

Knowledge, Awareness and Prevalence of Peptic Ulcer Disease in a Rural Setting in Sokoto State, Nigeria

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Abstract

Peptic Ulcer Disease is becoming a common gastroenterology disease globally, with a gradually increasing prevalence. The objective of this study was to identify the awareness and prevalence of peptic ulcer disease as well as the knowledge level among members of a rural setting in Sokoto State, Nigeria. We conducted a descriptive cross-sectional study which involved the use of questionnaires. A self-administered structured questionnaire about peptic ulcer disease was used to assess the participant's awareness, prevalence and knowledge. The study was first introduced to the participants, consent was thereafter gotten and the questionnaires were then administered to the participants to give answers to the questions. Out of the participants, 150 (98.0%) of the respondents had heard about peptic ulcer disease before. However, only 101 (67.3%) have been diagnosed of it. The knowledge level was graded. 3 (2.0%) of the respondents had poor knowledge level, 74 (48.4%) had fair knowledge level while the remaining 76 (49.7%) had good knowledge level. The awareness was on the high side while the knowledge level was insufficient among the general population. Hence, there is need for public health education and programmes to compensate for the gap. This is necessary due to the possibility of increasing morbidity and mortality from the disease.

Keywords: Peptic Ulcer Disease; Gastrointestinal Disease; Awareness; Prevalence; Knowledge

Introduction

Peptic ulcer disease (PUD) is one of the most common disorders in the world, accounting for a significant portion of visits to health providers [1]. Peptic ulcer diseases are defects in the gastrointestinal mucosa that extend through the muscularis mucosa and they develop when the protective mechanisms of the gastrointestinal mucosa, such as mucus and bicarbonate secretion are overwhelmed by the damaging effects of gastric acid and pepsin [2].

Globally, peptic ulcer disease was estimated to involve 5-10% of the population [3]. The prevalence of peptic ulcer disease in Sweden was estimated to be 4.1% [4]. It was 2.6% in Denmark [5] and 0.19% in Belgium [6]. Nigeria is a developing country and due to the different influencing factors, the prevalence of peptic ulcer disease differs across the country. Over three decades ago, Nigeria was listed as an area of high PUD prevalence. However, the time prevalence rate of peptic ulcer disease in the Nigerian populace is not certain currently [7].

The most common etiologies of peptic ulcer disease are *Helicobacter pylori* infection and non-steroidal anti-inflammatory drug usage, hypersecretory states, Zollinger-Ellison syndrome, G-cell hyperplasia, mastocytosis and basophilic leukemia [8]. The risk of peptic ulcer disease was observed to increase with increasing age and this is less frequent in the pediatric population. Poor health practices and poor socioeconomic status are also important risk factors for developing peptic ulcer disease [9].

The objective of this study was to identify the awareness and prevalence of peptic ulcer disease as well as the knowledge level among members of a rural setting in Sokoto State, Nigeria.

Methods

Subjects

A total of 153 respondents were chosen from the area based on simple random sampling method. The sample population included everybody above 18 years of age who visited the health care center in the rural area of Sokoto State, Nigeria. They were all mentally stable at the time of the study. They were also psychologically and physically willing to participate.

Data Collection

The study was a cross-sectional descriptive study carried out among the adult population in a rural area of Sokoto, Nigeria towards the knowledge, awareness and prevalence of peptic ulcer disease.

A self-administered questionnaire was used to achieve the aim of this research. It was designed to assess the knowledge and awareness of the respondents on peptic ulcer disease, its cause and symptoms as well as their attitude towards the disease. There were three distinct sections in the questionnaire. The sociodemographic information of the respondents (age, sex, marital status, degree of education and kind of profession) were gathered in Section A; section B collected information on awareness and prevalence of peptic ulcer disease; section C collected information on knowledge of peptic ulcer disease. Based on how many of the 4 closed-ended questions about peptic ulcer disease were correctly answered, participant's knowledge of peptic ulcer disease were evaluated. Each received a score of 1 (for a correct response) or 0 (for an incorrect response). Each study participant's knowledge score was determined by adding up the points from all of the questions, and the result was converted to a percentage. The knowledge score was then divided into three categories: poor knowledge ($\leq 50\%$), fair knowledge (51-69%), and good knowledge ($> 70\%$).

Any potential relationship between the variables was examined using statistical testing. Cross-tabulation was used to analyze the relationships between the variables, and the Chi-square test was used to see whether there was a relationship between sociodemographic traits and other factors including knowledge of peptic ulcer disease.

Simple language devoid of medical jargons was used.

Study Protocol

From the study carried out by [3], it was estimated that the global prevalence of peptic ulcer disease ranges from 5-10%. The minimum sample size for this study will be determined by this equation [10]:

An addition of 10% to make up for attrition will bring the sample size to 153.

Data Analysis

Data analysis was done using Statistical Package for Social Sciences (SPSS) version 24.0 and Microsoft Excel 2016. Data was presented in tables and pie chart. The awareness and prevalence level was determined by the response to the questions asked in the questionnaire on if they have heard of PUD or if they have PUD respectively. It was as self reported by the respondents in the questionnaires without the use of a diagnostic test or procedure. The knowledge level was determined by various sets of questions which are included in the questionnaires. The individual questions were scored. A score of 1 was given to correct responses and a score of 0 was used for incorrect responses. The scores were summed up and converted to percentage to get the knowledge level. The knowledge level was graded into poor knowledge level (<50%), fair knowledge level (50-75%) and good knowledge level (>75%). Summary statistics such as mean, frequency and proportion were used to represent quantitative data. Statistical tests were used to test any relationship between variables; and statistical significance was set at $p < 0.05$.

Results

A total of 153 questionnaires were distributed to 30 males (19.6%) and 123 females (80.4%) with mean age of 30.92 ± 10.01 . Table 1 shows the socio-demographic characteristics of respondents. The largest group (54.2%) is aged 18-29 years. 54.2% are Christians and 45.8% are Muslims. Majority of the respondents are secondary school degree holders (73.9%), Hausa (51.0%), married (74.5%) and housewives (30.7%).

Table 2 presents the awareness and prevalence of respondents on peptic ulcer disease. The awareness rate of peptic ulcer disease is 98.0% while the prevalence rate is 67.3%.

Figure 1 shows the prevalence rate of peptic ulcer disease among the respondents. 67.3% of the respondents have been diagnosed of peptic ulcer disease while the remaining 32.7% have not been.

Table 3 presents the knowledge of peptic ulcer disease among respondents. It showed the various percentage for the knowledge of the participants on the organ affected, symptoms, causes and treatment of peptic ulcer disease.

Table 4 shows the knowledge level of peptic ulcer disease among respondents. 2.0% have poor knowledge level, 48.4% have fair knowledge level while the remaining 49.7% have good knowledge level.

Table 5 presents the relationship between socio-demographic factors of the respondents and their knowledge level. There is a statistically significant relationship between the knowledge level and gender (p-value of 0.014), highest level of education (p-value of 0.004) and ethnicity (p-value of 0.000) but not for age (p-value of 0.202), religion (p-value of 0.198), marital status (p-val-

ue of 0.590) and occupation (p-value of 0.168).

Table 6 presents the relationship between awareness of peptic ulcer disease among the respondents and their knowledge level. There is a statistically significant relationship between the two variables (p-value of 0.000).

Table 7 presents the relationship between the prevalence of peptic ulcer disease among the respondents and their knowledge level. There is a statistically significant relationship between the two variables (p-value of 0.012).

Table 1: Socio-demographic characteristics of respondents n=153

Variable	Frequency	Percent(%)
Age as at last birthday (years)		
18-29	83	54.2
30-39	47	30.7
40-49	11	7.2
≥50	12	7.8
Mean Age (Standard deviation)	30.92(10.01)	
Gender		
Male	30	19.6
Female	123	80.4
Religion		
Christianity	83	54.2
Islam	70	45.8
Highest Level of Education		
None	88	5.2
Primary	6	3.9
Secondary	113	73.9
Tertiary	26	5.2
Ethnicity		
Igbo	9	5.9
Yoruba	14	9.2
Hausa	78	51
Others	52	34
Marital Status		
Single	39	25.5
Married	114	74.5
Occupation		
Student	24	15.7
Housewife	47	30.7

Civil servant	38	24.8
Self-employed	44	28.8

Table 2: Awareness and Prevalence of PUD among respondents n=153

Variable	Frequency	Percent(%)
Have you heard of PUD?		
Yes	150	98
No	3	2
Do you have PUD?		
Yes	101	67.3
No	49	32.7

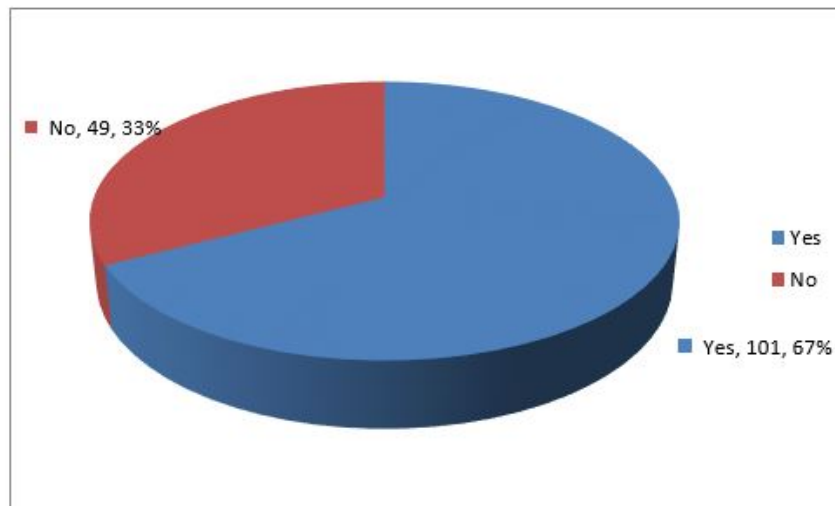


Figure 1: Prevalence of peptic ulcer disease among respondents

Table 3: Knowledge of PUD among respondents n=153

Variable	Frequency	Percent(%)
Which organ of the body is affected?		
Stomach	147	98
Heart	3	2
Which are the symptoms of PUD?		
Upper abdominal pain	145	96.7
Lower abdominal pain	17	11.3
Heart burn	117	78
Fever	84	56
Chest pain	124	82.7
What are the causes of PUD?		
Prolonged fasting	140	93.3

Peppery food	122	81.3
Smoking	45	30
Alcohol	43	28.7
Drugs	62	41.3
Spiritual cause	8	5.3
What are the treatment methods for PUD?		
Drugs	147	98
Herbs	6	4
Eating early	150	100
Spiritual treatment	0	0

Table 4: Knowledge Level of PUD among respondents n=153

Variable	Frequency	Percent(%)
Knowledge Level		
Poor knowledge level	3	2
Fair knowledge level	74	48.4
Good knowledge level	76	49.7

Table 5: Relationship between socio-demographic characteristics and knowledge level n=153

Knowledge Level					
Socio-demographic characteristics	Poor	Fair	Good	X ² value	P - value
	Freq (%)	Freq (%)	Freq (%)		
Age as at last birthday (years) 8.528 0.202					
18-29	3(3.6)	46(55.4)	34(41.0)		
30-39	0(0)	20(42.6)	27(57.4)		
40-49	0(0)	5(45.5)	6(54.5)		
≥50	0(0)	3(25.0)	9(75.0)		
Gender 8.57 0.014					
Male	0(0)	8(26.7)	22(73.3)		
Female	3(2.4)	66(53.7)	54(43.9)		
Religion 3.235 0.198					
Christianity	3(3.6)	37(44.6)	43(51.8)		
Islam	0(0)	37(52.9)	33(47.1)		
Highest Level of Education 18.974 0.004					
None	0(0)	3(37.5)	5(62.5)		
Primary	0(0)	0(0)	6(100)		
Secondary	3(2.7)	65(57.5)	45(39.8)		

Tertiary	0(0)	6(23.1)	20(37.5)		
Ethnicity 42.647 0					
Igbo	0(0)	5(55.6)	4(44.4)		
Yoruba	3(21.4)	11(78.6)	0(0)		
Hausa	0(0)	31(39.7)	47(60.3)		
Others	0(0)	27(51.9)	25(48.1)		
Marital Status 1.055 0.59					
Single	0(0)	19(48.7)	20(51.3)		
Married	3(2.6)	55(48.2)	56(49.1)		
Occupation 9.1 0.168					
Student	0(0)	13(54.2)	11(45.8)		
Housewife	3(6.4)	19(40.4)	25(53.2)		
Civil servant	0(0)	17(44.7)	21(55.3)		
Self-employed	0(0)	25(56.8)	19(43.2)		

Table 6: Relationship between knowledge level and awareness of PUD among respondents n=153

Knowledge Level					
	Poor	Fair	Good	X ² value	P - value
	Freq (%)	Freq (%)	Freq (%)		
Have you heard about peptic ulcer disease? 153.00 0.000					
Yes	0(0)	74(49.3)	76(50.7)		
No	3(100)	0(0)	0(0)		

Table 7: Relationship between knowledge level and prevalence of PUD among respondents n=153

Knowledge Level					
	Poor	Fair	Good	X ² value	P - value
	Freq (%)	Freq (%)	Freq (%)		
Do you have peptic ulcer disease? 6.24 0.012					
Yes	0(0)	57(56.4)	44(43.6)		
No	0(0)	17(34.7)	32(65.3)		

Discussion

This study sought to find out the awareness, prevalence and knowledge level of peptic ulcer disease among the participants in a rural setting of Sokoto State, Nigeria. The sample is made of 153 participants drawn from members in a rural area of Sokoto State.

The age distribution is between 18 years and 58 years. The mean age is 30.92 years with a standard deviation of 10.01 years. The majority of the respondents are aged between 18-29 years (41.3); the remaining age groups are 30-39 years (30.7%), 40-49 years

(7.2%) and more than 50 years (7.8%). 80.4% of the respondents are females while the remaining 19.6% are males.

54.2 % are Christians and 45.8% are Muslims. The educational levels attained by the respondents are no education (5.2%), primary level (3.9%), secondary level (73.9%) and tertiary level (5.2%). 51.0% of the respondents are Hausas, 9.2% are Yoruba, 5.9% are Igbo and the remaining 34.0% are of other ethnic groups. 74.5% are married while 25.5% are single. The occupations of the respondents are housewives (30.7%), self-employed (28.8%), civil servants (24.8%), and students (15.7%). Majority of the respondents are housewives. This can be attributed to the fact that majority of the respondents are female as well as the fact that majority had just secondary level of education.

Out of the 153 respondents, 150 (98.0%) have heard of peptic ulcer disease which means that the awareness level is 98% in the community. This can be as a result of the use of the term commonly in the community. This is in keeping with [11] who reported higher level of awareness among final year physician assistantships and nursing students. However, this contrasts with [12] who reported lower levels of awareness.

Similarly, 101 respondents (67.3%) have been diagnosed of peptic ulcer disease which means that the prevalence rate of peptic ulcer disease in the population is 67.3%.

The knowledge of peptic ulcer disease was then assessed among the respondents who were aware of the disease. 98% recognized the stomach as the organ affected while the remaining 2.0% believed it was the heart. The symptoms of peptic ulcer disease assessed and selected by the respondents included upper abdominal pain (96.7%), lower abdominal pain (11.3%), heart burn (78.0%), fever (56.0%) and chest pain (82.7%). The causes of peptic ulcer diseases selected included prolonged fasting (93.3%), peppery food (81.3%), smoking (30.0%), alcohol (28.7%), drugs (41.3%) and spiritual causes (5.3%). The treatment methods include drugs (98.0%), herbs (4.0%) and eating early (100%).

The answers to each knowledge question were scored as explained in the data analysis section. 3 respondents (2.0%) had poor knowledge level; 74 (48.4%) had fair knowledge level while the remaining 76 respondents (49.7%) had good knowledge level. The percentage of respondents with fair and good knowledge is similar. This could be due to the fact that there was combination of illiterates and literates in the rural area. This could also be due to the fact that some of them did not receive adequate information from health care personnel. This is close to the study by [13] who found out that the awareness of Jamaican patients about peptic ulcer disease was inadequate and therefore, suggested that there is a need for more physician education of their patients as well as public health promotion about peptic ulcer disease. Poor awareness and knowledge of peptic ulcer disease especially the symptomatology can lead to delayed presentation to the hospital. Another study by [12] found out that majority (81.3%) had poor total knowledge score.

There is a statistically significant relationship between the knowledge level and gender (p-value of 0.014), highest level of education (p-value of 0.004) and ethnicity (p-value of 0.000). However, there is no significant relationship between the knowledge level and age (p-value of 0.202), religion (p-value of 0.198), marital status (p-value of 0.590) and occupation (p-value of 0.168). This is in keeping with some findings and also contrasts with some findings by [14] who found out that there was no significant difference between the patients knowledge related to peptic ulcer disease and their age, sex, area of residence and occupation. Similar findings were seen in [12] who stated that statistically significant difference were found between patient's level of knowledge score and occupation, in favour of students and office workers. It was also reported that statistically significant difference was observed between the patients level of knowledge score and age, in favour of patients between 20-30 years and education degree in favour of patients with high or secondary education.

There is a statistically significant difference between the knowledge level and awareness of peptic ulcer disease among the respondents (p-value of 0.000). This can be due to continuous use of the term in everyday conversation. A lot of people have al-

ready heard about peptic ulcer diseases from everyday conversation. However, most of the people do not have the true knowledge of the disease from lack of health education. Secondly, it may be due to a lot of myths and misconceptions surrounding peptic ulcer disease. This is similar to findings done in India where 80% of the participants were aware of peptic ulcer disease but only 30% knew of its symptoms [15]. This is also similar to another study in Abuja, Nigeria where 85% of the respondents were aware of peptic ulcer disease but only 25% knew its causes [16].

There is also a statistically significant difference between the knowledge level and prevalence of peptic ulcer disease among the respondents (p-value of 0.012). This can be due to the fact that people diagnosed with the disease have received health education on the disease and may have experienced some of the manifestations previously.

Conclusion

The study revealed that there was fair knowledge level on PUD. This is attributed to the various socio-demographic characteristics like age and educational background of the respondents.

The prevalence of peptic ulcer disease has been gradually increasing globally over the years. Prevalence of the disease was above 50% and is affected by factors which also affect knowledge level. It is quite necessary to know if people know about the disease, its causes and everything needed to know about the disease in order to reduce. The awareness level of peptic ulcer disease was high among the general population. The knowledge level was somewhat in-between. Hence various methods of health education and health programs must be implemented to ensure that the knowledge levels would be improved.

Recommendations

Patients and members of the community should be educated adequately and appropriated about their disease conditions as well as the health-related practices. It was shown that trained community workers educated peers about peptic ulcer disease in rural India, resulting in increased awareness and health seeking behaviour [15].

Health care providers should receive educational programs about the disease conditions to further impact more on the patients.

Further research and studies should be done to know the knowledge and prevalence rate in other communities in Nigeria.

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