KNOWLEDGE, PERCEPTIONS AND PREVENTIVE PRACTICES ON PEPTIC ULCER DISEASE AMONG UNDERGRADUATES IN THE UNIVERSITY OF CALABAR, NIGERIA

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ABSTRACT

Peptic ulcer disease (PUD) is a problem of public health concern in our environment. Undergraduates represent a vulnerable population susceptible to developing PUD due to various factors, including poor dietary habits, stress, and substance use. This study aimed to determine the knowledge, perceptions and preventive practices on peptic ulcer disease among undergraduates in the University of Calabar, Nigeria. The study adopted a cross-sectional descriptive study among undergraduates in the University of Calabar, Nigeria. Four hundred and five respondents were selected using multi-stage sampling technique. Data were collected through self-administered questionnaires and analyzed using Statistical Package for Social Sciences (SPSS) Version 23. The results reveal that out of the 405 respondents, the male to female ratio is 1.2:1, aged 16 to 25 years with a mean age of 21.9 ± 4.3 years. Poor, fair and good knowledge levels of peptic ulcer disease were in 58.8%, 38.5% and 3% respectively. Majority of the respondents (67.2%) had positive perception. Most of the respondents (79.0%) practiced good hygiene, 54.8% prioritized regular health check-ups and screenings to identify potential health issues early. Some respondents reported that preventive practices included: avoiding spicy or acidic foods (76.0%), careful use of nonsteroidal anti-inflammatory drugs (NSAIDs) (60.2%), avoidance of smoking (62.0%), and moderate or no alcohol consumption (76.3%), regular exercise and balanced diet (63.2%). Conclusively, the study revealed that although respondents had positive perceptions of peptic ulcer disease, their knowledge levels were poor, which could hinder effective preventive practices. Hence, it is recommended that health education programmes on peptic ulcer diseases and proper use of nonsteroidal anti-inflammatory drugs should be incorporated in the study area.

KEYWORDS: *Peptic ulcer, Knowledge, Perception, Prevention, Undergraduates.*

1. INTRODUCTION:

Peptic ulcer disease (PUD) is characterised by the presence of a deep destruction of the mucosa of the stomach and/or duodenum, reaching beyond the muscularis mucosa, specifically to the muscle layer owing to the environmental gastric acid synthesis (Bereda, 2022). The two major causes of PUD are *Helicobaccter. pylori* (*H. pylori*) infection and the use of NSAIDs, others include: hypersecretory states such as gastrinoma (or Zolinger-Ellison Syndrome) or multiple endocrine neoplasia type I (MEN-I), antral G cell hyperplasia, systemic mastocytosis, basophilic leukaemias, cystic fibrosis, short bowel syndrome, hyperparathyroidism; genetic factors (family history of PUD); cigarette smoking and alcohol consumption (Bereda, 2022; Marshal & Warren, 1983). The clinical presentation of PUD includes epigastric abdominal pain, burning chest pain, post-prandial fullness, or early satiety, nausea and

vomiting (Narayanan, Reddy, & Marsicano, 2018; Debruyne, Pinna, Whitney, 2016). Peptic ulcer disease may lead to complications such as gastro-duodenal haemorrhage, perforation, penetration, gastric outlet obstruction, gastric malignancy and death (Narayanan et al, 2018; Lau, Sung, Metz, Howden, 2008).

Globally, about 4 million of the world's population were affected annually, with prevalence estimated between 5–10% and incidence of 0.1%- 0.3% annually (Lanas & Chan, 2017; Nuhu & Kassama, 2008). The true prevalence rate of PUD in the Nigerian populace is not certain but a 10 years retrospective study using post-mortem reports of 3,556 autopsy cases at the University College Hospital, Ibadan, Nigeria, obtained a prevalence rate of 5% and PUD was the cause of death in 1.5% of all the autopsy cases (Olubuyide, 1989). Upper gastro Intestinal bleeding was the most common cause of death followed by perforation and factors that contributed to mortality were non-compliance with treatment and delayed presentation. Lawal, Fadiran, Oluwole, Campbell, (1998) working in Ile-Ife, Osun State, Nigeria obtained a mortality rate of 20% from PUD perforation and this was also attributed mainly to late presentation.

Modifiable risk factors associated with PUD namely academic stress, Nonsteroidal anti-inflammatory drugs (NASID) use, smoking and alcohol consumption are pronounced among university undergraduate students (Habeeb et al, 2016; Eniojukan, Okonkwo, & Adje, 2017).

There is paucity of studies on the knowledge, perception and preventive practices of PUD among University Students in Nigeria with various findings (Bojuwoye, Ogunmodede, Ogunlaja, Fasiku, Oyeleke, Olokoba, 2021; Anaemene & Ochogu, 2022; Ikpenwa, Aneke, Chukwueze, Chukwu, Obeagu, 2022). Bojuwoye et al, (2021) in the North-central region of Nigeria found that majority of the students (78%) have heard of PUD but their knowledge of its aetiology, symptoms and treatment was poor. In another study, Anaemene & Ochogu, (2022) in Ota, Ogun state, South western, Nigeria, majority of the students (68.2%) were found to have good knowledge of PUD, while lower number (44.1%) practices healthy lifestyle. Factors affecting the good practice in PUD included early morning lectures, Food vendors opening late and poor meal variety. Ikpenwa et al, (2022) in their study at Enugu State University of Science and Technology in the South Eastern Nigeria, found that 91% have heard of PUD and 65.7% knows antacid as a medication for PUD.

Undergraduates represent a vulnerable population susceptible to developing PUD due to various factors, including poor dietary habits, stress, and substance use (Eniojukan et al, 2017). Hence, there is need to evaluate their knowledge, perceptions and preventive practices on peptic ulcer disease especially in the University of Calabar, Nigeria where such study have not been carried out. Hence, this study aimed to determine the knowledge, perceptions and preventive practices on peptic ulcer disease among undergraduates in the University of Calabar, Nigeria.

2. MATERIALS AND METHODS

2.1 Study Area

This study was conducted in the University of Calabar situated in Calabar Municipality, Calabar, an ancient city with a long tradition of culture and contact with western civilization, the already developed area of the University occupies a 17-hectare site on the eastern side of the town, between the Great Qua River and the Calabar River. The University of Calabar was established on 25th October, 1975. It grew out of the Calabar Campus of the University of Nigeria, Nsukka which began functioning as such in the 1973/74 academic session with 154 students and a small cadre of academic, administrative and technical staff. Currently, University of Calabar has one postgraduate school, twenty faculties and one hundred and sixteen departments with student population standing at 40,645 (UNICAL BLOG, 2024)

This was a cross-sectional descriptive study involving undergraduates of the University of Calabar, Calabar, Cross River State, Nigeria aged 18 years and above who gave consent. Sample size was calculated with the formula as stated below:

$$N = \frac{z^2pq}{d^2}$$

Where N= desired sample size, Z = 1.96 at 95% confidence level, q = 1 – p, P = Proportion of the target population estimated to have a particular characteristic, d= margin of error precision 5% which is 0.05, Z = 95% (1.96), P = 43% =0.43 (prevalence of PUD in previous studies by Anaemene & Ochogu, 2022). q = 1-p (1-0.43) =0.57, D ² = 5% (0.05²)
n= $1.96^2 \times 0.43 \times 0.57/0.05^2$ =376.630 = 377. However, to account for non-response of 10%, the sample size was increased by 10%: N=377/1-0.1 = 419, However, the sample size used was 405.

Multistage sampling technique was used involving stratified sampling into faculties, departments and levels of study and use of simple random sampling at each stratum. Semi-structured questionnaires (pretested among undergraduates of University of Cross River State, a neighbouring university) were used for data collection. It contains questions that focused on knowledge, perception and preventive practices of peptic ulcer disease. To evaluate participants' knowledge levels, nine specific questions were included: whether the respondent had ever heard of PUD, causes of PUD, any education or information about life style that contributes to PUD, Risk factors in terms of medications, if familiar with the diagnostic tests used to detect PUD, effective treatment, any complications if untreated, discussing PUD with a health professional and if stress plays role as risk factor. Each question was scored 1 point for a correct response and 0 points for an incorrect one. The total possible score was 9. Participants scoring between 0 and 5 were categorised as having poor knowledge, those scoring 6 to 7 as having average knowledge, and those scoring between 8 and 9 as having good knowledge. Data were analysed using SPSS version 27.0, and P. value ≤ 0.05 was significant.

3. RESULTS

Majority of the participants were aged 16-24 years with a mean age of 21.9 years ± 4.3 years and a male to female ratio of 1.2:1, mostly Christians and single (Table 1).

TABLE 1: Sociodemographic characteristics of respondents

Variable	Frequency(n=405)	Percentage (%)
Gender		
Male	222	54.8
Female	183	45.2
Age range (Years)		
16-24	327	80.7
25-33	66	16.3
34-42	12	3.0
Religion		
Christianity	271	66.9
Islam	78	19.3
Others	56	13.8
Marital status		
Single	225	55.5
Married	106	26.2
Co-habiting partners	34	8.4

Divorced	8	2.0
Separated	32	7.9

Source: Fieldwork, (2024).

TABLE 2: Knowledge of peptic ulcer disease among respondents

Variable	Frequency(n=405)	Percentage (%)
Heard of peptic ulcer disease before (through family member, friends, health worker, social/mass media, religious organisations)		
Yes	343	84.7
No	62	15.3
Knowledgeable about the causes of peptic ulcer disease (*Helicobaccter Pylori* infection and the use of NSAIDs)		
Yes	109	26.9
No	296	73.1
Knowledgeable that peptic ulcer disease can lead to complications if left untreated		
Yes	149	36.8
No	256	63.2
Ever received education or information about lifestyle factors that can contribute to peptic ulcer disease		
Yes	162	40.0
No	243	60.0
Knowledgeable that certain medications can increase the risk of developing peptic ulcers		
Yes	202	49.9
No	203	50.1
Familiar with the diagnostic tests used to detect peptic ulcer disease		
Yes	102	25.2
No	303	74.8
Knowledge of effective treatment options available for peptic ulcer disease		
Yes	231	57.0
No	174	43.0
Ever discussed peptic ulcer disease with a healthcare professional		
Yes	239	59.0
No	166	41.0
Stress can play a role in the development of peptic ulcer disease		
Yes	253	62.5
No	152	37.5

Source: Field work, (2024).

Knowledge Level of Participants in the Study: The majority 239 (59.0%) of the respondents, displayed poor knowledge of PUD while 154 (38.0%) respondents exhibited average knowledge, and only 12 (3%) respondents, demonstrated good knowledge. (Table 3).

TABLE 3: Knowledge Level of Participants in the Study

Knowledge Level	Frequency	Percentage (%)
Good	**12**	3.0
Average	**154**	38.0
Poor	**239**	**59.0**
Total	**405**	**100.0**

Source: Fieldwork, (2024).

TABLE 4a: Perceptions of peptic ulcer disease among undergraduates

Variable	Frequency(n=405)	Percentage (%)
Diet plays a significant role in the development of peptic ulcers		
Yes	107	26.4
No	298	73.6
Peptic ulcers are mostly caused by spicy foods		
Yes	204	50.4
No	201	49.6
Smoking can worsen peptic ulcer symptoms		
Yes	281	69.4
No	124	30.6
Aware that peptic ulcers can lead to complications such as bleeding or perforation if left untreated		
Yes	205	50.6
No	200	49.4
Peptic ulcers are a common health issue among young adults		
Yes	256	63.2
No	149	36.8
Lifestyle changes, such as stress management and dietary modifications, can help prevent peptic ulcers		
Yes	207	51.1
No	198	48.9

Source: Fieldwork, (2024).

TABLE 4b: Perceptions level of peptic ulcer disease among respondents

Perception Level	Frequency	Percentage (%)
Positive (Score = 4-6)	272	67.2
Negative (Score = 0-3)	133	32.8
Total	**405**	**100.0**

Source: Fieldwork, (2024).

TABLE 5: Preventive practices of peptic ulcer disease among participants

Variable	Frequency(n=405)	Percentage (%)
Conscious of your dietary habits, avoiding excessively spicy or acidic foods		
Yes	308	76.0
No	97	24.0
Actively manage stress through techniques like meditation, yoga, or other relaxation methods		
Yes	267	65.9
No	138	34.1
Cautious about the use of medications such as NSAIDs (Nonsteroidal Anti-Inflammatory Drugs) and try to minimize their usage		
Yes	244	60.2
No	161	39.8
Avoid smoking or limit your exposure to second-hand smoke		
Yes	251	62.0
No	154	38.0
Consume alcohol in moderation or abstain from it altogether		
Yes	309	76.3
No	96	23.7
Mindful of your meal timings and avoid eating late at night or just before bedtime		
Yes	114	28.1
No	291	71.9
Having balanced nutrition and regular exercise		
Yes	256	63.2
No	149	36.8
Prioritize regular health check-ups and screenings to detect any potential health issues early		
Yes	222	54.8
No	183	45.2

Source: Fieldwork, (2024).

4. DISCUSSION

This study revealed that majority of the respondents 238 (58.8%), displayed poor knowledge level of peptic ulcer disease (PUD) while very few 12(3%) have good knowledge. Although 84.7% of the respondents have heard about PUD only 26.3% knows that *Helicobaccter Pylori* infection and the use of NSAIDs were the major causative factors of PUD. This was similar to the result obtained by Bojuwoye et al, (2021) in the North-central region of Nigeria where majority of the students have heard of PUD but their knowledge of its aetiology, symptoms and treatment was poor. The result of this study, also resonates with a study conducted by Alaridah, Abdelrahman, & Al Zabadi, (2023) in Jordan to assess the knowledge and the impact of knowledge on *H. pylori* among the general population. However, the results of this study differ from the results of studies by Alrayah (2019) and Kayemba, Mupere, Ssemugabo, & Kalungi, (2021), where they obtained good knowledge levels of PUD. The poor knowledge level in this study may be explained by the huge number (60%) of the respondents who have not received any health education or information about PUD despite the large number of respondents (84.7%) who have heard about the disease condition. These observations may be due to a significant lack of widespread health education on PUD among undergraduate students in our environment.

Most of the respondents, 372 (67.2%), had positive perceptions on PUD, they recognised that it is a common health issue among young adults, smoking and spicy food intake could worsen it. The results of this study resonate with a study carried out by Jaddoh et al., (2021) on the awareness of peptic ulcer disease among the population of Jeddah in Saudi Arabia which showed that the participants had positive perception of PUD. But in the study carried out by Hafiz et al., (2021) on medical student's knowledge and understanding of peptic ulcer disease and *H. pylori* discovered that they often have misconceptions about peptic ulcer disease and *H. pylori.*

Majority of the participants were mindful of their diet, avoiding overly spicy or acidic foods, careful with their use of NSAIDs (Nonsteroidal Anti-Inflammatory Drugs) and tried to minimize their intake. Additionally, many either avoided smoking or reduced their exposure to second-hand smoke and either consumed alcohol in moderation or abstained completely, maintained a healthy weight through balanced nutrition and regular exercise. About 54.8% prioritized regular health check-ups and screenings to identify potential health issues early. These were good preventive measures observed among the respondents which were important in the treatment and prevention of PUD. Undergraduates represent a vulnerable population susceptible to developing PUD due to various factors, including poor dietary habits like eating late at night or just before bedtime, poor meal variety, early morning lectures, food vendors opening late, stress, and substance use (Eniojukan et al, 2017). But Many respondents acknowledged that they were unmindful of meal timings and avoiding eating late at night or just before bedtime. This could be explained by the inadequate health education exposure of the participants on PUD in the study area. According to a report, PUD-like symptoms were found among students who exhibited practices such as use of NSAIDs, smoking, prolonged fasting and anxiety (Bayana et al, 2021). Alcohol may irritate the intestinal mucosa and induce acidity while smoking impairs healing process (Eniojukan et al., 2017). These factors affect morbidity in PUD and may increase frequency and duration of hospital admissions, affect academic performance and quality of life negatively among students living with PUD.

5. CONCLUSION

In conclusion, there was a poor knowledge of PUD among the respondents. However, perceptions and knowledge of the preventive strategies were good. Hence, more health education interventions like health education campaigns using various platforms like social

media, posters, and flyers to raise awareness about PUD and its preventive measures advocated among undergraduates in the study area. We recommend that lectures on PUD be incorporated into the general studies curriculum of the University to enhance health education on PUD among the students.

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