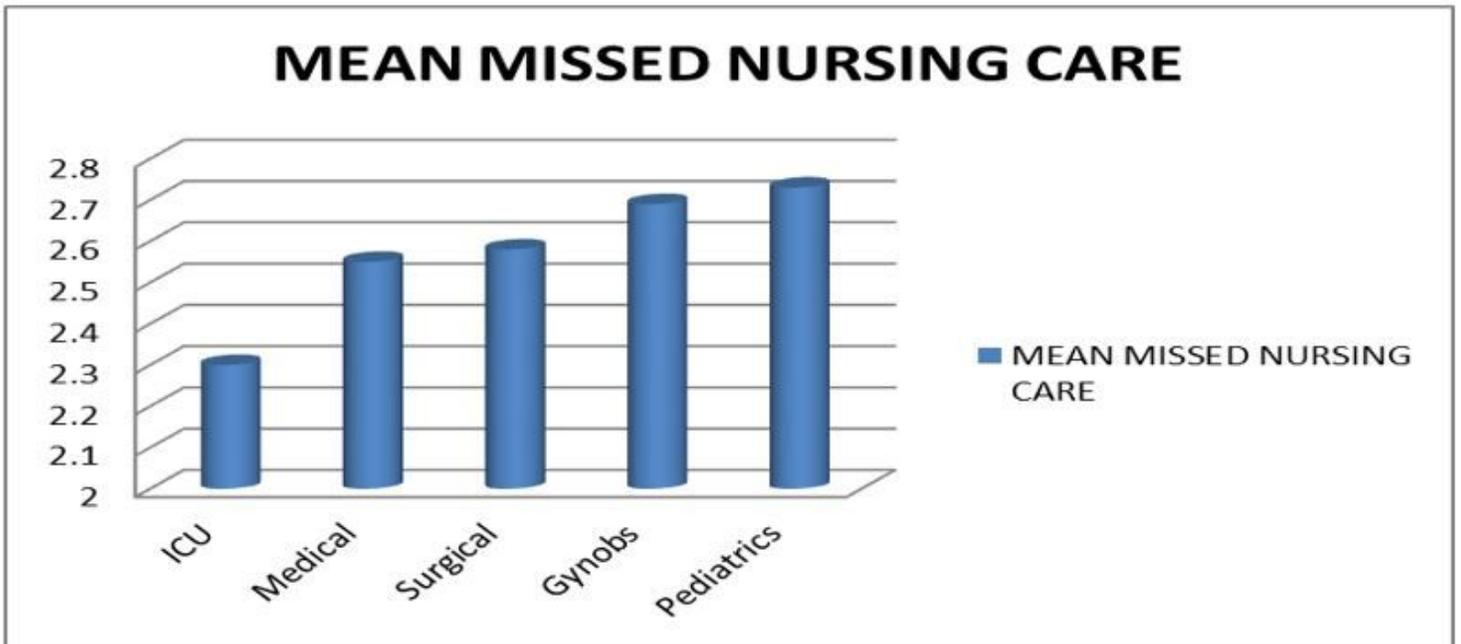


Figure 2

Mean missed nursing care in respective units of the public hospital south west Ethiopia, 2018