Factors Associated with Gastric Disease Among Students of Hawassa University: The Case of College of Agriculture Students

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Abstract: Gastritis affect a person in any sex, age, race and living status even if it is common among adolescent. Unless treated promptly and completely, it can continue to cause problems throughout the person's life. This study aimed to measure the prevalence of gastritis and assessed associated factors in Hawassa University of College of Agriculture. Cross-sectional study design was used and 174 regular students was taken using questionnaire. Then data was analyzed using descriptive statistics and inferential statistics like chi-square and logistic regression model with help of SPSS. The result of the study indicated that the prevalence of gastritis was 41.4. Problem of anxiety/stress, use of hot drinks like coffee, tea etc. and frequent use of anti-inflammatory drugs such as aspirin, ibuprofen etc. had statistically significant association with gastritis. This happens due to the fact that anti-inflammatory drugs can result in infection with the bacteria, Helicobacter pylori. Infection with Helicobacter pylori (HP) can usually cause chronic gastritis. Over use of hot drinks and stress/anxiety had also similar effect on gastritis. Thus, the researcher recommends the university and other stakeholders to minimize the incidence through awareness creation about the causes of gastritis.

Keywords: Students, Gastritis, Anti-Inflammatory Drugs, Gastric Irritation, Logistic Regression

1. Introduction

Even if gastritis is more common among the adolescents, it can affect anyone at any age without isolation. Adolescence is the time of transition from childhood to adulthood. During this period lots of physical and psychological changes take place [1]. Gastritis is common among developing countries than developed countries. The prevalence of infection with gastric disease varies between and within countries in relation with race, ethnicity and geographical area of the population [2].

A variety of mild to severe stomach symptoms may indicate gastritis. Unless treated promptly and completely, they can continue to cause problems throughout the person's life. Affected person get abdominal pain, indigestion, nausea, vomiting, diarrhea, bad taste in the mouth, loss of appetite and burning pain in epigastric region [1]. This is because stomach lining is made up of specialized cells that produce acid and enzymes. These acids and enzymes are very important as they help in digestion of food. If the stomach lining is destroyed, it results in lesser productions of the various enzymes, acids as well as mucus. Thus, it is resulting in gastritis, that is, stomach irritation or gastric disease. The Gastric disease is caused by the secretion of gastric mucus. It is a disease which caused by the secretion of gastric juices acting on an empty stomach [3].

Gastritis has been classified based on time of cause, histological features and anatomic distribution or proposed pathogenic mechanism (acute vs. chronic gastritis) [1]. Acute gastritis may not show symptoms but it can be associated with short-lived dyspepsia, lack of appetite, nausea or vomiting. It can occasionally be severe enough to cause gastrointestinal bleeding. The most common cause is ingestion of aspirin or other non-steroidal anti-inflammatory drugs (NSAIDs). Meaning over use of aspirin, ibuprofen, and other over-the-counter pain medications, as well as possible heavy alcohol use can also cause the early stages of infection with the bacteria Helicobacter pylori. Most of these cases

were resolved by themselves, but endoscopy and biopsy may be required to exclude other conditions such as peptic ulcer disease or cancer [4].

Chronic gastritis is extremely common and usually results from infection with Helicobacter pylori (HP). Infection with HP becomes more common with increasing age. Approximately 40-50% of people are infected by the age of fifty. Gastritis, as indicated by the inflammation and damage to the stomach lining. Currently, there is little evidence that patients with symptoms of indigestion but no abnormality at endoscopy will benefit from treatment of the infection. It mostly affects middle-aged or elderly women, and usually causes no symptoms. The inflammation of the gastric lining continues over many years until the stomach's ability to secrete acid is lost. This is a result of severe damage to the stomach lining [4].

The common cause of acute gastritis is dietary indiscretion. The person eats too much or rapidly or eat food that is noxious because it is too highly seasoned or is infected exposed for actuate gastritis [5]. Chronic gastritis is inflammation of the stomach that exists for a Pre-long period. Malignant ulcer of the stomach can be caused by portal hypertension and by uremia (the breaking down of gastric mucosa). It is believed to be caused by the excess of urea in the blood or possibly by bacteria.

Helicobacter pylori was discovered in 1982 by two Australian scientists Robien Warren and Barry J. Warent and Marshal tried to see that most gastric ulcers and gastric were caused by colonization with this bacterium, not by stress or spicy food [6].

Studies by different researchers on gastritis show different result for the causes of gastritis based on their professional backgrounds. Most of these focus on the HP and its causing factors at general population. Even though some studies tried to focus on causing factors of gastritis irritation among university students, their focus was on factors like chat chewing and lack of knowledge of causing factors [1, 7 and 8].

According to the study at Ambo University which is one of state university in Ethiopia, the prevalence of gastritis is 57.7% [8]. The prevalence of khat chewing is 17.6%. There were more males, 155(87.6%, p < 0.001) than females, more students in the age group 18–24 years, 176(99.4%) than other age categories, more Muslims, 75(42.4%, p < 0.001) than other religion followers, more Oromos 114(64.4, p < 0.05%) than other ethnic groups who chew khat. However, at public secondary school students of lkata local government area of Nigeria, more females are tested positive HP compared to their male colleagues with no significant difference [2]. It is also stated that geographic area and ethnicity determine the cause of HP which is facilitated with the risk factors.

Gender, religion, education qualification and specific health risk behavior had significant relation with gastritis [1]. Gastric disease had significant association with demographic variables likes age, dietary pattern. However, frequent uses of counter medication had no statistically significant association with gastric irritation. Geographic area and environmental factors were associated with HP. Environmental factors like water sources, housing condition hygiene practices etc. were associated with HP. Similarly, it was found that HP positivity had strong association with age [8].

Using binary logistic regression analysis, Gastric Intestinal (GI) disorders are found to be higher among khat chewers than non-chewers. The magnitude of GI disorders increased with frequency of khat chewing where the disorders were highest among daily chewers. Constipation was found to be the problem of 80.0% of daily chewers. Gastritis symptoms are found to be the problem of 94.4% of students who chew khat once per week and 80.0% of daily chewers [8].

Thus, this study focused on the incidence of gastritis and causing factors of gastric disease in one of the state university, Hawassa University.

2. Methodology

2.1. Study Design and Target Population

Cross-sectional design was adopted to conduct the study where data was collected using questionnaire.

2.2. Inclusion and Exclusion Criteria

The inclusion criteria were applied to select the right target population for the students.

The selection of student was irrespective of ethnicity, religion, gender, batch, age and year of attending school.

Regular students currently out of school due to various reasons were not selected for the study. For example, students who were at hospital due to chronic or accident health problem.

Those students selected and not present during survey were excluded from the study. Then, the next student who was nearest to the pervious selected student from the sample frame was chosen for the interview.

2.3. Sampling Technique

For this study stratified random sampling procedure was used to determine the study unit. The population was divided in to four stratum that include all Schools of College of Agriculture, Hawassa University. Thus, School of Nutrition, Food Science and Technology (SNFST) is considered as strata 1, School of Animal and Range Science (SAR) as strata 2, School of Plant and Horticulture (SPHC) as strata 3, and School of Environment, Gender and Development study (SEGDS) as strata 4. In each strata, the study unit for the study was selected using systematic random sampling technique. From the batches students' list the Kth students was selected for the study.

2.4. Sample Size Determination

In this study, next to dividing of population in to four stratum, number of study units which were selected for the interview was calculated as follows.

The size of the sample for this study was calculated using the following formula.

$$n = \frac{n_0}{1 + \frac{n_0}{N}}$$

$$n_0 = \frac{\sum_{i=1}^{L} W_i P(1-P)}{\frac{d^2}{Z_{\alpha/2}^2}}$$

Where

n = sample size needed for the study

N = total population

N_i = size of stratum i, which is number of population in each school

Z= the critical values of standard normal cumulative distribution that corresponds to α/2(Z=1.96 at 0.05 level of significance)

p= probability that a student with gastritis problem (p=0.5)

1-p= probability that a student with no gastritis problem (q=0.5)

d = level of precision (d=0.0692)

L= total number of stratum, number of school, (L=4)

w_i = estimated proportion of N_i to N

Thus, N_1= School of Nutrition and Food Science Technology students =325

N_2= School of Animal and Range Science students =145

N_3= School of Plant and Horticulture Students=476

N_4= School of Environment, Gender and Development study students = 450

$$Total\ population(N) = N_1 + N_2 + N_3 + N_4$$
$$= 325 + 145 + 476 + 450 = 1396$$

Therefore, estimated proportion of the population (w_i) was estimated as follow. Thus,

$$w_i = \frac{N_i}{N}$$

$$w_1 = \frac{N_1}{N} = \frac{325}{1396} = 0.23$$
$$w_2 = \frac{N_2}{N} = \frac{145}{1396} = 0.1$$

$$w_3 = \frac{N_3}{N} = \frac{476}{1396} = 0.34$$

$$w_4 = \frac{N_4}{N} = \frac{450}{1396} = 0.32$$

Thus,

$$n = 174$$

Proportional allocation for each school

$$n_h = \frac{nN_h}{N}$$

$$n_1 = \frac{nN_1}{N} = \frac{174 * 325}{1396} = 40$$

$$n_2 = \frac{nN_2}{N} = \frac{174 * 145}{1396} = 18$$

$$n_3 = \frac{nN_3}{N} = \frac{174 * 476}{1396} = 60$$

$$n_4 = \frac{nN_4}{N} = \frac{174 * 450}{1396} = 56$$

$$n = n_1 + n_2 + n_3 + n_4 = 40 + 18 + 60 + 56 = 174$$

2.5. Study Variable

Dependent variable: the dependent variable in this study is presence of gastric disease among students.

Independent variables: the possible independent variables in this study include: Sex, Age, Chewing chat, Alcohol drink, Frequent use of counter medication, Quality of cafeteria service, Scoring low grades, Batches, Ethnicity and Religion.

2.6. Data Entry and Analysis Method

Collected data was manual checked for completeness and coded carefully. Then, data was entered and analyzed using statistical software program known as SPSS program version 19. The analysis was presented using descriptive statistics and inferential statistics like chi-square and logistic regression.

2.6.1. Descriptive Statistics

For this study graphs and frequency distribution like one-way tables and cross tabulation were used.

2.6.2. Inferential Statistics

For this study inferential statistics like chi-square test and logistic regression model were used to make inference or conclusion about the population based on sample taken from the population.

(i) Chi-square Test

Chi-square test was used to assess whether the dependent variable, gastric disease associated with predictor variables like demographic characteristics, stay time of university, use of counter anti-inflammatory medication and use of drugs among students.

(ii) Logistic Regression

In this study another inferential statistics that was used is logistic regression model. The dependent variable was presence of gastritis with two possibilities; the students without gastric irritation (0) and students with gastric irritation (1). By inverting the definition of the logistic function, we obtained as:

$$\pi_i = \frac{\exp(\beta_0 + \beta_1 x_1 + \cdots + \beta_k x_k)}{1 + \exp(\beta_0 + \beta_1 x_1 + \cdots + \beta_k x_k)}$$

Suppose that gastritis is denoted by "Y" which has binary values. When Y=1, it shows the students with gastric irritation and when y=0, it shows the students without gastric irritation. Then Π_i is the probability that the students with gastric irritation whereas (1- Π_i) is the probability that the students without gastric irritation.

$$\pi_i = \frac{\pi(x)}{\pi(x)}$$

The ratio of the two probabilities, i.e. $\frac{\pi(x)}{1-\pi(x)}$ is the odds

that the selection of students with gastric irritation. In terms of odds the logistic regression model can be written as

$$\frac{\pi(x)}{1 - \pi(x)} = \exp(\beta_0 + \beta_1 x_1 + \cdots + \beta_k x_k)$$

Taking the natural logarithm, it becomes:

$$logit \ (\pi(x \ )) = ln \ \left(\frac{\pi(x)}{1 - \pi(x)}\right) = \beta_0 + \beta_1 x_1 + \cdots + \beta_k x_k$$

Where $\beta_0, \ldots, \beta_k$ are coefficients
$\ldots x_1 \ldots x_k$ are independent variables

3. Result and Discussion

3.1. Results

3.1.1. Descriptive Analysis

Table 1. *Number of respondents with gastric irritation problem and start time of gastric irritation.*

Items	Frequency	Percent	Cumulative Percent
Gastric prevalence			
Gastric irritation problems	72	41.4	41.4
Non-gastric irritation problems	102	58.6	100.0
Total	174	100.0	
Start Time of gastric illness			
Before joined the university	22	30.5	30.5
After joined the university	50	69.5	100
Total	72	100	

Source: Own Source

There were 174 Hawassa University College of agriculture regular students from different schools and batch were participated in the interview. Out of these students 72(41.4 percent) of them reported as they had gastric irritation problem and 102(58.6 percent) of them reported as they had no gastric irritation problem. Among those respondents that reported gastric irritation problem, 50 (about 70 percent) were developed gastric irritation after they joined the university while 22 (30 percent) of them were developed gastric irritation before they came to university.

Table 2. *Status of gastritis with respect to gender, age, CGPA, time of reading per day and Stress.*

Item	Status of gastritis		Total
	Gastric patient	Non-gastric patient	
Gender			
Male	47 (40.2%)	70 (59.8%)	117 (67.8%)
Female	24 (42.9%)	32 (57.1%))	56 (32.2%)
Total	72 (41.4%)	102 (58.6%)	174 (100%)
Age			
below 21	34(40.0%)	51 (60.0%)	85 (48.9%)
21 and above	38(42.7%)	51 (57.3%)	89 (51.1%)
Total	72(41.4%)	102 (58.6%)	174 (100%)
CGPA			
below 3.00	38 (44.7%)	47(55.3%)	85 (48.9%)
3.00 and above	34 (38.2%)	55 (61.8%)	89 (51.1%)
Total	72 (41.4%)	102 (58.6%)	174 (100%)
Time of reading			
Below 4hrs/day	26 (37.7%)	43 (62.3%)	69 (39.7%)
4hrs and above/day	46 (43.8%)	59 (65.2%)	105 (60.3%)
Total	72 (41.4%)	102 (58.6%)	174 (100%)
Stress			
with anxiety	31 (56.4%)	24 (43.6%)	55 (31.6%)
without anxiety	41 (34.5%)	78 (65.5%)	119 (68.4%)
Total	72 (41.4%)	102 (58.6%)	174 (100%)

Source: Own Source

As shown in Table 2 above, 117 (67.8 percent) respondents were male and 56 (32.2 percent) respondents were female students. Among 56 female students, 24 (42.9 percent) of them reported that they had gastric irritation. Whereas 47 (40.2 percent) male students reported as they had gastric irritation. About 43 percent of students who were 21 and above years old were reported that they had gastric irritation while 40 percent of students under 21of age reported gastric problem.

About 45 percent of students recorded CGPA below 3.00

were reported gastric irritation whereas 38 percent of students scored CGPA of 3.00 and above reported gastric irritation problem. About 44 percent of students reading 4 hrs and above per day reported gastric irritation but 38 percent of students reading less than 4 hrs reported gastric irritation. As it is shown in the Table 2, 56 above (about 32 percent) of students were in stress due to different reasons they face. Among those students face anxiety, 31(56.4 percent) of them developed problems of gastric irritation.

***Table 3.** Gastritis and non-gastritis patient with school and batch.*

| School/batch | Status of gastritis | | Total |
	Gastric patient	Non-gastric patient	
School			
Nutrition, food science and technology	21 (52.5%)	19(47.5%)	40 (23%)
Animal and range science	5 (27.8%)	13(72.2%)	18 (10.3%)
Plant and horticulture	27 (45%)	33(55%)	60 (34.5%)
Environment, gender and development study	19 (33.9%)	37(66.1%)	56(32.2%)
Total	72 (41.4%)	102(58.6%)	174 (100%)
Batch			
First year	23 (39.7%)	35 (61.3%)	58 (33.3%)
Second year	20 (37.7%)	29 (62.3%)	53 (30.5%)
Third year and above	29 (46.0%)	34 (54%)	63 (36.2%)
Total	72 (41.4%)	102 (58.6%)	174 (100%)

Source: - Own Source

As indicated in Table 3 above, the students interviewed, 40 (23 percent) of them were from school of nutrition, food science and technology, 18 (10.3 percent) were from school of Animal and range science, 60(34.5 percent) were from school of Plant and horticulture and 56(32.2 percent) were from school of Environment, gender and development studies. Out of those interviewed, about 53 percent, 45 percent, 34 percent and 28 percent of Nutrition, food science and technology, Plant and horticulture, Environment, gender and development study and Animal and range science students respectively reported gastric irritation problem.

Out of the total students, 58(33.3 percent) of them are first year, 53(30.5 percent) of them are second year, 63(36.2 percent) of them are third year and above. From these students, 29 (46 percent) of third year and above, 23 (40 percent) of first year and 20 (38 percent) of second year students respectively face gastric irritation.

***Table 4.** Gastric patient and non-gastric patient with respondents' religion and ethnicity.*

| | Status of gastritis | | Total |
	Gastric patient	Non-Gastric patient	
Religion			
Orthodox	53 (47.3%)	59(52.7%)	112(64.3%)
Muslim	6 (37.5%)	10(62.5%)	16(9.2%)
Protestant	13 (28.9%)	32(71.1%)	45(25.9%)
Others	0 (0%)	1(100%)	1(0.6%)
Total	72 (41.4%)	102(58.6%)	174(100%)
Ethnicity			
Oromo	17(41.5%)	24(59.5%)	41 (23.6%)
Amhara	34(49.3%)	35(50.7%)	69 (39.6%)
Tigray	2(15.4%)	11(84.6%)	13 (7.5%)
Sidama	5(29.4%)	12(70.6%)	17 (9.8%)
Others	14(41.2%)	20(58.8%)	34(19.5%)
Total	72(41.4%)	102(58.6%)	174(100%)

Source: Own Source

As shown in Table 4 above, about 64 percent, 9 percent, 26 percent and 0.6 percent of students interviewed were belongs to Orthodox, Muslim, Protestant and Others religion. About 47 percent, 38 percent and 29 percent of Orthodox, Muslim and Protestant religion followers respectively reported gastric irritation problem.

Regarding the ethnicity of students, about 24 percent of them were Oromo, 40 percent were Amhara, 6 percent were from Tigray, 10 percent were from Sidama and 20 percent were from Others ethnic group. About 49.3 percent, 41.5 percent, 41.2 percent, 29.4 percent and 15.4 percent of students out of Amhara, Oromo, Others, Sidama and Tigray respectively faced gastric irritation problem.

According to Table 5 below about 85 percent of students interviewed were users of hot drinks like coffee, tea, etc. and out of students reported that they face gastric irritation, about 92 percent of them were hot drink users. Similarly, about 33 percent of students use anti-inflammatory drugs likes ibuprofen, aspirin etc. and out of these students 50 percent of them reported as they face gastric irritation problem.

Table 5. *Gastric patient and non-gastric patient use of hot drinks, inflammatory drugs, cigarettes and chat.*

	Status of gastritis		Total
	Gastric patient	**Non-gastric patient**	
Use of hot drinks			
Hot drink users	66 (91.7%)	82 (80.4%)	148 (85.1%)
Non-users	6 (8.3%)	20 (19.6%)	26 (14.9%)
Total	72(100%)	102 (100%)	174 (100%)
Use of anti-inflammatory drugs			
Users	36 (50%)	22(21.6%)	58 (33.3%)
Non-users	36 (50%)	80 (78.4%)	116 (66.7%)
Total	72 (100%)	102 (100%)	174 (100%)
Cigarettes smoking			
Smoker	3 (4.2%)	3 (2.9%)	6(3.4%)
Non-smoker	69 (95.8%)	99 (97.1%)	168 (96.6%)
Total	72 (100%)	102 (100%)	174 (100%)
Chewing chat			
Chat-users	8 (11.1)	6(5.9%)	14(8%)
Non-users	64 (88.9%)	96 (94.1%)	160(92%)
Total	72 (100%)	102 (100%)	174 (100%)
Using cafeteria			
Cafeteria users	67 (93.1%)	91(89.2%)	158 (90.8%)
Non-users	5 (6.9%)	11(10.7%)	16 (9.2%)
Total	72 (100%)	102(100%)	174 (100%)

Source: Own Source

According to the above table, 96.6 percent of interviewed students were non-cigarettes smokers. Out of those reported gastritis irritation, 4.2 percent of them were cigarettes smokers. Similarly, 92 percent of interviewed students were non-users of chat. Out of those reported gastritis irritation, 11.1 percent of them were chewing chat.

As it is also shown in the table above, about 91 percent of students were reported that they were cafeteria users while only 9 percent of interviewed students were non-student cafeteria users. Among those reported gastritis irritation, 93.1 percent of them were student cafeteria users while 6.9 percent of them were non-student cafeteria users.

3.1.2. Chi-square Test

Table 6. *Relationship between gastric irritation with hot drinks, anxiety and ant- inflammatory drugs use.*

Dependent Variable	Independent Variable	Pearson Chi-Square	df	Asymp. Sig. (2-sided)
Gastric irritation	Hot drinks	4.221[a]	1	0.04
	Anxiety	7.444[a]	1	0.006
	Anti-inflammatory drugs use	15.353[a]	1	.000

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 10.76.
b. Computed only for a 2x2 table

The table shown above indicates that gastric irritation was significantly related with hot drinks like coffee and tea since p-value less than 5 percent. The above Chi-Square table also showed that gastric irritation had significant relation with anxiety at 5 percent level significant. Moreover, the above table depicted that gastric irritation had significant relation with anti-inflammatory drugs like aspirin, ibuprofen since the p-value is less than 5 percent significant level.

3.1.3. Binary Logistic Regression Model Result

Table 7. *Omnibus Tests of Model Coefficients.*

	Chi-square	Df	Sig.
Step	44.078	20	0.001
Block	44.078	20	0.001
Model	44.078	20	0.001

Table 7 above gives the overall test for the model that includes the predictors. The chi-square value of 44.08 with a

p-value of less than 0.05 tells us that our model fits significantly better than an empty model (i.e., a model with no predictors).

Table 8. *Model Summary.*

-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
183.677[a]	0.26	0.35

According to Nagelkerke R Square, 35% of the variation in the dependent variable is explained by the independent variable.

Table 9. *Hosmer and Lemeshow Test.*

Chi-square	df	Sig.
6.881	8	0.549

Hosmer and Lemeshow test is also a goodness of fit test of the null hypothesis that the model adequately fits the data

well. In this case since the Hosmer-Lemeshow goodness-of-fit test is insignificance (p-value is greater than 0.05 i.e. 0.549>0.05), we fail to reject the null hypothesis that there is no difference between observed data and model-predicted values. This implies that the model fits the data at an acceptable level which proves that the predicted data are not significantly different from the observed data.

Table 10. Logistic regression model result.

	B	S.E.	Wald	df	Sig.	Exp(B)
Problem of anxiety (Yes)	1.054	0.408	6.675	1	0.01	2.869
Use of hot drinks (Yes)	1.155	0.606	3.63	1	0.047	3.174
Use of anti-inflammatory drugs (Yes)	1.39	0.432	10.341	1	0.001	4.015
Constant	-21.72	40193.4	0	1	1	0

a. Variable(s) entered on step 1: Problem of anxiety, Use of hot drinks, Use of anti-inflammatory drugs.

According to the logistic regression model result presented in Table 10 above, only variables like anxiety problem, using ant-inflammatory drugs like aspirin, ibuprofen are statistically significant at 5 percent level.

The positive coefficient (B=1.054) of anxiety shows that student with problem of anxiety has a chance of having gastritis. It also indicated that the odds ratio of the model due to the problem of anxiety was 2.9. Meaning the occurrences of students with gastric irritation was 2.9 times of non-gastric irritation due to the problem of anxiety. In the above logistic regression table, the positive coefficient (B=1.390) indicates that students those frequently use anti-inflammatory drug have a chance of having gastric disease. It also showed that students with gastric irritation problem were 4 times higher than that of non-gastric irritation problem due to the frequent use of anti-inflammatory drugs. The positive coefficient (B=1.155) of anxiety shows that student who use hot drinks has a chance of having gastritis. The odds ratio 3.147 shows that students using hot drinks are 3.147 times more likely to be exposed for gastric irritation keeping the other variables constant.

3.2. Discussion

The result of the study showed that the incidence of gastritis among the students of Hawassa University College of Agriculture is 41.4 percent. It is lower than that of Ambo University prevalence rate i.e. 57.7 percent [8]. For most of respondents (70 percent), gastric irritation problem was developed after the joining the university.

Majority of students with gastric irritation were students from age 21 and above, and students from third year and above which is consistent with [8]. Students scored below 3.00 CGPA and students read 4hrs and above per day were more infected with gastritis than other group of students. Most of the interviewed students were orthodox religion followers and Amhara ethnic members. This result is different from the study in Ambo University where major interviewed students were Muslim followers and Oromo ethnic group [8].

Problem of anxiety showed statistically significant relation with gastritis similar to the study conducted by [3]. Similarly, hot drink like coffee, tea etc. users showed statistically association with gastritis. The finding also showed that frequent use anti-inflammatory drug was statistically association with gastritis which is consistent with [9]. This result is inconsistent with the study that eating habits and lifestyle, smoking, alcoholism, anxiety, stress, associated diseases and inadequate nutrition did not have significant differences statistically [10].

The prevalence of Chat chewing and cigarette smoking were 8 percent and 3.4 percent respectively and had not significant association with gastritis. This finding is different from the study in Ambo University where prevalence rate of Chat chewing was 18 percent and has significant relation with gastritis [8]. Similarly, majority (about 91 percent) of the respondents were users of student cafeteria which is prepared by the university but using cafeteria had no significant association with gastritis. This result is different from other study where the risk of gastritis is positively associated with use of alcohol, table salt/soy sauce and smoking [1].

4. Conclusions and Recommendations

4.1. Conclusions

This study is done to identify factors associated with prevalence rate of gastritis in the study area. The results showed that problem of anxiety, use of hot drinks like coffee, tea and frequent use of anti-inflammatory drugs such as aspirin and ibuprofen had significant association with the gastritis. Over use of aspirin, ibuprofen, and other over-the-counter pain medications can result in infection with the bacteria, Helicobacter pylori. Infection with Helicobacter pylori (HP) can usually cause chronic gastritis. Over use of hot drinks and stress/anxiety can also lead a person to problem of gastritis. However, demographic factors like sex, age, religion and ethnicity; students belongingness of school, batch and CGPA and abuse of alcoholic drinks, cigarettes smoking, chewing Chat and read time per day did not show significant association with gastric irritation.

4.2. Recommendations

The high prevalence rate calls for intervention to minimize the incidence of the gastritis among students in the university. Basically, it requires the university and other stakeholders to create awareness and knowledge for students about the causes of gastritis and the way of treating gastritis before it reached chronic level. It also requires to support students in

developing their psychological confidence during their university stay.

Acronyms and Abbreviations

ARS	Animal and Range Science
CGPA	Cumulative Grade Point Average
EGDS	Environment, Gender and Development Studies
HP	Helicobacter Pylori
NFST	Nutrition, Food Science and Technology
NSAIDs	Non-Steroidal Anti-inflammatory Drugs
PHC	Plant and Horticulture
SARS	School of Animal and Range Science
SEGDS	School of Environment, Gender and Development Studies
SNFST	School of Nutrition, Food Science and Technology
SPHC	School of Plant and Horticulture

Operational Definitions

Gastritis refers to an inflammation or infection of the mucosal lining of the stomach. It can be caused by a number of factors that are always the result of an imbalance in the gastric juices by the gastric mucosa. In this study gastric irritation or gastric disease are interchangeable used with gastritis.

Helicobacter Pylori (HP) is a bacteria commonly found in the stomach. In fact, it is suggested that more than half the world's population has this bacteria, yet never experience any problem.

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