



Factors Associated with Missed Nursing Care at a Tertiary Level Public Sector Hospital (Nurses' Perspective)

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

Background: Missed nursing care is the least researched aspect in nursing practice & research. There is a long list of determinants of this phenomenon; the current study is an effort to highlight various factors playing a pivotal role in missed nursing care. The research is carried out to evaluate missed nursing care and related socio-demographic determinants at a tertiary care hospital.

Study Setting & Study Design: Descriptive cross-sectional study at Dr. Ruth K.M Pfau Civil Hospital Karachi.

Study Population, Sample Size & Sampling Technique: Total 163 nurses were selected through convenient non-probability sampling.

Data Collection & Analysis: A three-section questionnaire containing socio-demographic determinants, work related factors and elements of care were used to collect data. Frequencies & percentages were computed for socio-demographic variables and their associations with missed nursing care were sought by applying Chi-square test.

Results: Mean age of the respondents were 38 ± 8.54 years. The male: female ratio of respondents was 1:2.26; sixteen percent of the respondents reported frequently missed nursing care activity while doing assessment of patients. The assessments of the patients' hygiene status were missed frequently by 21.5% of subjects. There was statistically significant association between age of the respondents & missed nursing care ($p=0.04$). The shortage of staff nurses was most frequently reported factor for missed nursing care (61.3%).

Conclusions: The study reveals hygiene care of the patients as the most neglected element of nursing care. The 10% of participants significantly missed to fulfill the basic medical needs of patients. The 61.3% nurses reported shortage of nurses in a hospital as the determinant of missed nursing care. Imparting necessary health education to patients was statistically significantly associated to professional educational level of the nurses ($p=0.04$).

Recommendation: The study gives a guideline for hospital administrators regarding carrying out improvement in provision of optimal nursing care in relation to improved patient safety.

Keywords: Missed care; missed nursing care; factors; socio-demographic; elements of care.

1. INTRODUCTION

Nursing care is very important element of patient's care, which play pivotal role in the curative as well as rehabilitation process[1]. Any lacking in nursing care process directly affects the patient's health[2]. Nursing care comprises of activities performed by nursing staff such as medication administration, patient's postural change, head to toe care, monitoring & documentation of vital signs, maintaining fluid input-output charts, nutritional & other health education to the admitted patients and proper discharge of the patients[3]. When these necessary care elements are not properly performed to the patients, this is known as missed nursing care [4]. The world is now a day facing this problem more frequently than before[5]. Missed nursing issues are increasing day-by-day & have directly negative impact on health outcomes[6] ; moreover, the lapses in necessary nursing care ultimately become the reason to decrease satisfaction level of patients & common people[6]. The developed countries are also not spared from hazardous effects of missed nursing care wherein it is reported that one out of ten hospitalized patients suffer from harmful effects resulting from lapses in proper nursing care[7]. The missed nursing care is actually a composite of diverging activities from following six objectives of good nursing care i.e. efficiency, safety, equitability, patient centered, effective & timely care [8]. The basic issue reported across the countries such as low staffing level, lack of material resources, lack of

communication and team work are the vital reasons to cause missed nursing care [9].

The present research was undertaken to study the perspectives of nurses about factors associated with missed care as experienced by nurses while practicing at tertiary care public sector hospitals. There is strong need to identify these factors to reduce the incidence of missed care in future; not only this but the observed missed care activities should be addressed on appropriate forum so as to undo such practices.

1.1 Objectives

1. To assess the missed nursing care at tertiary care public sector hospital.
2. To identify the socio-demographic factors associated with missed nursing care in designated hospital.

2. METHODOLOGY

2.1 Study Design and Setting

Descriptive cross sectional study was conducted at a tertiary care public sector hospital i.e. Dr. Ruth K.M. Pfau Civil hospital Karachi, in which 288 staff nurses were working in different wards including medical, surgical, gynea-obstetric, pediatrics, orthopedics, cardiac, and intensive care units.

2.2 Duration of Study

Three months i.e. 1st October to 31st December 2019.

2.3 Study Population and Selection Criteria

All the registered practicing nurses of both genders having nursing qualification of diploma, BSc.N (Post R.N) or BSc.N and MSc.N having at least one-year experience of work in designated hospitals & willing to be the part of research, were enrolled in the study. The nurses working as staff nurse, nurse managers and aid nurses were excluded from the study.

2.4 Sample Size & Technique

Non-probability convenient sampling technique was used for recruiting registered nurses, meeting criteria of inclusion and agreed to take part in the study. There were total two hundred and eighty-eight staff nurses working in the designated hospital. The sample size was calculated as one hundred and sixty-three by using Rao Soft calculator with 95% confidence level, 5% error accepted with prevalence rate 40.1% for the missed nursing care [10].

2.5 Data Collection Tool

Data was collected by administering a preformed questionnaire having three sections covering the information related to socio-demographic profile of subjects, various domains of missed nursing care and determinants of missed nursing care. The questionnaire was partially adopted from researcher Kalisch BJ et al [6].

2.6 Data Analysis

Data was analyzed in SPSS version 22.0 for windows. The categorical variables were analyzed by calculating the frequencies and percentages. Chi square test was applied to seek the association between missed nursing care and various determinants at p-value of 0.05 as level of significance at 95% confidence interval level.

3. RESULTS AND DISCUSSION

The quality of the nursing care differs across the hospitals and this variation in quality of nursing care results in different outcomes among hospitalized patients. One aspect of quality nursing care is the amount of necessary care that must be delivered to patients. The patient safety literature reveals missed nursing care as an error of omission. This concept has been

conspicuously absent in literature addressing quality of nursing care wherein the individual aspects of nursing care is either left untouched or only occasional mentioned. This situation exists despite the prior knowledge that stages of nursing care are assessment, diagnosis, intervention, implementation, evaluation etc; the missed nursing care can be conducted at any level of patients' care. The current study is an attempt to bring to surface the associated factors responsible for missed nursing care.

The hygiene care is the most promising nursing care element related to maintenance of healthy life style. The current study found patients' hygiene care as the most neglected area of nursing care as around 43.6 percent of the study participants reported to have occasionally missed this important aspect of their practice; this is in contrast to a report in an American study i.e.10.27% observed [11] and 15.9% as reported in an Australia research[12]. The failure to maintain the hygiene status of hospitalized patients ultimately leads to development of complications especially among patients who are admitted for treatment of some infection or who are already immuno-compromised.

Mobilization and change of the position of the patients is necessary to avoid development of bed sores in bed ridden patients; in the current study, 46% participants stated that they occasionally change patients' position while another 6.7% accepted that they significantly missed this important aspect of nursing care. This is very commonly reported missed nursing care element in developing world because here the attendants of the hospitalized patients are more expected to frequently change the posture of unconscious patients. A study in US revealed 35.3% frequently missing this aspect of nursing care [13]. The current study showed 10.5% participants significantly missing to fulfill the basic medical needs of patients. Regarding the patients' call to nurses for complaints regarding their care, it's the responsibility of nurse to responds immediately to solve the problem; a multi-center hospital based research revealed only 15.5% patients receiving nursing response to their basic medical needs[14]. The monitoring of vital signs is necessary step in looking after seriously ill patients. Surprisingly, we found majority of the nurses (54.6%) having rarely missed checking of vital signs and only 7.4% of the study participants significantly missed checking vital signs. In contrast to this, an Australian study revealed 82% of the nursing

participants rarely missing checking of vital signs[15] while the same figure obtained from a US hospital was reported as 9.4 percent[13]. The proper recording of fluid intake and output helps to maintain body's fluid and electrolytes balance. This aspect of nursing care was

observed as rarely missed by 46% which seems quite encouraging but when compared to reports of another research with similar objectives conducted in United States of America, the fluid intake-output balance was rarely missed among 12.3% of study participants [16].

Table 1. Socio-demographic profile of study participants

Variables	Attributes	Frequency
Gender	Males	50 (30.67 %)
	Females	113 (69.33 %)
Age (in years)	25 – 35 Years	76 (46.62 %)
	36 – 45 Years	52 (31.90 %)
	46 – 55 Years	31 (19.03 %)
	Above 55 years	04 (2.45%)
Professional education	R.N (Diploma and specialty)	87 (53.40%)
	BS Nursing (Post R.N) MS	74 (45.40%)
	Nursing	02 (1.20%)
Professional Experience (in years)	≤ 5 years	22 (13.50%)
	6 – 10 years	52 (31.90%)
	11 – 20 years	54 (33.13%)
	≥ 20 years	35 (21.47%)
Department	Emergency ward	29(17.79%)
	Intensive care unit	44(26.99%)
	General ward	90(55.22%)

Table 2. Distribution of missed nursing care activities among study participants

Missed Nursing Care Domains	Rarely Missed	Occasionally Missed	Frequently Missed
Assessment of patient in each shift	47.2%	36.8%	16%
Medication administration	66.9%	30.1%	3.1%
Health education	43.6%	40.4%	16.0%
Nasogastric feeding	45.1%	39.5%	15.4%
Hygiene of the patients	35.0%	43.6%	21.5%
Mobilization & positioning of the patient	47.2%	46.0%	6.7%
Response to patients' needs	62.3%	27.2%	10.5%
Vital signs assessment	54.6%	38.0%	7.4%
Monitoring fluids intake and output	46.0%	41.7%	12.3%
Documentation of data	77.3%	14.7%	8.0%

Table 3. Determinants of missed nursing care

Reasons to Missed Nursing Care	Not a Reason	Moderate Reason	Significant Reason
Reasons Related to Coordination / Communication			
Improper handing and taking over during shift change	43.6%	42.3%	14.1%
Other departments did not properly perform their responsibility	39.9%	49.7%	10.4%
Lesser co-ordinance between team members	52.8%	33.7%	13.5%
Difficulties to understand prescription	47.5%	39.5%	13.0%
Un balanced patients assignments	36.0%	43.5%	20.5%
Material Resources			
Unavailability of medicines	37.4%	46.6%	16.0%
Unavailability of required equipment	38.7%	39.9%	21.5%
Out dated devices	48.5%	38.7%	12.9%
Equipment not working properly	45.1%	40.1%	14.8%
Staffing Level			
Novice staff assigned	39.3%	50.9%	9.8%
Shortage of nurses	11.7%	27.0%	61.3%
Staffing irrespective of specialty	37.4%	46.6%	16.0%
Uncertainty among staff nurses	43.5%	40.4%	16.1%

Table 4. Association between socio-demographic features and elements of missed nursing care

Missed Nursing Care	p-value				
	Age	Gender	Professional Education	Nature of Department	Professional Experience
Assessment of patient in each shift	0.96	0.41	0.11	0.58	0.41
Medication administration	0.16	0.45	0.77	0.57	0.28
Health education	0.12	0.59	0.04*	0.67	0.06
Nasogastric feeding	0.18	0.48	0.43	0.05*	0.20
Hygiene of the patients	0.03*	0.01*	0.07	0.59	0.63
Mobilization & positioning of the patient	0.71	0.06	0.62	0.07	0.78
Response to patients' needs	0.89	0.45	0.31	0.48	0.71
Vital sign assessment	0.58	0.93	0.21	0.83	0.77
Monitoring of fluids Intake and Output	0.69	0.22	0.30	0.12	0.83
Documentation of patients' record	0.45	0.16	0.94	0.003*	0.13

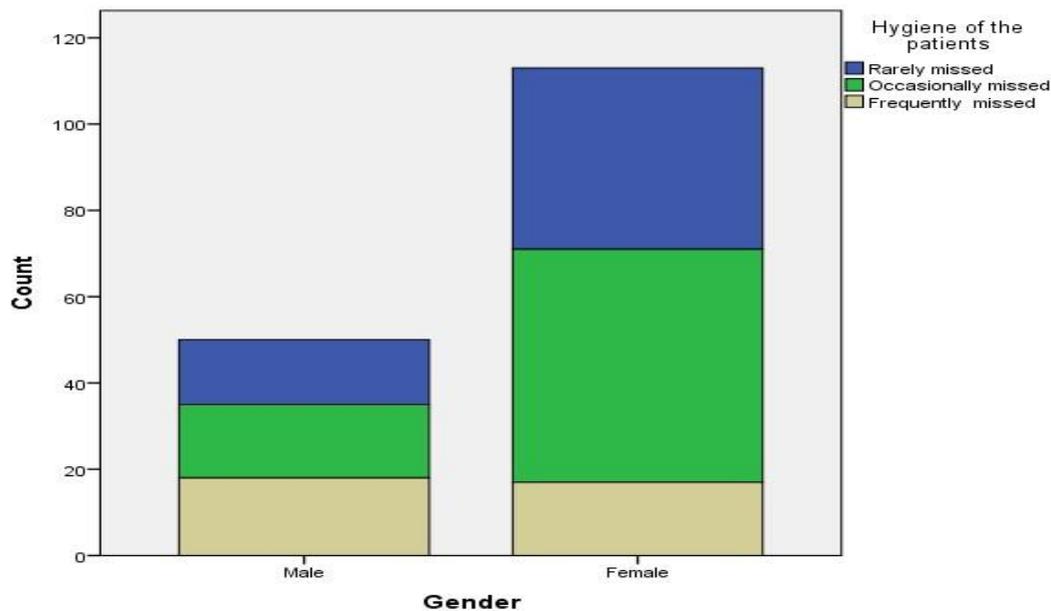


Fig. 1. The hygiene care of patients related to gender of the study participants

Proper documentation of data to maintain treatment record of patients care and their health related data is one of the most important indirect element of good nursing care. The current study found 77.3% nurses reporting rarely missing this element; while another 8% nurses reported frequently missing this element as compared to 26.6% nursing participants as rarely missing this aspect of nursing care [17].

Handing and taking the over during change of shift is necessary to understand patients' assignments as well as medicine and instruments required for patients' care used in ward procedures. Surprisingly, the 43.6% of the nurse perceptions in current study was found that it was not a sound reason for missing nursing care and another 14.1% of the participants noted

it as a significant reason for missed nursing care; the findings revealed in an Australian study were 66.3% and 27.5% respectively¹⁰; another research with similar objectives reported 63% of study participants reporting rarely missing the handing and taking the shift charge [18].

The adequate and timely availability of medicine in hospitals was observed as a major determinant by 16% participants and as a moderate determinant by 46.6% participants for missed nursing care. The same aspect was stated as major determinant of missed nursing care in other study [19].

Unavailability of necessary equipment was stated as the major determinant by 21.5% participants and as moderate determinant by 39.5%

participants; contrasting to this, the related figures observed in another research were 30% and 70% of participants, respectively [7]. More interestingly, the equipment was available but were found non-functional at the time of need in majority of the instances in the current study. This figure found in another study was reported as 25 percent [7].

Adequate presence of efficient staff is thought to be an important factor related to quality of nursing care to the patients. This is determined by nurse-patient ratio, availability of skilled staff, nurses' educational qualification etc. The present study showed 61.3% nurses reporting shortage of nurses in the hospital as the determinant of missed nursing care. A systematic review based on eighteen studies conducted in a variety of countries like United States of America, some European countries, Korea, and Kuwait etc. revealed almost the same findings and among fourteen countries the inadequate nurse staffing and unskilled nurses were linked with the missed nursing care [20].

The present study also sought the associations of various socio-demographic factors with different elements of missed nursing care. Imparting necessary health education to patients was statistically significantly associated to professional educational level of the nurses ($p=0.04$). This finding is endorsed by another study showing the significance level of 0.001 between the two variables under consideration [21]. Nasogastric feeding to patient and its association to the nature of department of working also revealed significance level of 0.05. The overall quality of nursing care regarding nasogastric tube feeding practices undertaken by nurses posted in neonatal intensive care unit was found at a fairer level [22]. Hygiene care of the patients was found significantly associated to gender ($p=0.01$) as well as age of the nurse participants ($p=0.03$). Concerning the results showing association of age with hygiene care are quite self-explanatory if we compare this finding with that of a systematic review wherein the same strong association was observed [20]. Regarding strong association of hygiene care observed in current study, we invite a more broad-based research having quite uniform gender distribution of nurses because the authors are cautious in giving any plausible explanation of such association due to non-uniform gender representation of study participants i.e. 30.67% males as compared to 69.33% females.

This was just similar to the finding of other studies [23]. Similarly we found strong association between working department of nurses and proper documentation of patient's treatment record associated ($p= 0.003$) as compared to other studies which observed that missed nursing care happened due to lack of time and deficiency of knowledge to the concerned professional [24]. Some studies reported that age of the working staff, team work and type of department were the major concern for the missed nursing care [25].

No any association of professional experience with missed nursing care activities observed in current study; contrasting to this a study conducted in Korea revealed that experienced nurse is knowledgeable and skilled person who can easily deal with the patients and manage the situation properly thus helping to minimize the chances of missed nursing care [26]. These findings are just the mirror image of the report of another research conducted in Egypt stating that lesser nursing experience has more chances of committing missed nursing care [27].

4. CONCLUSION AND RECOMMENDATIONS

The missed nursing care is reported frequently in hygiene and assessment of the patient's care associated with age, gender, professional education and working department. The staff shortage, lacking in competencies and skills were significantly noted as underlying reasons for missed nursing care activities mostly reported by participants in the study; the current research however identifies need for future research particularly related to crucial aspects of the patients' care. Besides this, the study also gives a guideline for hospital administrators regarding carrying out improvement in provision of optimal nursing care which is directly related to good prognosis & earlier discharge of patients.

CONSENT

All authors declare that 'written informed consent' was obtained from the respondents from various fields before filling up the questionnaire.

ETHICAL APPROVAL

All authors hereby declare that informed consent, protection of privacy, and other human rights were maintained and followed. The authors have obtained all necessary ethical approval from institutional Research Ethics Committee (REC).

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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