



Research article

Rate and predictors of hospital readmissions in Niger Delta University Teaching Hospital Okoloibiri, Bayelsa State, Nigeria

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ABSTRACT

Background/Objective: This study determined factors, rates and predictors of hospital readmissions in Niger Delta University Teaching Hospital (NDUTH) Okolobiri, Bayelsa State. **Methods/Design:** A retrospective content review of health records of inpatients, who were readmitted within 30 days of discharge from 2010 to 2014. A checklist (health records review form) was used in the review of health records of readmitted patients. Simple percentage and tables were used in data analysis and presentation. **Result:** The study reveals that 82.5% of the patients were readmitted upon their primary diagnosis and that 78.8% received follow-up care post-discharge. Ninety percent of the patients readmitted and discharged had no ambulatory care services received. **Conclusion:** Most readmitted patients at the Niger Delta University Teaching Hospital are quite satisfied with their care as most of them though readmitted on the same primary diagnosis, were discharged as improved and possibly, happy patients. Nevertheless, the fact that they were readmitted upon their primary diagnosis may indicate poor management and/or it may be that patients were always eager to go home. Proper care/ services should be rendered to the patients during hospitalization and patients should be reoriented on the need to submit themselves for wholesome care.

Keywords: Diagnosis; Hospital discharge; Hospital readmissions; Inpatient admission; Home health service.

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INTRODUCTION

Hospital readmission represents a multifaceted problem that still needs to be better understood. Preventable readmissions to hospital are frequent, costly and demanding on healthcare resources¹. They also represent threats to patients' safety such as preventable adverse drug events, hospital acquired infections, procedural complications and avoidable exacerbations in disease states or functional declines¹. Reducing hospital readmissions is a national priority for payers, providers and policymakers seeking to achieve triple-aim objectives of improved health and enhanced care at lower cost¹. A large body of

evidence documents the numerous ways the transition out of the hospital and into the next setting of care can be inconsistent, unsafe, rushed, confusing and ineffective¹. These processes can and must be improved to make the healthcare system safe, effective and efficient. The process of reorganizing systems and services to effectively reduce readmissions is foundational to healthcare.

A better understanding of the causes and patterns of readmissions in patients with common comorbidities may lead to more targeted and successful interventions, and these strategies may differ by condition. In addition, few data are

available regarding to what extent the causes and patterns of imminent readmissions differ from the readmissions that are avoidable and thus actionable. The rising concerns about both the cost and quality of hospital readmissions have come under increasing scrutiny from both outside and within the government. Hospital readmissions may be a marker for poor quality care, are dissatisfying for patients and families and increase healthcare costs². It would be ideal to develop interventions that improve the hospital-to-home transition for all patients, given limited resources². These may include comprehensive discharge planning, post-discharge phone calls or home visits, and early clinic visits towards high risk patients². Such strategies however require that we have accurate methods to identify patients at highest risk preventability of readmissions, which may vary among patients with different comorbidities².

Hospital readmissions are a leading topic of healthcare policy and practice reform because they are common, costly and potentially avoidable events. Hospitals face the prospect of reduced or eliminated reimbursement for an increasing number of preventable readmissions under nationwide cost savings and quality improvement efforts³. To meet the current changes and future expectations, organizations are looking for potential strategies to reduce readmissions. Hospital readmission shortly after discharge is increasingly recognized as a marker of inpatient poor quality of care and a significant contributor to rising healthcare costs⁴. In US for instance, nearly one-fifth of Medicare beneficiaries discharged from acute care hospitals are readmitted within 30 days, incurring additional costs of several billion dollars annually². Although it remains unclear whether such readmissions are entirely preventable, there is good evidence that targeted interventions initiated before and/or shortly after discharge can decrease the likelihood

of readmission⁵⁻⁸. Identifying patients at risk of readmission can guide efficient resource utilization and permit valid comparisons of hospital quality across institutions.

In decades past, community-based physicians not only authorized a patient's admission to the hospital, they performed regular hospital rounds, supervised overall patient care and authorized the patient's discharge^{2,9}. Any hospitalization is known to increase risk of mortality in the year following discharge and other predictors of outcome after hospitalization are emerging, but the effect of early readmission on mortality remains unknown¹⁰. If early readmission is an independent risk factor for mortality, understanding the causes of this worsened prognosis has significant clinical relevance, and offers the potential for additional interventions that address both patient outcomes and healthcare costs¹¹. Some readmissions are planned, and others may be part of the natural course of treatment for specific conditions, but increasingly, some hospital readmissions are being thought of as avoidable and as 'indicators of poor care or missed opportunities to better coordinate care'¹².

Hospitalizations are costly, accounting for approximately 31 percent of total healthcare expenditures¹³. Early hospital readmissions are common and costly. Some early readmissions are due to factors such as patient frailty or progression of disease, but others are the result of poor quality care and are preventable¹⁴. This current study determined readmission rates and their predictors at NDUTH, Nigeria.

METHODS

Study setting

The study was carried out at the Niger Delta University Teaching Hospital (NDUTH), Okolobiri, formerly known as General Hospital,

Okolobiri established by the then Governor of old Rivers State, Alfred Papapreye Diете-Spiff under Gen Yakubu Gowon Military Rule in 1973. Okolobiri town is in Gbaran Clan in Yenagoa Local Government Area of Bayelsa State. It is situated in Bayelsa Central Senatorial District, Ward 8 of Constituency II. Okolobiri Latitude: 5.03451, Longitude: 6.31919 with a population of about 3000 people. Okolobiri people are merely Ijaw speaking people with migrants from other parts of the country. Christianity is their major religion and their source of livelihood is majorly fishing, farming, trading among others.

Okolobiri General Hospital existed for about 18 years before the creation of Bayelsa State by General Sani Abacha in 1996. In 2007, during the administration of Timipre Silva as the Governor of Bayelsa State, the then General Hospital, Okolobiri was upgraded to a 200-bed tertiary healthcare centre in order to meet the healthcare demands of the state. It was named Niger Delta University Teaching Hospital (NDUTH) and attached to the Niger Delta University Amassoma to operate at a tertiary healthcare level.

Study design

This is a retrospective review of health records of those patients, who were readmitted between 2010 and 2014.

Study population

Specifically, health records of all patients, who were readmitted within 30 days of discharge in the period under review.

Sampling techniques and sample size

All records of inpatients who were readmitted within 30 days were included in the study.

Data collection tool

A checklist (health records review form) designed by the investigators was used to obtain relevant information from the selected patients' health records.

Data analysis and management

Data analysis was conducted using SPSS version 20. Frequencies and percentages were used in data presentation.

Ethics

The ethical approval to conduct this study was obtained from the Health Research Ethics Committee of Niger Delta University Teaching Hospital, Okolobiri Bayelsa State. Necessary approvals and permissions especially from the leadership of Department of Health Information Management were obtained to use patients' health records to ensure confidentiality.

RESULTS

Our findings show that 53.8% of the readmitted patients were male and readmissions were higher between year 2012 and 2014 than other part of the period under review. Also, it was discovered that many patients (66, 82.5%) were readmitted twice. It was further revealed that just a few (8, 10.0%) patients accessed ambulatory care services after readmission. Among all diagnoses considered in this study, Heart Failure (7, 8.8%) was mostly responsible for hospital readmission, followed by Congestive Cardiac Failure (5, 6.3%) and distantly followed by Ca Cervix, Uterine Fibroid, Breast Cancer and Inguinoscrotal Hernia (3, 3.8% each).

DISCUSSION

This study measured the prevalence of hospital readmissions within 30 days of discharge and of those readmissions potentially avoidable and this

information about such re-hospitalization is vital in determining the appropriateness of resource utilization and in improving the quality of healthcare. From the study, it was observed that most initial diagnoses were associated with the readmission of patients in the hospital. It was confirmed that Heart Failure (HF) was mostly responsible for hospital readmissions. Other diagnoses include Cancer of the Cervix, Uterine Fibroid, Breast Cancer, Hypertensive Heart Disease, Inguinoscrotal Hernia, Alcoholic Liver Disease, Congestive Cardiac Failure among others. The study reveals that the majority of patients, who were readmitted were most often, admitted twice or thrice.

It was further revealed from the study that all readmitted patients were discharged properly from the hospital as improved and satisfied patients. Most patients were going for follow-up visit to the hospital after discharge, while others failed/lost to follow-up. It was also observed in the study that the causes of readmission in most instances are the same with the index diagnosis on discharge. The finding also reveals that only a few had complications. This is at variant with a report by Jacques *et al* where primary diagnoses usually led to complications¹⁶.

The study observes that male patients were more likely and prone to hospital readmission than their female counterparts. This is not in agreement with Gonzalez *et al* where it was reported that more females were prone to readmissions than their male counterparts¹⁷. Further observation from the finding shows that hospital readmission affect mostly the married than the singles and children. Finally, it was observed that patients were readmitted more in 2012 and 2014 than other years.

Study limitations

The study was strictly limited to patients readmitted within 30 days of discharges in Niger Delta University Teaching Hospital (NDUTH) Okolobiri Bayelsa State. One limitation of this study is that it is a single centre study in a tertiary healthcare institution. There is a need for further study.

Conclusion

Most readmitted patients at the Niger Delta University Teaching Hospital are quite satisfied with their care as most of them though readmitted on the same primary diagnosis, were discharged as improved and possibly, happy patients. Nevertheless, the fact that they were readmitted upon their primary diagnosis may indicate poor management and/or it may be that patients were always eager to go home.

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Authors Contribution:

DEL conceived of the study, initiated its design, participated in literature search, data collection, analysis and coordination and drafted the manuscript. AIT participated in the design, literature search, technical supervision, data analysis, coordination and reviewed the final manuscript. EE and AM participated in the design, data analysis and coordination and reviewed the final manuscript.

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