

Testing and clinical history of peptic ulcer disease among patients attending the outpatient department of Wakiso Health Centre IV, Wakiso District. A cross-sectional study.

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Abstract

Background:

Peptic ulcer disease is a gastrointestinal tract disorder characterised by ulcerative patches on the GIT mucosa lining. The study aims to assess the level of testing and clinical history of Peptic Ulcer disease among patients attending the Outpatient Department of Wakiso Health Centre IV, Wakiso District.

Methodology:

A systematic random sampling method was used among 100 respondents attending the Outpatient Department of Wakiso Health Centre IV, Wakiso District. Data were collected using structured questionnaires and analysed using Microsoft Excel. Results were presented in tables, frequencies, and percentages.

Findings:

The findings revealed that 40 respondents had ever been tested for peptic ulcer disease, while 60 had never been tested. Regarding the time respondents were tested for peptic ulcer disease, the majority, 47 respondents, had been tested more than one year ago, followed by 31 respondents who had been tested within 6–12 months, while 22 respondents had been tested within less than 6 months. 53 respondents had ever experienced symptoms associated with peptic ulcer disease, whereas 46 respondents had never experienced such symptoms. Concerning duration of symptoms, the majority of respondents, 49, had experienced symptoms for more than one year. Respondents who had symptoms for 6–12 months were 33, while 28 respondents had experienced symptoms for less than 6 months. 38.0% were self-employed, while 31.0% were employed and another 31.0% were unemployed.

Conclusions:

Peptic ulcer disease remains a major health concern that is highly prevalent among patients attending Wakiso Health Centre IV.

Recommendations:

The Ministry of Health should also ensure consistent availability of essential drugs used in the treatment of peptic ulcer disease within health facilities.

Keywords: Prevalence of Peptic Ulcer disease, Wakiso Health Centre IV, Symptoms associated with peptic ulcer disease.

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Background

Peptic ulcer disease is a gastrointestinal tract disorder characterised by ulcerative patches on the GIT mucosa lining. Different types of peptic ulcer disease are explained: gastric ulcer Disease and Duodenal Ulcer disease (Khan et al., 2023). Based on the 2019 Global Burden of Disease Study, Peptic Ulcer Disease (PUD) presents a complex epidemiological picture. Although the total number of cases rose between 1990 and 2019, the age-standardised

prevalence actually dropped by over 30%. More significantly, mortality and disability rates both plummeted by approximately 60%. (Zhang et al., 2025). This overall progress is largely credited to better H. pylori management, the widespread adoption of PPIs, and safer Non Steroid anti-inflammatory Drugs (NSAID) usage (Zhang et al., 2025). However, the burden remains uneven, as low- and middle-income countries with lower socio-demographic scores continue to be more severely affected. Peptic Ulcer disease

remains one of the disorders contributing to factor abnormalities.

Peptic ulcer disease (PUD) is a gastrointestinal tract disorder affecting the inner lining of the stomach, duodenum, and jejunum. characterized by ulceration in the inner lining of the gastrointestinal (GI) tract because of gastric acid secretion or pepsin. It extends into the muscularis propria layer of the gastric epithelium (Malik et al., 2025a). It usually occurs in the stomach and proximal duodenum. It may involve the lower oesophagus, distal duodenum, or jejunum (WHO et al., 2025). Epigastric pain usually occurs within 15-30 minutes following a meal in patients with a gastric ulcer; on the other hand, the pain with a duodenal ulcer tends to occur 2-3 hours after a meal (Khan et al., 2023). The study aims to assess the testing and clinical history of Peptic Ulcer disease among patients attending the Outpatient Department of Wakiso Health Centre IV, Wakiso District.

Methodology

Study Design

A cross-sectional study utilizing quantitative methods of data collection.

Study Setting.

The study was conducted at the Outpatient Department of Wakiso Health Centre IV located in Wakiso District, among patients attending on the days of data collection.

Study population.

All male and female patients aged 18 to 55 years attending the Outpatient Department of Wakiso Health Centre IV, Wakiso District, at the time of data collection.

Sample size Determination

The sample size of the study was determined according to the formula of Kish and Leslie (1965).

$$n = Z^2 pq / d^2$$

n = desired sample size; z = 1.96 (assuming a standard 95% confidence interval); p = estimated percentage prevalence of PUD (a prevalence of 7% was used, obtained from a simple random sampling.

$$q = 1 - p = 0.05 \text{ (permissible error within the estimate of 5\%);}$$

$$n = \{(1.96^2) * (0.07) (1 - 0.07)\} / (0.05^2) = 100.04$$

Therefore, 100 respondents were considered for the study.

Sample methods

The study used systematic random sampling, where every patient attending the Outpatient Department of Wakiso

Health Centre IV who met the inclusion criteria was selected to participate, ensuring a representative and unbiased sample

Inclusion and Exclusion criteria.

Inclusion

All male and female patients were Ugandan, aged 18 years and above, and could read and write English, found at the Outpatient Department of Wakiso Health Centre IV, Wakiso District.

Exclusion Criteria

Patients who were very sick or mentally ill were excluded.

Study Variables

The dependent variable in this study was the level of testing and clinical history of peptic ulcer disease among patients attending the outpatient department at Wakiso Health Centre IV. This variable was influenced by several independent variables, which included alcohol consumption, smoking, use of non-steroidal anti-inflammatory drugs, poor feeding habits, stress, and Helicobacter pylori infection

Data Collection tools

A preprinted list of questionnaires was provided to the participants, where those who couldn't read were helped to interpret the questions in Luganda, and their answers were filled in the questionnaire.

Data collection method

The study engaged with patients by providing them with questionnaires to outpatients attending the Outpatient Department of Wakiso Health Centre IV on a designated day allocated by the Hospital Administration to collect them from willing patients.

Data management and analysis.

Data was securely stored. Completed questionnaires were kept under lock and key until final termination of the study. Electronic data was password-protected and backed up on a flash drive to prevent loss. These measures were all put in place to ensure that confidentiality was maintained throughout the research process.

Data Presentation

Data collected from the study was presented in the form of tables, Pie charts, bar graphs, and line graphs.

Quality Control

To ensure the validity and reliability of the study, several quality control measures were implemented, and these included;

Pretesting of the Research Tool: The questionnaire was pretested at Kakiri Health Centre III on respondents who were not part of the main study, under the guidance of the supervisor. This was used to confirm that the tool captured only the required information in line with the specific objectives. The pretest helped to identify ambiguities and errors, allowing for adjustments to be made before the actual data collection.

Training of Research Assistants: Research assistants were trained on the objectives of the study a day before data collection and equipped them with the necessary skills for administering questionnaires and assisting illiterate respondents. This training helped save time and minimise disruption to the community's normal activities.

Time Allocation: Adequate time was allocated for data collection, with approximately 20 minutes given to literate

respondents and 30 minutes to illiterate respondents, ensuring accuracy and completeness of responses.

Observation of Standard Operating Procedures (SOPs): Confidentiality, privacy, and adherence to community policies were strictly observed. Hand hygiene practices were maintained throughout the process to prevent cross-infection.

Ethical Considerations

An introductory letter was obtained from Mildmay Institute of Health Sciences and presented to the local council chairperson of Kyoga village for permission to conduct the study. All participants were provided with clear information about the study as part of obtaining informed consent before participation. Confidentiality and anonymity were strictly observed, and information obtained was not linked directly to the research participants. Participants were informed of their right to withdraw from the study at any point without facing any consequences.

RESULTS

Social demographic factors of the respondents (n=100)

Table 1. Showing the social demographic factors contributing to prevalence and factors contributing to peptic ulcer disease among patients attending the outpatient department of Wakiso Health Centre IV, Wakiso District.

Characteristic	Category	Frequency (n)	Percentage (%)
Age	18–25	46	46.0
	26–35	26	26.0
	36–45	17	17.0
	46–55	11	11.0
Marital status	Single	54	54.0
	Married	43	43.0
	Divorced	2	2.0
	Widowed	1	1.0
Education level	None	16	16.0
	Primary	28	28.0
	Secondary	39	39.0
	Tertiary	17	17.0
Occupation	Employed	31	31.0
	Self-employed	38	38.0
	Unemployed	31	31.0
Religion	Catholic	17	17.0
	Protestant	18	18.0
	Pentecostal	38	38.0
	Muslim	25	25.0
	Others	2	2.0

Table 1 shows the socio-demographic characteristics of the 100 respondents, showing that the largest proportion were aged 18–25 years (46.0%), followed by those aged 26–35 years (26.0%), 36–45 years (17.0%), and 46–55 years (11.0%). Regarding marital status, the majority were single (54.0%), while 43.0% were married, 2.0% were divorced, and 1.0% were widowed.

In terms of education level, 39.0% of respondents had attained secondary education, 28.0% had primary education,

17.0% had tertiary education, while 16.0% had no formal education. Concerning occupation, 38.0% were self-employed, while 31.0% were employed and another 31.0% were unemployed.

Regarding religion, Pentecostals constituted the largest proportion (38.0%), followed by Muslims (25.0%), Protestants (18.0%), Catholics (17.0%), and respondents belonging to other religions (2.0%).

Figure I: Showing the relationship between age group and frequency of prevalence of Peptic Ulcer Disease among patients attending the Outpatient Department of Wakiso Health Centre IV, Wakiso District

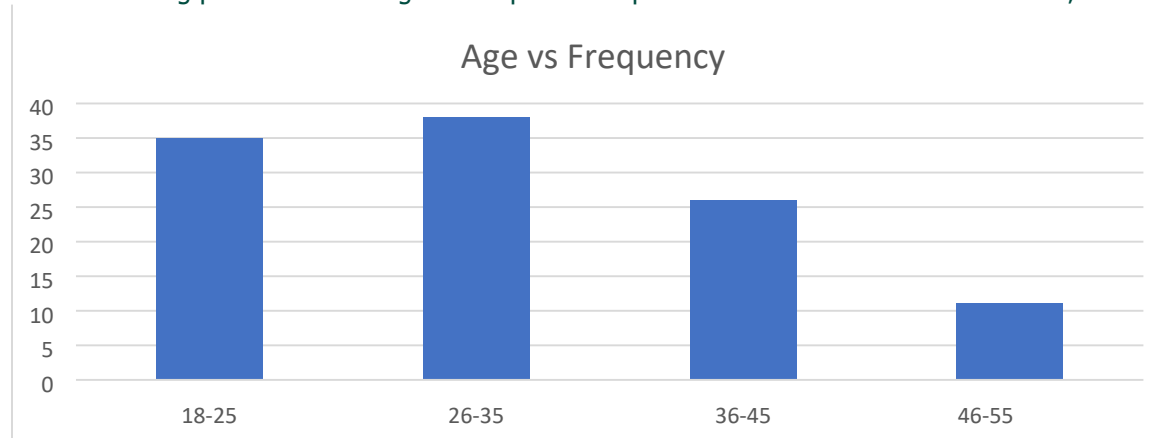


Fig. 1 shows the distribution of respondents by age group and their corresponding frequencies. The 26–35 years age group had the highest frequency, with approximately 38–40 participants, followed closely by the 18–25 years age group with about 35 participants. The 36–45 years age group had a moderate representation of around 25 participants, while

the 46–55 years age group had the lowest frequency, with roughly 10 participants. Overall, the findings indicate that the majority of respondents were concentrated in the younger age groups, particularly between 18 and 35 years, with a gradual decline in participation as age increases.

Figure 2: Shows the relationship between marital status and frequency of Peptic Ulcer Disease among patients attending the outpatient department of Wakiso Health Centre IV, Wakiso District

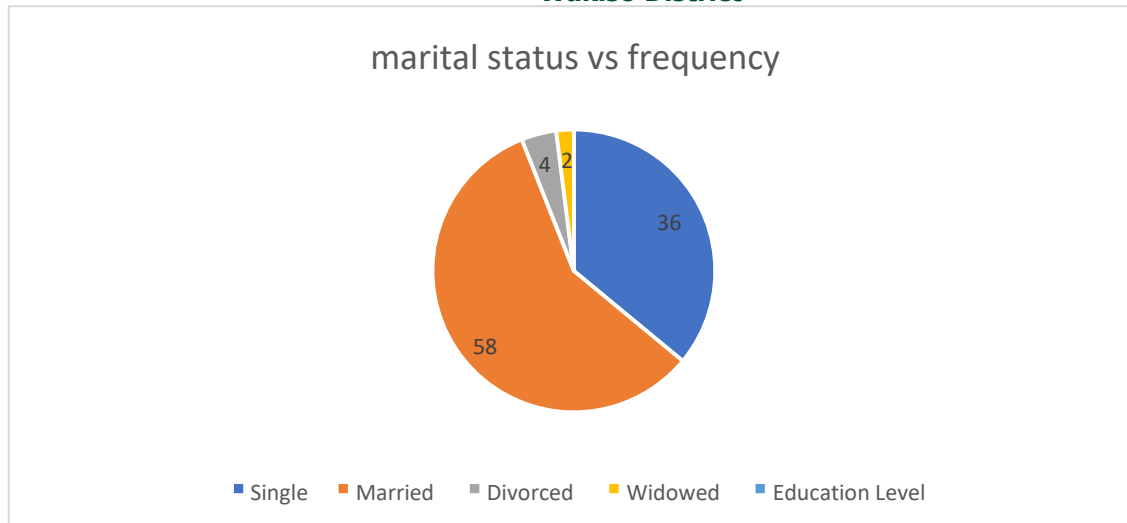


Fig. 2 shows the pie chart titled “marital status vs frequency,” which shows that the majority of respondents are married, forming the largest proportion of the sample. This is followed by single individuals, who make up a substantial but smaller share compared to the married group. A very small proportion of respondents are divorced, while an even smaller fraction are widowed, indicating that these

categories are least represented in the study population. There is also a small segment labelled “education level,” which appears out of place within marital status categories and may represent a data labelling or categorisation issue. Overall, the distribution suggests that the study population is predominantly composed of married individuals, with fewer participants in other marital status groups.

Prevalence of Peptic Ulcer Disease among patients

Table II. Level of testing and clinical history\ of Peptic Ulcer Disease among patients attending Outpatient Department of Wakiso Health Centre IV, Wakiso District

Variable	Category	Frequency (n=100)	Percentage (%)
Ever been tested for PUD	Yes	40	40.0
	No	60	60.0
Time since last test	< 6 months	22	22.0
	6–12 months	31	31.0
	> 1 year	47	47.0
Ever experienced PUD symptoms	Yes	53	53.0
	No	47	47.0
Duration with symptoms	< 6 months	18	18.0
	6–12 months	33	33.0
	> 1 year	49	49.0

Table II findings revealed that 40 respondents had ever been tested for peptic ulcer disease, while 60 had never been tested. Regarding the time respondents were tested for peptic ulcer disease, the majority, 47 respondents, had been tested more than one year ago, followed by 31 respondents

who had been tested within 6–12 months, while 22 respondents had been tested within less than 6 months. The study further found that 53 respondents had ever experienced symptoms associated with peptic ulcer disease, whereas 46 respondents had never experienced such symptoms. Concerning duration of symptoms, the majority

of respondents, 49, had experienced symptoms for more than one year. Respondents who had symptoms for 6–12 months were 33, while 28 respondents had experienced symptoms for less than 6 months.

Discussions

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The study revealed majority of respondents (53% had ever experienced symptoms related to peptic ulcer disease, while a minority 46% had never experienced such symptoms (Mubiru et al., 2022). This is in line with the study that was conducted by Lee and Malik in Canada that showed that PUD was most prevalent among newly reported cases (Malik et al., 2025c), indicating that more than half of the respondents were affected by symptoms suggestive of PUD. The study further found that a minority of the respondents (40% had ever been tested for peptic ulcer disease, whereas the majority (60%) had never undergone any testing. This did not match the study done by Lee (Lee et al., 2024). This could be due to a small sample size of one hundred participants, which does not match the study conducted by Almashhadany et al. (2024). Regarding the time since the last test for PUD, a minority of the respondents, 22%, had been tested within the last six months, while 31% within 6–12 months, and the majority, 47%, had last been tested more than one year ago. This was in line with the study conducted by (Joseph, 2023). The findings imply that delayed testing may contribute to persistent symptoms and progression of the disease due to late diagnosis and treatment.

The findings also showed that among respondents who experienced PUD symptoms, 28% had experienced symptoms for less than six months, 33% for 6–12 months, and 49% for more than one year. The high percentage of respondents experiencing symptoms for over one year suggests that peptic ulcer disease may be persistent and inadequately managed within the community (Graham DY, 2021). This prolonged duration of symptoms could be associated with self-medication, poor adherence to treatment, continued exposure to risk factors such as alcohol consumption, smoking, stress, irregular meals, and use of non-steroidal anti-inflammatory drugs.

These findings are consistent with studies conducted in other developing countries where peptic ulcer disease remains prevalent due to lifestyle behaviours, limited awareness, and inadequate access to healthcare services (Abdu et al., 2025b). The study therefore highlights the need for increased community sensitisation on early screening, timely treatment, and prevention of peptic ulcer disease. Health workers should also strengthen health education on proper feeding habits, reduction of alcohol intake, avoidance of unnecessary drug use, and early reporting of gastrointestinal symptoms to reduce the burden of the disease.

Conclusions

Peptic ulcer disease remains a major health concern that is highly prevalent among patients attending Wakiso Health Centre IV.

Limitations of the Study.

This study faced several limitations. Being a cross-sectional study conducted at a single health facility (Wakiso Health Centre IV), the findings were not generalisable to the wider population in Wakiso District or Uganda, and the study also relied partly on patient self-reported information regarding risk factors such as alcohol use, NSAID consumption, and smoking, which may be subject to recall bias or underreporting.

Recommendations

There is a need for routine screening and early diagnosis of patients attending outpatient departments. Wakiso Health Centre IV should strengthen diagnostic and treatment services for peptic ulcer disease to prevent complications associated with delayed management.

The Ministry of Health should also ensure consistent availability of essential drugs used in the treatment of peptic ulcer disease within health facilities. Public health campaigns should be intensified to educate the community on signs, symptoms, and preventive measures of peptic ulcer disease. Early intervention and proper management will help reduce the burden of the disease in the community.

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Abbreviations and acronyms

PUD: Peptic Ulcer Disease
OPD: Outpatient Department
HC IV: Health Center IV
GIT: Gastrointestinal Tract
GI: Gastrointestinal
H. pylori: Helicobacter pylori
NSAIDs: Non-Steroidal Anti-Inflammatory Drugs
PPIs: Proton Pump Inhibitors
WHO: World Health Organization

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Conflict of interest

The authors did not declare any conflict of interest

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Data availability

Data is available upon request

Author contribution

Derrick Abitegeka: Conceptualisation, Funding acquisition, Methodology, Writing – original draft, Resources, Software. Hasifa Nansereko: Validation, Visualisation, Data curation, Formal analysis, Investigation. Ssemuwemba Frank: Supervision, Project administration

Author biography

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