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Factors Influencing Patient Waiting Time in Emergency Care Department at Khunyangu Sub-County Hospital of Butula Sub-County, Kenya

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Abstract: ***This descriptive study was conducted to describe patient waiting time in Emergency care Department in Khunyangu Sub-county Hospital, Butula Sub-county, Busia County of Kenya. The study population was respondents aged 16yrs and above. Interview schedule was used to collect data from 150 respondents regarding patient waiting time, patient satisfaction and quality improvement methodology. The results showed that overall patient waiting time was 86.67%. The patients were most satisfied with pharmacy department (84%) while least satisfied with laboratory department (35.11%). From the Emergency department, the respondents had a good experience regarding clinician's service while only 43.11% had a good experience at the triage. Approximately 65% of technical staff respondents had heard of Continuous Quality Improvement methodology. Regarding overall waiting time, most patients (79%) had to wait longer in terms of minutes while 35% had good accessibility in terms of reduced waiting time. Statistical analysis showed a relationship between occupation, marital status, waiting time, quality improvement and experience of patients; and satisfaction. From this study, it is recommended that improvement is needed in some of the departments along patient flow and quality improvement.***

Keywords: Emergency care, Continuous quality improvement, Satisfaction, Waiting time

1. Introduction

1.1 Background to the Study

Accidents, injuries and acute illnesses happen at any time and people may require urgent health care. Often, the first contact service to access is the emergency department of a hospital (Trzeciak & Rivers, 2010; CIHI, 2015). Unfortunately, many Emergency Departments around the world are crowded on a daily basis (Derlet & Richard, 2012; Trzeciak & Rivers, 2010). EDs are supposed to provide fast appropriate responses to life threatening situations. They are first responders to disasters. Emergency care is available at any hour of the day, every day of the year (Trzeciak & Rivers, 2010).

According to (Bergen mar. et al., 2012), waiting time can be defined as an objective evaluation of the quality of service received against the individual's expectations. In this study, patient waiting time was expressed as an arithmetic sum of all section waiting time. Patients spend a considerable amount of time in hospitals waiting for services to be delivered by clinicians and other allied health practitioners. Delayed access to health care is assumed to negatively affect health outcomes due to delays in diagnosis and treatment (Kenagy et al., 2014) plus unforeseen cost implications on the patients and public health systems (Mesfin et al., 2010).

One index in healthcare delivery by which the quality of service provided to patients can be evaluated is the uninterrupted movement of patients, known as patient flow. According to Hall (2009), patient flow represents the ability of the healthcare system to serve patients quickly and efficiently as they move through stages of care. Blockage in the flow can increase waiting and through put time creating un-necessary delay at the facility before the patient receives care, thus having an impact of health care outcomes (Vos, 2016).

1.2 Statement of the Problem

There were recurrent complaints from patients about prolonged waiting time in the Khunyangu hospital's Emergency Department, based on the Quality Improvement Team reports in the facility (2017). The excessive lengths of time patients spent waiting before treatment in the Emergency Department (ED) may negatively influence their perceptions of quality of care provided during the visits. Reducing the patient waiting time contributes to the overall quality of health care services. Given the increased numbers of people seeking medical attention in Busia county and Butula sub-county, the dynamics of waiting time had not been well appreciated. Furthermore, the efficiency in health facilities had not been adequately studied. This study therefore sought to examine factors influencing patient waiting time in emergency care department at Khunyangu Sub-county hospital of Butula Sub-county, Busia County of Kenya.

1.3 Purpose and Objective of the Study

This study intended to elucidate patient waiting time and identify the factors influencing waiting time for services offered at Khunyangu Sub-county Hospital in order to come up with evidence-based solutions. The specific objective was to measure the overall patient waiting time in the emergency department at Khunyangu Sub county Hospital.

1.4 Significance of the Study

Being the first point of contact with a patient, the ED serves as the window to any health care service provided to the community. Numerous causes of ED prolonged waiting time and crowding had been identified (Derlet & Richards, 2010; Hoot & Aronsky, 2008). However, these studies were done in areas where there were integrated health care systems already established, unlike in Kenya, particularly patients attending Khunyangu hospital in Busia County where

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patients do not have an identifiable primary care provider. Additionally, research done internationally may not always be applicable to the practice in specific local community like Kenya; because of difference in the context, disease pattern and cultural background. Therefore, this study could help determine waiting time of patients who sought services at Khunyangu sub county hospital Emergency Department, Busia County of Kenya.

2. Methodology

2.1 Research Design

The study used descriptive cross-sectional study to measure the actual patient waiting time and identify some of the factors that contribute to the time patients spent in the ED in order to provide information on the quality of service delivery.

2.2 Study Location

The study was carried out in Khunyangu Sub-county Hospital located in Kingandole sub-location, Marachi Central location, Butula Sub-county of Busia County, Kenya. Butula is one of the 7 Sub-counties in Busia County including Nambale, Samia, Budalang'i, Matayos, Teso South and Teso North. Butula Sub-county covers an area of 247.10Km^2. It has a population of 121,870 with 25,953 households and population density of 493.24 (Kenya National Bureau of Statistics, 2009).

2.3 Population

The target population was composed of 150 patients and their caretakers coming to receive services in ED at Khunyangu Sub-county hospital.

2.4 Sampling Procedures

According to the registration staff, on average about 15 patients are registered to report per day. Since 5 research assistants were engaged and followed 2 patients per day. Therefore, the daily required sample size was 10 patients. For patients who was found seated by the time sampling began at 7:00am when the research assistants arrived, a count was made starting from the front moving backwards in their sitting format. For every 2nd patient, he/she was approached and asked to join the study. As soon as the patient's consented, he/she was asked what time they arrived, given a card containing their arrival time and serial number. For patients who found the research assistant in position, as they joined the queue, every 2nd arrival was approached consented and given a card with a serial number and time of arrival. The research assistants were armed with a chart and watched to record the times patients spent in each section of the ED until they exited. The department opened at 8:00am and closed at 5:00pm with peak hours between 8:00am to 3:00pm.

2.5 Instruments for Data Collection

There were three major data collection methods that were used in this study. The first tool was time and motion that measures time using a stopwatch and checklist for each section of service delivery. These tools were used to track patient flow from the time they enter, through various sections until the time they depart from the ED. The second tool was the structured interview schedule. This tool captured demographic variation among patient, their previous encounters with others health services and of quality services they received in the ED. The third tool was staff key informant. This tool was used to capture staff opinion on the reasons as to why patients experienced delays and any solutions or recommendation that could improve the quality of services delivered at the ED.

2.6 Validity and Reliability

Test- retest method of estimating reliability was used to determine the reliability. A quantitative analysis of the inquiry was performed using the SPSS computer program version 20.0 to statistically test the reliability of the research instrument. In the analysis, the sum variables were used, because the reliability is very high compared to a single variable (Bryman & Cramer, 2001). A correlation coefficient was worked out using Spearman's Product Moment Correlation. A correlation co-efficient of 0.91 showed a strong reliability of the research instrument.

2.7 Data Analysis

Data was analyzed with SPSS version 20.0. Chi – square (X^2) or Fisher's exact test was used to compare the categorical variables. All nominal variables were expressed as frequencies and all continuous variables were expressed as means, standard deviation, if normally distributed. Differences was considered to be statistically significant if the p value was<0.05

3. Results and Discussion

3.1 Socio Demographic Characteristics of the Patients

The age of the respondents was divided into five categories. Highest proportion (25.33%) of patients was age from 31 to 40 years; while the age group from 16 to 30 and 41 to 50 were 22.67 and 24 percent respectively and the patients aged 51 to 60 and above 60 years were 20 and 8 percent respectively.

Out of 150 participants surveyed, more than one half (58.67%) of them were females. Nearly two-third of the respondents were married (68%) while 22.67% were single and 9.33% widowed/separated. Most of the patient's education was vocational school (30%) followed by 24.67% with secondary education as highest level of education. Related to the occupation, the respondents were divided into unemployed, government employed, non-government employed agriculture, labor and students. The majority of respondents (44%) were unemployed followed by students (13.3%).

Concerning the monthly income of the patients, it was classified into four categories. Majority of the respondents (33.3%) were earning above kshs 10,000 followed by those earning below or equal to Kshs3,000 (30.7%).Family size

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was divided into two categories of less than four family members and four and more family members. The second group with more than four family members was more than half (68%) of the total respondents. The minimum number of one family was 1 while the maximum was 9 family members in a household.

3.2 Experience of Patients about Emergency Care Services

Experience to ED services means that patient ever visited this hospital and used its services before the study and therefore had firsthand experience to the services in terms of physical facilities, doctor services, nurse services, pharmacy service and registration service. Every question in experience section was studied against three different responses as agree, not sure and disagree.

The 150 respondents were interviewed at Khunyangu Sub-county hospital ED for evaluating their experience about ED services. Less than half of the patients (40%) said that ventilation inside the ED was good while another 42.7% said light inside the ED was not enough. So, the experience of the respondents concerning ventilation and light was not good. Furthermore, 68 percent of the respondents said that sitting chairs and toilets in waiting area of the ED were not adequate. When the patients were asked about the space in diagnosis room for patients, 65.3 percent said that there was no enough space in diagnostic room, for the cleanliness and tidiness of the waiting area 48% of the respondent cited that the waiting area was clean and tidy. On the basis of result, all the above-mentioned statements showed poor experience of patients from ED.

The components related to clinician's services consisted of six items. Out of 150 respondents the majority (53.3%) of the patients agreed that the clinician did the examination with respect and this statement had the highest percentage in this section. About the time spent by clinician during examination, 45.3 percent agreed that clinician spent enough time during examining them, 46.7 percent of the patients agreed that clinician listened carefully to what they said and understood their concern. According to few of patients (13.3%), the clinician gave them opportunity to discuss their treatment with them. 80 percent of the patients said that clinician asked about their illness in detail, and when the patients were asked about the number of clinician's in ED, 13.3 percent patient were agreed that there were enough clinician's in ED for the patients so the clinician service was poor.

About the nurse services, large number (52%) of respondents said that nurse listened to their problem and explained to them about the treatment they needed, 12 percent of patients agreed with the statement that ED had enough nurses. Maximum (44%) patient agreed that nurses were helpful to them, and 33.4% of respondents agreed that nurses showed good communication skills with patients. So, on the basis of results, it was clear that majority of patients had good experience about the nurse services.

The pharmacy service comprised of four items, more than half (60%) of respondents agreed that drugs were expensive in ED pharmacy section for them while 33.4 percent disagreed with this. On explanation of pharmacist on the use of medicine maximum, 93.3% of the respondents agreed that the pharmacist explained the use of medicine, clearly. In addition, 58.7% of respondents said that there were enough pharmacist in ED. Furthermore, 46.7 percent of the respondents agreed that pharmacist showed good communication skills with them. On the basis of the result about pharmacy service, it was clear that the patients had fair experience from all the items about pharmacy except about their experience on the expense of drugs from pharmacy waspoor. Few (32%) of patients said that there was enough registration staff in ED. On the other hand, 40% of the respondents agreed that registration staff was cooperative. When they were asked about communication skills 40% of the respondents agreed that registration staff had good communication skill.

3.3 Accessibility of Patients to ED Services at Khunyangu Hospital

During data analysis it was found that more than half (55.33 %) of respondents agreed that waiting time for getting treatment from doctor was appropriate for them so the accessibility for receiving card was poor. Replying to question of waiting time for getting the prescribed drugs from pharmacy about 61.78 percent patients declared that the waiting time for getting the prescribed drugs from pharmacy was appropriate for them so using the best criteria there was poor accessibility to the drugs from pharmacy section of ED. At the same time, 72.89% of the patients agreed that waiting time for getting outpatient appointment was appropriate for them so the accessibility for getting the outpatient appointment was good for patients.

Responding to the service process of the registration, more than half (61.33%) of respondents considered the service process of the registration fast, simple and trouble free for patients. When the patients were asked about the coordination between different sections of ED, about three quarter (70.67%) of respondents agreed there was good coordination between different sections of ED, so on the basis of result the coordination was good between different sections.

About availability of required medical staff during working hours of ED, more than two thirds of patients (77.33%) agreed that the required medical staff were available during working hours of ED, majority (76 %) of patient agreed that schedule of the working hours of ED was adequate for them. On the basis of above results, it was clear that the patients were having good experience except from diagnostic space, number of clinicians and expense of drugs.

3.4 Patient Satisfaction towards ED Services

On satisfaction, 82.67% of the respondents were satisfied from finding the ED and from the instruments in ED for providing health care facilities. On the appropriateness of arrangements for heating and cooling in waiting area, 52.67 percent of the respondents were dissatisfied while 20.66 percent of the respondents were unsatisfied with the arrangements for cooling and heating in the waiting area of

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the ED and the satisfaction was low for the heating and cooling arrangements in waiting area. About the clinician and nurses keeping you from worrying, more than one half (61.67%) of the patients were satisfied so the satisfaction about the clinician and nurses for keeping the patient from worrying was low according to best criterion scoring, two third (74.67%) of respondents agreed that the clinician and nurses explained to them what they would like to do before doing any process. In addition, about two third (72.67%) of respondents agreed that convenience of going from home to hospital was satisfactory and the satisfaction was high. Majority (79.33%) of the respondents were satisfied from explanation by doctor about their illness and treatment. On the amount and availability of medicine from pharmacy, about three quarter (72.67%) of the patients were satisfied that there was enough medicine available from pharmacy section of the ED for patients.

The place for receiving the drugs was satisfactory for 75.33 percent of the respondents and the patients were highly satisfied from the place for receiving the drugs. Regarding the availability of required medical staff during the working hours of ED, nearly two third (68.89%) of the patients were satisfied. The respondents were highly satisfied with the availability of the medical staff required during working hours. Regarding appropriateness of the waiting time for receiving the drugs, 68 percent of the respondents were satisfied; the patients were in overall satisfied from waiting time for receiving drugs. About convenience of going from one to other unit of ED about three quarters (72.67%) of the patient were satisfied and the respondents were satisfied with convenience of going from one to other unit of medicine.

4. Conclusion and Recommendations

4.1 Conclusion

Based on the findings of this study, the following conclusions were made:

Overcrowding and prolonged waiting time of hospitals Emergency Departments represented a crisis in ED service delivery. This was the situation for Khunyangu Sub County's hospital Emergency Department. Prolonged waiting time in Emergency Department had dramatic consequences on patient's health. Numerous adverse effects of crowding in ED are documented including patient dissatisfaction, patients leaving without being seen, and delay in treatment, adverse outcome, increased complaints and increased pressure on health care worker. Khunyangu's hospital ED was struggling with the problem of waiting time for stable patients which represent 80% of emergency department users. Registration process and triage were identified as areas of inefficient patient flow.

4.2 Recommendations

Based on the findings and conclusions of this study, the following recommendations were made:

There is need for Khunyangu Sub-county hospital to separate Casualty and OPD (Outpatient Department) as 79% of hospital ED users are non-urgent patients. Management at Khunyangu hospital are urged to make this happen in order to avoid unnecessary crowding of treatment area for those who really need urgent care. Reorganisation of registration was needed at the hospital. It was important to make sure that there are enough clerks at registration desk during peak hours when many of patient are in the ED. Update courses and workshops on triage should be regularly offered at Khunyangu sub-county hospital. A procedure room in the hospital Emergency Department was needed. Literature has documented that minor procedures such as intravenous cannulation and minor suturing can be performed by trained nurses (Rauf et al., 2008). There is need for adequate number of nurses and clinicians, especially, at peak hours in the Emergency Department. Regular follow up is needed for all measures implemented to ensure their effectiveness in reducing waiting time in ED, since waiting time in Emergency Department is dynamic.

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