

## The Surgical Patient and Nursing Care in a Low-Income Setting: Challenges and Way Forward

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### ABSTRACT

**Background:** The newly developed Nigerian addition to the universal health coverage has surgery, obstetrics, anesthesia, and nursing as components of the plan. This study evaluated the challenges in the nursing care of the surgical patient in two public Teaching Hospitals in Port Harcourt, Nigeria.

**Materials and Methods:** A cross sectional descriptive study was conducted among total population of consenting Nurses and Medical Doctors at the Surgery Departments two public Teaching Hospitals, using semi-structured self-administered questionnaire. Data obtained was entered into Microsoft Excel Spreadsheet / Statistical Package for the Social Sciences, and formed into tables.

**Results:** There were 67(26.1%) male and 190 (73.9%) female respondents. The mean age of respondents was  $37.63 \pm 10.22$  years. The mean years in practice was  $11.05 \pm 9.26$  years. One hundred and forty-nine (58.0%) of the respondents were nurses. Most challenging nursing issues were giving intravenous fluids according to schedule (75 = 29.2%), wound dressing (73 = 28.4%), inadequate equipment and manpower (51 = 19.8%), administration and charting of intravenous fluids (26 = 10.1%), and drug administration (26 = 10.1%). The most challenging surgeon / doctor-related issues was poor staff interpersonal relationship (103 = 40.1%) followed by poor supervision of the surgical team (97 = 37.7%).

**Conclusion:** The challenges of nursing the surgical patient in our setting are of multiple origin. Administrative issues of inadequate employment of manpower and its multiplier effects are reported along with patient-related and health professional issues.

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## Keywords

Surgical Patient, Nursing Care, Challenges, Way forward, Low-income setting.

## Introduction

Nursing involvement in medical care (illness and health) dates back to Hippocrates, a “shared forefather of health care professionals”, who in his writings mentioned “doctor assistants” believed to be nurses [1]. Although nurse(s) was not mentioned in Hippocratic writings, it is reported to have its root in the Latin word ‘nutrire’, which means “to nourish”[1]. Ancient cultures and religion reserved these nursing duties to women. Additionally, Greek and Turkish equivalents of the word “nurse” translates to mean “sister” [1,2], which may explain why nurses are often addressed as sisters. The scope of work of the nursing staff in modern surgical practice (tertiary care) varies with the sector and sub-specialization – regular evaluation of patients’ vital signs, regular drug administration, monitoring and documentation of patients’ fluid input / output, counselling / emotional support to the patient, just to mention a few. These critical role places the nursing staff in a privileged position to recognize early signs of deterioration and alerting necessary authority when things are beginning to go wrong, as highlighted in some studies [3-5].

Resolution 68.15 passed by the World Health Assembly, in recognition of the apparent omission of surgical services in the healthcare needs of low- and middle-income countries, encouraged Member States to include essential surgical care, emergencies and anesthesia services as part of universal health coverage [6]. The newly developed Nigerian addition to the universal health coverage has surgery, obstetrics, anesthesia, and nursing as components of the plan [7]. The role played by a professional nurse in the care of the surgical patient is therefore evident in the surgical clinics, emergency rooms, operating theatres, and specialist surgical wards where patients awaiting surgery or operated patients are nursed. However, the twenty-first century provides documentary evidence of technology-based humanoid machines (although not yet universally available) as nurse robots [8-11], capable of carrying out some nursing duties. It is noteworthy, that robots do not replace a nurse with a beating heart, as argued in the report of a researcher [12].

In modern society, it is a known fact that training a child to grow up and be useful to society is as important as the birth of the child [13-15]. In a similar way, good nursing care in the perioperative period is foundational to the achievement of modern surgical objectives. Having successfully carried out a beautiful surgery and painstakingly crafted a well-thought out post-operative order, will require the support of good nursing care to carry out those orders. Suboptimal fluid administration resulting in patient dehydration, or over-zealous fluid administration leading to fluid overload are both occurrences that are detrimental to patient care, being common examples that could influence the course of events and tilt the balance against the set objectives of the operated patient. Sometimes in our practice, the reasons for aberrations may not completely be within the sphere of influence of the nursing or

medical staff. This study therefore evaluated the challenges in the nursing care of the surgical patient in two Teaching Hospitals in Port Harcourt Nigeria in the last one year (September 2021 to September 2022) and proffered some solutions to overcome them.

## Materials and Methods

### Study Area

Port Harcourt, the capital of Rivers State of Nigeria was the study area. Port Harcourt City is host to two public teaching hospitals (one Federal and the other State-owned hospital).

### Study Sites

The study was carried out at the Surgery Departments of the two public Teaching Hospitals in Port Harcourt.

### Research Design

A cross sectional descriptive study was conducted.

### Study Population

Nurses and Medical Doctors who work in the Surgery Departments of the Teaching Hospitals constituted the study population.

### Sample Size Determination

All respondents who gave consent were included.

### Study Instrument

Semi-structured self-administered questionnaire was used to obtain data from respondents.

### Study Variables

The study variables were challenges to nursing the surgical patient (individual nursing factors, individual doctor / Surgeon factors, patient / patient relatives’ factors, management / administrative / system factors, solutions as way forward).

### Bias

Data for this study was based on the opinions of the nurses and doctors who practice in the Surgery Departments.

### Data Analysis

Data obtained was entered into Microsoft Excel Spreadsheet / Statistical Package for the Social Sciences (version 23.0), and formed into tables.

### Validity/Reliability of Instrument

The study data was scrutinized by all the authors for authenticity or otherwise before use, and pretested in a similar work environment. The Cronbach alpha (in SPSS) was also used for the validity of the study instrument and yielded a value of 0.849.

## Results

A total of 257 respondents gave consent for inclusion in the study. The demographic characteristics of the respondents is summarized in Table 1. There were 67(26.1%) male and 190(73.9%) female respondents. The mean age of respondents was  $37.63 \pm 10.22$  years, the youngest respondent was 20 years old and oldest was

63 years. One hundred and sixty-six 166 (64.6%) were married while 88 (34.2%) were single. The mean years in medical/nursing practice was  $11.05 \pm 9.26$  years. One hundred and forty-nine (58.0%) of the respondents were nurses.

**Table 1:** Socio-demographic characteristics of respondents (n = 257).

Variables	Number	Percentage
<b>Sex</b>		
Male	67	26.1
Female	190	73.9
<i>Age in Years (Mean=37.63 ± 10.22; Min=20; Max=63)</i>		
20 - 30	71	27.6
31 - 40	98	38.1
41 - 50	49	19.1
51 and above	39	15.2
<b>Marital Status</b>		
Single	88	34.2
Married	166	64.6
Separated/Divorced	3	1.2
<b>Religion</b>		
Christianity	253	98.4
Islam	3	1.2
Others	1	.4
<i>Years in practice (Mean=11.05 ± 9.26; Min=1; Max=40)</i>		
1 - 5	93	36.2
6 - 10	43	16.7
11 - 20	85	33.1
21 - 30	23	8.9
31 and above	13	5.1
<b>Department of practice</b>		
Surgery	91	35.4
Nursing	149	58.0
Ophthalmology	3	1.2
Others	14	5.4
<b>Category of respondents</b>		
Medical Officer	19	7.4
Registrar	18	7.0
Senior Registrar	14	5.4
Consultant	9	3.5
ADN	11	4.3
Chief Nursing officer	20	7.8
Assistant Chief Nursing officer	9	3.5
Principal Nursing officer	18	7.0
Senior Nursing officer	34	13.2
Nursing officer I	22	8.6
Nursing Officer II	23	8.9
Intern Nurse	38	14.8
<b>Others</b>	<b>22</b>	<b>8.6</b>

Table 2 shows the challenges encountered in the care of surgical patients. Most challenging nursing issues in the care of surgical patients were giving intravenous fluids according to schedule (75 = 29.2%), wound dressing (73 = 28.4%), inadequate equipment and manpower (51 = 19.8%), administration and charting of intravenous fluids (26 = 10.1%), and drug administration (26 = 10.1%). Other challenging issues in the care of the surgical patient as expressed by respondents included: patients' financial constraint

(36 = 14.0%), wound breakdown (17 = 6.6%), uncooperative patients relative (13 = 5.1%), poor power supply (11 = 4.3%). The most challenging Surgeon / doctor-related issues that affect nursing care of surgical patient was poor staff interpersonal relationship (103 = 40.1%) followed by poor supervision of the surgical team (97 = 37.7%). The most challenging management / administrative / system-related issues that affected the nursing care of the surgical patient was inadequate staffing resulting in inadequate nurse/patient ratio (154 = 59.9%).

**Table 2:** Challenges encountered in the care of surgical patient (n = 257).

Variables	Number	Percentage
<b>Most challenging nursing issues in the care of surgical patient</b>		
Drug administration	26	10.1
Giving intravenous fluids according to schedule	75	29.2
Administration and charting patient fluid output	26	10.1
Wound dressing	73	28.4
Inadequate equipment and manpower	51	19.8
No response	6	2.3
<b>Other challenging nursing issues in the care of surgical patient</b>		
Inadequate materials and manpower	51	19.8
Patients' financial constraint	36	14.0
Poor power supply	11	4.3
Poor hygiene practices	8	3.1
Doctors/Nurses' attitudes to patients	5	1.9
Wound breakdown	17	6.6
Infection	1	.4
Uncooperative patients relative	13	5.1
No response	115	44.7
<b>Most challenging Doctors/Surgeon issues in the care of surgical patient</b>		
Inadequacy of knowledge by some doctors	36	14.0
Poor supervision of the surgical team	97	37.7
Poor staff interpersonal relationship	103	40.1
Poor staff welfare	12	4.7
Inadequate staff	5	1.9
No response	4	1.6
<b>Challenging management/administrative/ system issues in the care of the surgical patient</b>		
Inadequacy of knowledge	38	14.8
Frequent transfers of nurses out of the surgical department and consequent forgetfulness of procedures	22	8.6
Inadequate continuous nursing education	20	7.8
Inadequate staffing resulting in inadequate nurse/patient ratio	154	59.9
<b>All of the above</b>	<b>23</b>	<b>8.9</b>

Table 3 summarizes patient-related factors that affected the nursing care of surgical patient. Patients' economic challenges limiting provision of needed materials for nursing care was reported by 188 (73.3%) of respondents. Others include: lack of cooperation by patient /patient relatives (67 = 26.1%), hostility of patient relatives to nursing staff (59 = 23.0%), absence of patient relative to assist in the care of the patient (39 = 15.2%), lack of commitment of relatives to assist the patient (12.5%), interference of relatives / patients with drips and drug administration (9.3%).

**Table 3:** Challenging patient factors in the care of surgical patient (n = 257).

Variables	Yes		No	
	Number	%	Number	%
Patient economic challenges limiting provision of needed materials for nursing care	188	73.2	69	26.8
Absence of patient relative to assist in the care of the patient	39	15.2	218	84.8
Lack of commitment of relatives to assist the patient	32	12.5	225	87.5
Interference with drips and drug administration	24	9.3	233	90.7
Hostility of patient relatives to nursing staff	59	23.0	198	77.0
Lack of cooperation by patient/patient relatives	67	26.1	190	73.9

Table 4 summarizes proffered solutions for improvement of the nursing care of the surgical patient at individual nurse's, doctor's and patient's levels. The need for refresher courses on surgical care for nurses in surgery department was expressed (100 = 38.9%), followed by proper orientation for new nurse posted to the Surgery Department (66 = 25.7%). Supervising surgeons should ensure proper supervision of the surgical team (68 = 26.5), and refresher courses on surgical care should be organized for doctors in Surgery Department (58 = 22.6%). There should be proper orientation for patient relatives for every admitted patient (149 = 58.0%), and use of pamphlets containing information to patient's relatives should be encouraged (52 = 20.2%).

**Table 4:** Suggested solutions for improvement of the nursing care of the surgical patients at nurses, doctors and patients' levels (n = 257).

Variables	Number	Percentage
<b>How to improve surgical patient nursing care at individual nurse's level</b>		
Proper orientation for new nurse posted to the Surgery department	66	25.7
Refresher courses on surgical care for nurses in surgery department	100	38.9
Ensure congenial work environment to avoid discontent among hospital staff	55	21.4
Employment of nurses	6	2.3
All of the above	30	11.7
<b>How to improve surgical patient nursing care at individual doctor's level</b>		
Proper orientation for new doctors posted to the Surgery department	49	19.1
Refresher courses on surgical care for doctors in surgery department	58	22.6
Ensure prescriptions are clearly written	18	7.0
Ensure treatment order are clearly written	22	8.6
Supervising surgeon to ensure proper supervision of the surgical team	68	26.5
All of the above	42	16.3
<b>How to improve surgical patient nursing care at individual patient's level</b>		
Proper orientation for patient's relative for every admitted patient	149	58.0
Use of pamphlets containing information to patient's relatives	52	20.2
Replace patient relative with nurse assistants	41	16.0
<b>All of the above</b>	<b>15</b>	<b>5.8</b>

Table 5 summarizes suggestions on how to improve the nursing care of the surgical patient at management level. Emphasis should be place on: employment of nurses - adequate manpower for service (175 = 68.1%), teamwork for effective patient care (113 = 44.0%), employment of doctors - adequate manpower for service (109 = 42.4%), and provision of adequate equipment for patients' nursing care (105 = 40.9%), etc.

**Table 5:** How to improve surgical patient nursing care at management level (n = 257).

Variables	Yes		No	
	Number	%	Number	%
Employment of nurses for adequate manpower for service	175	68.1	82	31.9
Employment of doctors for adequate manpower for service	109	42.4	148	57.6
Employment of nursing assistants to assist nurses with adequate manpower for service	72	28.0	185	72.0
Hospital policies for the orientation of nurses posted to the surgery department	66	25.7	191	74.3
Refresher courses on surgical nursing care for nurses in the surgery department	81	31.5	176	68.5
Teamwork for effective patient care	113	44.0	144	56.0
Workers' salaries should be increased for effective service delivery	94	36.6	163	63.4
Provision of adequate equipment for patient nursing care	105	40.9	152	59.1
Provision of nurse robots	11	4.3	246	95.7

## Discussion

In the resource-poor setting like ours, the surgical patient is affected by a number of issues during their preoperative and post-operative period, which directly or indirectly affect surgical outcome. A triad of poor economy of the environment of practice, inadequate health insurance from poor health system financing, and poorly motivated staff (from perceived poor remuneration) all conspire to breed a chain of identified pure nursing issues, surgeon / doctor-related issues, patient-related issues, management / administrative / system-related issues, affecting the surgical patient. The majority of respondents who provided information in this study were mainly females. This is not surprising since the study population comprised both doctors and nurses, with greater number of nurses (who were predominantly females) in the Surgery Department. The respondents' mean age of  $37.63 \pm 10.22$  years suggests a young population in their active years of service. The mean service years of  $11.05 \pm 9.26$  years lays credence to the quality of information provided by the respondents, having served long enough in the Department.

Poor staff interpersonal relationship followed by poor supervision of the surgical team were recognized as the most challenging surgeon / doctor-related issues that affect nursing care of surgical patient. This poor social connection among members of the health workforce has in our setting been partly the source of rivalry in the health team. Similar finding of interprofessional rivalry has been reported in other centres in Nigeria [16-18]. The attitude of teamwork where every member of the team – from the security at



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the gate to the chief medical director – is treated with respect, while maintaining the hierarchy of seniority should be encouraged. This view is also shared by other researchers [19-21]. Poor supervision of surgical team identified in this study as affecting nursing care of the surgical patient, has been reported as an issue of concern in other climes [22-24], and in Nigeria [25-27]. Poor supervision of the surgical team could partly be explained by the low doctor-patient ratio in Nigeria [28-30].

Nurse-patient ratio in Nigeria is also poor [31-33], and the potential effect of an over-stressed nursing staff overseeing the care of so many patients may partly explain the observed poor knowledge, inadequate staffing (workforce) for service delivery, and frequent transfers of experienced nurses out of the Surgery Department. The consequences of staff shortage may also explain the observed inadequacies in execution of nursing duties, poor staff interpersonal relationship, and poor tolerance of the excesses of patients and patient relatives. Health staff shortages and poor funding of the health sector have been reported in other climes [34-37], and also in Nigeria [38-41]. Administration of intravenous fluids according to schedule, wound dressing, inadequate equipment and manpower, administration and charting of intravenous fluids, and drug administration (among others), were the most challenging nursing issues in descending order of concern, that affect the surgical patients' nursing care. These procedures – wound dressing, intravenous fluid and drug administration are taught to professionals to achieve set goals [42,43]. It is expected therefore that every nursing professional should know how to execute these tasks. However, for these core duties to be challenging, it implies that the issue of number of available manpower (poor nurse-patient ratio) may be indirectly impacting on their performances, although other factors may exist.

The patient factors affecting the nursing care of the surgical patient in descending order of concern were patients' economic challenges limiting provision of needed materials, lack of cooperation by patient / patient relatives, hostility of patient relatives to healthcare staff, absence of patient relative to assist in the care of the patient, lack of commitment of relatives to assist the patient, interference of relatives / patients with intravenous fluids and drug administration. In an ideal setting, apart from visiting to provide moral and financial support, relatives of patients are not supposed to be in the hospital to care for patients. However, in our setting, most of the patients lack insurance coverage, and hence pay their hospital bills out-of-pocket. Consumables are therefore procured “in small bits” for patients to be able to afford, needing a relative to be around for “errand”. This implies that every consumable needed for care has to be provided by the patient without which it is not given. The health of the governed should ideally be a priority of the government, but the health budget of State and Federal Governments of Nigeria is rather below expectation [44,45]. It is understandable therefore why these patients' experiences coupled with ignorance and probably transfer of aggression could result in some of the patients' issues seen in this study. (NB patients assault of health

staff). This explanation does not in any way justify any poor of unprofessional attitude / conduct of the health staff that may elicit corresponding negative patients' / relatives' responses.

The health sector is a unique area that cannot function efficiently without highly trained professionals. Improvement in the quality of professionals will go a long way to enhance achievement of set objectives. There is little wonder therefore, why the respondents in this study, in their suggestions on how to improve the nursing care of the surgical patient at individual healthcare staff level, emphasized on incorporation of refresher courses on surgical care, orientation for new nurses posted to the Surgery Department, and proper surgical team supervision. Proper patient orientation for every admitted patient was also emphasized. It was also the desire of the respondents that the hospital administration should among others ensure employment of nurses for adequate manpower for service, teamwork for effective patient care, and provision of adequate materials / equipment for patients' nursing care.

### **Study Limitations**

Our study is questionnaire-based and therefore limited by the potential bias of such studies.

### **Conclusion**

The challenges of nursing the surgical patient in our setting are of multiple origin. Administrative issues of inadequate employment of manpower and its multiplier effects are reported along with patient-related, and health professional issues.

### **Recommendations**

There is need for orientation for patient relatives for every admitted patient, proper supervision of the surgical team, and refresher courses / orientation for new workers of the Surgery Department. Emphasis should be placed on adequate manpower for offered services, teamwork for effective patient care, and provision of adequate equipment for patients' nursing care.

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