

The effect of Nurse Staffing on Quality of Care and Patient Satisfaction in the Medical and Surgical Wards in Public Hospitals in Fako

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ABSTRACT: Nurse staffing is an important component in determining patient care quality and satisfaction. This study was aimed at assessing the effect of nurse staffing on quality of care and patient satisfaction in the medical and surgical wards in the public hospitals in Fako. This retrospective and analytic cross-sectional study used the hospital administrative data to gather staffing information (the number of nurses, the nursing staff constitution) and data was collected from patients in the medical and surgical wards in public hospitals in Fako using an adapted “Karen-patient instrument for measuring quality of care” and the “Patient Satisfaction with Nursing Care Quality Questionnaire” over a period of 2 months. The probability proportionate to size sampling was applied to get the appropriate sample size. Data collected was analysed using SPSS version 25. The overall nurse to patient ratio was 1:9.2. Based on the mean score, 47.1% of patients had good quality of nursing care while 52.9% had poor quality of nursing care. Half of the participants (50.4%) were satisfied with the overall nursing services while 49.6% were not satisfied. There was a significant relationship between mean patient to nurse ratio and quality of care as well as patient satisfaction ($p < 0.001$ and $p = 0.02$ respectively). The overall nurse to patient ratio was 1:9.2. The overall quality of nursing care was poor and patient satisfaction was moderate. The study found a relationship between staffing and quality of care as well as patient satisfaction.

Keywords: Nurse Staffing, Patients, Patient's Satisfaction, Quality of Care

I. INTRODUCTION

Nurse staffing is the process of selecting the right quantity, mix and types of nursing resources to fulfil workload demands for nursing care at the unit level [1]. In general, health-care systems must adapt to a variety of changes, including changing demographics, the advent of new diseases, the frequency of previously diagnosed diseases, and the complexity of care. Due to these changes and limited resources, hospitals will be forced to alter their organization and operations through human resource solutions among others, including nurse staffing modifications. Patients' health, safety, and well-being, as well as the quality of care, are all affected by these changes [2]. The institute of Medicine study committee defined the quality of care as the extent to which health services are consistent with actual knowledge held by professionals and which enhance the likelihood of desired health outcomes for individuals and populations [3]. Patient satisfaction which is a combination of a patient's perceived need, health-care expectations, and health-care experience is an essential and widely used metric for assessing health-care quality [4]. Clinical results, patient retention, and medical malpractice lawsuits are all influenced by patient satisfaction. It has an impact on the delivery of high-quality health care in a timely, efficient, and patient-centered manner. Patient complexity, acuity, or stability; the number of admissions, discharges, and transfers; the level and expertise of nurses and other staff; the physical space and layout of the nursing unit; and the availability of or proximity to technological support or other resources are all factors that influence nurse staffing needs [5]. Published studies show that adequate nurse staffing helps achieve clinical and financial improvements in patient care, such as increased patient satisfaction and health-related quality of life; decreased patient mortality, medical and medication errors, length of stay;

hospital readmissions, and decreases the number of preventable events such as pressure ulcers, patient falls, central line infections, healthcare-associated infections, and other complications [5-8].

A study conducted in nine European countries showed that the chance of an inpatient dying within 30 days of admission rose by 7% when a nurse's workload was increased by one patient [9]. Another study in Australia showed that the mortality rate in hospitals was 4.1 percent and every day that a patient had Registered Nurse staffing below the ward mean, the risk of mortality increased by 3%. Days when the number of admissions per Registered Nurse surpassed 125 percent of the ward norm were linked to a higher risk of death. Griffiths et al. [10] discovered evidence that reduced nurse staffing was linked to a greater risk of hospital patient falls, greater incidence of medication administration mistakes and missed nursing care. Some systematic reviews discovered evidence that lower nurse staffing levels were linked to longer patient stays in hospitals [10-12]. South East Asia and Africa, according to the World Health Organization, have the greatest demand for nurses [13]. Cameroon is one of the African nations that is undergoing a human resources for health crisis. At the national level, there are 0.32 nurses per 1000 people working in the public sector [14].

Nursing services are an important part of any health-care services. Nurses in an adequate number with the proper combination of skills, education, and experience ensure that patients' requirements are fulfilled and that the environment and working conditions allow staff to offer high-quality care. Nurse staffing is a critical component in determining patient safety and the quality of care [15], this is why we are taking a particular interest in this study which will target public hospitals in Fako.

II. MATERIALS AND METHODS

This investigation was a retrospective and analytic cross-sectional study to provide data for describing the state of nurse staffing, the quality of care and the patient satisfaction and to bring out the effect of nurse staffing on quality of care and patient satisfaction in the medical and surgical wards in public hospitals in Fako within the study duration (May-June 2022).

This study was conducted in three selected health facilities (Limbe regional hospital, Buea regional hospital and Tiko district hospital) that had good number of patients hospitalized in the medical and surgical wards in Fako Division of the South West Region of Cameroon. As per the 2005 census in Cameroon, Fako Division is made up of 466,412 people. It covers an area of 2,093km², density of 222.8km² and located at Latitude 4.1667° and Longitude 9.1667° [16]. Fako has several urban and semi-urban towns. It has many social and economic amenities and political institutions which in addition to its location in the coastal area of Cameroon have contributed to its increasing population, the majority of who are the youth [17]. The Buea Regional Hospital is a Category 3 facility capable of providing healthcare to Cameroonians in the South West Region and beyond. It is a strategic health care provider in this region, providing 24-hour services to patients and serving as a teaching hospital for various institutions of higher learning, including the University of Buea's Faculty of Health Sciences. Some of the units found in the hospital are radiology, surgery, gynecology and obstetrics, pediatrics, physiotherapy, maternity and general medicine. As for the Limbe Regional Hospital, also known as Mile 1 Hospital, is the main referral hospital in the region run by Cameroon's Ministry of Public Health. Some of its services include physiotherapy, Dental, In-patient and Out-patient, Pharmacy, Ears-Nose and Throat, General Surgery, Counseling, and dietary advice. The Tiko District Hospital is a peripheral level facility which provides healthcare to the population of Tiko and beyond. Some of the units found in the hospital are gynecology and obstetrics, pediatrics, maternity, general medicine.

The surgical wards of the BRH and LRH offer respectively reception capacities of 33 and 32 beds. These departments receive preoperative and postoperative patients for various surgical interventions depending on the pathologies, and are made up of nursing staff, general practitioners, surgeons and anesthesiologists who take care of patients. As for the medical wards, they have female medical wards with a respective capacity of 26 and 18 beds for BRH and LRH; male medical wards with respective capacities of 19 and 16 beds for BRH and LRH. The medical and nursing staff present in these wards ensure the diagnosis and care of hospitalized patients. The medical ward of the TDH is a general ward with a capacity of 28 beds, where is met internal medicine patients and pre and postoperative patients.

This study involved patients hospitalized in the medical and surgical wards in the three selected hospitals in Fako, and included hospitalized patients in the medical and the surgical wards, conscious

hospitalized patients who can read or listen and understand, and make a choice; consenting patients, and 21 years or older patients. First, ethical clearance was obtained from the Institutional Review Board (IRB, 1817-05) of the Faculty of Health Sciences, University of Buea. Then administrative approval was obtained from the Faculty of Health Sciences, University of Buea, the regional delegation of public health (No. 425/430), and from the directors of the Buea Regional Hospital, Limbe Regional Hospital and Tiko District Hospital. The hospital administrative data were used to gather staffing information (the number of nurses, their level of education, the nursing staff constitution) and the number of patients hospitalized. In this study, the nurse to patient ratio was chosen as the index to evaluate the staffing of nurses. The nurse to patient ratio was obtained by using the average number of hospitalized patients per day during the data collection period and the number of nurses allocated to them. Data were collected from inpatients in the study hospital wards using an adapted Karen-patient instrument for measuring quality of care [18], and an adapted "Patient Satisfaction with Nursing Care Quality Questionnaire" for measuring the patient satisfaction [19].

A pilot study was conducted with the aim of finding out the feasibility and practicability of the tools. The study was conducted among 10 samples; the sampling technique used was convenient sampling, informed consent was taken from the samples. The finalized tools were used to assess the quality of care and patient satisfaction with nursing care quality. The pilot study finding revealed that the study was feasible and practicable.

Data generated from the study were entered into excel spreadsheet and analyzed with SPSS version 25.0 for windows. The data were summarized using percentages, mean, tables and figures. Regression tests were used and in order to test the level of significance, the *p*-value statistics was used with a 95% confidence level.

III. RESULTS

III.1. Description of Sociodemographic Characteristics

In this study, 119 patients from the LRH (46), BRH (54) and TDH (19) were selected with their ages ranging from 21 to 92 years. The mean age of the participants was 42 ± 17.4 years and the median age was 37 (IQR: 28-53) years. In this study, 45.4% of the participants were selected from BRH, 38.7% came from LRH and the rest (16%) came from TDH. Out of the 119 patients, 50.4% were female and most (47.9%) were between the age group 21-36. Also, most of the participants (44.5%) were single and married respectively while 44.5% had tertiary education. Out of the 92 nurses recorded in the study, majority were holders of the Nursing Assistant diploma, State Registered Nursing diploma and bachelor's degree (34.8%, 28.3% and 26.1% respectively) (TABLE 1).

III.2. Assessment of nurses to patient ratio

The nurse to patient ratio in the Male Medical Ward, Female Medical Ward and the Surgical Ward of the BRH were respectively 1:2 (8:15), 1:3 (7:21), and 1:4 (7:29) from Monday to Friday morning shift, while from Monday to Friday night shift, Saturday and Sunday morning and night shift, the nurse to patient ratio was 1:5 (3:15) for the Male Medical Ward, 1:7 (3:21) for the Female Medical Ward, and 1:10 (3:29) for the Surgical Ward.

The nurse to patient ratio in the Male Medical Ward, Female Medical Ward and the Surgical Ward in the LRH were respectively 1:3 (4:12), 1:3 (4:11), 1:4 (8:29) from Monday to Friday morning shift, while from Monday to Friday night shift, Saturday and Sunday morning and night shift, the nurse to patient ratio was 1:6 (2:12) for the Male Medical Ward, 1:6 (2:11) for the Female Medical Ward, and 1:16 (2:29) for the Surgical Ward.

The nurse to patient ratio in the General Ward in the TDH was 1:6 (3:17) from Monday to Friday morning shift, while from Monday to Friday night shift, Saturday and Sunday morning and night shift, the nurse to patient ratio was 1:17 (1:17) (TABLE 2).

In this study, the patient to nurse ratio in the male and female medical wards were statistically different from the surgical ward and general wards (4.7 ± 0.54 , 5.4 ± 0.6 versus 10.0 ± 1.6 and 4.7 ± 0.54 , 5.4 ± 0.6 versus 14.2 ± 2.8 respectively; $p < 0.001$). Results are shown in TABLE 3.

The overall mean patient to nurse ratio for the health facilities is 9.2 ± 1.61 . The patient to nurse ratio in the LRH and BRH were statistically different from the TDH (6.2 ± 0.75 , 7.2 ± 1.3 versus 14.2 ± 2.8 ; *p*-value: 0.006). Results are shown in TABLE 4.

III.3. Quality of care of patients

With respect to the quality of care, majority of patients agreed that the structural quality was good (58.8%) while 55.5% said the process quality was poor. Also 50.4% said the outcome from care received was good. Results are shown in TABLE 5.

Out of the 35 items assessed on quality of care of patients, the minimum score was 43 and the maximum score 115. The mean score was 83 ± 1.9 and the median score was 81 (IQR: 75-92). Based on the mean score, 47.1% of the patients had good quality of nursing care while 52.9 had poor quality of nursing care as shown in Fig. 1. Good quality care was highest in LRH (73.7%) followed by BRH (57.4%). There was a significant association between quality of nursing care and the hospital setting ($p < 0.001$).

There was no significant association observed between quality of nursing care and sociodemographic information of participants in this study (p -value: > 0.05). Results are summarized in TABLE 6.

III.4. Patient satisfaction with nursing care

Analysis of PSNCQQ scores revealed that the item for which satisfaction level was highest 106 (89.1%) was the “restful atmosphere provided by nurses” item. The item for which satisfaction level was lowest 47 (39.5%) was the “recognition of your opinions” item as shown in TABLE 7.

Out of the 17 items assessed on satisfaction of patients on nursing services, the minimum score was 21 and the maximum score 72. The mean score was 46.46 ± 0.94 and the median score was 46 (IQR: 39-53). Based on the mean score, 50.5% of the patients were satisfied with the overall nursing services as shown in Fig. 2. There was a significant association between satisfaction of nursing care and the hospital setting ($p < 0.001$.) Patient satisfaction with quality of care was highest in LRH (76.1%) followed by TDH (42.1%). Results are shown in Fig. 3.

There was no significant association observed between patient satisfaction of nursing care and Sociodemographic information of participants in this study. Results are summarized in TABLE 8.

In this study, there was no correlation observed between QOC and patient satisfaction (p -value: 0.11) as shown in Fig. 4.

III.5. The relationship between nurse staffing and quality of care, Patient satisfaction

Results from simple linear regressions show a significant relationship between mean patient to nurse ratio and quality of care. A unit increased in the patient to nurse ratio decreases the quality of care by 3.28 units ($p < 0.001$).

Results from multiple linear regressions showed a significant relationship between mean patient to nurse ratio and patient satisfaction. A unit increased in the patient to nurse ratio decreases the patient satisfaction score by 0.25 units (p -value: 0.02).

IV. DISCUSSIONS

Quality in healthcare is a complex, multi-faceted, and multi-dimensional phenomenon [20]. Nursing care quality is considered as one of the desired outcomes of Overall health care quality. Good care attracts and keeps patients satisfied, recommends more patients for treatment and improves the impression of the organization as a service provider. Patients define quality with regard to interpersonal aspects of care, the way they are treated, and the promptness of the care provider [21]. This study addressed, in particular, the effect that nurse staffing has on the quality of care and patient satisfaction.

In this study, the nurse to patient ratio was 10.0 for the surgical ward and 4.7 and 5.4 for the male and female medical wards respectively (TABLE 3). These are different from the ones in the study conducted in China by Yuchi et al. [22], where the staffing of nurses was evaluated by calculating the nurse to patient ratio (the average number of patients assigned to a nurse) in the eastern, central, and western regions of China. The results showed that the department of internal medicine and the department of surgery had a nurse to patient ratio of 8.3 each. These differences might be related with the level and the number of hospitals studied.

This study revealed that the overall perception of quality of nursing care was low, and the proportion of patients who had good perception on the quality of nursing care was 47.1%. This was close to the findings in the study conducted by Ibrahim et al., in 2021 in Najran General Hospital, Saudi Arabia which showed that the proportion of patients who had good perception on the quality of nursing care was 41% [23]. Another study conducted by Wafa et al., at the inpatient psychiatric units in Jordan and published in 2018 showed that, patients' total score

of perceptions of quality of psychiatric nursing care was low (52.4%) [24]. A study conducted by Mahmoud et al., in eight Hospitals from the four healthcare sectors in Jordan revealed that the average reported perception level was 3.4/5 which was considered low [25]. This could be related with an inadequate nurse staffing or a poor quality of service provision. Another study conducted by Theresa et al., in 4 selected units at a Federal Medical Center in Nigeria revealed that 86.3% of responses, showed a good perception of quality of nursing care. This difference might be related with the level of hospitals studied, an adequate nurse staffing, and the policy of the hospital on the quality of service provision [26].

This study revealed that the overall patient's satisfaction with nursing care was moderate, with a proportion of 50.4% of participants who were satisfied. This was lower compared to the results of other studies like the one conducted by Karaca et al., in a private hospital in Istanbul in 2015, where the overall patients' PSNCQ mean scores ranged between 1–4.05, with an average score of 1.61 (SD 0.65) which indicated that the level of satisfaction with nursing care was high [27]. Another study conducted by Kannan et al., in a tertiary care teaching hospital in South India in 2016 showed with mean percentage 83.03% that patients were satisfied with nursing care [28]. A study conducted by Skhvitaridze et al., in one hospital and one outpatient department in the capital city of Georgia showed that, overall, 89% of patients described their satisfaction with provided nursing care as good [29]. A study carried out by Olowe et al., at the Lagos University Teaching Hospital found that 77% of patients showed excellent satisfaction with quality of nursing care received [30]. These differences might be related with the level of hospitals studied, the quality of care provided and the nurse staffing.

There was no statistically significant association between quality of care and the demographic variables in the present study. This is supported by the findings in the study conducted in 2018 by Kewi et al., in inpatient department at public hospitals of Benishangul Gumuz regional state, North West Ethiopia which showed that there was no statistically significant association between quality of care and some demographic variables such as gender and age [31].

There was no statistically significant association between patients' satisfaction with nursing care quality and the demographic variables in the present study. This is supported by a similar study finding conducted by Alsaqri at Hail, Saudi Arabia in three tertiary care settings which revealed that satisfaction was not associated with demographic variables [32]. Comparable to the study conducted in North India by Twayana and Adhikari which found that the patient satisfaction did not have any association with patient's demographic variables like age, gender [33].

This study showed a significant relationship between nurse to patient ratio and quality of care. This is similar to the finding in the study conducted by Winter et al. in 2019 in 3458 hospital units in 1017 hospitals in Germany which showed that nurse to patient ratio was significantly related to quality of nursing care [34].

This study showed a significant relationship between nurse to patient ratio and quality of care. This is similar to the finding in the study conducted by Persolja in three units of one secondary care regional hospital in Slovenia in 2018 which showed that there was a significant correlation between the nurse to patient ratio and patient satisfaction [35].

V. CONCLUSION

This study was conducted in the medical and surgical wards in public hospitals in Fako to assess the effect of nurse staffing on quality of care and patient satisfaction. The overall nurse to patient ratio in the medical and surgical wards in the study hospitals was 9.2. The overall quality of nursing care in the hospitals was low with 47.1% of patients who perceived good quality of nursing care while 52.9 perceived poor quality of nursing care. Patient satisfaction with nursing care was moderate with 50.4% of patients who were satisfied with the overall nursing care while 49.6% were not satisfied. There was a significant relationship between mean patient to nurse ratio and quality of care as well as patient satisfaction. A unit increased in the patient to nurse ratio decreases the quality of care by 3.28 units and patient satisfaction score by 0.25 units. The results of this study showed a poor quality of care and a moderate satisfaction from patients' perspective of care encountered during their hospitalization. Based on our study, we recommend the followings: The healthcare providers could contribute to the quality service provision by improving the staffing and evaluating the quality of care and patient satisfaction for the development and improvement of nursing care based on patients' expectations. Health care providers play a big role in enhancing patient satisfaction. It is therefore important that health care providers in particular nurses should have caring attitude, good communication skills and professional technical skills to enhance patient satisfaction. It is therefore recommended that in service training be emphasized for the

health care workers using the results of this study. In view of the nature and the factors this study has discussed, it is recommended that research in hospitals across the country be carried out to investigate the effect of nurse staffing on the quality of care and patient satisfaction.

VI. ACKNOWLEDGEMENTS

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Limitations of the study

The sample was restricted to patients from the medical and surgical wards. In addition, the study was conducted in three public hospitals in Fako. Therefore, the results cannot be generalized to all hospitals. Future studies should include more wards, more than three hospitals in both the private and public sectors and the nursing care provided in private and public hospitals should be compared.

Conflict of Interest

The authors declare that they have no conflicts of interest.

Authors' Contribution

All authors participated in the design and the methodological assessment of the study. DKI conceived the research idea, DKI, NNK, EBE, CSI, and NDA collected, analyzed and interpreted the data under the supervision of PJN and ENB. DKI drafted the work and all authors revised and approved the final manuscript.

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TABLES

Table 1: Description of Sociodemographic Characteristics

Characteristics	Frequency (n)	Percentages (%)
Gender		
Male	59	49.6
Female	60	50.4
Age group		
21-36	57	47.9
37-52	32	26.9
53-68	18	15.1
≥69	12	10.1
Qualification		
Degree	24	26.1
HND	6	6.5
NA	32	34.8
SRN	26	28.3
Master	4	4.3
Marital status		
Single	53	44.5
Married/cohabiting	53	44.5
Separated	13	10.9
Level of education		
Primary	18	15.1
Secondary	48	40.3
Tertiary	53	44.5

Table 2: Nurse to patient ratio in the medical and surgical wards in the hospitals

Hospitals	Wards	Monday to Friday morning shift	Monday to Friday night shift	Saturday and Sunday morning shift	Saturday and Sunday night shift
BRH	Male medical ward	1:2 (8:15)	1:5 (3:15)	1:5 (3:15)	1:5 (3:15)
	Female medical ward	1:3 (7:21)	1:7 (3:21)	1:7 (3:21)	1:7 (3:21)
	Surgical ward	1:4 (7:29)	1:10(3:29)	1:10 (3:29)	1:10 (3:29)
LRH	Male medical ward	1:3 (4:12)	1:6 (2:12)	1:6 (2:12)	1:6 (2:12)
	Female medical ward	1:3 (4:11)	1:6 (2:11)	1:6 (2:11)	1:6 (2:11)
	Surgical ward	1:4 (8:29)	1:16(2:29)	1:16 (2:29)	1:16 (2:29)
TDH	General ward	1:6 (3:17)	1:17(1:17)	1:17 (1:17)	1:17 (1:17)

Table 3: Patient to nurse ration per ward

Ward	Mean±SE	P-value
Male ward	4.7±0.54	<0.001
Female ward	5.4±0.6	
Surgical wards	10.0±1.6	
General ward	14.2±2.8	

Table 4: Patient to nurse ratio per hospital

Hospital	Mean±SE	P-value
LRH	6.2±0.75	0.006
BRH	7.2±1.3	
TDH	14.2±2.8	

Table 5: Quality of nursing care received by patients

Domains	Frequency N=119	Percentages (%)
Structure quality		
Poor	49	41.2
Good	70	58.8
Process quality		
Poor	66	55.5
Good	53	44.5
Outcome quality		
Poor	59	49.6
Good	60	50.4

Table 6: Relationship between Sociodemographic characteristics and Quality of nursing care

Characteristics	Quality of nursing care		p-value
	Good (%)	Poor (%)	
Gender			
Male	29 (51.8)	30 (47.6)	0.39
Female	27 (48.2)	33 (52.4)	
Age group			
21-36	25 (44.6)	32 (50.8)	
37-52	15 (26.8)	17 (27.0)	0.62
53-68	11 (19.6)	7 (11.1)	
≥69	5 (8.9)	7 (11.1)	
Marital status			
Single	25 (44.6)	28 (44.4)	
Married/cohabiting	23 (41.1)	30 (47.6)	0.5
Separated	8 (14.3)	5 (7.9)	
Level of education			
Primary	9 (16.1)	9 (14.3)	
Secondary	20 (35.7)	28 (44.4)	0.62
Tertiary	27 (48.2)	26 (41.3)	

Table 7: Patient satisfaction with nursing care

Domains	Frequency Percentages	
	N	%
Information you were given about tests, treatments, and what to expect		
Not satisfied	64	53.8
Satisfied	55	46.2
Instructions		
Not satisfied	51	42.9
Satisfied	68	57.1
Ease of getting information		
Not satisfied	40	33.6
Satisfied	79	66.4

Information given by nurses to patients, families, and doctors		
Not satisfied	32	26.9
Satisfied	87	73.1
Informing family or friends about your condition and needs		
Not satisfied	48	40.3
Satisfied	71	59.7
Involving family or friends in your care		
Not satisfied	19	16.0
Satisfied	100	84.0
Concern and caring by nurses		
Not satisfied	25	21.0
Satisfied	94	79.0
Attention of nurses to your condition		
Not satisfied	46	38.7
Satisfied	73	61.3
Recognition of your opinions		
Not satisfied	72	60.5
Satisfied	47	39.5
Consideration of your needs		
Not satisfied	52	43.7
Satisfied	67	56.3
The daily routine of the nurses		
Not satisfied	60	50.4
Satisfied	59	49.6
Helpfulness		
Not satisfied	51	42.9
Satisfied	68	57.1
Nursing staff response to your calls		
Not satisfied	59	49.6
Satisfied	60	50.4
Skill and competence of nurses		
Not satisfied	27	22.7
Satisfied	92	77.3
Coordination of care		
Not satisfied	14	11.8
Satisfied	105	88.2
Restful atmosphere provided by nurses		
Not satisfied	13	10.9
Satisfied	106	89.1
Provisions for your privacy by nurses.		
Not satisfied	25	21.0
Satisfied	94	79.0

Table 8: Relationship between Sociodemographic characteristics and patient satisfaction of nursing Care

Characteristics	Satisfaction		p-value
	<i>Satisfied</i>	<i>Not satisfied</i>	
Gender			
Male	25 (41.7)	34 (57.6)	0.06
Female	35 (58.3)	25 (42.4)	
Age group			
21-36	27 (45.0)	30 (50.8)	0.51
37-52	15 (25.0)	17 (28.8)	
53-68	12 (20.0)	6 (10.2)	
≥69	6 (10.0)	6 (10.2)	
Marital status			
Single	29 (48.3)	24 (40.7)	

Married/cohabiting	25 (41.7)	28 (47.5)	0.7
Separated	6 (10.0)	7 (11.9)	
Level of education			
Primary	12 (20.0)	6 (10.2)	
Secondary	27 (45.0)	21 (35.6)	0.08
Tertiary	21 (35.0)	32 (54.2)	

FIGURES



Figure 1 : Quality of care

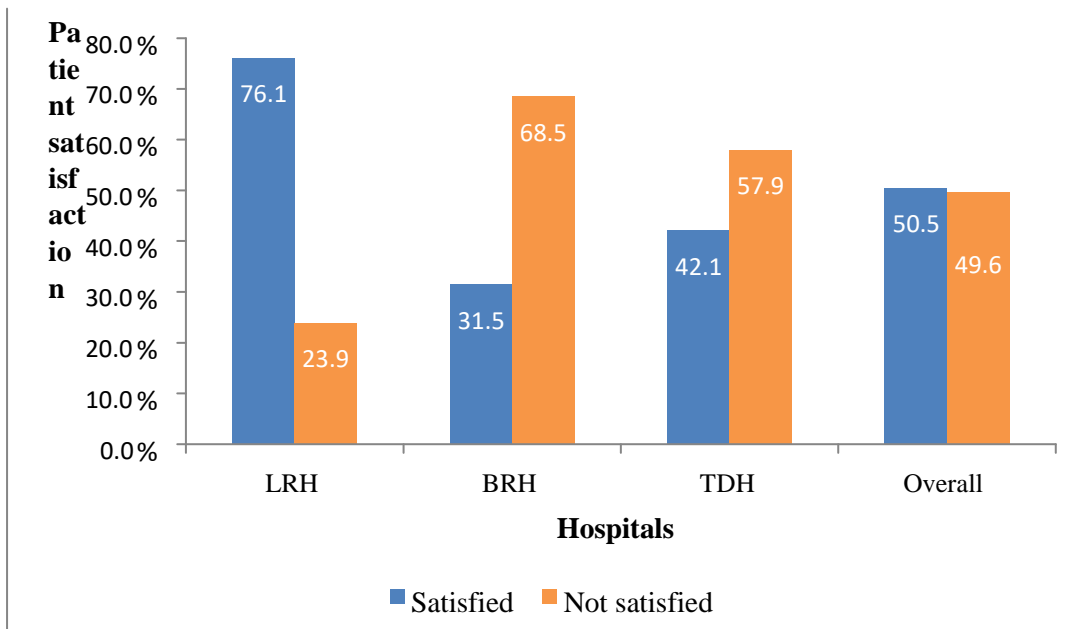


Figure 2: Overall satisfaction, Comparison of satisfaction of patients on nursing care per hospital.

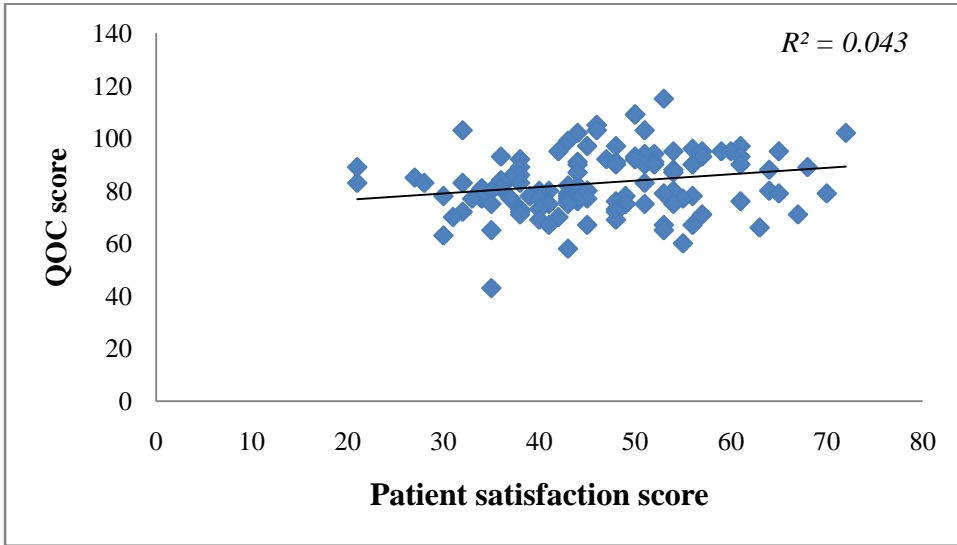


Figure 3: Relationship between Quality of Care and patient satisfaction