PREVALENCE AND RISK FACTORS OF SELF REPORTED GASTRITIS AMONG UNIVERSITIES STUDENTS IN HARGEISA SOMALILAND: cross sectional study

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Submitted to: Online Journal of Public Health Informatics
on: March 20, 2024

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Abstract

Background: Background
Gastritis is one of the most common and insidious diseases in human beings; hundreds of millions of people worldwide suffer from this inflammatory condition (Maaroos 1. P.-I., 2015). Globally, about 2.7 million people around the world are affected with gastritis (Mohamed Naveed, 2016). 50.8% of the populations in developing countries suffer from gastritis. With a lower, 34.7% of the population in developed countries had health problems due to gastritis (Marcis L O. S., 2018). Compared with developing countries, the prevalence rate of gastritis markedly decreased in developed countries. However, it has remained as a major health problem (Liu Q, 2019).
A systematic review of African countries indicated 38% of women and 18% of men suffered from gastritis. In Kenya, among patients who visited health care institutions, 73.3% of children and 54.8% of adults diagnosed clinically as they had gastritis. Similarly, in Uganda, 44.3% of young people less than the age of 12 years were suffering from gastritis. Furthermore, in Nigeria, 40.7% of children with an age range from 6–10 years had gastritis (Smith S, Infections with Helicobacter Pylori and Challenges Encountered in Africa., 2019). A previous study, a total of 145 gastritis students were recruited. The proportion of male and female gastritis students was 63.4% and 36.6% respectively (Alebie G, 2016).
There is not much information available about gastritis and related conditions, including the risk factors and the prevalence of gastritis, which is a gap according to this study in Somalia it is reported that 44.1% of patients visiting the health facility had gastritis (Bulur, 2018). However, research on dietary factors affecting gastritis in chronic gastritis patients are rarely conducted in Somaliland that's why focus in gastritis in universities to know risk factors of gastritis among students.
Most studies highlight the dietary factors of patients already suffering from gastric, and few studies focus on their precursors. Moreover, dietary factors as a serious influence are largely underrated in symptomatic gastric patient, and correlation analysis between different symptoms and dietary factors is insufficient. Although there is no clear evidence showing a causal relationship between certain dietary intake and the occurrence of gastric, and there is no large study on the efficacy changes in dietary habits and lifestyle adjustment are part of the treatment of gastritis (Tsukamoto T. N. M., 2017).
Diet or food consumption are the types and quantities of food consumed by a person or group at a certain time, students are Unpaid because they found that during university the students generally had unhealthy lifestyles such as lack of attention to food consumed both diet and food types. Providing a variety of foods is very influential, because that can cause boredom, reduce appetite and prefer fast food (Kiela, 2016).
In Somaliland acute gastritis is common (SLHDS, 2020) Along these lines, to the best of my knowledge, Limited studies in Somaliland clearly identify the prevalence of gastritis which is either acute or chronic in university students and dietary related factors with gastritis, Cognizant of such gaps and limited evidence in the study setting, the present study aim to identify the risk factors that stimulating self-reported gastritis, and identifying individual self-management. Further, this study contributes by adding dietary factors affects gastritis. While many studies have been done on the factors of gastritis in general, this study was mainly focus risk factors and dietary way contribute in gastritis.
1.2 Problem statement
The World Health Organization declared that each year approximately a million people lose their lives due to gastritis worldwide. From records on NCDs (Non-Communicable Diseases) in Somalia, gastritis is seen to be one of the major diseases 44.1% is reported among all patients presented with Gastritis in self- reported. The adolescence student it is a time of critical growth since most of them are in the period of adolescence or adulthood. Adolescents are at a particular nutritional risk because unhealthy life styles and unhealthy dietary management tend to put this category at most risk and other way it can be worsen in

ulcer and hospitalized so its problem to continue their education, also it may affect their educational performance and attendance to come in class (Kingsley, 2014).

In the western population, there is evidence of declining incidence of infectious gastritis caused by H. pylori with an increasing prevalence of autoimmune gastritis, gastritis is more common in women and older people. The prevalence is estimated to be approximately 2% to 5%. However, the available data do not provide solid information about the incidence and prevalence of autoimmune gastritis, chronic gastritis is still a relatively common disease in developing countries. The prevalence of gastric in children in the western population is approximately 10%.

In developing countries, the prevalence of gastric varies depending on geographical region, and socioeconomic conditions. It is approximately 69% in Africa, 78% in South America, and 51% in Asia. The prevalence of H. pylori infection of children in developing countries is higher than 50% (Coati I, 2015)

A non-communicable disease (NCD) such as gastritis and its related disability has put an increasing strain on health systems, economic development and the well-being of large parts of the population. Consequently, NCDs are one of the major challenges for sustainable development in the 21st century and are the leading cause of death globally, the situation is still alarming in that it is the WHO region with the highest burden of NCDs. Action is necessary across all sectors and settings to mitigate, prevent and control NCDs. If linear trends continue, the European Region was exceed the target of reducing NCD by one third by 2030. It is proposed that the Region should aim to reduce premature mortality from NCDs by 45% or more between 2010 and 2030 as part of an accelerated effort (WHO, 2017)

Previous study in other context shows that the Factors that can increase the risk of gastritis include bacterial infection such as Helicobacter pylori (H. pylori), the risk factors like smoking, spicy and citrus foods, NSAIDS and stress can lead to excessive gastric secretion and ruptured the stomach mucosal lining. Some other study shows that changes in lifestyle patterns can be significant in the development of gastritis. Ageing also can increase the risk of gastritis as the stomach lining tends to get thin. A proper stress management is significant as it is one of the major causes of gastritis among university students. The factors like pressure and excess freedom give a gate to achieve lifestyle changes through smoking, fast and spicy food which influence the occurrence of gastritis (Jannathul F, 2016).

Despite the available knowledge, there's limited studies in Somaliland report in gastritis and their dietary related factors and it is a gap to manage that diseases and change of behavior of dietary intake, thus study was focus on the prevalence of self-reported gastritis and dietary related factors and also self-care management among university students in Hargiesa Somaliland.

1.3 objectives

1.3.1 General objectives

To assess the Prevalence and risk factors of self-reported gastritis among university students in Hargiesa, Somaliland

1.3.2 Specific objectives

1. To determine the prevalence of self-reported gastritis among university students in Hargeisa, Somaliland
2. To determine the dietary related factors associated with self-reported gastritis among university students in Hargeisa, Somaliland
3. To find out the self-care management of self-reported gastritis among university students in Hargeisa, Somaliland.

1.4 Research questions

1. What is the prevalence of self-reported Gastritis among University Students in Hargiesa, Somaliland?
2. What are the dietary related factors associated with self-reported Gastritis among University Students in Hargeisa, Somaliland?
3. What is the self-care management of self-reported gastritis among University Students in Hargeisa, Somaliland?

1.5 Significance of the study

The findings in this study may be useful to students in university, health care planners, as they have empirical evidence of the level of students, and factors influencing gastritis among university students. This may prompt them to work on improving their diet habits and knowledge about gastritis. Such action may enhance the prevention of gastritis. The findings would create awareness of diet in relation to risk factor of gastritis, especially University students. The result of this study allows also an orientation for further research in this field.

1.6 Limitation of the Study

The fact that only a group of students in selected in university students were Included in the study was limitation. The students who participated in this study were selected only in hargiesa city. This study was based on cross-sectional data, the causal relationship was not determined. Confidence interval and margin of error could also be a limitation.

1.7 Scope of study

1.7.1 Geographical scope

This study were carried out in selected universities in marodijex district in hargiesa Somaliland, it has a lot of universities but this study focuses on 2 or 3 universities in hargiesa Somaliland according to limited time.

1.7.2 Time scope

Data were collect at one point in time. The study period were begin 3-4 months starting from February to June 2021.

1.7.3 Content scope

This study was based on the prevalence of self-reported gastritis and dietary factors associated and self–care management.

1.8 Operational framework

To make clear the study variables and how they were used in this study, the researcher developed the operational framework, which provided details on the study variables.

Its hypothesized used the evidence from literature review (Kingsley, 2014). That dietary related factors and self-management are among the key factors that can influence the gastritis in university students in hargiesa city, Somaliland. That can lead increasing the prevalence, it's also hypothesized that the interaction between dietary factors and self-care management can contribute to the prevention and management of gastritis among the students in university in hargiesa/Somaliland. There for the causes of gastritis is classified much more, so this study aims to focus the prevalence, risk factors in dietary way and their self-management in university student in hargiesa city.

Independent variable dependent variable

Figure 1.1: operational framework showing factors influence gastritis.

Objective: objectives

1.3.1 General objectives

To assess the Prevalence and risk factors of self-reported gastritis among university students in Hargiesa, Somaliland

1.3.2 Specific objectives

1. To determine the prevalence of self-reported gastritis among university students in Hargeisa, Somaliland
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3. To find out the self-care management of self-reported gastritis among university students in Hargeisa, Somaliland.

Methods: Study Area

The study was conducted in selected universities in hargiesa Somaliland, There are approximately 9 universities (Golis, Hargiesa University, Admas, Fands-Farnon, Addis Ababa, Edna, Alpha, Beder, and New Generation) in the city, with an average of 50,000 students. They are located in Hargeisa in various regions such as Jigjiga yer, bebsi and sinay region, they offer a variety of faculties including various medical disciplines, arts, Islamic law, Islamic banking, and online courses, as well as diplomas and certificates.

3.2 Study Setting

This study was conducted with selected 2 universities by using simple Radom (lottery method) which was give us a good representation of the universities in hargeisa city, which name Golis University and Hargiesa University.

3.3 Study Population

The target population in this study was the university students, the universities is 2 universities at golis and Hargiesa University located in the Pepsi area and tima-ade area.

3.4 inclusion and exclusion

Inclusion criteria was students in 2 universities that have been selected.

Exclusion criteria was those who is not health science and in fresh year.

3.5 Study Design

A cross-sectional study design using quantitative methods was gathered in this study to assess the prevalence and risk factors influencing Gastritis among university students in selected universities in Hargeisa, Somaliland.

3.6 Data Collection Method

The research instrument was a self-administered questionnaire with close ended questions which comprised two parts. Part I deity related factors of gastritis, Part II self-care management.

Questionnaires were preferred because they were reliable, relatively cheap and quick means of collecting data from a high population in a reasonable period. They also offer anonymity and increase accuracy in case of required sensitive information and target population. The questions are uniform; each respondent received the same set of questions. The questionnaire were tested and adjusted before it is fully certified for use.

The researcher ensured that he was present at the site and also cross checked all questionnaires for completeness and correctness. Thereafter, all the filled in instruments were collected and kept safe.

3.7 Study Period

This study is the prevalence and risk factors of self-reported gastritis among university students, the study was conducted two weeks in june 2021.

3.8 Sample Size Determination

The sample size is 300

main respondents was selected according to the sloven formula. It shows that when the population size in 2 universities specially in health science departments is approximately 1300 of students 95% confidence with a margin of error of 5.0%. Therefore a sample size of 300 students were randomly selected from the total population to participate in the study.

Using solvent formula of calculating the sample size to proportions, the appropriate sample size based on the total number of students.

n = N/1+N (e) 2

= 1300/1+1300(0.05)2

= 1300/1+1300 (0.0025)

= 1300/1+3.25

= 1300/4.25 = sample size = 300

3.9 Sampling Method

Multistage sampling procedure were used to select respondents. Who met the study inclusion criteria in each class for the two universities this gave a good representation of the population of the two universities.

3.10 Data Analysis

Quantitative data were enter in IBM SPSS 20 data were cleaned by running frequencies of all the variables to check for incorrectly coded data, incorrectly coded data were begin double checked with raw data in the questioner and corrected.

Statistical methods were used to analysis the data collection such as descriptive statistics, for example numerical summation, graphs, and tables. The analysis software performed using the data was a statistical package for social science.

3.11 Ethical Consideration

The researcher undertook to observe all relevant ethical and legal consideration that applicable to scientific research and I got the consent from the principle of hargeisa university before the study also permeation is got from head of that two universities, data were collected by respecting the right of the students and not harming anyone this research is beneficial for students to identify the problem of students towards the self-reported gastritis to find solution about that problem, all information obtaining in the course of study was being treated with almost confidentiality and not be used outside of scope of study. Which seek to protect the identity of the research subject against potential abuse /stigmatization.

3.12 Plan for Result Dissemination

The finding of the study were presented to the University Of Hargiesa. It were also be disseminated through presentation in different professional association meeting and annual conference. The paper were also be submitted to national or international peer reviewed scientific journal for possible publication.

3.13 Study Variable

Dependent variable: the dependent variable in this study is presence of self-reported gastric among students.

Independent variables: the possible independent variables in this study include dietary habit included increasing salt intake, irregular meal time, spicy food, fast food and also possible independent variable is low self-management

3.14 validity and reliability

Validity

These questionnaire were then passed into the supervisors for further scrutiny before they were administered in the field. Direct translation from English to Somali was done by class teachers to explain the Questionnaire items to the students. Twenty students from one university not necessarily randomly selected were used for testing the research instruments.

Reliability
Since questionnaire was constructed by the researcher, the estimation of reliability was
Ascertained by pilot testing the instrument and applying Cranach's Alpha coefficient by
Means of a statistical Package for Social Sciences. Cronbach's Alpha coefficient were being
Used to measure internal consistency of the research tool. Then the instrument was considered reliable because Cronbach's Alfa was 0.8.
CHAPTER

Results: Demographic characteristic of respondents

Most of the participants that had gastritis (57%) and did not have gastritis (51%) were females Majority of the participant that had gastritis (82%) and did not have gastritis (85%) were single. In occupation the majority (73.7%) were self-employed and had gastritis, nearly (66%) self-employed had no self-reported gastritis. Participants. Most of the respondents with self-reported gastritis (90%) and without gastritis (80%) were aged between 20 – 29 years. Majority with both self-reported gastritis (93%) and with no gastritis (92%) came from middle income families.
Table 4.1: Socio-demographic characteristic of respondents
Variable Gastritis Total
Gender Yes No
Male 69 (42.6%) 68 (49.3%) 137 (45.7%)
Female 93 (57.4%) 70 (50.7%) 163 (54.3%)
Marital status
Single 132 (81.5%) 117 (84.8%) 249 (83.0%)
Married 29 (17.9%) 21 (15.2%) 50 (16.7%)
Divorced 1 (0.6%) 0 (0%) 1 (0.3%)
Occupation
Public employee 18 (11.1%) 15 (10.9%) 33 (11.0%)
Private employee 26 (16.0%) 32 (23.2%) 58 (19.3%)
Self-employee 118 (73.7%) 91 (66.0%) 209 (69.7%)
Age
<20 years 6 (3.7%) 9 (6.5%) 15 (5.0%)
20 – 29 years 149 (92.0%) 122 (88.4%) 271 (90.3%)
?30 years 7 (4.3%) 7 (4.3%) 14 (4.7%)
Educational level
First year 15 (9.3%) 18 (13%) 33 (11.0 %)
Second year 48 (29.6%) 52 (37.7%) 100 (33.3%)
Third year 58 (35.8%) 44 (31.9%) 102 (34.0%)
Fourth year 41 (25.3%) 24 (17.4%) 65 (21.7%)
Family income
Lower income 8 (4.9%) 5 (5.6%) 13 (4.3%)
Middle income 150 (92.6%) 127 (92%) 277 (92.3%)
High income 4 (2.5%) 6 (4.3%) 10 (3.3%)

4.2. Prevalence of Self- Reported Gastritis in University Students

From the total respondents of university students 54% had self-reported gastritis. Figure 1 below shows the prevalence of self-reported gastritis among University students

Figure 1 Prevalence of Self- Reported Gastritis in University Students

4.3 Dietary Factors Related with Self-reported Gastritis in University Students

The study showed that majority of the respondents that reported to have gastritis (56%) did not take snacks between meals while 58% that reported they did not have gastritis took snacks between meals. There was a statistical significance between taking snacks and self-reported gastritis (p=0.021). Majority of the respondents with gastritis (51%) skipped morning breakfast, while

59% of those without gastritis did not skip morning breakfast. Majority of the respondents (73%) with no gastritis were taking food with high fat, while only 59% with self-reported gastritis took food with high fat. There was a statistical significance between taking high fat and reported gastritis (p=0.015). Nearly 33% of respondents with gastritis had taken spicy food while 26% with no gastritis took carbonated drinks. Table 4.2 shows the dietary factors related with self-reported gastritis among University students.

Table 4.2 Dietary Related with Self-reported Gastritis in University Students

Variables (Dietary)	GASTIRITS	P value
	Yes	No
Snack between meals		
		0.021
Yes	72 (44.4%)	80 (58%)
No	90 (55.6%)	58 (42%)
Skip morning breakfast		
		0.104
Yes	82 (50.6%)	56 (40.6%)
No	80 (49.4%)	82 (59.4%)
High fat consumption		
		0.015
Yes	96 (59.3%)	101 (73.2%)
No	66 (40.7%)	37 (26.8%)
High salt consumption		
		0.160
Yes	73(45.1%)	51 (37%)
No	89 (54.9%)	87 (63%)
Type of food to eat		
		0.197
Citreous food	24 (14.8%)	22(15.9%)
Spicy food	53 (32.7%)	31 (22.5%)
Fatty food	23(14.2%)	29 (21%)
Fried food	28 (17.3%)	20 (14.5%)
Carbonated drink	34 (21%)	36 (26.1%)
Drinking coffee		
		0.546
Yes	100 (62.1%)	91 (65.9%)
No	61 (37.9%)	47 (34.1%)
Eating fast food		
		0.350
Yes	86 (53.4%)	82 (59.4%)
No	75 (46.6%)	56 (40.6%)

4.4 Self-Management of Self-Reported Gastritis

Most of the respondents (55%) who self-reported gastritis and nearly 51% without gastritis do not visit the hospital when they feel symptoms. Majority of the respondents (51%) who had chest pain self-reported gastritis more than those without gastritis (1%). There was a statistical significance observed between symptoms and reporting gastritis (p=0.000). Majority of the respondents (63%) that reported gastritis and 57% that did not report gastritis took medication to reduce the symptoms felt. Sixty percent (60%) that did not report gastritis and 57% that self-reported gastritis knew that reducing spicy food managed gastritis. Table 4.3 shows results of variables related to self-care management related to gastritis.

Table 4.3 Self-care management related to gastritis

Variables	Self-reported Gastritis		P value
Going hospital when feel symptoms	Yes	No	
Yes	73 (45.3%)	67 (48.6%)	0.642

	No	88 (54.7%)	71 (51.4%)
Going to pharmacy			
	Yes	93 (57.4%)	68 (49.3%) 0.165
	No	69 (42.6%)	70 (50.7%)
Symptoms feel			
Chest pain		82 (50.6%)	2(1.4%) 0.000
Feeling fullness		57 (35.2%)	2 (1.4%)
Nausea and vomiting		22 (13.6%)	0 (0.0%)
To reduce take medication			
	Yes	102 (63%)	79 (57.2%) 0.344
	No	60 (37%)	59 (42.8%)
Reducing spicy food			
	Yes	90 (55.6%)	83 (60.1%) 0.482
	No	72 (44.4%)	55 (39.9%)
Reducing fried and fat foods			
	Yes	89 (54.9%)	73 (52.9%) 0.729
	No	73 (45.1%)	65 (47.1%)
Cutting back on coffee			
	Yes	72 (44.4%)	60 (43.5%) 0.762
	No	90 (55.6%)	77 (55.8%)
Eating smaller meal through the Day			
	Yes	76 (46.9%)	71 (51.4%) 0.487
	No	86 (53.1%)	67 (48.6%)
Managing stress			
	Yes	96 (58.6%)	88 (63.8%) 0.406
	No	67 (41.4%)	50 (36.2%)
Not lying down for 2 to 3hrs after meal			
	Yes	92 (56.8%)	73 (52.9%) 0.561
	No	70 (43.2%)	65 (47.1%)

CHAPTER FIVE: DISCUSSION RECOMMENDATION AND CONCLUSION

5.1 Discussion

The prevalence of gastritis among the study participants was 54 %, with 57% females and 43% males respectively. The results indicated a higher number of women were suffering with gastritis than men. In comparison to studies conducted this result agrees with the studies conducted by Smith et al. Jannathul et al. and Agbor et al. showed that with prevalence of 47.0% for males and 47.5% for females, so high prevalence of gastritis among females. In this study it's likely that female self-reported gastritis more than males, in that, they were more aware about their health status due to more visits previously made to hospitals, as males rarely visit healthcare facilities.

As long as the age was concerned, the current results showed that (92%) of the study participants had gastritis and were aged between 20-29 years old. This result agrees with the findings of Feyisa ZT,(2021) shows that (55.5%) of the study participants less or equal to 39 years old suffered from gastritis, while 44.5% who were aged above 39 years old suffered from gastritis. Our opinion is that youngest age in Hargeisa University more complain to feel gastritis due to dietary related and much stress about during academic exams.

Further that, it was found that earning middle and low income was associated with slightly significantly increased odds of being in gastritis compared with earning high income. Study participants who earned a higher income per month were less likely to suffer from gastritis compared with those earned less. Previous studies Smith S, 2018. Agbor N E, 2018 agrees with our current study finding that explained the general association of income with gastritis, although they did not clarify the association of income level with gastritis in specific ways. This might be people with less income level were less likely to visit health care institutions. Moreover, they had less ability to pay for health services due to having other life expenses.

Eating spiced foods were another important variable, which increased the odds of the severity of gastritis. This study identified individuals who ate spiced foods were more likely suffered gastritis than who don't eat spicy food. For dietary related majority had snacks between meals and had no gastritis and There was a statistical significance between taking snacks and reporting gastritis (p=0.021). The majority with high fat consumption had no gastritis and there was a statistical significance between taking fat and reported gastritis (p=0.015).

The previous of the studies, Padmavathi V, 2013 indicated that eating spiced foods resulted in gastritis, this might be due to the

spiced food having a flavor or fragrance than other foods; it was commonly preferred to eat. In addition to such special properties, the spiced food has the potential to inflame and burn a gastric mucosa.
Most of study participant had a gastritis have no go in hospital, in our opinion for many reasons like family income that is not sufficient for their basic life and other reason had anxiety for hospitals may be contribute to not going hospital. This is similar to other studies found low income and taking medications were contributed to gastritis status (zelalim t, 2021)
The majority who had gastritis going to a pharmacy to self-care management, in our opinion pharmacy is less expensive than hospital, nearly (63%) study participants who had gastritis know that medication can reduce gastritis.

Conclusions: Conclusion
The current study showed high prevalence of self-reported gastritis among university students. Female gender, age between 20-29 years, middle to low income, reporting chest pain, high fat consumption and eating spicy meals were associated with self-reported gastritis. The implication of this study is that attention should be given to University students and address the high prevalence of self-reported gastritis.

5.3 Recommendations

• The high prevalence rate calls for intervention by the University administrations, Ministry of Health Development and Ministry of Higher Education to minimize the incidence of 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 reaches chronic level.
• The Ministry of Education should consult competent nutritionists to provide awareness about gastritis and link with high fat consumption and sugar.
• The Ministry of Education could form the provision of information on prevention of gastritis as part of the university ‘curriculum.
• The students with gastritis should have medical attention in the hospitals for adequate treatment.

(JMIR Preprints 20/03/2024:58606)
DOI: https://doi.org/10.2196/preprints.58606

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PREVALENCE AND RISK FACTORS OF SELF REPORTED GASTRITIS AMONG UNIVERSITIES STUDENTS IN HARGEISA SOMALILAND

BY:

NIMO ABDI NUR

A THESIS TO BE SUBMITTED TO THE SCHOOL OF GRADUATE STUDIES OF THE UNIVERSITY OF HARGEISA IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF PUPLIC HEALTH NUTRIATION.

ADVISOR
JONAH KIRUJA

HARGEISA
JULY, 2021

DECLARATION

I declare that this research titled “the Prevalence and risk factors of self-reported gastritis among university students in Hargiesa, Somaliland” is my original work and to the best of my knowledge, and it has not been submitted to any University or institution for any academic award.

NAME	SIGNATURE
NIMO ABDI NUR	……..

UNIVERSITY OF HARGEISA
SCHOOL OF POSTGRADUATE STUDIES

ADVISOR APPROVAL SHEET

I hereby certify that as supervisor of Mr. Jonah kiruja I have read and evaluated the thesis entitled **"Prevalence and risk factors of self-reported gastritis among university students in Hargiesa, Somaliland"** I recommend that the document fulfill the thesis requirement for the defense.

Mr. Jonah kiruja	_____	17- 7 -2021
Supervisor	**Signature**	**Date**

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LIST OF FIGURES

ABBREVIATION

CG: chronic gastritis

NCDs: non-communicable diseases

NSAIDS: Non-steroidal anti-inflammatory drugs

SLHDS: Somaliland health and demographic survey

ACKNOWLEDGEMENT

First of all, we deeply thankful to Allah, the almighty and the all- knowing who helped us to complete thesis work.

All thankful to parents for all the moral support and the amazing chance, they give us encouragement over the years any times until complete with our thesis book. Also the study participant who simplify to data collection.

Specific thanks to prof. Jonah kiruja, for mentor, editor, guide, for the valuable work he has done, the advice he gave, and give a best comment having inspired to do the thesis.

ABSTRACT

Background: Gastritis is one of the most common and insidious diseases in human beings; hundreds of millions of people worldwide suffer from this inflammatory condition. Globally, about 2.7 million people around the world are affected with gastritis. About 51% of the populations in developing countries suffer from gastritis.

Objective: this study was conducted to assess the Prevalence and risk factors of self-reported gastritis among university students in Hargiesa, Somaliland

Methods: Institutional-based cross sectional study was conducted to assess Prevalence and risk factors of self-reported gastritis among university students in Hargiesa, Somaliland a structured questionnaire was used to collect the information from university students. Data was analyzed using SPSS version 21. Descriptive were presented as frequencies and percentages. Chia square test was used to assess the relationship between dependent and independent variables. A statistical significant was considered for a p value of ≤0.005.

Results: A total 300 participants were included in this study from Golis University and university of Hargiesa The prevalence of gastritis among the study participants was 54 %, with 57% females and 43% males respectively. The results indicated a higher number of women were suffering with gastritis than men. The current results showed that (92%) of the study participants had gastritis and were aged between 20-29 years old.

Conclusion: The current study showed high prevalence of self-reported gastritis among university students. Female gender, age group (20-29 years), middle and low income, reporting chest pain, high fat consumption and eating snacks were all associated with self-reported gastritis. The implication of this study is that attention should be given to University students and address the high prevalence of self-reported gastritis.

CHAPTER ONE: INTRODUCTION

1.1 Background

Gastritis is one of the most common and insidious diseases in human beings; hundreds of millions of people worldwide suffer from this inflammatory condition[CITATION 1PS15 \l 1033]. Globally, about 2.7 million people around the world are affected with gastritis[CITATION Moh16 \l 1033]. 50.8% of the populations in developing countries suffer from gastritis. With a lower, 34.7%

of the population in developed countries had health problems due to gastritis[CITATION Mar181 \l 1033]. Compared with developing countries, the prevalence rate of gastritis markedly decreased in developed countries. However, it has remained as a major health problem[CITATION Liu19 \l 1033].

A systematic review of African countries indicated 38% of women and 18% of men suffered from gastritis. In Kenya, among patients who visited health care institutions, 73.3% of children and 54.8% of adults diagnosed clinically as they had gastritis. Similarly, in Uganda, 44.3% of young people less than the age of 12 years were suffering from gastritis. Furthermore, in Nigeria, 40.7% of children with an age range from 6–10 years had gastritis[CITATION Smi192 \l 1033]. A previous study, a total of 145 gastritis students were recruited. The proportion of male and female gastritis students was 63.4% and 36.6% respectively[CITATION Ale16 \l 1033].

There is not much information available about gastritis and related conditions, including the risk factors and the prevalence of gastritis, which is a gap according to this study in Somalia it is reported that 44.1% of patients visiting the health facility had gastritis[CITATION 6Bu18 \l 1033]. However, research on dietary factors affecting gastritis in chronic gastritis patients are rarely conducted in Somaliland that's why focus in gastritis in universities to know risk factors of gastritis among students.

Most studies highlight the dietary factors of patients already suffering from gastric, and few studies focus on their precursors. Moreover, dietary factors as a serious influence are largely underrated in symptomatic gastric patient, and correlation analysis between different symptoms and dietary factors is insufficient. Although there is no clear evidence showing a causal relationship between certain dietary intake and the occurrence of gastric, and there is no large study on the efficacy changes in dietary habits and lifestyle adjustment are part of the treatment of gastritis[CITATION Tsu171 \l 1033].

Diet or food consumption are the types and quantities of food consumed by a person or group at a certain time, students are Unpaid because they found that during university the students generally had unhealthy lifestyles such as lack of attention to food consumed both diet and food types. Providing a variety of foods is very influential, because that can cause boredom, reduce appetite and prefer fast food[CITATION Kie16 \l 1033].

In Somaliland acute gastritis is common[CITATION SLH20 \l 1033] Along these lines, to the best of my knowledge, Limited studies in Somaliland clearly identify the prevalence of gastritis which is

either acute or chronic in university students and dietary related factors with gastritis, Cognizant of such gaps and limited evidence in the study setting, the present study aim to identify the risk factors that stimulating self-reported gastritis, and identifying individual self-management. Further, this study contributes by adding dietary factors affects gastritis. While many studies have been done on the factors of gastritis in general, this study was mainly focus risk factors and dietary way contribute in gastritis.

1.2 Problem statement

The World Health Organization declared that each year approximately a million people lose their lives due to gastritis worldwide. From records on NCDs (Non-Communicable Diseases) in Somalia, gastritis is seen to be one of the major diseases 44.1% is reported among all patients presented with Gastritis in self- reported. The adolescence student it is a time of critical growth since most of them are in the period of adolescence or adulthood. Adolescents are at a particular nutritional risk because unhealthy life styles and unhealthy dietary management tend to put this category at most risk and other way it can be worsen in ulcer and hospitalized so its problem to continue their education, also it may affect their educational performance and attendance to come in class [CITATION KIN14 \l 1033].

In the western population, there is evidence of declining incidence of infectious gastritis caused by H. pylori with an increasing prevalence of autoimmune gastritis, gastritis is more common in women and older people. The prevalence is estimated to be approximately 2% to 5%. However, the available data do not provide solid information about the incidence and prevalence of autoimmune gastritis, chronic gastritis is still a relatively common disease in developing countries. The prevalence of gastric in children in the western population is approximately 10%.

In developing countries, the prevalence of gastric varies depending on geographical region, and socioeconomic conditions. It is approximately 69% in Africa, 78% in South America, and 51% in Asia. The prevalence of H. pylori infection of children in developing countries is higher than 50% [CITATION Coa15 \l 1033]

A non-communicable disease (NCD) such as gastritis and its related disability has put an increasing strain on health systems, economic development and the well-being of large parts of the population. Consequently, NCDs are one of the major challenges for sustainable development in the 21st century and are the leading cause of death globally, the situation is still alarming in that it is the WHO region with the highest burden of NCDs. Action is necessary across all sectors and settings to mitigate, prevent and control NCDs. If linear trends continue, the European Region was exceed the target of

reducing NCD by one third by 2030. It is proposed that the Region should aim to reduce premature mortality from NCDs by 45% or more between 2010 and 2030 as part of an accelerated effort[CITATION The17 \l 1033]

Previous study in other context shows that the Factors that can increase the risk of gastritis include bacterial infection such as Helicobacter pylori (H. pylori), the risk factors like smoking, spicy and citrus foods, NSAIDS and stress can lead to excessive gastric secretion and ruptured the stomach mucosal lining. Some other study shows that changes in lifestyle patterns can be significant in the development of gastritis. Ageing also can increase the risk of gastritis as the stomach lining tends to get thin. A proper stress management is significant as it is one of the major causes of gastritis among university students. The factors like pressure and excess freedom give a gate to achieve lifestyle changes through smoking, fast and spicy food which influence the occurrence of gastritis[CITATION Jan16 \l 1033].

Despite the available knowledge, there's limited studies in Somaliland report in gastritis and their dietary related factors and it is a gap to manage that diseases and change of behavior of dietary intake, thus study was focus on the prevalence of self-reported gastritis and dietary related factors and also self-care management among university students in Hargiesa Somaliland.

1.3 objectives

1.3.1 General objectives

To assess the Prevalence and risk factors of self-reported gastritis among university students in Hargiesa, Somaliland

1.3.2 Specific objectives

1. To determine the prevalence of self-reported gastritis among university students in Hargeisa, Somaliland

2. To determine the dietary related factors associated with self-reported gastritis among university students in Hargeisa, Somaliland

3. To find out the self-care management of self-reported gastritis among university students in Hargeisa, Somaliland.

1.4 Research questions

1. What is the prevalence of self-reported Gastritis among University Students in Hargiesa,

Somaliland?

2. What are the dietary related factors associated with self-reported Gastritis among University Students in Hargeisa, Somaliland?

3. What is the self-care management of self-reported gastritis among University Students in Hargeisa, Somaliland?

1.5 Significance of the study

The findings in this study may be useful to students in university, health care planners, as they have empirical evidence of the level of students, and factors influencing gastritis among university students. This may prompt them to work on improving their diet habits and knowledge about gastritis. Such action may enhance the prevention of gastritis. The findings would create awareness of diet in relation to risk factor of gastritis, especially University students. The result of this study allows also an orientation for further research in this field.

1.6 Limitation of the Study

The fact that only a group of students in selected in university students were Included in the study was limitation. The students who participated in this study were selected only in hargiesa city. This study was based on cross-sectional data, the causal relationship was not determined. Confidence interval and margin of error could also be a limitation.

1.7 Scope of study

1.7.1 Geographical scope

This study were carried out in selected universities in marodijex district in hargiesa Somaliland, it has a lot of universities but this study focuses on 2 or 3 universities in hargiesa Somaliland according to limited time.

1.7.2 Time scope

Data were collect at one point in time. The study period were begin 3-4 months starting from February to June 2021.

1.7.3 Content scope

This study was based on the prevalence of self-reported gastritis and dietary factors associated and self–care management.

1.8 Operational framework

To make clear the study variables and how they were used in this study, the researcher developed the operational framework, which provided details on the study variables.

Its hypothesized used the evidence from literature review [CITATION KIN14 \l 1033]. That dietary related factors and self-management are among the key factors that can influence the gastritis in university students in hargiesa city, Somaliland. That can lead increasing the prevalence, it's also hypothesized that the interaction between dietary factors and self-care management can contribute to the prevention and management of gastritis among the students in university in hargiesa/Somaliland. There for the causes of gastritis is classified much more, so this study aims to focus the prevalence, risk factors in dietary way and their self-management in university student in hargiesa city.

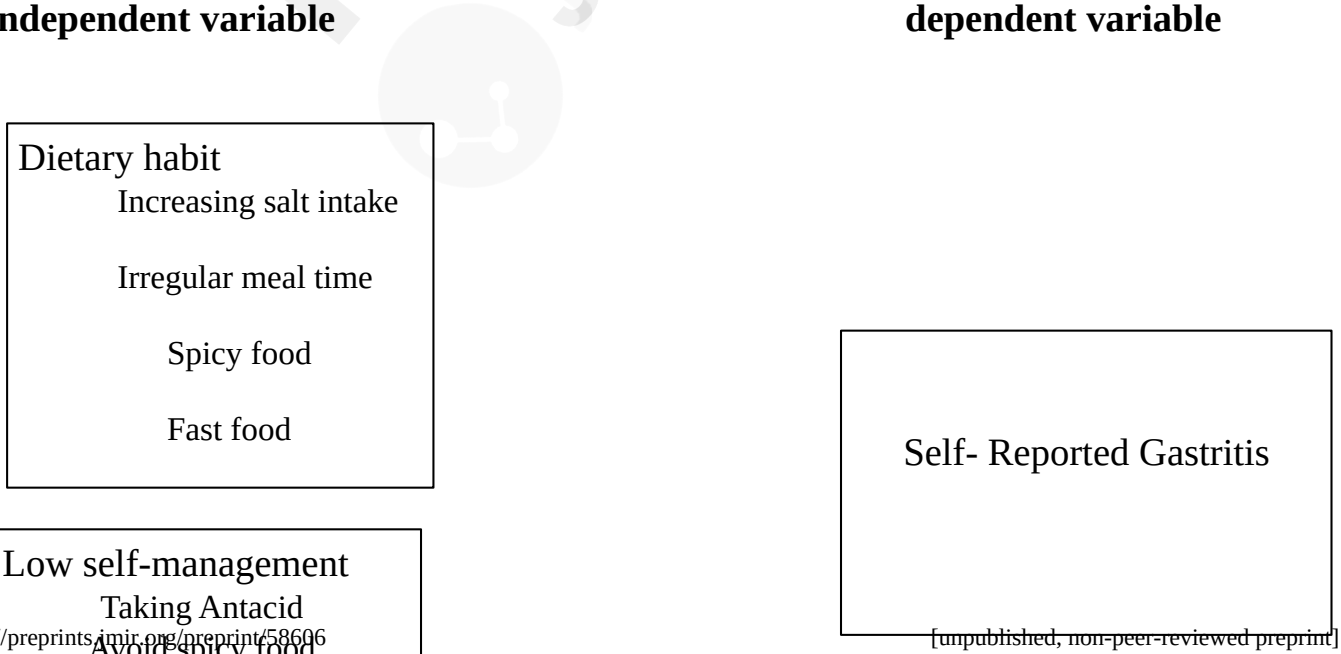


Figure 1.1: operational framework showing factors influence gastritis.

CHAPTER TWO: LITERATURE REVIEW

2.1 Definitions and Concepts

Gastritis is more common among the adolescents, even though it can affect anyone at any age. Very mild to severe stomach symptoms may indicate gastritis. Gastrointestinal system in our human body is responsible for intake of diet, absorption, metabolism and elimination.[CITATION Wen14 \l 1033]. It is characterized by pain, swelling, and irritation of the mucosal membrane of the stomach. Moreover, it manifested by a sign and symptom such as nausea, vomiting, dull pain, discomfort in the upper abdomen, feeling of fullness, and loss of appetite [CITATION Cec20 \l 1033].

Gastritis is either an acute or a chronic depending on how long the signs and symptoms persist, In particular, acute gastritis is an inflammation of the stomach lining that occurs suddenly and lasts shortly within one or two days and even less than a month [CITATION Mir19 \l 1033]. Correspondingly, chronic gastritis is an inflammation of the gastric mucosa that occurs gradually and persists for more than a month and even for some years [CITATION Shu18 \l 1033] .

Gastritis is classified and diagnosed histologically as the inflammatory changes in the stomach mucosa. Most important etiology of gastritis are Helicobacter pylori infection, irregular meals, non-steroidal anti-inflammatory drugs (NSAIDs), stress, radiation, bile reflux, ischemia and eating spicy or starchy food, sedentary life, and drinking alcohol. Though gastritis may be present in 30% to 50% of the population, most of them are asymptomatic. Patients with gastritis normally presented with nonspecific clinical signs and symptoms including epigastria pain, abdominal tenderness, bloating, anorexia, nausea, and with or without vomiting. Gastritis symptoms may be aggravated by eating. Gastritis is can be present in 30% to 50% of the population. Gastritis is diagnosed clinically and if complications arise by endoscopy. If patient complaints of dyspepsia endoscopy must be done to rule out gastric carcinoma. Gastritis is common in females and in the ages between 21to -23years. More common in Chinese students and doing medicine course. For them there is no particular cause to develop gastritis.[CITATION Pre21 \l 1033].

2.1.1 Factors Contribute Gastritis

Impact of globalization and technological development are two possible causes for the shift in the

lifestyle of students. Confirms previous findings that lifestyle affects one's eating habits. Lifestyle and eating habits identified a factor that affects the occurrence of the gastritis. Through lifestyle changes such as diet and diet often consume fast food and spicy, not eating or delay, lack of physical activity, and use of tobacco, stress and infection Helicobacter pylori affects the stomach lining, causing the gastritis. The current study was conducted to analyze the relationship between eating habits with the gastritis at the medical faculty level of student Sam Ratulangi University Manado, and the Results of Chi - Square showed that there was no significant association between the frequency of eating with the gastritis (p = 0.177), there was no significant relationship between the meal portion with the gastritis (p = 0.854), there was no significant relationship between the type of food and beverages with the gastritis (p = 0.010). There is no relationship between the frequencies of eating with the gastritis.[CITATION Mar10 \l 1033].

2.1.2 Risk factors of Gastritis

Previous studies[CITATION Smi19 \l 1033], [CITATION Mar18 \l 1033], explained the general association of income with gastritis, although they did not clarify the association of income level with gastritis in specific ways. This might be people with less income level were less likely to visit health care institutions. Moreover, they had less ability to pay for health services due to they had other life expenses. The social status of individuals within a social structure was determined by their income level. Owing to such circumstances, the probability of individuals who had low income to be exposed to risky health behaviors that contribute gastritis was high.

Eating spiced foods were another important variable, which increased the odds of the severity of gastritis. This study identified individuals who ate spiced foods were more likely suffered chronic gastritis than acute gastritis. The odds of chronic gastritis were estimated to be about two times higher among the study participants who were eating spiced foods than those who were eating regularly the same foods. The findings of the studies[CITATION Jan16 \l 1033], [CITATION Kai19 \l 1033], indicated that eating spiced foods resulted in gastritis, even though they did not identify the type of gastritis which is either acute or chronic. This might be due to the spiced food has a flavor or fragrance than other foods; it was commonly preferred to eat. In addition to such special properties, the spiced food has the potential to inflame and burn a gastric mucosa. Furthermore, such type of foods had inadequate nutrition and without balanced diets.

The increasing number of individuals eating soft foods enriched with different flavors, aromatic and spicy, was also counted as a major factor.

The results showed that lack of physical exercise increased the odds of being in chronic gastritis by a factor of 78%. The study conducted in Sri Lanka[CITATION Lui20 \l 1033]. Indicated as gastritis

paralleled with lack of physical exercise. Doing physical exercises can help one to maintain the social well-being with healthy spirit, physical and mental well-being, too. Thus, if individuals are health physically and mentally, including spiritually, the probability of exposure to illness is less.

Previous studies [CITATION Dem18 \l 1033], [CITATION Cec201 \l 1033]. Indicated that stress was the major risk factor for gastritis, although they did not clarify the type of gastritis which is either acute or chronic resulting from the stresses. Hereafter, the current study investigated that stress had a potential to cause chronic gastritis than acute gastritis [CITATION Vel13 \l 1033].

Similar studies [CITATION Get16 \l 1033], [CITATION Jan16 \l 1033]. Stated as gastritis developed from having meals by skipping, missing, and delaying ways from the usual one. As it was enlightened on the study [CITATION EBa17 \l 1033]. A medical sociologist, Salazar, explained that having a proper time for each meal was essential for maintaining health and helping ill people regain their health. If not, risky behaviors, negative life events, and harmful behaviors related to eating meals could harm health and result in developing the disease.

Gastritis is one of the most common life-long, serious and insidious illnesses in human beings. One may estimate that more than half of the world population have this disease in some degree and extent, indicating that even many hundreds of millions of people worldwide may have chronic gastritis [CITATION Sip15 \l 1033]

2.2 Theoretical Review

Orem’s theory, The theory of self-care includes self-care, which is the practice of activities that an individual initiates and performs on his or her own behalf to maintain life, health, and well-being; self-care agency, which is a human ability that is “the ability for engaging in self-care,” conditioned by age, developmental state, life experience, socio-cultural orientation, health, and available resources; therapeutic self-care demand, which is the total self-care actions to be performed over a specific duration to meet self-care requisites by using valid methods and related sets of operations and actions; and self-care requisites, which include the categories of universal, developmental, and health deviation self-care requisites.[CITATION Ali20 \l 1033]

Orem’s self-care model is an important nursing models that was introduced with the purpose of enabling patients or care agents to upgrade self-care. This theory has attracted the attention of many researchers and medical staff aiming to reduce disease complications and the costs of

treatment [CITATION ele \l 1033]. In this theory for using gastritis, individuals manage their life style, and eat health dietary to reduce the prevalence of gastritis and other complications that may lead gastritis.

2.3 Empirical Review

2.3.1 Dietary related factors of gastritis

In cross-sectional analysis of gastric patients, irregular mealtimes and preference for sweet or salty foods were associated with all symptoms in the whole group analysis. Furthermore, in the gender subgroup analysis, these three factors were associated with most symptoms in both men and women, which again suggested that these three dietary factors may be the key to affecting symptoms in gastric patients.[CITATION Yua20 \l 1033].

As for eating habits with regards to this study, showed that 74 respondents (61.7%) do take snacks in between meals. The survey also reported that out of 120 respondents, 79 respondents (65.8%) consume citrus fruits and 87 respondents (72.5%) like spicy food. More than half of percentage of respondents (65.8%) per total respondents have the optimal meal frequency of 3 times daily. Even taking foods that are spicy and irritant like hot pepper and coffee seems to damage the gastrointestinal system causing gastritis. [CITATION Jan16 \l 1033]

Most studies highlight the dietary factors of patients already suffering from gastric, and few studies focus on their precursors. Moreover, dietary factors as a serious influence are largely underrated in symptomatic gastric patient, and correlation analysis between different symptoms and dietary factors is insufficient. Although there is no clear evidence showing a causal relationship between certain dietary intake and the occurrence of gastric, and there is no large study on the efficacy changes in dietary habits and lifestyle adjustment are part of the treatment of gastritis [CITATION Tsu17 \l 1033]. Several previous studies found out factors such as sex, age, socioeconomic status, biological, environmental factors, and individual behaviors significantly contributed to gastritis [CITATION Cec202 \l 1033].

In recent years, the relationship between diet and disease has received more and more attention and has been increasingly exposed. In the cascading progression from CG to concretization, the initial stage is associated with excessive salt intake and Helicobacter pylori (*H.* pylori), while the intake of sodium sulfite and sodium nitrate/sodium nitrite is the main risk factor during the intermediate stage, and the final stage has been found to be associated excessive salt intake and N-nitrous compound

produced by nitrates in processed foods. [CITATION GAW14 \l 1033]

In addition, studies reported that the risk of gastric cancer increased with high consumption of processed meat, barbecues, dry fish, and cooking oil. The influence of vegetables and fruits against gastric carcinogenesis might be explained by the rich content of nutrients such as ascorbic acid, carotenoids, and β-carotene. Foods that are high in fat may worsen inflammation in the lining of the stomach. For some people, food allergies can trigger gastritis. In these cases, identifying and avoiding these foods may treat and prevent gastritis. Foods that may irritate the stomach, therefore making gastritis worse, include: coffee, acidic foods, such as tomatoes and some fruits fruit juices, fatty foods, fried foods carbonated drinks, spicy foods[CITATION Dia20 \l 1033].

Spicy food increases gastric secretion and causes constant irritations in the mucosa. The red pepper and paprika raise the acid secretion. The black pepper irritates raising secretions and producing dyspepsia. The chili pepper and mustard cause erythema and gastric lesion the food affects gastric motility and acid secretion. A very hot intake leads to congestion of mucosa and raises the secretion of acid and decreases the time of evacuation. The soft drinks decrease the pressure beneath the esophageal sphincter and can produce gastro-esophageal reflux. The nicotine also decreases this pressure and induces hyperchloremia [CITATION Mah16 \l 1033]. In Somaliland, little is known or no studies that dietary related to gastritis this important variable to investigate as it help knowledge on which food much contributed in gastritis.

2.3.2 Self-care Management Related To Gastritis

Taking antacids and other drugs to reduce stomach acid and avoiding hot and spicy foods for gastritis caused by *H.* pylori infection, your doctor was prescribe a regimen of several antibiotics plus an acid blocking drug (used for heartburn), eliminating irritating foods from your diet such as lactose from dairy or gluten from wheat. [CITATION enn20 \l 1033]. From the above literature, it is clearly evident that most of changes in lifestyle patterns are adopted during the period of adolescence. Gastritis can be cured with appropriate antibiotic treatment. However many healthcare providers do not treat gastritis patient with antibiotics rather than by lifestyle modification. As global health program in the 21 st century, it is necessary to explore alternative approaches to provide better health services to people.

2.3.3 Prevention of Gastritis

H. pylori is one of the top causes of gastritis, but most people don’t know they’re infected. The bacteria are easily transmitted. You can lower your risk of infection by practicing good hygiene, including hand-washing [CITATION cle \l 1033]

You also can take steps to minimize indigestion and heartburn. These conditions are linked to gastritis. Preventive measures include. Avoiding fatty, fried, spicy or acidic foods, cutting back on caffeine, eating smaller meals throughout the day, Managing stress, not taking NSAIDs, Reducing alcohol consumption, not lying down for 2 to 3 hours after a meal.

2.3.4 Age related gastritis

The prevalence of gastritis among the study participants was 78.8%, i.e., 48.9% and 29.9% had acute and chronic gastritis, respectively. The results indicated a higher number of women were suffering with gastritis than men. This high prevalence of gastritis among females in this study might be due to females are more likely to visit health facilities than males seeking care gastritis and other health problems. As long as the age was concerned, the results showed that (55.5%) of the study participants less or equal to 39 years old suffered from gastritis, while 44.5% who were aged above 39 years old suffered from gastritis. [CITATION htt \l 1033].

Study revealed several risk factors for gastritis. Patient variables, including socioeconomic characteristics, were examined for associations with gastritis. Education, age, source of income, had statistically significant ($P < 0.05$) associations with gastritis. The prevalence of the infection decreased with increasing level of education with highest (80%) prevalence among those with no level of education and lowest (0%) prevalence among those who had tertiary level of education household population, and sex showed no association ($P > 0.05$) with gastritis.[CITATION Agb18 \l 1033]

Several previous studies found out factors such as sex, age, socioeconomic status significantly contributed to gastritis. Along these lines, to the best of our knowledge, none the studies in Somaliland clearly identify the risk factors that contributed gastritis status which is either acute or chronic. Cognizant of such gaps and limited evidence in the study setting, this study aimed to assess the prevalence and relative risk factors of acute or chronic gastritis with dietary Further, this study contributes, by adding the self-care management, While many studies have been done in Somaliland

on the factors of gastritis in general, this study investigated the risk factors of self-reported gastritis among university student and their self-management.

CHAPTER THREE: METHODOLOGY

3.1 Study Area

The study was conducted in selected universities in hargiesa Somaliland, There are approximately 9 universities (Golis, Hargiesa University, Admas, Fands-Farnon, Addis Ababa, Edna, Alpha, Beder, and New Generation) in the city, with an average of 50,000 students. They are located in Hargeisa in various regions such as Jigjiga yer, bebsi and sinay region, they offer a variety of faculties including various medical disciplines, arts, Islamic law, Islamic banking, and online courses, as well as diplomas and certificates.

3.2 Study Setting

This study was conducted with selected 2 universities by using simple Radom (lottery method) which was give us a good representation of the universities in hargeisa city, which name Golis University and Hargiesa University.

3.3 Study Population

The target population in this study was the university students, the universities is 2 universities at golis and Hargiesa University located in the Pepsi area and tima-ade area.

3.4 inclusion and exclusion

Inclusion criteria was students in 2 universities that have been selected.

Exclusion criteria was those who is not health science and in fresh year.

3.5 Study Design

A cross-sectional study design using quantitative methods was gathered in this study to assess the prevalence and risk factors influencing Gastritis among university students in selected universities in Hargeisa, Somaliland.

3.6 Data Collection Method

The research instrument was a self-administered questionnaire with close ended questions which comprised two parts. Part I deity related factors of gastritis, Part II self-care management.

Questionnaires were preferred because they were reliable, relatively cheap and quick means of collecting data from a high population in a reasonable period. They also offer anonymity and increase accuracy in case of required sensitive information and target population. The questions are uniform; each respondent received the same set of questions. The questionnaire were tested and adjusted before it is fully certified for use.

The researcher ensured that he was present at the site and also cross checked all questionnaires for completeness and correctness. Thereafter, all the filled in instruments were collected and kept safe.

3.7 Study Period

This study is the prevalence and risk factors of self-reported gastritis among university students, the study was conducted two weeks in june 2021.

3.8 Sample Size Determination

The sample size is 300

main respondents was selected according to the sloven formula. It shows that when the population size in 2 universities specially in health science departments is approximately 1300 of students 95% confidence with a margin of error of 5.0%. Therefore a sample size of 300 students were randomly selected from the total population to participate in the study.

Using solvent formula of calculating the sample size to proportions, the appropriate sample size based on the total number of students.

$$n = N/1+N (e) 2$$

$$= 1300/1+1300(0.05)2$$

= 1300/1+1300 (0.0025)

= 1300/1+3.25

= 1300/4.25 = sample size = 300

3.9 Sampling Method

Multistage sampling procedure were used to select respondents. Who met the study inclusion criteria in each class for the two universities this gave a good representation of the population of the two universities.

3.10 Data Analysis

Quantitative data were enter in IBM SPSS 20 data were cleaned by running frequencies of all the variables to check for incorrectly coded data, incorrectly coded data were begin double checked with raw data in the questioner and corrected.

Statistical methods were used to analysis the data collection such as descriptive statistics, for example numerical summation, graphs, and tables. The analysis software performed using the data was a statistical package for social science.

3.11 Ethical Consideration

The researcher undertook to observe all relevant ethical and legal consideration that applicable to scientific research and I got the consent from the principle of hargeisa university before the study also permeation is got from head of that two universities, data were collected by respecting the right of the students and not harming anyone this research is beneficial for students to identify the problem of students towards the self-reported gastritis to find solution about that problem, all information obtaining in the course of study was being treated with almost confidentiality and not be used outside of scope of study. Which seek to protect the identity of the research subject against potential abuse /stigmatization.

3.12 Plan for Result Dissemination

The finding of the study were presented to the University Of Hargiesa. It were also be disseminated through presentation in different professional association meeting and annual conference. The paper were also be submitted to national or international peer reviewed scientific journal for possible publication.

3.13 Study Variable

Dependent variable: the dependent variable in this study is presence of self-reported gastric among students.

Independent variables: the possible independent variables in this study include dietary habit included increasing salt intake, irregular meal time, spicy food, fast food and also possible independent variable is low self-management

3.14 validity and reliability

Validity

These questionnaire were then passed into the supervisors for further scrutiny before they were administered in the field. Direct translation from English to Somali was done by class teachers to explain the Questionnaire items to the students. Twenty students from one university not necessarily randomly selected were used for testing the research instruments.

Reliability

Since questionnaire was constructed by the researcher, the estimation of reliability was
Ascertained by pilot testing the instrument and applying Cranach's Alpha coefficient by
Means of a statistical Package for Social Sciences. Cronbach's Alpha coefficient were being
Used to measure internal consistency of the research tool. Then the instrument was considered reliable because Cronbach's Alfa was 0.8.

CHAPTER FOUR: RESULTS

4.1. Demographic characteristic of respondents

Most of the participants that had gastritis (57%) and did not have gastritis (51%) were females Majority of the participant that had gastritis (82%) and did not have gastritis (85%) were single. In occupation the majority (73.7%) were self-employed and had gastritis, nearly (66%) self-employed had no self-reported gastritis. Participants. Most of the respondents with self-reported gastritis (90%) and without gastritis (80%) were aged between 20 – 29 years. Majority with both self-reported gastritis (93%) and with no gastritis (92%) came from middle income families.

Table 4.1: Socio-demographic characteristic of respondents

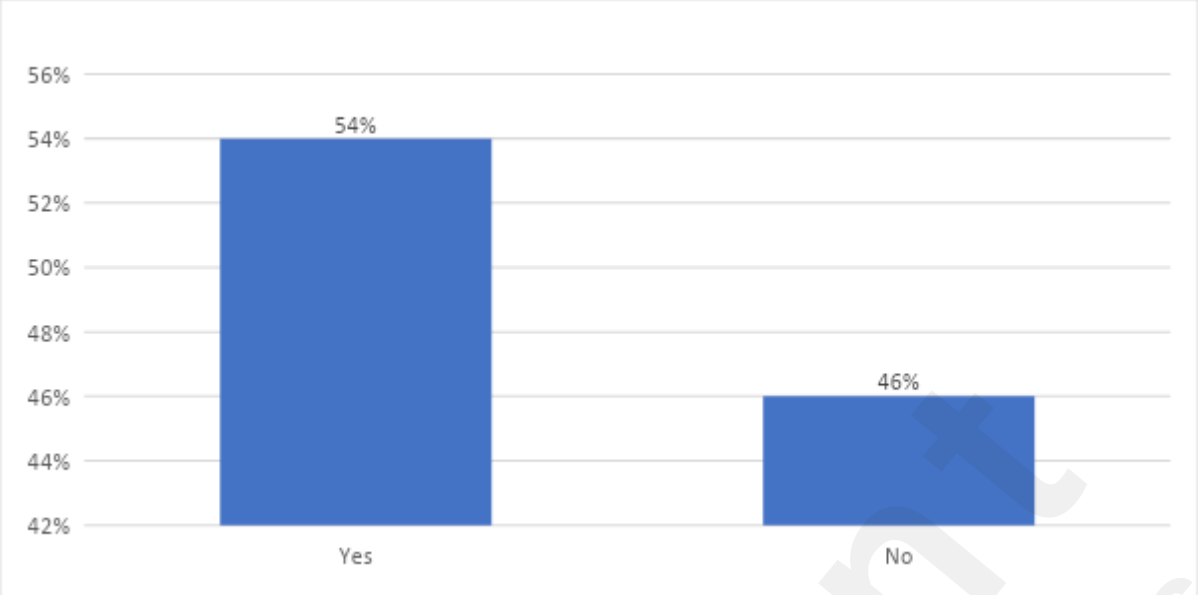
Variable	Gastritis		Total
Gender	**Yes**	**No**	

Male	69 (42.6%)	68 (49.3%)	137 (45.7%)
Female	93 (57.4%)	70 (50.7%)	163 (54.3%)
Marital status			
Single	132 (81.5%)	117 (84.8%)	249 (83.0%)
Married	29 (17.9%)	21 (15.2%)	50 (16.7%)
Divorced	1 (0.6%)	0 (0%)	1 (0.3%)
Occupation			
Public employee	18 (11.1%)	15 (10.9%)	33 (11.0%)
Private employee	26 (16.0%)	32 (23.2%)	58 (19.3%)
Self-employee	118 (73.7%)	91 (66.0%)	209 (69.7%)
Age			
<20 years	6 (3.7%)	9 (6.5%)	15 (5.0%)
20 – 29 years	149 (92.0%)	122 (88.4%)	271 (90.3%)
≥30 years	7 (4.3%)	7 (4.3%)	14 (4.7%)
Educational level			
First year	15 (9.3%)	18 (13%)	33 (11.0 %)
Second year	48 (29.6%)	52 (37.7%)	100 (33.3%)
Third year	58 (35.8%)	44 (31.9%)	102 (34.0%)
Fourth year	41 (25.3%)	24 (17.4%)	65 (21.7%)
Family income			
Lower income	8 (4.9%)	5 (5.6%)	13 (4.3%)
Middle income	150 (92.6%)	127 (92%)	277 (92.3%)
High income	4 (2.5%)	6 (4.3%)	10 (3.3%)

4.2. Prevalence of Self- Reported Gastritis in University Students

From the total respondents of university students 54% had self-reported gastritis. Figure 1 below shows the prevalence of self-reported gastritis among University students

Figure 1 Prevalence of Self- Reported Gastritis in University Students



4.3 Dietary Factors Related with Self-reported Gastritis in University Students

The study showed that majority of the respondents that reported to have gastritis (56%) did not take snacks between meals while 58% that reported they did not have gastritis took snacks between meals. There was a statistical significance between taking snacks and self-reported gastritis *(p=0.021).* Majority of the respondents with gastritis (51%) skipped morning breakfast, while 59% of those without gastritis did not skip morning breakfast. Majority of the respondents (73%) with no gastritis were taking food with high fat, while only 59% with self-reported gastritis took food with high fat. There was a statistical significance between taking high fat and reported gastritis (p=*0.015*). Nearly 33% of respondents with gastritis had taken spicy food while 26% with no gastritis took carbonated drinks. Table 4.2 shows the dietary factors related with self-reported gastritis among University students.

Table 4.2 Dietary Related with Self-reported Gastritis in University Students

Variables (Dietary)	**GASTIRITS**		**P value**
	Yes	**No**	
Snack between meals			
Yes	72 (44.4%)	80 (58%)	0.021
No	90 (55.6%)	58 (42%)	
Skip morning breakfast			
Yes	82 (50.6%)	56 (40.6%)	
No	80 (49.4%)	82 (59.4%)	0.104

High fat consumption			
Yes	96 (59.3%)	101 (73.2%)	0.015
No	66 (40.7%)	37 (26.8%)	
High salt consumption			
Yes	73(45.1%)	51 (37%)	0.160
No	89 (54.9%)	87 (63%)	
Type of food to eat			
Citreous food	24 (14.8%)	22(15.9%)	0.197
Spicy food	53 (32.7%)	31 (22.5%)	
Fatty food	23(14.2%)	29 (21%)	
Fried food	28 (17.3%)	20 (14.5%)	
Carbonated drink	34 (21%)	36 (26.1%)	
Drinking coffee			
Yes	100 (62.1%)	91 (65.9%)	0.546
No	61 (37.9%)	47 (34.1%)	
Eating fast food			
Yes	86 (53.4%)	82 (59.4%)	0.350
No	75 (46.6%)	56 (40.6%)	

4.4 Self-Management of Self-Reported Gastritis

Most of the respondents (55%) who self-reported gastritis and nearly 51% without gastritis do not visit the hospital when they feel symptoms. Majority of the respondents (51%) who had chest pain self-reported gastritis more than those without gastritis (1%). There was a statistical significance observed between symptoms and reporting gastritis (p=0.000). Majority of the respondents (63%) that reported gastritis and 57% that did not report gastritis took medication to reduce the symptoms felt. Sixty percent (60%) that did not report gastritis and 57% that self-reported gastritis knew that reducing spicy food managed gastritis. Table 4.3 shows results of variables related to self-care management related to gastritis.

Table 4.3 Self-care management related to gastritis

Variables	**Self-reported Gastritis**		**P value**
Going hospital when feel symptoms	**Yes**	**No**	
Yes	73 (45.3%)	67 (48.6%)	0.642
No	88 (54.7%)	71 (51.4%)	
Going to pharmacy			
Yes	93 (57.4%)	68 (49.3%)	0.165
No	69 (42.6%)	70 (50.7%)	

Symptoms feel			
Chest pain	82 (50.6%)	2(1.4%)	0.000
Feeling fullness	57 (35.2%)	2 (1.4%)	
Nausea and vomiting	22 (13.6%)	0 (0.0%)	
To reduce take medication			
Yes	102 (63%)	79 (57.2%)	0.344
No	60 (37%)	59 (42.8%)	
Reducing spicy food			
Yes	90 (55.6%)	83 (60.1%)	0.482
No	72 (44.4%)	55 (39.9%)	
Reducing fried and fat foods			
Yes	89 (54.9%)	73 (52.9%)	0.729
No	73 (45.1%)	65 (47.1%)	
Cutting back on coffee			
Yes	72 (44.4%)	60 (43.5%)	0.762
No	90 (55.6%)	77 (55.8%)	
Eating smaller meal through the Day			
Yes	76 (46.9%)	71 (51.4%)	0.487
No	86 (53.1%)	67 (48.6%)	
Managing stress			
Yes	96 (58.6%)	88 (63.8%)	0.406
No	67 (41.4%)	50 (36.2%)	
Not lying down for 2 to 3hrs after meal			
Yes	92 (56.8%)	73 (52.9%)	0.561
No	70 (43.2%)	65 (47.1%)	

CHAPTER FIVE: DISCUSSION RECOMMENDATION AND CONCLUSION

5.1 Discussion

The prevalence of gastritis among the study participants was 54 %, with 57% females and 43% males respectively. The results indicated a higher number of women were suffering with gastritis than men. In comparison to studies conducted this result agrees with the studies conducted by Smith et al. Jannathul et al. and Agbor et al. showed that with prevalence of 47.0% for males and 47.5% for females, so high prevalence of gastritis among females. In this study it's likely that female self-reported gastritis more than males, in that, they were more aware about their health status due to more visits previously made to hospitals, as males rarely visit healthcare facilities.

As long as the age was concerned, the current results showed that (92%) of the study participants had gastritis and were aged between 20-29 years old. This result agrees with the findings of Feyisa ZT,

(2021) shows that (55.5%) of the study participants less or equal to 39 years old suffered from gastritis, while 44.5% who were aged above 39 years old suffered from gastritis. Our opinion is that youngest age in Hargeisa University more complain to feel gastritis due to dietary related and much stress about during academic exams.

Further that, it was found that earning middle and low income was associated with slightly significantly increased odds of being in gastritis compared with earning high income. Study participants who earned a higher income per month were less likely to suffer from gastritis compared with those earned less. Previous studies Smith S, 2018. Agbor N E, 2018 agrees with our current study finding that explained the general association of income with gastritis, although they did not clarify the association of income level with gastritis in specific ways. This might be people with less income level were less likely to visit health care institutions. Moreover, they had less ability to pay for health services due to having other life expenses.

Eating spiced foods were another important variable, which increased the odds of the severity of gastritis. This study identified individuals who ate spiced foods were more likely suffered gastritis than who don't eat spicy food. For dietary related majority had snacks between meals and had no gastritis and There was a statistical significance between taking snacks and reporting gastritis *(p=0.021).* The majority with high fat consumption had no gastritis and there was a statistical significance between taking fat and reported gastritis (p=*0.015*).

The previous of the studies, Padmavathi V, 2013 indicated that eating spiced foods resulted in gastritis, this might be due to the spiced food having a flavor or fragrance than other foods; it was commonly preferred to eat. In addition to such special properties, the spiced food has the potential to inflame and burn a gastric mucosa.

Most of study participant had a gastritis have no go in hospital, in our opinion for many reasons like family income that is not sufficient for their basic life and other reason had anxiety for hospitals may be contribute to not going hospital. This is similar to other studies found low income and taking

medications were contributed to gastritis status (zelalim t, 2021)

The majority who had gastritis going to a pharmacy to self-care management, in our opinion pharmacy is less expensive than hospital, nearly (63%) study participants who had gastritis know that medication can reduce gastritis.

5.2 Conclusion

The current study showed high prevalence of self-reported gastritis among university students. Female gender, age between 20-29 years, middle to low income, reporting chest pain, high fat consumption and eating spicy meals were associated with self-reported gastritis. The implication of this study is that attention should be given to University students and address the high prevalence of self-reported gastritis.

5.3 Recommendations

- The high prevalence rate calls for intervention by the University administrations, Ministry of Health Development and Ministry of Higher Education to minimize the incidence of 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 reaches chronic level.

- The Ministry of Education should consult competent nutritionists to provide awareness about gastritis and link with high fat consumption and sugar.
- The Ministry of Education could form the provision of information on prevention of gastritis as part of the university ‘curriculum.
- The students with gastritis should have medical attention in the hospitals for adequate treatment.

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Information latter

TITLE OF RESEARCH STUDY: Prevalence and risk factors of self-reported gastritis among university students in Hargiesa, Somaliland

INVESTIGATORS: Nimo Abdi Nor

INSTITUTION: University Of Hargiesa

STUDY LOCATION: Hargeisa, Somaliland

PROGRAMM: Master of Public health and nutrition.

PURPOSE OF RESEARCH STUDY:

1. To determine the prevalence of self-reported gastritis among university students in Hargeisa,

Somaliland

2. To determine the dietary related factors associated with self-reported gastritis among university students in Hargeisa, Somaliland

3. To find out the self-care management of self-reported gastritis among university students in Hargeisa, Somaliland.

DESCRIPTION OF THE STUDY: Gastritis is one of the most common and insidious diseases in human beings; hundreds of millions of people worldwide suffer from this inflammatory condition[CITATION 1PS15 \l 1033]. Globally, about 2.7 million people around the world are affected with gastritis[CITATION Moh16 \l 1033]. 50.8% of the populations in developing countries suffer from gastritis. With a lower, 34.7% of the population in developed countries had health problems due to gastritis[CITATION Mar181 \l 1033]. Compared with developing countries, the prevalence rate of gastritis markedly decreased in developed countries. However, it has remained as a major health problem[CITATION Liu19 \l 1033]

POTENTIAL DISCOMFORTS, INCONVENIENCE, INJURIES, and HARM OR RISKS: there's no harm or risk in this study.

POTENTIAL BENEFITS: The findings in this study may be useful to students in university, health care planners, as they have empirical evidence of the level of students, and factors influencing gastritis among university students. This may prompt them to work on improving their diet habits and knowledge about gastritis. Such action may enhance the prevention of gastritis. The findings would create awareness of diet in relation to risk factor of gastritis, especially University students. The result of this study allows also an orientation for further research in this field.

ALTERNATIVE PROCEDURES OR TREATMENTS: there is no procedures and treatments because it's observational study and it's not experimental study.

CONFIDENTIALITY: it was used for purpose of this study it's not possible to share your name and your data to anyone.
REIMBURSEMENT: there is no reimbursement

PARTICIPATION: participation of this study is volunteer
STUDY PARTICIPANT NAME……**SIGNATURE**……..
CONTACT: For any questions or concerns about this study contact person is:

Name: Nimo Abdi nor

Email: nimonur793@gmail.com

Questionnaire

Dear respondent

Iam student of Hargiesa University pursuing master of public health nutrition. I currently assess the Prevalence and risk factors of self-reported gastritis among university students in Hargeisa, Somaliland. The information provided by you in this questionnaire was used for assessment purpose. It was not be used in a manner which allow identification of your individual responses, so I kindly requesting you to assist me completing this questionnaire, and the confidentiality of the respondent was kept and approved academically.

Therefore. I would be glad if you could grant me minutes of your time and help with answering a few questions here in our form.

Your participation is very important.

Demographic data

1) What is your gender?
    a) Male
    b) Female
2) What is your age?

    ---

3) What is your marital status?
    a) Single
    b) Married
    c) Divorced
    d) Window
4) What is your occupation?
    a) Public employs
    b) Privet employs

c) Self-employ

d) Other occupation

5) What is your educational level?

a) First year of university

b) Second year of university

c) Third year of university

d) Fourth year and Above

6) What is your family economic status?

a) Low income
b) Middle lower income
c) Middle upper income
d) High income

Part 2. Prevalence of gastritis

7) Do you have gastritis?

a) Yes

b) No

8) Were you diagnosed in hospital?

a) Yes

b) No

9) Which symptoms did you feel?

Tick (yes) if you agree OR tick (no) if you don't agree

a) Chest burn or stomach ( )

b) Feeling fullness ( )

c) Nausea and vomiting ( )

10) How many times did you experience a symptom in week?

Part 2. Dietary related factors of gastritis

11) Do you take snacks between meals?

a) Yes

b) No

12) Did you skip the morning breakfast?

a) Yes

b) No

13) Do you eat high salt consumption foods?

a) Yes

b) No

14) Do you eat high fat consumption foods like (Meat, fish or oil)?

a) Yes

b) No

If your answer YES which kind of fat food you eat?

----

15) Which type of food do like to eat most?

a) Citreous fruits

b) Spicy foods

c) fatty foods

d) fried foods

e) carbonated drinks

16) Do you drink coffee or hot drinks?

a) Yes

b) No

17) Do you eat fast foods or outside of house?

a) Yes

b) No

Part 3: Self-care management

18) When you have a symptom do you go to the hospital?

a) Yes

b) No

If NO why? ----------

19) Do you go to pharmacy?

a) Yes

b) No

What do you think they reduce the sensation of gastritis?

20) Take medication like anti acid
    a) Yes
    b) no

21) Reduce hot spicy foods
    a) Yes
    b) No

22) Reduce fried and fat foods
    a) Yes
    b) No

23) cutting back on caffeine
    a) Yes
    b) No

24) eating smaller meals throughout the day
    a) Yes
    b) No

25) Managing stress
    a) Yes
    b) No

26) Not lying down for 2 to 3 hours after a meal.
    a) Yes
    b) No

Supplementary Files

Untitled.
URL: http://asset.jmir.pub/assets/01262320ca69abbb76b35333fd4b2b96.docx

Figures

This paper contributes to the literature by proposing a novel algorithm for optimizing resource allocation in decentralized networks. Through extensive empirical analysis and simulation, it demonstrates superior performance compared to existing methods, offering significant advancements in the field of distributed computing. Additionally, the paper provides practical recommendations for implementing the algorithm in real-world applications, thereby bridging the gap between theoretical research and practical implementation in decentralized systems.