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Factors contributing to prolonged turnaround time among patients receiving health services at Henrob Hospital Zana, Wakiso District. A cross-sectional study.

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Abstract

Background

Variation in turnaround time has been evidenced in most healthcare facilities and becomes problematic if it exceeds thirty minutes. The purpose of this study was to determine the factors contributing to prolonged turnaround times among patients receiving health services at Henrob Hospital Zana in Wakiso District.

Methodology

The study design used was descriptive and cross-sectional. The study included both female and male patients receiving care at Henrob Hospital Zana. A sample size of 66 respondents was determined using the Krejcie and Morgan (1970) table. Participants were selected using a simple random sampling method. Data were obtained using a questionnaire, analyzed manually, and then automatically with the computer software Microsoft Excel 2013. The results were presented using tables, charts, and graphs.

Results

66 respondents participated in this study, 47.0% were above 30 years of age, and 15% were single. Among individual-related factors, only 12.2% of patients who reported early were attended to urgently. In terms of healthcare-related factors, 30.3% of the respondents were new patients, while 59.1% were referral cases from other health facilities. Additionally, long turnaround times were most commonly associated with day duty, during which 54.5% of patients experienced prolonged waiting.

Conclusion

A smaller number of health workers, the economic status of patients, and the high number of patients attending the Henrob hospital Zana were among the factors that contributed to the turnaround time in the reception of health services at the hospital.

Recommendation

The Ministry of Health and hospital administration should advocate for the deployment of more health workers, close supervision of health workers, and the supply of equipment such as computers to reduce the time spent attending to patients.

Keywords: *Prolonged Turnaround Time, Patients Receiving Health Services, Henrob Hospital Zana, Wakiso District.*
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Background of the study

Patient turnaround time is defined as the total time spent by a patient from registration until the last service point, including contact or service time with the healthcare facility's personnel (Thi and Nhung, 2019). Variation in turnaround time has been evidenced in most healthcare facilities and becomes problematic if it exceeds thirty minutes. The World Health Organization (WHO) identified patient turnaround time for healthcare services as one of the key measurements of a responsive health system (Enabulele et al, 2018).

Globally, approximately 15% of patients in health care facilities experience long waiting hours. The ratio of patients to staff is enormous, and this factor contributes to long turnaround times in some hospitals and thus a lack of quality of care received by the patient (Umar, Oche & Umar, 2015). Worldwide, patients who visit public health-care facilities usually wait very long to be attended by physicians and other health professionals, such as

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radiologists and professional nurses, among others. The Institute of Medicine in the USA recommended that patients should be attended to within 30 minutes of their arrival at the facility or their appointment (Conrad, 2016). According to the UNAIDS (2018) Report, on average, the turnaround time spent is four hours or more at the clinic, with the longest wait being 12 hours internationally.

In Africa**,** it has been observed that patients complain of a long turnaround time before service delivery, even if they are very ill and need urgent hospitalization. The achievement of reducing turnaround time can be done through the Cape triage system, both in the private and public hospitals. (Swart and Therese, 2015).

In Sub-Saharan Africa, reports indicate that in the public health sector, patients experience dissatisfaction with the health care service delivery because of long turnaround times and queues. In East Africa, Masuthu (2017) stated that the subsequent long turnaround time is prevalent in countries such as Uganda, Kenya, Tanzania, among others, due to insufficient equipment, long registration procedures, and insufficient human resources.

In Uganda, MOH recommends that at least 90% of patients should be seen within 30 minutes of their scheduled appointment time by qualified health care professionals in terms of health care service delivery (Mugisa et al., 2024). A recent study carried out at the radiology departments in Mulago hospital found that the overall satisfaction of patients with radiology services is closely related to their satisfaction with turnaround time (Nabbuye-Sekandi et al., 2015).

At Henrob Hospital Zana, over 50% of the patients who come for health care usually complain of delays in receiving health services. Many of them suggest that they would rather resort to other private health care (Voice of Wakiso, 2023). The purpose of this study was to determine the factors contributing to prolonged turnaround times among patients receiving health services at Henrob Hospital Zana in Wakiso District.

Methodology

Study Design and Rationale

A cross-sectional study design was used because it was suitable and appropriate due to its safeguards against bias and ability to maximize the reliability and concern for economic completion of the research study.

Study Setting and Rationale

This study was conducted at Henrob Hospital Zana, a private for-profit entity. It is located in Zana town, a 200m off Entebbe Road in Wakiso district in the Central region of Uganda, with a total bed capacity of 32 beds. The facility has both inpatient and outpatient departments, an active operating theatre, a high dependency unit, and more specialized services for gynecological conditions. The hospital serves people of different tribes like Baganda, Bagisu, Batoro, Basoga, and Banyoro who are involved in different economic activities like welding, hotels, markets, and shops. Henrob Hospital provided a strategic setting for studying the factors contributing to prolonged turnaround time among patients receiving healthcare services.

Study population

The study was conducted among patients from the outpatient department at Henrob Hospital Zana who were willing to be part of the study and present at the time of data collection.

Sample size determination

Krejcie and Morgan's table (1970) was used to determine sample size. According to the Krejcie and Morgan table, the sample size was determined from the target population as indicated above. The population (N) is the target population, which was obtained by considering the number of patients receiving health care services at the Henrob Hospital Zana OPD Department, which is about 80 every month (Henrob Hospital records, 2023).

According to the Krejcie and Morgan table, when the target population is 80, the sample size is 66. Therefore, 66 participants were considered the sample size for the research study. (See Appendix III)

Sampling procedure

Simple random sampling was used to select the participants. All patients who were present and willing to participate in the study were received at the waiting area at the OPD. Papers with the word participate on them and those that did not participate were folded and placed in a transparent bucket as participants were watching. Each participant was requested to randomly choose one paper from the bucket. Those who chose a paper with the word participate were considered for the study, while participants who chose a paper with a word that did not include " participate were given the chance to reselect until the required number for the study was achieved. Those who failed at the third attempt were promised to participate in the next study when offered. The final sampled participants consented to the study. Only 10 participants were targeted for consent each day of data collection (that is, every Tuesday and Thursday) for 3 weeks. The extra consented participants were also considered for the study.

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Inclusion and Exclusion Criteria

Inclusion criteria

All patients aged 18 years and above waiting to receive health services at the outpatient department were willing to take part.

Exclusion criteria

Patients who needed urgent treatment were excluded from the study.

Definition of Variables

Dependent variable

The dependent variable was turnaround time among patients receiving care at Henrob Hospital Zana.

Independent variable

The independent variables were factors contributing to prolonged turnaround time among patients, and they included;
Individual factors, such as income status, age, and attitude towards triage.
Health facility factors like staff levels, number of patients, and protocols of giving care.

Research instruments

Administered questionnaires, which were composed of closed-ended questions designed in simple English that were translated for participants who could not understand English, were used.

Data collection procedure

Data was collected using a questionnaire that was written in English with closed-ended questions that were used to get information from the respondents.
Field pretesting of the questionnaire was done at Life Line International, Zana, among 10 patients, purposely to determine the suitability of the question, relevance, validity, reliability, and completeness. Some questions were paraphrased, corrected, or made clear after this exercise. The researcher used a pre-tested questionnaire to collect data. The researcher presented an introductory letter from the Principal of Mildmay Nursing and Midwifery School to the Hospital director of Henrob hospital, Zana, to seek permission to carry out research. The researcher then introduced himself, the topic, and explained the purpose of the study to the respondents to seek their consent. Those who consented to the researcher asked questions to the participants and filled in responses in the questionnaires. Data was collected on every Tuesday and Thursday for 3 weeks.

Data Management and Analysis

Data management

After the study, the data collected was checked for correctness, relevance, and numbering. Data was then stored in the lockable cupboard by not allowing other people to look into the already filled questionnaires. While in the field, records of the filled tools were stored in a box that was securely sealed and waterproofed before data analysis was done.

Data analysis

Coding was done every time after the field. Responses were categorized to facilitate the construction of a coding frame. Each response was entered by use of the tally marks. The process of double entry was used to minimize errors. Data was analyzed manually, then automatically using a computer with Microsoft Excel 2013. Then presented in representative tables, bar graphs, and pie charts, narrated in the form of frequencies and percentages for easy interpretation.

Quality assurance

Validity and reliability

The researcher set questions about the objectives, and before using the tool for data collection, it was approved by the supervisor to ensure the validity of the questions that were able to solve the research problem. The researcher pretested the research questionnaire in Life Line International Hospital, Zana, on a few respondents of the same characteristics. This pre-testing helped to make necessary corrections before actual data collection, ensuring the effectiveness of the research instrument and providing the researcher with ample time to correct or refine it.

Ethical consideration

Privacy and confidentiality were ensured by interviewing each respondent individually. No names of clients were written against their responses. All respondents were assured that participation in the study did not directly or indirectly expose them to any risk.

Results

Demographic characteristics of respondents

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Table 1 showing the demographic characteristics of the respondents

Category	Variable	Frequency (n=66)	Percentage (%)
Age of the respondents	15-20 years	10	15.1
	21-26 years	10	15.1
	27-30 years	15	22.8
	Above 30 years	31	47.0
	Total	**66**	**100**
Marital status	Single	10	15
	Married	10	15
	Divorced	40	61
	Widowed	06	9
	Total	**66**	**100**
Occupation	Student	15	22.7
	Civil servant	33	50.0
	Self employed	15	22.7
	Peasant	3	4.6
	Total	**66**	**100**

Table 1 shows slightly less than half 31/66(47.0%) of the respondents were above 30 years, while 15/66(22.8%) of the respondents were 27-30years, 10/66(15.1%) of the respondents were 21-26 years, and 10/66 (15.1%) were 15-20 years respectively. The majority, 40/66 (61%) of the respondents were divorced, 10/66 (15%) were married and single, while 6/66 (9%) were widowed. Half of the respondents, 33/66 (50%), were civil servants, 15/66 (22.7%) of the respondents were self-employed while 15/66 (22.7%) were self-employed, and 3/66 (4.6%) of the respondents were peasants.

Individual factors contributing to prolonged turnaround time among the patients.

Figure 1: Showing attendance of training on obligations towards receiving health care service, n=66

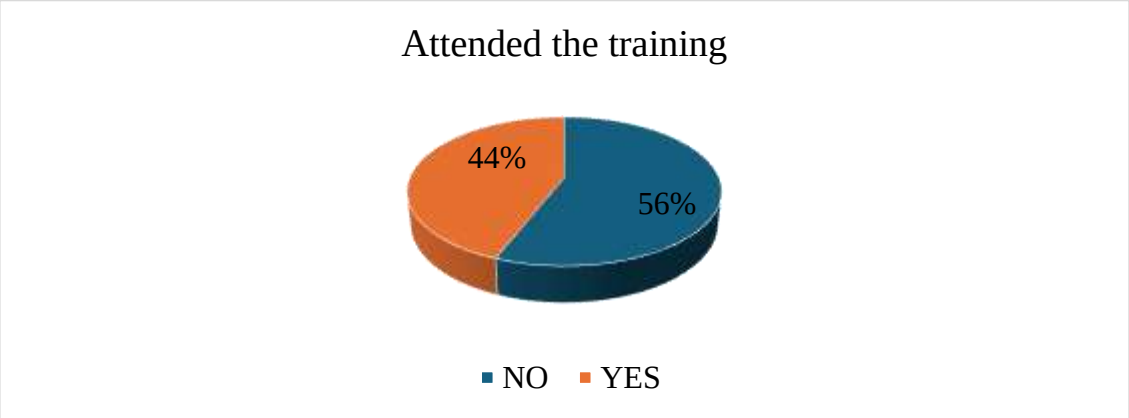

Figure 1 shows that more than half of the patients 37/66(56%), reported that they had not attended training on individual responsibilities towards receiving health care services, while less than half 29/66(44%), had attended training.

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Table 2 Showing other individual factors contributing to prolonged turnaround time.

Category	Variable	Freq (n=66)	Percentage (%)
Individual attitude towards the hospital triaging system.	Very sick patients are served first.	24	36.4
	vulnerable, e.g., children served first	12	18.1
	Patients from distant places served first	10	15.2
	Do not accept being served last	20	30.3
	Total	**66**	**100**
Patient categories that are usually attended to urgently	Economically well patients	40	60.6
	High social class patients	15	22.7
	Patients were attended to with no consideration	3	4.5
	Early reporting of patients	8	12.2
	Total	**66**	**100**
Relationship of patients' insurance and turnaround time	Insurance delays in the reception of service	12	18.2%
	Insurance quickens the reception of services	10	15.2%
	Insurance is not related to turnaround time.	44	66.6%
	Total	**66**	**100**

Table 2 shows that 20/66(36.4%) of the respondents reported allowing very sick patients to be served first, 20/66(30.3%) did not accept to be served after other people while 12(18.1%) allowed vulnerable patients like children to be served first and 10/66(15.2%) of the respondents reported they would accept patients from distance places to be served first.

The majority 44/66(66.6%) of the respondents reported that insurance is not related to turnaround time, while 12/66(18.2%) reported that insurance delays reception of services, and 10/66(15.2%) reported that insurance quickens the reception of health services.

Findings also revealed that majority 40/66(60.6%) of the respondents reported that the economically well patients were attended to urgently while 15/66(22.7%) reported the high social class patients were attend to first followed by 8/66(12.2%) who reported being attended to with no consideration while an insignificant number 3/66(4.5%) reported that the early reporting patients were attended to urgently.

Text 1: Shows how urgently respondents are attended to.

Most of the respondents, 41/66(62.2%), reported that they were attended to urgently whenever they came individually, while 25/66(37.8%) reported being attended to urgently when they attended as a family.

Figure 2: Showing the time respondents always received timely health services when they visited the hospital, n=66

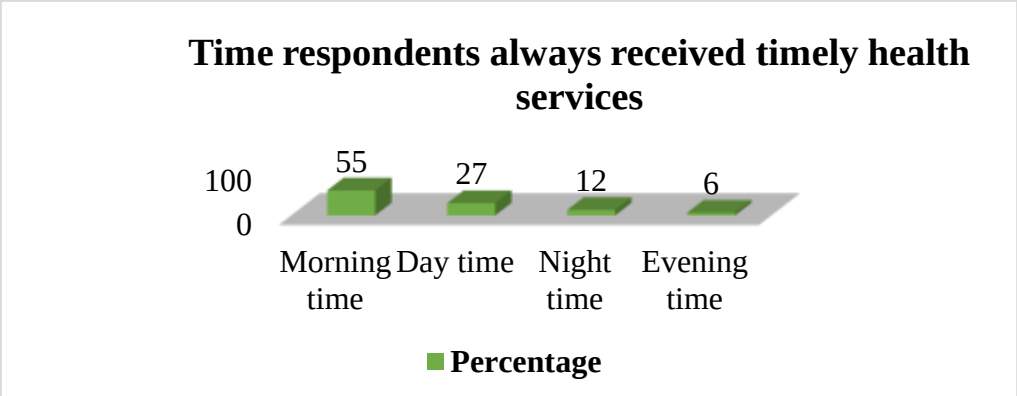

Figure 2 shows that more than of the respondents 40/66(55%) reported that attending in the morning was convenient, 18/66(27%) reported attending during the day while 8/66(12%) reported attending at night, and 4/66 (6.1%) reported attending evening as convenient for timely services.

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Health facility factors contributing to long turnaround time intervals among patients receiving services.

Figure 1 Shows the type of patient categories who wait for a long time to receive health services.

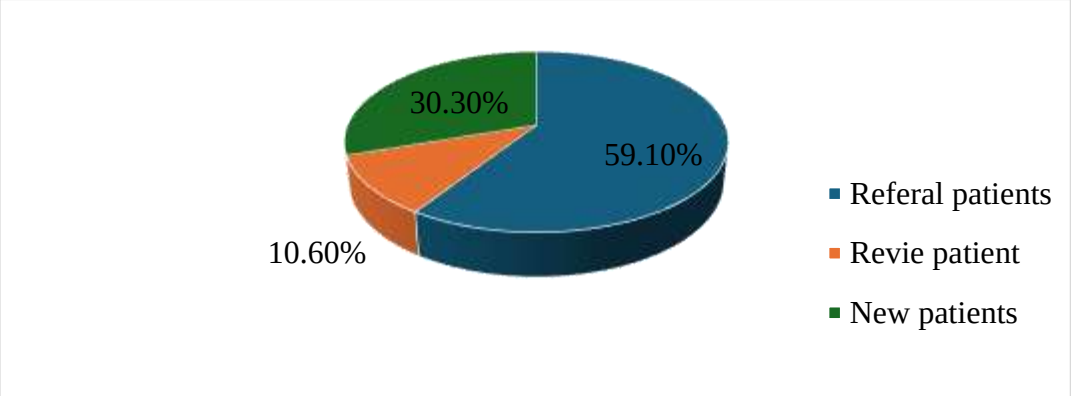

Figure 3 above shows that more than half of the respondents 39/66(59.10%), reported waiting for long before being attended to were referral in patients, 20/66(30.30%) were new patients, and 7/66(10.60%) of the patients who waited for long were for review.

Table 3 Showing the cause of turnaround time n=66

Category	Variable	Freq (n=66)	Percentage (%)
The facility system is causing long turnaround times intervals	Registration process Staff level Prescription criteria Treatment protocols	06 38 10 12	9.0 57.6 15.2 18.2
Satisfaction with healthcare workers' professionalism	Not concerned Satisfied Not satisfied	39 21 06	59.1 31.8 9.1
Showing many patients attending healthcare services is associated with a long turnaround time	Yes No Not sure	36 22 08	54.5% 33.3% 12.2%

Table 3 shows that more than half 38/66(57.6%) of the respondents reported that staff level was the cause of long waiting hours followed by 12/66(18.2%) reported treatment protocols while 10/66(15.2%) reported prescriptions criteria and 6/66(9.0%) reported registration process as the cause of long waiting hours. More than half 39/66(59.1%) of the respondents reported that they were not concerned with the health care workers' professionalism, while 21/66(31.8%) were satisfied, and 6(9.1%) respondents were not satisfied with the health care workers' professionalism. Slightly more than half 36/66(54.5%), reported that there was an association of many patients with long turnaround time, while 22/66(33.3%) reported that there was no association, and 8/66(12.2%) of the respondents were not sure if many patients were associated with long turnaround time.

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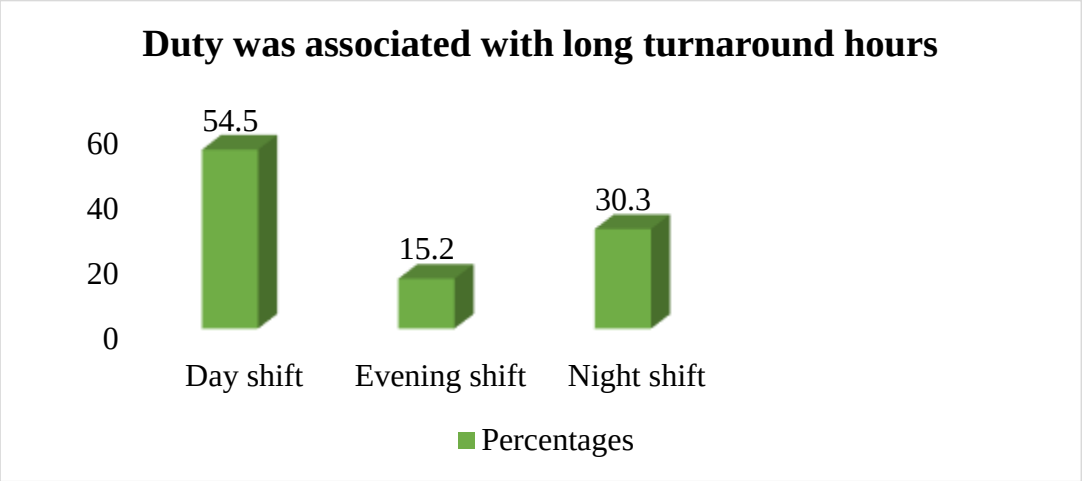
Figure 2 showing the duty associated with turnaround time, n=66



Source: Primary data.

Figure 4 shows that slightly more than a half 36/66(54.5%) of the respondents reported that day shift was associated with long turnaround hours while a significant number 20/66(30.3%) of the respondents reported that night shift was associated with long turnaround hours and 10/66(15.2%) reported that evening shift was associated with long turnaround hours.

Discussion

Social demographic characteristics of respondents

Nearly half (47.0%) of the respondents were above 30 years. This may be because older individuals are more likely to seek health services due to increased health needs associated with aging. This implies that the hospital serves a relatively mature population that may require more specialized or frequent medical attention.

Regarding marital status, the majority (60%) of the respondents were divorced. This might be because divorced individuals may have fewer family support systems, prompting them to seek medical care more frequently or independently. This implies that social factors such as marital status could influence healthcare-seeking behavior and patient flow at the facility.

Concerning occupations, half of the respondents (50%) were civil servants. This could be because civil servants have more structured access to healthcare services through public health schemes and are likely to utilize nearby health facilities such as Henrob Hospital. This implies that occupation status may influence both the timing and frequency of health service utilization, which can affect patient load and turnaround time.

Individual-related factors contribute to prolonged turnaround time among patients receiving services.

According to the study findings, it was revealed that a significant number, 30.3% of the respondents, reported that they did not accept being served after other patients. This implies that the respondents have a negative attitude towards the triage system, and this could cause a lot of competition at the facility for care, resulting in delay of treatment to emergency and urgent patients, hence leading to death that would have been controlled. This is about Nguyen et al (2018), who revealed that old age patients significantly faced a longer total turnaround time, as most of them undergo numerous tests for better diagnosis, which contributes to their long stay at the hospital.

Additionally, the study also revealed that 60.6% of the respondents reported that the very rich were attended to urgently. This implies that the level of income of the patients has an important role in prolonging the turnaround time at the facility. This is in line with Bahadori et al (2017), who revealed that most of the respondents who attended public facilities with minimal costs of health services tend to be served quickly if they can pay.

Furthermore, the study also revealed that 55% of the respondents who turn around for long hours reported that morning time was convenient for timely service. This indicated that health workers delayed working on patients who reported on other shifts other than the day shift. This is in contrast with Tran et al (2017) and Biya et al (2022), who also revealed that patients who arrived early in the morning were 3.22 times more likely to spend longer turnaround time than those who arrived in the afternoon.

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Additionally, it was revealed from the findings at Henrob hospital Zana that the majority of the patients, 66.6% for whom insurance was not related to turnaround hours at the hospital, compared to their counterparts who never had insurance. This was because the hospital does not prioritize insurance in its healthcare delivery. This is in line with the findings in Iran by Tran et al (2017), who revealed that longer turnaround time was recorded in patients having health insurance.

Health facility factors associated with long turnaround time among patients receiving health services.

The study indicated that more than half of the respondents, 59.1% who had long turnaround hours were referral patients. This could be attributed to the need for specialized review before treatment is availed; there is no readily available specialized care in most facilities. These findings were not in agreement with a study by Omar et al (2022) that revealed that the most frequently stated causes by the health facility staff for overcrowding at the health facilities were the "huge number of patients received from the community," resulting in treatment delays.

Furthermore, the study findings also revealed that day duty was associated with long turnaround hours, as slightly more than half, 54.5% of the respondents who attended the hospital during morning time turnaround for long hours before being attended to. This could be linked to a higher number of patients in the day shift than in other duty shifts. This is in line with Goodman et al (2017), who revealed that 22% of women who were evaluated within 10 minutes of arrival had come at night. This implies the patient ratio is greatly associated with the long turnaround hours.

Additionally, more than half, 57.6% of the respondents reported that a smaller number of staff at the Henrob hospital Zana significantly contributed to the long turnaround time among patients. This is in line with Aburayya et al (2020) and Mousavi et al (2017), who revealed that the major cause of patient delays at the hospital is the proportionate number of patients to health workers. This implies that the time taken to do the registration, consultation, and dispensing the treatment to patients will be increased as the people supposed to do those works is very few.

Conclusion

In this study, the researcher has basically come up with major factors associated with long turnaround time among patients receiving services at Henrob Hospital Zana at the OPD Department.

Individual-related factors contributing to prolonged turnaround time found included a low level of income status, seeking care in the morning shift, and a low attitude to comply with the triage system of the hospital.

Health care-related factors associated with long turnaround time intervals among patients included a smaller number of health workers to attend to the very many patients, a lack of immediate specialists to attend to referral patients, and the time spent attending to health care.

Limitations

The study did not include the perspectives of health workers or administrators, which could have provided a more comprehensive understanding of the causes of prolonged turnaround time.

Recommendation

The Ministry of Health and the district health officer should make efforts to increase the number of health workers to improve patient care and reduce the long turnaround times observed at the facility.

The hospital administration should put in an effort to supervise health workers to ensure that they report for duty so that patients' long turnaround time for healthcare is shortened.

Health workers should sensitize patients on the benefits of timely seeking care and the benefits of triage to minimize patient tensions.

Acknowledgement

I would like to acknowledge Almighty God for the gift of life, health, journey mercies, knowledge, and the protection He granted to me during this period of my studies.

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I also acknowledge the Administration and staff of Henrob Hospital Zana, Wakiso district, for allowing me to conduct research at the health facility.

May the Almighty reward you abundantly.

List of Abbreviations

C.O.U: Church of Uganda
CT: Computed Tomography
FOM: Faculty of Medicine
KNH: Kenya National Hospital
M.O.H: Ministry of Health

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NHIF: National Hospital Insurance Fund
USA: United States of America
NSIN: National student identification number
UHPAB: Uganda Health Professions Assessment Board
OPD: Outpatient department.

Source of funding
The study was not funded.

Conflict of interest
The author declares no conflict of interest.

Author contributions
Dismas Nowamani was the principal investigator.
Hasifa Nansereko supervised the research project.
Jane Frank Nalubega, Edith Akankwasa, Elizabeth Okello, and David Kavuma, manuscript writing; Immaculate Naggulu Posperia cleaned the data and analysis.

Data availability
Data is available upon request.

Informed consent
All the participants consented to this study.

Author biography
Dismas Nowamani holds a Diploma in Nursing Extension from Mildmay Uganda School of Nursing and Midwifery.
Hasifa Nansereko, Jane Frank Nalubega, Immaculate Naggulu Posperia, Edith Akankwasa, Elizabeth Okello, and David Kavuma are tutors at Mildmay Uganda School of Nursing and Midwifery.

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