

HEALTH SYSTEM FACTORS ASSOCIATED WITH THE OCCURRENCE OF PEPTIC ULCER DISEASE AMONG ADULTS ATTENDING THE OPD IN MUKONO GENERAL HOSPITAL. A CROSS-SECTIONAL STUDY.

¹Eldreen Bamusubire, ¹Jimmy Okwany*, ¹Francis Ssemuwemba, ¹Dr. Jane Frank Nalubega
¹Mildmay Institute Of Health Sciences

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ABSTRACT

Background

Peptic ulcer disease (PUD) is a significant public health issue, particularly in developing countries like Uganda. The study aims to assess the health system factors associated with the occurrence of PUD among adults attending the OPD in Mukono General Hospital.

Methodology

This study used a cross-sectional design to identify the socio-demographic and individual behavioral factors associated with its occurrence among adults attending OPD in Mukono general. The study was conducted at Mukono General Hospital, which is located in Mukono district in the central region of Uganda on the Kampala – Jinjaroad. The collected data was analyzed using statistical software such as Microsoft Excel.

Results

The majority of 52(52%) participants reported having faced some challenges in accessing medication at the hospital whereas the remaining 30(30%) of the respondents were able to rate the accessibility of healthcare services at Mukono General Hospital as Good, 54(54%) participants responded that they heard the majority of the respondents 35 (35%) claimed poor accessibility to the hospital, majority 40 (40%) of the respondents were dissatisfied,

Conclusion

The health system factors such as poor quality of health care, and accessibility of health care all had a positive correlation with the occurrence of PUD and these were spearheaded by alcohol consumption and the rate of accessibility of health care services respectively.

Recommendations

The Ministry of Health should Allocate funds for research into the causes, risk factors, and treatment options for PUD to improve understanding and treatment.

Keywords: Health system factors, Occurrence of PUD among adults, Mukono General Hospital

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Corresponding author: Jimmy Okwany *

Email: jimmy.okwany@mihs.ac.ug

Mildmay Institute Of Health Sciences

BACKGROUND

Peptic ulcer disease (PUD) is a significant public health issue, particularly in developing countries like Uganda. The occurrence of PUD varies regionally, with Sub-Saharan Africa reportedly having a prevalence of (24-28%), (Abacha & Abah, 2018). Previous research has identified various factors associated with PUD occurrence, including Helicobacter pylori infection, nonsteroidal anti-inflammatory drug use, lifestyle factors like alcohol consumption and smoking, and genetic predisposition (Mwebe et al., 2017). In Africa, the prevalence of PUD is reported to be relatively high, with a prevalence rate ranging from 4-15%. Uganda is one of the countries in Sub-Saharan Africa that has reported an increasing number of PUD cases in the past decade (Nakiboneka et al., 2020).

In Uganda in 2014, the estimated prevalence of peptic ulcer disease (PUD) was found to be around 7.7% (Bwogi et al., 2014). In 2019 patients attending a tertiary hospital in Kampala, the capital city of Uganda, reported a prevalence of 7.1% (Kiggunduet al., 2019) Mukonodistrict is one of the regions in Uganda with a burden of PUD. Access to healthcare is an important health system factor that has been linked to the occurrence of PUD among Ugandan adults. Patients who lived further away from healthcare facilities had a higher risk of PUD compared to those who lived closer suggesting that poor access to healthcare could delay the diagnosis and treatment of PUD, leading to more severe cases (Kagimu et al., 2017). In Iran, poor access to healthcare facilities was associated with a higher risk of PUD (Bahmani et al., 2017). The study aims to assess the health system factors

associated with the occurrence of PUD among adults attending the OPD in Mukono General Hospital.

METHODOLOGY

Study Design and Rationale

This study used a cross-sectional design to identify the socio-demographic, individual behavioral factors, and health system factors associated with its occurrence among adults attending OPD in Mukono General Hospital, Uganda. The cross-sectional design allows for the collection of data at a single point in time, making it suitable for assessing the prevalence of PUD and identifying associated factors.

Study Area

The study was conducted at Mukono General Hospital, which is located in Mukono district in the central region of Uganda on the Kampala – Jinja road. The hospital offers a wide range of medical services, including outpatient care.

Study Population

The study population consisted of adults aged 18 years and above who attend the OPD of Mukono General Hospital for medical care. The participants were both male and female and drawn from different socio-economic backgrounds.

Sample Size Determination

The sample size of the study was determined using the Fisher's formula, 1998

$$n = \frac{KPQ}{L * L}$$

Where;

n= the desired sample size

L=Permissible error in the estimate which is 10% (0.1)

K=4 which is a constant

P= 50% which equals to 0.5 (Estimated percentage of Adults attending OPD since the

The actual prevalence rate at the moment is not known)

$$n = \frac{4(0.5)(0.5)}{(0.1 * 0.1)}$$

$$n = 100$$

Therefore the sample size for the study was 100 people.

Sampling Technique

The study used systematic random sampling to select the participants. The sampling frame was generated by listing all the adults attending the outpatient department during the study period. The sampling interval was determined by dividing the sampling frame by the desired sample size. The first participant was selected randomly, and subsequent participants were selected systematically by selecting every nth person on the list.

Sampling Procedure

The study used systematic random sampling to select the participants. The study population was defined as all adults aged 18 years and above attending the outpatient department of Mukono General Hospital during the study period. The sampling frame was generated by obtaining a list of all the eligible adults who visited the hospital for outpatient care. A sampling interval of 5 was used to select every fifth adult from the list. The first participant was selected randomly using a random number generator. Subsequent participants were selected systematically by selecting every fifth adult from the list until the desired sample size was reached.

Data Collection Method

Data was collected through face-to-face interviews using a structured questionnaire. The questionnaire was administered by trained research assistants, who explained the purpose of the study to the participants and obtain their consent before conducting the interviews.

Data Collection Tools

The data collection tool was a structured questionnaire consisting of closed-ended questions. The questionnaire was developed based on the study objectives and included questions on demographic characteristics, lifestyle factors, behavioral factors, and the presence of PUD. This was used to acquire quantitative information.

Data Collection Procedure

The data collection procedure involved the following steps:

- Recruit and train research assistants
- Obtain ethical clearance from the relevant authorities as the medical director of Mukono General Hospital with an introductory letter from the Mild Institute of Health Sciences by the researcher. The Director will later introduce the researcher to the in charge of OPD and other medical personnel present
- Approve the data collection tools
- Conduct a pilot study to test the tools and refine the questionnaire
- Obtain informed consent from the participants
- Administer the questionnaire to the participants
- Collect the completed questionnaires

Study Variables

Dependent variable

Occurrence of PUD

Independent variables

Demographic characteristics (age, sex, education, occupation), lifestyle factors (smoking, alcohol consumption, diet), and behavioral factors (stress, use of nonsteroidal anti-inflammatory drugs)

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Quality Control

To ensure the quality of data, the research assistants had to undergo training on research ethics, data collection techniques, and the study objectives. A pilot study was conducted to test the questionnaire, and feedback was used to refine the instrument. The questionnaires were reviewed for completeness and consistency, and any missing or inconsistent data were clarified with the participants.

Data Analysis and Presentation

The collected data was analyzed using statistical software such as Microsoft Excel. Descriptive statistics such as frequencies and percentages were used to summarize the data. The results of the study were presented in tables and graphs. The tables provide a summary of the study variables, including the frequencies and percentages of each variable. The graphs are used to visually represent the relationship between the study variables and the occurrence of PUD. A narrative report was prepared to summarize the findings and discuss the implications of the study. The study findings were disseminated to relevant stakeholders through publications. The results of the study were also shared with the management of Mukono General Hospital to inform the development of preventive measures and interventions aimed at reducing the occurrence of PUD among adults attending the OPD.

RESULTS

Socio-demographic factors associated with the occurrence of peptic Ulcer disease

Table 1: Showing socio-demographic factors(n=100)

Variable	Parameter	Frequency (N)	Percentage (%)
Age category in years	15-24	18	18
	25-34	28	28
	35 and above	54	54
Level of education	Informal	10	10
	Primary	15	15
	Secondary	50	50
	Tertiary	25	25
Occupation	Student	18	18
	Employed	80	80
	Unemployed	2	2
	Retired	00	00
Monthly Income	Shs(100,000-200,000)	50	50
	Shs(200,000-500,000)	27	27
	Shs(500,000- 1,000,000)	3	3
	Others	20	20
Marital status	Single	41	41
	Married	56	56
	Divorced	00	00
	Widowed	3	3
Gender	Male	45	45
	Female	55	55
Resident of Mukono	Yes	100	100
	No	0	0
Distance from residence to Mukono General Hospital	Less than 5 kilometers	78	78
	5- 10 kilometers	22	22
	More than 10 kilometers	0	0
The primary mode of transportation to the hospital	Personal vehicle	4	4
	Public Transport	59	59
	Walking/biking	37	37

Table 1, Out of the 100 participants, 18(18%) were aged between 15 and 24 years and 54(54%) were aged 35 years and above. 25(25%) were at tertiary level of education, 50(50%) were at secondary level of education and 10(10%) were having an informal education level. 18(18%) were students, the employed participants were 80 (80%), unemployed were 2(2%) and there was no retired participant(0%), 50(50%) of the participants earned between (100,000-200,000) shillings, 27(27%) earned between (200,000-500,000) shillings whereas 20(20%) were not earning close to the selected wage brackets, 41(41%) of the participants were single,

56(56%) of the participants were married, From the study 55(55%) were Female participants whereas the remaining 45(45%) were Male participants. Also from the study, all the respondents (100%) were residents of Mukono district, 78(78%) of the respondents reported that they were staying within 5 kilometers from their homesteads to the hospital and no respondent was living more than 10 kilometers away from the hospital. The majority of the respondents that is 59(59%) used public transport as the primary mode of transport to the hospital and the minority of the respondents 4(4%) used their vehicles to reach the hospital.

Figure 1: showing the Education level of participants

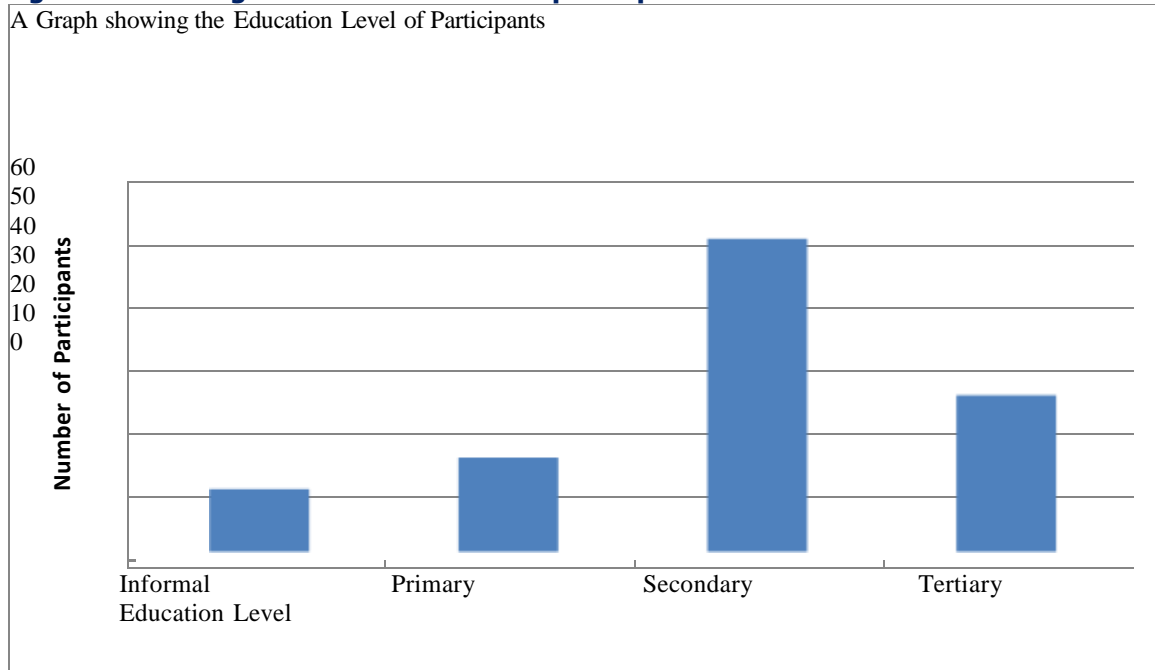


Figure 1 depicts the education level of the study participants, with the great majority 50 (50%) having completed at least secondary school and only a minority share of 10 (10%) having completed no formal schooling.

Health system factors associated with the occurrence of peptic ulcer disease

Table 2: Health system Factors (N=100)

Variable	Parameter	Frequency	Percentage (%)
How would you rate the accessibility of healthcare services at Mukono General Hospital?	Excellent	20	20
	Good	30	30
	Fair	15	15
	Poor	35	35
Have you ever experienced any delays in getting medical attention at the hospital?	Yes	54	54
	No	46	46
Are you satisfied with the quality of care provided at the hospital?	Very satisfied	29	29
	Satisfied	09	09
	Dissatisfied	40	40
	Neutral	16	16
	Very dissatisfied	06	06
Have you faced any challenges in accessing medication at Mukono General Hospital?	Yes	52	52
	No	48	48

Table 2, 20(20%) respondents excellently rated the accessibility of healthcare services at Mukono General Hospital, 30(30%) of the respondents were able to rate the accessibility of healthcare services at Mukono

General Hospital as Good and 15(15%) respondents rated healthcare services accessibility as fair, 54(54%) participants responded that they had experienced some delays in getting medical attention at the hospital while

the remaining 46(46%) reported that they haven't experienced any delays in getting medical attention at the hospital. 29 (29%) participants were very satisfied with the quality of care provided at the hospital, 9(9%) participants were just satisfied with the quality of care provided at the hospital, 40(40%) participants were

not satisfied with the quality of care provided at the hospital, 16(16%) participants were neutral about the questions, 52(52%) participants reported to have faced some challenges in accessing medication at hospital whereas the remaining 48(48%) participants didn't report any challenges in accessing medication at the hospital.

Figure 2: Accessibility rates of health services at Mukono General Hospital

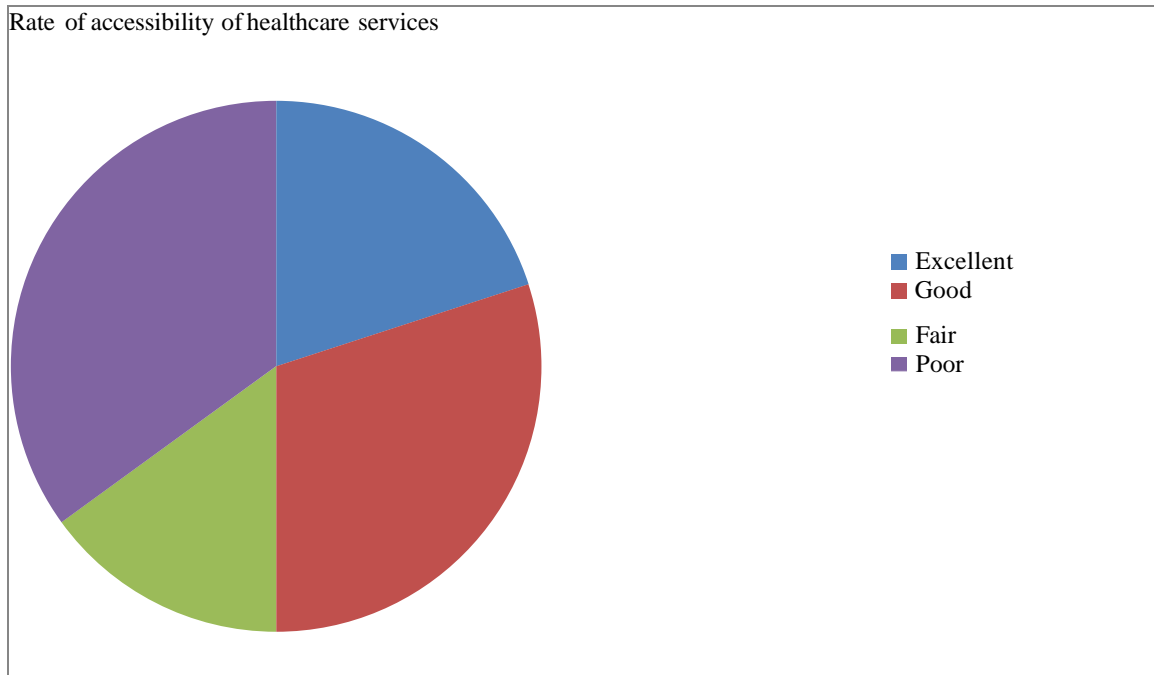


Figure 2 shows the different ratings for the accessibility of healthcare services and the majority of the respondents, 35 (35%) claimed poor accessibility to the hospital, followed by good accessibility 30 (30%), followed by excellent accessibility 20 (20%), and lastly fair accessibility 15 (15%)

Figure 3: Respondent's satisfaction with the quality of healthcare at the hospital

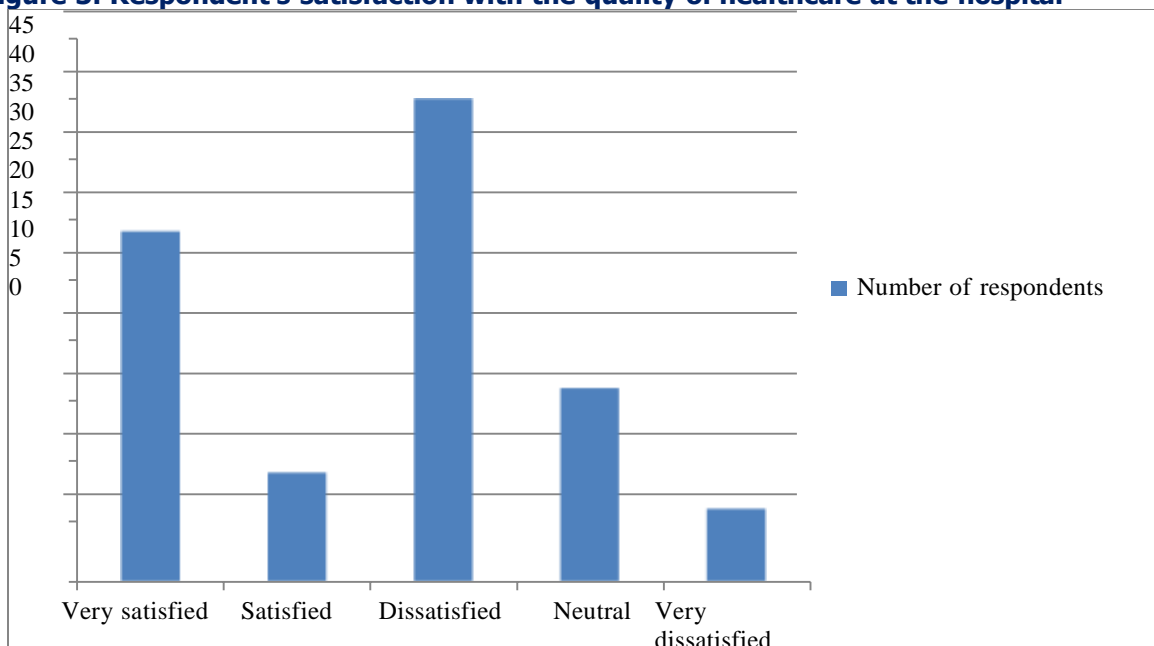


Figure 3 depicts the rate of respondent's satisfaction with the quality of healthcare at the hospital as shown by the graph majority 40 (40%) of the respondents were dissatisfied, 29 (29%) were very satisfied, 16 (16%) respondents were neutral about it, 9 (9%) were satisfied and the minority 6 (6%) were very dissatisfied.

DISCUSSION

Health System Factors associated with the occurrence of Peptic Ulcer Disease

The study revealed that 20% of respondents excellently rated the accessibility of healthcare services at Mukono General Hospital, 30% of the respondents were able to rate the accessibility of healthcare services at Mukono General Hospital as Good, 15% of respondents rated healthcare services accessibility as fair, 35% respondents were able to rate healthcare services as poor. This implies that the health services at the hospital are not easily accessed by the respondents as per 35% of the respondents and this might be due to reasons such as distance from the hospital to where they are staying, lack of adherence to clinical guidelines hence increased risks to Peptic ulcer disease. The study is in line with a study conducted by Kagimu et al. (2017) which found that patients who lived further away from healthcare facilities had a higher risk of PUD compared to those who lived closer, the study also suggested that poor access to healthcare could delay the diagnosis and treatment of PUD, leading to more severe cases, also another study conducted in Saudi Arabia by Alzahrani et al., 2017 found that delays in the diagnosis and treatment of PUD were associated with poor outcomes. 40% of participants were not satisfied with the quality of care provided at the hospital while 29% participants were very satisfied with the quality of care provided at the hospital, this implies that the majority of the respondents were not satisfied with the quality of care being provided to them and this becomes a risk factor for the occurrence of peptic ulcer disease as there can be a delayed diagnosis and poor management. This study is therefore correlating with a study conducted by Kalyesubula et al. 2015 which found that the quality of care provided in healthcare facilities was suboptimal and that this could contribute to the poor outcomes observed in PUD patients.

GENERALIZABILITY

The study was conducted in one hospital in Mukono district, which was not representative of the entire population of adults in Uganda.

CONCLUSION

The health systems factors such as poor quality of health care, and accessibility of health care all had a positive correlation with the occurrence of PUD and these were spearheaded by alcohol consumption and the rate of accessibility of health care services respectively.

STUDY LIMITATIONS

- The study relied on self-reported data, which may be subject to recall bias and social desirability bias.
- The cross-sectional study design did not allow for causal inferences to be made.
- The study only examined a limited set of risk factors associated with PUD and may not capture other potential factors that could be associated with the occurrence of PUD.

RECOMMENDATIONS

The Ministry of Health should Allocate funds for research into the causes, risk factors, and treatment options for PUD to improve understanding and treatment.

The facility should ensure that patients with PUD are prescribed appropriate medications as per the clinical guidelines.

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LIST OF ABBREVIATIONS

NSAIDs: Nonsteroid anti-inflammatory Drugs
OPD: Outpatient Department

PUD: Peptic Ulcer disease
WHO: World Health Organization

SOURCE OF FUNDING

The study was not funded.

CONFLICT OF INTEREST

The author did not declare any conflict of interest.

AUTHOR BIOGRAPHY

Eldreen Bamusubire is a student of Clinical medicine and community health at the Mildmay Institute of Health Sciences.

Jimmy Okwany is a lecturer at the Mildmay Institute of Health Sciences

Francis Ssemuwemba is the principal of Mildmay Institute of Health Sciences

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