

A Study on the Knowledge and Awareness of the Etiological Factors Causing Gastritis in Adolescents among the University Students

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Abstract

The factors influencing gastritis include the health risk behavior like alcohol consumption, smoking, eating pattern like skipping meal, use of counter medication like aspirin, NSAID's and family history, level of education and income. Chronic gastritis usually results from infection due to *Helicobacter pylori* (HP) and produce chronic gastritis. The present study aimed to find the knowledge and awareness of the etiological factors causing gastritis in adolescents among University Students in Malaysia. Data was collected and recorded from university students of engineering, medical and paramedical students aged between 17 to 26 years. Gastritis is the inflammation of the gastric mucosa. Acute gastritis may not have symptoms, but there may be a short history of dyspepsia, loss of appetite, nausea, or vomiting. Sometimes it may be severe and cause upper gastrointestinal bleeding. Patients' complaints of pain abdomen, nausea, vomiting, indigestion, and occasionally diarrhea, bad taste in the mouth, burning pain in epigastrium. Majority of the students (68.75%) have adequate knowledge scores, whereas 24% and 7.24% of the subjects have moderate knowledge scores and poor knowledge scores respectively.

Keywords: Etiological Factors; University Students; *H. pylori*; Gastritis; Prevalence; Analgesics

Introduction

Gastritis is more common in developing countries than in the developed countries. Unless treated promptly and completely, it will continue to produce problems throughout the person's life. The risk factors for developing gastritis are frequent use of analgesics, anti-rheumatics, antibiotics, missing or delaying meals, consumption of spicy or starchy food [1]. Other common causative factors of Gastritis include sedentary life, alcohol consumption, stress, lifestyle changes, drugs. One of the most important causes of gastritis is *Helicobacter pylori* infection. *Helicobacter pylori* infection with gastritis is believed to be present in 30% to 50% of the population; however, the majority is asymptomatic. The prevalence of *H. pylori* infection increases with age from < 10% in whites less than 40 year

to > 50% in patients more than 50 year [2]. Gastritis has severe complications including hemorrhage, anemia, shock, malnutrition, gastric perforation, gastric ulcer, gastric cancer [3]. The condition is diagnosed in as many as 10% of patients seeking emergency medical help for abdominal pain.

Objectives of the Study

To identify the level of awareness and knowledge of university students towards etiological factors associated with gastritis.

Null Hypothesis

There is no association between awareness and knowledge of university students towards etiological factors associated with gastritis.

Alternative Hypothesis

There is association between awareness and knowledge of university students towards etiological factors associated with gastritis.

Materials and Methods

A cross sectional study is used to assess the awareness and knowledge of university students towards etiological factors associated with gastritis among university students.

Independent variable in this study is the socio demographic factors which include the gender, ethnicity, level of education, and family history of gastritis.

Dependent variable is the awareness and knowledge of university students towards etiological factors associated with gastritis. In the Setting of the study, the investigator has selected AIMST University in Kedah, Malaysia to conduct the study with adequate availability of participants and feasible for conducting the study.

Population of study are AIMST University students from MBBS, Dentistry, Pharmacy, Biotechnology, Allied Health Professions and Foundation Studies courses, in the age group of 18 - 26 year.

Sample comprises of 400 University students in the age group of 17 - 25 years.

Inclusion criteria are the students from university with all categories of age and gender.

Exclusion criteria are students who had been diagnosed as gastritis by doctor.

The data obtained was analyzed using SPSS version 22 (trial version). The demographic data are described with the descriptive statistics. The chi-square test is carried out to find out associations among demographic data and the awareness and knowledge of eating habits in association with gastritis.

For ethical consideration, ethical approval is obtained from AIMST University.

Results

Table 1 above shows majority of the subjects (55.50%) are females; Majority of the sample 83.25% are in the age group of 21 to

23 years, then followed by 11.25% are in the age group of 18 to 20 years and remaining 5.5% are in the age group of 24 to 26 years; Highest percentage of subjects (64.75%) are Chinese; Majority of the subjects (62.50%) are MBBS students; Majority of the subjects (45.00%) are Year 4 students; Majority of the subjects (74.25%) are hosteller; Table 1].

SI No.	Characteristics	Variables	Frequency	Percentage
1	Gender	Male	178	44.5
		Female	222	55.5
2	Age in years	18 - 20	45	11.25
		21 - 23	333	83.25
		24 - 26	22	5.50
3	Race	Malay	4	1.00
		Indian	134	33.50
		Chinese	259	64.75
		Others	3	0.75
4	Course of Study	MBBS	250	62.5
		Dentistry	56	14.0
		Pharmacy	40	10.0
		Others	54	13.5
5	Educational Status	1 st Year Degree	48	12.00
		2 nd Year Degree	119	20.75
		3 rd Year Degree	49	12.25
		4 th Year Degree	180	45.00
		5 th Year Degree	4	1.00
6	Living Status	Hosteller	297	74.25
		Non-hosteller	103	25.75
7	Gastritis- Diagnosed by doctor	Yes	81	20.25
		No	319	79.75

Table 1: Distribution of sample characteristics in terms of frequency and percentage (N = 400).

	Range	Mean	Median	SD
Level of Awareness and Knowledge	0 - 10	7.8575	9	1.848170199

Table 2: Distribution of subjects according to the level of awareness and knowledge of gastritis (N = 400).

Level of Awareness and Knowledge	Score (Marks)	Percentage of Score	Frequency Total 400	Percentage 100%
Poor	0 - 4	< 40%	29	7.25
Moderate	5 - 7	41 - 70%	96	24.00
Adequate	8 - 10	81 - 100%	275	68.75
Maximum score = 10				

Table 3: Distribution of subjects according to the level of awareness and knowledge of gastritis (N = 400).

Table 2 and 3 shows distribution of subjects according to the level of awareness and knowledge of gastritis. Majority of the subjects (68.75%) have adequate knowledge scores, whereas 24% and 7.24% of the subjects have moderate knowledge scores and poor knowledge scores respectively.

	Range	Mean	Median	SD
Level of Awareness and Knowledge	0 - 10	7.8575	9	1.848170199

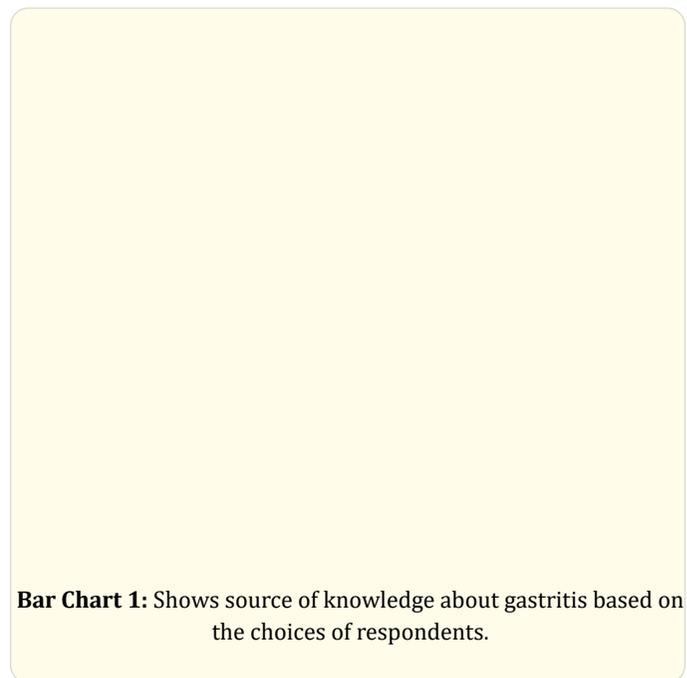
Table 4: Range, mean, median, and standard deviation of awareness and knowledge score of student on gastritis.

Table 4 shows range, mean, median, and standard deviation of awareness and knowledge score of students on gastritis. The awareness and knowledge score of students on gastritis range on 0-10. The mean ± SD of knowledge score is 7.8575 ± 1.848.

	N	Maximum	Mean	Std. Deviation	Mean % score	Level of Awareness and knowledge
Definition of Gastritis	400	1	0.9525	0.2129	95.25	Adequate
Asymptomatic bleeding is the common symptom	400	1	0.1875	0.3908	18.75	Poor
<i>H. pylori</i> is the most common cause	400	1	0.695	0.4609	69.5	Moderate
Eating habits as a factor	400	1	0.8425	0.3647	84.25	Adequate
Complication of gastritis	400	1	0.8675	0.3394	86.75	Adequate
Aggravating factors for gastritis						
Skipping meals	400	1	0.8950	0.3069	89.50	Adequate
Stress	400	1	0.8700	0.3372	87.00	Adequate
Spicy food	400	1	0.9350	0.2468	93.50	Adequate
Smoking	400	1	0.7800	0.4147	78.00	Moderate
Alcohol	400	1	0.8325	0.3738	83.25	Adequate
Valid N (listwise)	400				78.57	Moderate

Table 5: Area-wise-mean, standard deviation and mean percentage of awareness and knowledge score of subjects in gastritis (N= 400).

Table 5 shows that majority of the subjects have adequate awareness and knowledge in the areas of definition with mean ± SD as (95.25%, 0.9525 ± 0.2129), spicy food aggravates gastritis (93.50%, 0.9350 ± 0.2468), skipping meals aggravates gastritis (89.5%, 0.895 ± 0.3069), stress aggravates gastritis (87%, 0.87 ± 0.3372), complications of gastritis (86.75%, 0.8675 ± 0.3394), eating habits as a factor (84.25%, 0.8425 ± 0.3627) and alcohol aggravates gastritis (83.45%, 0.8375 ± 0.3738). The subjects have moderate awareness and knowledge of gastritis in the area of *H. pylori* (69.5%, 0.695 ± 0.4609), smoking aggravates gastritis (78%, 0.78 ± 0.4147). The subjects has poor knowledge regarding asymptomatic bleeding (18.75%, 0.1875 ± 0.3908). The overall knowledge score of the subjects are with mean percentage score of 78.57%.

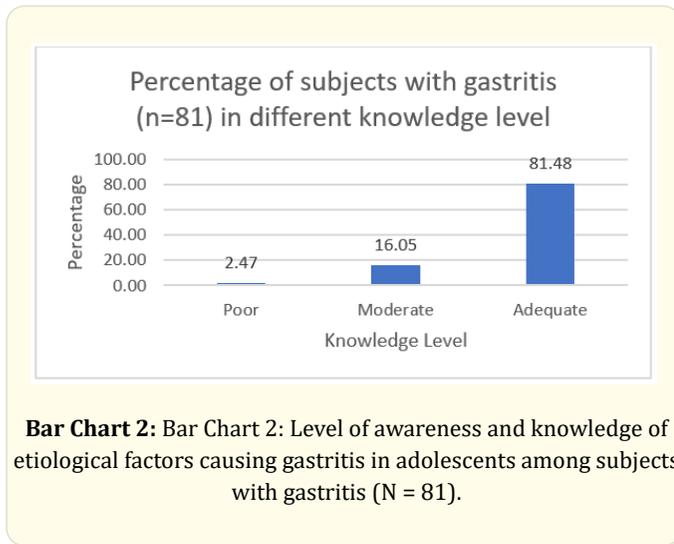


Bar Chart 1: Shows source of knowledge about gastritis based on the choices of respondents.

Bar chart 1 shows that 127 respondents out of 400 respondents have received their source of knowledge about gastritis from Mass Media. This is the most common source of knowledge among respondents. Following with 94 respondents received their knowledge from Health Professionals. 79 respondents received knowledge of gastritis from Journals/textbooks whereas 81 respondents received from school lectures. The remaining 18 respondents received knowledge from others.

Discussion

The awareness and knowledge score of students on gastritis range from 0 - 10 with mean percentage score of 78.57%. Majority of the subjects (68.75%) have adequate knowledge scores, whereas 24% and 7.24% of the subjects have moderate knowledge scores and poor knowledge scores respectively (Table 8-10, bar chart 2).



Smoking and Alcohol	Count	0	0	3	3
	% within Health Risk Behavior	0.0%	0.0%	100.0%	100.0%
% within Awareness and Knowledge Score	0.0%	0.0%	1.1%	0.8%	
	% of Total	0.0%	0.0%	0.8%	0.8%
Total	Count	29	96	275	400
	% within Health Risk Behavior	7.3%	24.0%	68.8%	100.0%
	% within Awareness and Knowledge Score	100.0%	100.0%	100.0%	100.0%
	% of Total	7.3%	24.0%	68.8%	100.0%

Table 6: Relationship between health risk behavior of the subjects and awareness and knowledge towards prevalence of gastritis among AIMST university students (N = 400).

Crosstab					
Poor		Awareness and Knowledge Score			Total
		Moderate	Adequate		
None	Count	28	93	242	363
	% within Health Risk Behavior	7.7%	25.6%	66.7%	100.0%
	% within Awareness and Knowledge Score	96.6%	96.9%	88.0%	90.8%
	% of Total	7.0%	23.3%	60.5%	90.8%
Smoking	Count	0	0	2	2
	% within Health Risk Behavior	0.0%	0.0%	100.0%	100.0%
	% within Awareness and Knowledge Score	0.0%	0.0%	0.7%	0.5%
	% of Total	0.0%	0.0%	0.5%	0.5%
Alcohol	Count	1	3	28	32
	% within Health Risk Behavior	3.1%	9.4%	87.5%	100.0%
	% within Awareness and Knowledge Score	3.4%	3.1%	10.2%	8.0%
	% of Total	0.3%	0.8%	7.0%	8.0%

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	8.246 ^a	6	.221
Likelihood Ratio	10.654	6	.100
Linear-by-Linear Association	6.512	1	.011
N of Valid Cases	400		

a. 7 cells (58.3%) have expected count less than 5. The minimum expected count is .15.

Table 7: Chi-square test showing the association between health risk behavior of the subjects and awareness and knowledge of eating habits towards prevalence of gastritis among AIMST university students (N = 400).

H_0 : There is no association between health risk behavior of the subjects and their awareness and knowledge of eating habits towards prevalence of gastritis (Table 6 and 7).

H_A : There is association between health risk behavior of the subjects and their awareness and knowledge of eating habits towards prevalence of gastritis.

Minimum expected count >5, p value = 0.221, which is > 0.05.

Therefore, null hypothesis is accepted, there is no association between health risk behavior of the subjects and their awareness and knowledge of eating habits towards prevalence of gastritis.

Awareness and knowledge among subjects with gastritis (n=81)		
Knowledge Level	No. of people	Percentage
Poor	2	2.47
Moderate	13	16.05
Adequate	66	81.48
Total	81	100

Table 8: Level of awareness and knowledge of etiological factors causing gastritis in adolescents among subjects with gastritis (N=81).

Level of Awareness and Knowledge	Score (Marks)	Percentage of Score	Frequency Total 400	Percentage 100%
Poor	0 - 4	< 40%	29	7.25
Moderate	5 - 7	41 - 70%	96	24.00
Adequate	8 - 10	81 - 100%	275	68.75
Maximum score = 10				

Table 9: Level of awareness and knowledge of etiological factors causing gastritis in adolescents among subjects with gastritis (N = 81).

	Range	Mean	Median	SD
Level of Awareness and Knowledge	0 - 10	7.8575	9	1.848170199

Table 10: Range, mean, median, and standard deviation of awareness and knowledge score of student on gastritis.

The above findings are contradicting with findings of other studies that related with awareness and knowledge of gastritis, where studies were conducted regarding *H. pylori* infection, and the awareness and general knowledge was poor across all studies [4]. The contradicting in the result might because our study’s subjects included medical and related field’s students, most of them had exposed to the knowledge of gastritis. Majority of the subjects (83.25%) are in the age group of 21 to 23 years: This finding is consistent with the finding of a descriptive correlative study conducted to find out the relationship between factors influencing score and knowledge score regarding gastritis in Sri Seshasai Educational society, which revealed that majority of the subjects aged between 20 - 22 years

[5]. In a study done to determine the effect of health education on the student’s behavior and on the prevention of gastritis, a pretest was conducted to find the knowledge about the risk factors for gastritis, 49.1% respondents had good knowledge and 50.9% had bad knowledge totaled [6]. Highest percentage of subjects (22%) are Chinese. Majority of the subjects (30%) are pharmacy students: This finding is a contradictory to the finding of a descriptive correlative study conducted to find out the relationship between factors influencing score and knowledge score regarding gastritis in Sri Seshasai Educational society, which revealed that majority of the subjects are post graduate students [7]. Majority of the subjects (27.00%) are Year 1 students followed by year 2 students (22%). Majority of the subjects (26%) are non-hosteller: Out of 100 samples 50 male undergraduates i.e. majority 28 (56.00%) were having adequate knowledge, 17 (34%) were having moderate knowledge and 5 (10.00%) were having inadequate knowledge on gastritis. In 50 female undergraduates 40 (80.00%) were having adequate knowledge, 8 (16.00%) were having moderate knowledge and 2 (4.00%) were having inadequate knowledge on gastritis [8]. In a study conducted among engineering students showed that majority [65%] were having the good knowledge regarding risk factors of gastritis. It further showed that 18% were having average level of knowledge score, 65% were having good level of knowledge score, 17% were having very good level of knowledge score, and 0% were having very excellent of knowledge score regarding risk factors of gastritis. The demographic factors like age, dietary pattern, place of stay and specific health risk behavior showed significant association with knowledge scores [7]. The prevalence gastritis may vary between and within the countries in relation with ethnicity, race, and geographical area of the people [9]. Gastritis can affect people of any age, sex, race, and social status but it is more common in adolescent age. Adolescence is the time of transition from childhood to adulthood and during adolescence physical and psychological changes will take place [7]. Factors like anxiety/stress, drinking of hot drinks like coffee, tea etc. and frequent use of anti-inflammatory drugs such as ibuprofen, aspirin, etc. showed statistically significant association with gastritis. *Helicobacter pylori* (HP) infection can cause chronic gastritis. Among the students of Hawassa University College of Agriculture the incidence of gastritis is around 41%. About 70% of the students developed gastric irritation after the joining the university. Most of students with gastric irritation were students of age 21 and above and third year and above [10]. The demographic factors like age, sex, ethnicity, religion, year of study

and CGPA mark did not show significant association with gastric irritation.¹⁰ Stress is closely related with the occurrence and incidence of gastritis [11]. There was a strong relationship between stress and gastritis in the study conducted among the university students. It has been reported that among 120 students with gastritis, about 62% said that their daily routines work was hectic and 80.8% answered that they were stressed during examination which was usually seasonal. Meanwhile, about 58.3 of the students were stressed due to personal reasons. In addition, 56.7% were stressed due to their studies and 43.3% were stressed due to their peers. In this survey, it was also found that 43.3% of students were stressed by their exam results or their academic performance. The consumption of spicy food was the highest risk factor among eating followed by the eating citrus fruits. It is also related to their tendency to skip more than 1 meal on some days. The incidence of Gastritis among pre-clinical students was seasonal and mostly during examination. It was mainly due to the stress during examination, and it is seasonal. As they usually do not smoke, drink alcohol, and take medications like NSAIDs or Antacids their relevance to gastritis among student is negligible [12]. Chronic gastritis can be caused by depression and may a risk factor for gastric cancer. The *H. pylori* infection in children can cause atrophic gastritis which is a predisposing factor for chronic gastritis and gastric cancer [13]. In a study conducted at Ambo University, in Ethiopia showed the prevalence of gastritis is 57.7%. There was an association between *H. pylori* infection and geographic area and environmental factors like water sources, housing condition hygiene practices etc. It was found that HP infection is strongly associated with age and gastritis [14]. Usually, the *H. pylori* infection is acquired in the childhood and remains asymptomatic. Later in the adulthood it produces the clinical sequelae like gastritis, peptic ulcer disease, and rarely stomach cancer [15]. It is estimated that 50% of all African children are infected by *H. pylori* the age of 10 years [16]. Similarly, the seroprevalence of *H. pylori* studies from Delhi, Hyderabad and Mumbai revealed that by ten years of age more than 50% and by 20 years more than 80% of are infected with *H. pylori* and have gastritis. All the studies show that *H. pylori* infection is the adult population of India [17]. Epidemiologic studies have shown about 50% of adults in developed countries and 90% of adults in developing countries are positive to *H. pylori* [18]. Study conducted in Nigeria revealed that most of students heard about PUD, but knowledge about its etiology, symptoms and treatment were poor. The course of study whether science based like medical and paramedical or non-science based was an important factor associated with awareness of

PUD, a significantly greater proportion of science-based students 82 (92.1%) than non-Science based students had better knowledge about peptic ulcer disease [19].

Conclusion

Students need assistance to learn lifestyle modification, dietary knowledge, good attitude, good practices, dietary management as well as medical management. to achieve and maintain health and to make necessary lifestyle changes. The researcher recommends the university and other stakeholders to minimize the incidence through awareness creation about the causes of gastritis. Booklet explaining the risk factors can be distributed for the students to enhance their knowledge about gastritis and it will help to them prevent it.

Limitation of the Study

Study is restricted to only students in a university.

Recommendations for Further Research

Similar study can be conducted with larger sample and at different setting to aid in the generalizations of the findings.

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