Research Article

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Missed Nursing Care, Patient Outcomes and Care Outcomes in Selected Hospitals in Southern Nigeria

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Abstract

Background: *It is the right of every patient to receive necessary care appropriately, safely, and at the right time. However nurse shortages cause omission of less critical nursing tasks by nurses. The aims of the study were to examine the nature and prevalence of missed care; and to assess relationship between missed care and selected care outcomes.*

Methods: *Mixed method was used (descriptive and intervention) to collect data from186 nurses providing direct adult care in 4 hospitals, and 120 patients/relatives. Ethical clearance was obtained from the HREC of Cross River State Ministry of Health. Nurses identified activities omitted in part or whole, or delayed in the previous seven days from a validated list of required care activities. Intervention comprised capacity building on certain care issues. Data were collected through researcher-developed and validated questionnaires. Descriptive and inferential statistics were used analyse data on SPSS 18.0.*

Results: *Most nurses (83.9%) reported they had left one or more care activities undone. At post-test experimental group mean reduced significantly. Care most missed were routine bath (34.9%), spiritual support (33.9%), assessing effectiveness of pain medication (28.0%), patient education (26.3%), pain assessment before administering medication (25.8%), etc. Others like chronic wound care and updating care plans were delayed but not totally missed. After intervention both prevalence and overall Means of missed care for experimental group reduced significantly ($p = 0.001$). Missed care was significantly related to all outcomes. Higher mean scores on missed care related with poor rating of outcomes, except on one outcome. Study did not consider staffing levels.*

Conclusion: *Nurses reported frequently leaving "non-critical" care activities undone. Closer supervision is required to reduce missed care in staff.*

Keywords: Nursing care, Missed care, Patient outcomes, Care outcomes.

Introduction

The patient's bill of rights, whether enacted by a nation or by individual healthcare organizations, stipulates that it is the right of every patient 'to receive considerate, appropriate, safe and quality care [1]. One of the goals of the patient's bill of rights is to ensure that the health system works to meet the patient's needs. As part of the right to receive considerate and safe care, the patient is expected to receive all the care he is entitled to, at the right time. But in situations of personnel shortage, it is common to find omission of some care activities. This because overburdened nurses can only do so much during a shift, and therefore tend to set priorities and determine what tasks to do and what tasks they can safely omit or defer. This results in missed care. Missed care is defined as 'any aspect of required care that is omitted either in part or in whole or delayed and is said to be an error of omission [2,3,4]. The phenomenon of missed nursing care was described by Kalisch in 2006 in a study which identified nine missed activities [5]. Thereafter studies have reported occurrence of missed care in various countries [2,6-8].

Many factors have been reported as contributing to missed care including human resources factors (staff shortage, high workload), and material resources [7,9]. The consequences of omitting or delaying required care have also been reported. Missed care has been found to have implications for overall quality of care [7], contribute to adverse patient outcomes [7,8,10,11]. Thus missed nursing care not only constitutes a form of medical error that may affect safety [4], but also negates patients' rights and compromises their wellbeing and recovery.

Unfortunately in some countries this potentially dangerous medical error has received limited attention. Although globally, a substantial burden of missed nursing care has been reported, the phenomenon is rarely focused on in Nigeria, therefore little is known about the extent of the problem and its consequences. This was the impetus for this study. In Nigeria, from experience, some nursing care activities are sometimes left undone at the end of the shift because of nurse shortages, time pressure and competing demands in most hospitals. Moreover, the policy of task shifting in Nigeria has also made nurses to deliberately leave some less critical nursing activities for the junior health workers, and sometimes to patients' relatives (an action I term "task dumping", because the junior workers are just allocated the tasks without being supervised on them).

The aims of the study were to examine the type, prevalence and frequency of nursing care left undone in selected hospitals in Southern Nigeria; and also to assess the relationship between missed care and selected patient outcomes/care outcomes (patient satisfaction, patient wellbeing, improved patient care, quality of care, reduced adverse events and achievement of care goals).

Materials and Methods

A mixed method approach (descriptive and intervention), was used. The descriptive method examined the type, prevalence and frequency of missed care in the 7 days preceding the study, and also determined the relationship between missed care and selected care outcomes/patient outcomes. This was done through self-report by nurses and patients/relatives. The intervention determined the effect of nurses' capacity building on the prevalence and frequency of missed care.

The study was done between June and September of 2015 in 4 hospitals in Southern Nigeria (2 tertiary and 2 secondary). One hundred and eighty six nurses providing direct adult care in the Medical, Surgical, Gynaecology and Orthopaedics units and 120 patients/relatives in those units, were purposively selected and enrolled. Ethical clearance was obtained from the Health Research Ethics Committee of the Cross River State Ministry of Health, with permission from relevant gatekeepers and informed consent from respondents. The intervention comprised capacity building on certain care issues (time management, timely provision of care, closer surveillance/supervision, cooperative task sharing, and cross-monitoring). Two wards in each hospital were used for the intervention while 2 served as control wards. The intervention lasted 4 weeks, and post-test data were collected 6 weeks after the intervention. Both pre-test and post-test data were collected in control wards before intervention in experimental wards.

Data collection was through self-report using a researcher-developed and validated questionnaire (for nurses) and interview schedule for patients/relatives (Cronbach 0.81 and 0.79 respectively). The nurses' instrument involved a validated list of 15 required care activities for patients in each nursing care unit. Items for evaluating care outcomes and patient outcomes consisted of items on patient satisfaction with care experience, quality of care, wellbeing etc. Questions/items were on 4-point Likert-type scale of 'Never', 'Rarely' (1-2 times in 7 days), 'Frequently' (3-5 times), ''Most frequently' (over 5times) (for frequency of missed care), and 'Poor', 'Fair', 'Good', 'Very Good' (for patient outcomes and care outcomes). The nurses' instrument was presented to 186 nurses in direct care, to identify the nursing activities they had omitted in part or whole, or delayed in the previous seven days. They also identified the frequency of missed care, the reasons for the omission, and the perceived influence of missed care on improved patient care, reduced adverse events, and achievement of care goals. Patients and relatives reported their awareness of occurrence of missed care, and perception of the influence of missed care on patient wellbeing, patient satisfaction and quality of care, presence of adverse events, and achievement of care goals.

Data were analyzed on SPSS 18.0. Descriptive statistics were used for type and frequency of missed care, while inferential statistics were used to analyze intervention data (Pearson Chi square for correlation between missed care and outcomes, and t-test for significance of difference between scores before and after intervention).

Results

Socio-demographic characteristics of respondents

Nurses' characteristics:

Nurses' characteristics (n=186)		Patients'/relatives' characteristics (n=120)	
Age in years	**No. %**	**Age in years**	**No. %**
Below 30	22 11.8	Below 20	15 12.50
30 - 40	81 43.6	20 to 30	28 23.33
41 - 50	49 26.3	31 to 40	41 34.17
Over 50	34 18.3	41 to 50	23 19.17
		Over 50	13 10.83
Mean age=33.46 ± 10.63		**Mean age=39.32 ± 9.97**	
Gender			
Female	131 70.4	Female	56 46.7
Male	55 29.6	Male	64 53.3
Years of experience (length of service)		**Education level**	
Less than 5 years	12 6.5	Primary	39 32.5
5 to 10 years	125 67.2	Secondary	50 41.6
Over 10 years	49 26.3	Tertiary	31 25.8
Qualification		**Occupation**	
Holds Bachelor's degree in nursing	34 18.3	Civil service	51 42.5
No Bachelor's degree in nursing	152 81.7	Self-employed	69 57.5
Unit of work		**Marital status**	
Medical	54 29.0	Single	40 33.3
Surgical	48 25.8	Married	69 57.5
Orthopaedics	43 23.1	Divorced/ separated/ widowed	11 9.2
Gynaecology	41 22.0		

Table 1: Socio-demographic characteristics of respondents.

As shown on above Table 1, the female gender predominated (70.4%), mean age was 33.46 ± 10.63 with 43.6% aged between 30 to 40 years, work experience (5 to 10 years=67.2%), educational qualification was predominantly non-BSN (81.7%). Patients'/ relatives' characteristics revealed a slight predominance of males (53.3%), mean age of 39.32 ± 9.97, education (predominantly secondary school education 41.6%); occupation mostly self-employed (57.5%), and mostly married (57.5%).

Missed care

Prevalence of missed care: One hundred and fifty six nurses (83.9%) reported they had left one or more care activities undone in the 7 days prior to the study. Nurses reported prioritizing care activities in the presence of staffing and time pressures. However over 90% of them were unable to state the basis on which they prioritized which activity to carry out and which one to omit or delay. The number in the experimental and control wards were similar (E=81; C=75). At pre-test the means for missed care were similar for both groups (experimental group=6.4); control group=6.3). The mean number of activities missed per nurse in 7 days was 6.3 (range of 6 to 8) out of 15 required activities; while the mean number of missed activities per shift was 3.8. The pattern of nursing care left undone was similar in all 4 hospitals. Prevalence of missed care was significantly related to years of work experience and qualification but not to gender and age.

Types of care missed: Out of the list of 15 activities in each unit, nurses identified 8 as most missed and 3 as delayed. The care activities most missed were routine bed bath (34.9%), spiritual support (33.9%), patient education (31.2%), change of patient's position (29.6%), assessing effectiveness of pain medication (28.0%), pain assessment before administering medication (25.8%), discharge planning (21.0%), routine urine testing (20.4%). Activities delayed but not totally missed were chronic wound care (27.4%), updating care plans (27.4%), and assessment/monitoring of vital signs in long-term rehabilitating patients (24.2%). Care activities on the validated list that were not missed at all or delayed were assessment of vital signs in patients with acute conditions, and administration of PRN medications. Missed care was neither documented nor reported to the head nurse, except for missed medications, but those delayed were verbally handed over to the next shift. When asked which of the identified care activities they regularly missed even outside the 7 days in reference, nurses identified the same 8 activities.

Patients and relatives (60.8%), reported being aware that some required care activities were either omitted or delayed. In terms of which activities were delayed or omitted, and the effect of such omission, their perceptions were consistent with the nurses' report.

Frequency of missed care: 42.5% reported missing nursing care activities frequently (3-5 times in 7 days). Care activities were most missed during the afternoon shift followed by night shift; and mostly in the acute care wards especially medical. Activities were significantly missed by nurses in the secondary health facilities (p=0.02).

Reasons for missed care: Several reasons were identified for missed care. Staffing factors were identified by 70.6% of respondents (nurses and patients/relatives; SD=15.9), to include nurses' shortage/overwork, busy shift, inadequate handing over of tasks by previous shift, inexperience by some nurses, involvement of some nurses in non-nursing tasks. Materials and supplies factors were identified by 63.4%; SD=21.1) to include unavailable materials/supplies/medications at time of care; while patient factors (interruption in care due to unexpected emergencies, refusal of care, and urgent patient condition leading to delay of routine care) were identified by 59.8% (SD=18.7). Reasons were similar in all 4 hospitals.

Relationship between missed care and patient/care outcomes

Data on patient outcomes and care outcomes showed an inverse significant relationship between missed care and some patient/care outcomes (Table 2). For some outcomes the higher the number and frequency of vital care missed, the lower the rating on patients' satisfaction (x^2=19.8, p<.001); patients' wellbeing (x^2=16.2, p<0.001), quality of care (x^2=14.5, p=0.01), improved patient care (x^2=10.8, p=0.02), and achievement of care goals (x^2=12.6, p=0.01). On one care outcome (adverse events), there was a direct significant relationship (the higher the prevalence and frequency of missed care the higher the rating on occurrence of adverse events (x^2=11.8, p=0.01). Results therefore showed that missed care has significance influence on patient outcomes and care outcomes.

Mean of missed care	Outcomes	Rating	X^2 p-value
7.2	Patient wellbeing	Poor	16.2, p< 0.001
5.8		Fair	
3.4		Good	
3.4	Patient satisfaction	Poor	19.8, p<0.001
4.9		Fair	
6.3		Good	
8.1	Improvement in care	Poor	10.8, p=0.02
6.4		Fair	
3.0		Good	
3.6	Adverse events	Low	11.8, p=0.01
5.8		Moderate	
7.5		High	
6.9	Quality of care	Poor	14.5, p=0.01
4.8		Fair	
3.5		Good	
3.2	Achievement of care goals	Poor	12.6, p = 0.01
5.5		Fair	
7.3		Good	

Table 2: Correlation between missed care and rating of patient/care outcomes.

Results of intervention

Overall means of missed care for experimental group before and after intervention were 6.4 and 2.1 (p=0.001); and 6.3 and 4.8

respectively for the control group (p=0.10). After intervention the prevalence and frequency of missed care reduced significantly (p=0.001) on all activities except spiritual support. There was no significant reduction in the control group over time. Table 3 shows results on means and frequency of missed care, and care/patient outcomes between experimental and control groups.

Areas considered	Experimental wards (n=81)			Control wards (n=75)		
	Before	After	p	Before	After	p
Mean number of missed care	6.4	2.1	0.001	6.3	4.8	NS
Frequency of missed care	3-5 times	1-2 times	0.001	3-5 times	3-5 times	NS
Patient outcomes	29.2±0.8 (t = 3.1)	34.3±2.6	0.001	28.9±1.0 (t = 1.2)	29.7±0.9	0.20
Care outcomes	26.9±1.0 (t = 3.6)	33.9±2.4	0.001	28.3±1.4 (t = 1.5)	27.5±0.9	0.10

Table 3: Missed care, care outcomes and patient outcomes before and after intervention.

Discussion

Certain nursing activities were reportedly omitted or delayed, according to nurses and patients/relatives. The results of this study are consistent with results from other investigators who have examined missed nursing care in Europe and America [6-8]. These results have implications for healthcare delivery since 'common activities are missed across hospitals and countries that have different national healthcare delivery systems [12].

While earlier studies identified nine elements of regularly missed care, the present study identified eleven (eight missed and three delayed) [5]. This study revealed that 83.9% respondents missed care, with a mean of 3.8 activities per shift. These values are higher than the 70% reported earlier and the mean per shift of 2.71 [3,8]. The high values in the present study may be attributed to the peculiar situation (acute nurse shortages, time pressure, the job allocation approach, lack of resources etc.) in the healthcare delivery system of Nigeria.

Missed care was related to adverse events like falls, and skin breakdown, medication errors. These are similar to findings in previous studies [11,13]. In response to the findings of a previous study on missed care a commentary stressed that "nurses are as unsatisfied with this situation as are patients ...with nurses becoming increasingly dissatisfied with their roles" [8,14]. The findings of human and material resources as reasons for missed care are consistent with other studies [3,6,9]. The present study did not examine the influence of staffing on missed care.

Conclusion

Leaving vital nursing care undone was prevalent across the four hospitals used for the study. Missed care was significantly related to all patient and care outcomes. Capacity building (on time management, closer surveillance /supervision, and task sharing), significantly reduced prevalence and frequency of missed care among nurses; and influenced patient outcomes and care outcomes.

Implications for policy

Findings have implications for healthcare policy. Many hospitals in Nigeria are still using task assignment as a method of nurses' job allocation. Nurse leaders should therefore think of using a more appropriate approach, and also put in place strategies for closer supervision, task monitoring, and cooperative task sharing to reduce the prevalence of missed care.

"Cultivating cross-monitoring and cooperative problem-solving skills among staff may decrease the frequency of missed nursing care" [4]. Capacity building and continuing education on time management and task sharing would also reduce missed care and improve health care and patient outcomes. Although nurses reported prioritizing care activities because of certain pressures, most nurses were unable to state what they based such decisions on. This could form the basis for further study. Further study on evaluation of the specific influence of staffing levels on missed care, patient outcomes and care outcomes in Nigeria, is also suggested.

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