WOLKITE UNIVERSITY

COLLEGE OF MEDICINE AND HEALTH SCIENCE, DEPARTEMENT OF NURSING

MAGNITUDE OF FUNCTIONAL DYSPEPSIA AND ITS ASSOCIATED FACTORS AMONG ADULTS VISITING OUT PATENT DEPARTMENT AT WOLKITE UNIVERSITY SPECIALIZED HOSPITAL, WOLKITE ETHIOPIA

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ACRONYMS AND ABBREVIATIONS

E.C	Ethiopia calendar
EPS	Epigastric pain syndrome
FD	Functional dyspepsia
GAD	General anxiety disorder
GERD	Gastroesophageal reflex
GI	Gastrointestinal
H. PYLORI	Helicobacter pylori
NGO	Non-governmental organization
NSAID	Nonsteroidal anti-inflammatory drug
OPD	Outpatient department
PDS	Postprandial distress syndrome
PHQ	Patient health questionnaires
PPI	Proton pump inhibitors
PUD	Peptic ulcer disease
QOL	Quality of life
R3DQ	Rome III diagnostic questionnaires
SSRI	Selective serotonin reuptake inhibitors
UD	Uninvestigated dyspepsia
UK	United Kingdom
US	Untied state
WKU	Wolkite university
WKUSH	Wolkite university specialized hospital

ABSTRACT

Background: Functional dyspepsia is a prevalent condition with symptoms that originate in the upper abdomen area, both in the general population and in clinical settings. The magnitude of functional dyspepsia and its contributing variables vary from nation to nation. It is most common gastrointestinal disease in developing countries. However, had not been widely used in routine medical practice because the concept of functional dyspepsia is relatively new and not widely recognized, usually missed in the diagnosis. The magnitude of functional dyspepsia in Ethiopia is not well known and limited researches has been conducted about it in Ethiopia.

Objective: To assess the magnitude of functional dyspepsia and its associated factors among adults visiting outpatient department at Wolkite University Specialized teaching hospital: 2023 G.C.

Method: Institution based cross-sectional study design was utilized and the 254 participants were interviewed using both self-administered and interviewer administered structured questionnaires and they were selected using consecutive sampling technique. The data was collected, sorted by group members then entered into EPI data version 3.4 software, and exported to statistical package for social sciences (SPSS) version 27 software packages for further analysis. The association between each independent variable and the dependent was determined using binary logistic regression. In a multivariable analysis, variables were considered statistically significant if they had a P-value of less than 0.05 at 95% confidence interval.

RESULT: A total of 254 patients participated in this study with 100% response rate. Functional dyspepsia was diagnosis in76(29.9%), by using R3DQ. In multivariate regression analysis, occupation (AOR:0.281,95%CI (0.11-0.721)), drugs (A0R:3.624,95%CI (1.915-6.856)), smoking (AOR:3.181,95%CI (1.498,6.758) and drinking alcohol (AOR: 0.36(0.14-0.97), were significantly associated with functional dyspepsia at p-value (≤0.05).

Conclusions and Recommendations: The result of this study show that functional dyspepsia was associated with a variety of factors. Functional dyspepsia could be prevented by working on lifestyle habits modification and giving more attention towards drug user.

Key words: Functional dyspepsia, epigastric pain syndrome, Ethiopia.

CHAPTER ONE

1.1. Background

Functional dyspepsia is essentially chronic indigestion with no obvious physical cause[1]. It is symptoms centered in the upper abdomen, and the presence of symptoms that originate in the upper GI region in the absence of any organic, systemic or metabolic diseases that is likely to explain the symptoms [2-7]. Many people experience FD symptoms, although the underlying cause is frequently unknown [8]. However, functional dyspepsia awareness has been progressively growing [9]. In Japan, as living standards have improved, there have been increased concerns about quality of life (QOL), worries that stress from the complexity of modern life is increasing the likelihood of dyspepsia, and the identification of "functional dyspepsia" as a disease name for national awareness campaigns, among other factor [10].

Rome IV criteria divide FD into postprandial distress syndrome (PDS) and epigastric pain syndrome (EPS)[11]. The cardinal features of PDS are early satiation and sense of epigastric heaviness after a meal and the main feature of EPS is pain or a burning sensation in the epigastric area[12].

Over the past 20 years, there has been extensive research on the pathophysiology of FD, but no one, clear cause has been found [13]. There are probably a number of mechanisms that might be possible underlying causes of symptoms of functional dyspepsia, such as: Peptic ulcer disease and infection with Helicobacter pylori, Gastro esophageal cancer Gastro paresis, Gallstones, biliary dyskinesia, or gallbladder cancer, Drugs (e.g., no steroidal anti-inflammatory drugs, iron, calcium antagonists, angiotensin-converting–enzyme inhibitors, and glucocorticoids), Chronic pancreatitis or pancreatic cancer Parasites, Hepatocellular carcinoma, Chronic mesenteric ischemia Crohn's disease infiltrative diseases (e.g., eosinophilic gastroenteritis and sarcoidosis)[14-17]. And Certain risk factors, including smoking, female sex, insufficient exercise, sleep disorders, high fat intake, and irregular eating patterns psychological comorbidity, and psychological stress being identified [18].

The pathophysiology of FD is not well established [19]. However, a variety of pathophysiologic mechanisms have been proposed to explain functional dyspeptic symptoms[20]. Functional dyspepsia has been attributed to disturbances in gastric physiologic factors divided into macroscopic and microscopic mechanisms [21]. Macroscopic mechanisms include gastroesophageal reflux (GERD), delayed gastric emptying, and visceral

hypersensitivity alterations in the nervous system [22]. Microscopic mechanisms include impaired barrier function, altered sensitivity to duodenal acid or lipids, and gastroduodenal inflammation[23-25]. Additional mechanisms include environmental insults like food inducing gastroduodenal physiological changes, infections causing inflammation, and allergen exposure can lead to eosinophil recruitment in genetically predisposed patients [26-28]. Psychological factors like anxiety and depression can cause a negative stimulus to the brain-gut axis, suggesting that there is central processing of visceral stimuli from sensations in the gastrointestinal tract [25, 29].

The Rome IV criteria define dyspepsia as any combination of 4 symptoms: postprandial fullness, early satiety, epigastric pain, and epigastric burning that are severe enough to interfere with the usual activities and occur at least 3 days per week over the last 3 months with an onset of at least 6 months in advance[2, 30-32].

1.2. Statement of the Problem

Functional dyspepsia is one of the most significant and growing health problem worldwide[16, 33]. The magnitude of FD varies worldwide[34], in Western countries, Its magnitude ranges between 10% and 40% and between 5% and 30% in Asia [35], 20.6% in Europe, to 29% in the US[36]. The magnitude of functional dyspepsia in Kerman (Southeast of Iran in 2010) was 16.1% [37]and (10.0%) in Japanese 2009 [38].

The cross sectional studies conducted at university of Leeds in 2015, showed that magnitude of functional dyspepsia in the community, was (20.8%) [34]. The lowest magnitude was reported 1.8% in two studies, one of which was conducted in Canada and used the Rome II criteria, and the other a Chinese study that used the Rome III criteria [25].

Institutional-based studies are scarce in Africa; however, in a population of African patients with FD accounted for 66.6%[2]. In 2012, cross-sectional prospective study carried out at University of Nigeria Teaching Hospital that magnitude of functional dyspepsia is (64.9%)[2] The studies conducted in Ugandan showed that, patients presenting with upper GI issues, epigastric pain was the most prevalent presenting complaint (51%) and 22% of cases had persistent dyspepsia[39]. The study conducted at Sudanese in 2012 showed that the magnitude of functional dyspepsia is 21.6% [40].

In a recent systematic review, showed that, life style (alcohol consumption, smoking tobacco) , dietary factors (wheat and gluten ingestions, high dietary fats intake and Naturally occurring food chemicals, fermentable oligosaccharides, disaccharides, monosaccharides, and polyols),psychological factors (anxiety and depression), NSAID, and demographic factors (gender, age, low income, and low education levels) were frequently associated with functional dyspepsia symptoms [24, 26, 41].

Functional dyspepsia has a negatively impact on both attendance and productivity at work [19]. When compared to the general population, those with functional dyspepsia have a much lower quality of life [4, 10, 42, 43]. In a study based on FD patients attending a tertiary care center in the US, Total mean direct cost yearly to patients was $699. In the 7 days prior to completing the questionnaire, respondents reported a mean of 1.4 hours' absence from work[19]. Extrapolating the results to the US population, we conservatively calculate the costs of FD were $18.4 billion in 2009 financial year [10]. Only about 25% of symptomatic

individuals seek medical support, FD. represent 40% of diagnoses in gastroenterological settings and they are one of the leading causes for referral to emergency care units [30].

Participants with FD had much more health impairment and used healthcare services than those without dyspepsia, according to a large-scale population-based study [44]. Functional dyspepsia does not affect survival, its consequences are measured by its impact on patients and from a socioeconomic perspective[45]. Health-related quality of life is consistently lower among people with FD compared with healthy controls [23]. Due to chronicity of symptoms, between 40% and 70% of patients consult a medical practitioner and in one study work absenteeism and presentism was reported by 32% and 78% of patients, respectively [18, 29].

There are many treatment option in the previous FD studies[46], some more effective than others and many patient responds to non-pharmacology treatments. those includes, (Conflict resolution in the psychosocial domain, Encouraging the patient to take responsibility, Relaxation exercises, Treatment alliance for long-term care, Psychotherapeutic options, and Psychotherapy), Proton pump inhibitors, Helicobacter pylori eradication treatment, Phototherapy, Antidepressants, both tricyclic and selective serotonin reuptake inhibitors are commonly used to treat functional dyspepsia[47].

In Ethiopia there are only two population based cross sectional studies are conducted, one is at dessie referral hospital of south west Ethiopia in 2018, about Uninvestigated dyspepsia and the other is done at Jimma, Southwest Ethiopia, in 2022, about Peptic ulcer disease among dyspeptic patients [39]. However, there is limited studies conducted about functional dyspepsia, in Ethiopia including our study area, still now, due to this we are driven to conduct research with the aim to asses' magnitude of FD and its associated factors among adults visiting outpatient department at Wolkite University Specialized Hospital in 2023 GC.

1.3. Significance of the study

The finding of this study was helped to know magnitude of functional dyspepsia and its associated factors among adults visiting outpatient department in Wolkite University specialized hospital. The result of this investigation will also help in providing a clear image of the issue and the contributing causes of functional dyspepsia. It also offers some guidance for healthy planners and managers in understanding the scope of the issue and pursuing additional study and investigation to find long-term solutions.

Generally, this study is anticipated to provide information regarding FD to government bodies and various Non-Governmental Organizations (NGO) and help to develop pertinent data that could aid in designing effective FD managements, the results of this study also serve as base line data in the study area.

CHAPTER TWO

2.1. Magnitude of Functional Dyspepsia

Globally, functional dyspepsia (FD) is very common, while regional prevalence varies. For instance, the prevalence of FD varies from 10% to 40% in Western nations and from 5% to 30% in Asia [33]. A large-scale study in France reported as magnitude of FD about 15% to 21%. In Korea, the magnitude of FD is 46.5%[26].

A cross sectional studies conducted at south east Iran in 2010 reported as the magnitude of functional dyspepsia is 16%[33]. reference. Other cross sectional studies conducted 3 medical colleges of Karachi, Pakistan in (2020), reported out of 221 subjects 34.8% of subjects were diagnosed to have functional dyspepsia, out of which around three quarters were females (68.5%) [48].

A cross sectional study conducted at Jordan in (2018), showed that functional dyspepsia was more prominent than organic dyspepsia and significantly associated with dyspepsia Age income, and psychological disturbance as stress, anxiety and depression [49].
The magnitude of FD in Japanese patients ranges from 11 to 17% in patients who appear for medical checkups and from 45 to 53% in patients who seek medical care because of upper gastrointestinal symptoms[50].

The cross sectional studies conducted at university of Leeds in 2015, showed that magnitude of functional dyspepsia in the community, was (20.8%) [23]. The lowest magnitude was reported 1.8% in two studies, one of which was conducted in Canada and used the Rome II criteria, and the other a Chinese study that used the Rome III criteria [24]. In 2012, cross-sectional prospective study carried out at University of Nigeria Teaching Hospital that magnitude of functional dyspepsia is (64.9%)[2].

The study conducted at Brazil in (2011), Eight hundred fifty patients with dyspepsia were evaluated: Among patients 48.2% was functional dyspepsia, 628 were women (73.9%); mean age was 46.4 ± 12.9 years; 387 (45.5%) were active workers. Among active workers, 32.2% mentioned that dyspepsia had caused absenteeism from work during the preceding week and 78% reported a reduction of the work productivity. The lost work productivity score was 35.7% among all employed patients[51].

The studies conducted in Ugandan showed that, patients presenting with upper GI issues, epigastric pain was the most prevalent presenting complaint (51%) and 22% of cases had persistent dyspepsia. the most prevalent signs of FD were observed to be epigastric discomfort (42%), belching (25%), and comparable symptoms [3].

A population-based survey was conducted in Ghana's Eastern Region showed that the magnitude of functional dyspepsia was 25.5%[52].

2.2. Associated factors with functional dyspepsia

Socio- economic and demographic related factors:

Age: The majority of studies have revealed that dyspepsia does not appear to be associated with any particular age group, but some tendencies have been seen in other studies[12, 28, 53]. A cross sectional studies conducted at south east Iran in 2010 reported as there is no statistically significant difference observed between males and females regarding age among functional dyspepsia[33].

Gender: Gender-specific features of functional dyspepsia have been observed both in clinical practice and through the analysis of multiple studies[7]. Most population studies were able to achieve almost equal male to female ratios, and most of them revealed no variations in the prevalence of dyspepsia across genders[9]. According to many research in diverse demographics, female gender was found to be the only independent risk factor for FD among 2018 Taiwanese health check participants [39].

An Australian population-based study found that the majority of functional GI diseases, including FD, were significantly more common in women than in men [45]. North America and some countries in Southern Europe, Northern Europe, Southeast Asia, and the Middle East showed more dyspepsia in women than men[26, 33].

Socio economic factors: A Canadian survey revealed that chronic GI symptoms (FD) were more prevalent in adults with lower household income, those who were unemployed and with lower educational levels [38]. The research conducted in Drossman in the US noted a strong relationship between lower household income and larger household membership with increased functional GI diseases, including FD [47].

In a British survey, factors including rented accommodation, no central heating, low educational level and sharing a bed with siblings (surrogate for crowded household)

were found to be predictive of FD in adults [7]. Amongst an urban population of dyspeptics in China, "dissatisfaction with financial income" was associated with FD [25]. The study that conducted in Nigerian showed, a larger sized family together with occupational scatter was strongly associated with FD [42].

Life style and behavioral related factors:

Smoking: Cigarette smoking affects several GI functions that play crucial roles in the pathogenesis of FD, Smoking decreases lower esophageal sphincter pressure and affects esophageal defensive mechanisms such as reduction of esophageal clearance and saliva secretion[38]. although a common practice world-wide, regular smoking as a risk factor has not been consistent in its association with dyspepsia [54]. In the few population-based studies that have examined FD, smoking has not been shown to be a risk factor[9].

In surveys of patients with FD however, regular smoking has been identified as a risk factor in populations in US, Canada, UK, and India[9]. A cross-sectional study on Japanese in (2011) showed that cigarette smoking was a common factor associated with, FD,[38]

Subjective sleep quality, sleep latency, reduced sleep duration, habitual sleep efficiency, sleep disturbances, increased use of sleeping medications, and daytime dysfunction are all positively correlated with the frequency and severity of functional dyspepsia, according to a 2020 study conducted in the province of China[5].

Alcohol: Regular alcohol intake, as a risk factor, has been studied and it has not been shown to be associated with dyspepsia in the vast majority of surveys. However, in the Asia-Pacific region, only population studies in New Zealand [38],have showed definite associations between alcohol and FD. Caffeine was associated with FD in four studies, although any association with alcohol was uncertain [55].

Alcohol interferes with normal gastric physiology. Alcohol can increase gastric acid secretion, with low doses accelerating gastric emptying and high doses delaying gastric emptying [56]. When considering the effects of alcohol on dyspepsia, the results are also conflicting. On the other hand, a large cohort study demonstrated that in 4,390 subjects, there was a relationship between the consumption of greater than seven alcoholic drinks a week and dyspeptic symptoms (OR: 2.3; CI 95%: 1.1–5.0) [1, 56, 57]. Thus, it is difficult to determine if alcohol induces or not dyspeptic symptoms [58]. Coffee consumption increases

gastric acid secretion. Coffee consumption has also been found to induce dyspeptic symptoms, whereas in one study, no association was found [1].

The role of smoking and alcohol intake on FD has been less thoroughly examined[38]. The systematic literature review, of a large amount of studies from different countries around the world with different design and application of FD criteria, shows that smoking seems to be associated with a significant 50% increased risk of FD for current compared with never smokers[1]. A moderate alcohol intake is not associated with FDs. On the other hand, a high alcohol intake may lead to development and aggravation of symptoms functional dyspepsia [56, 57, 59].

Dietary related factors:

The role of diet in dyspepsia has not been studied by many, probably due to the diversity of dietary habits within individual populations[27]. The exact mechanism by which diet induces functional dyspepsia symptoms has not been clarified yet [60]. In the few studies that have attempted to examine dietary factors and their association with dyspepsia, the definitions of food types and insignificantly to worsening of symptoms[9, 54].

In Nigerian adults living in the highlands, the type of staple food consumed was strongly associated with FD, but no specific definitions of food types are given [9, 61].

Many studies have reported that dyspeptic symptoms are associated with ingestion of some foods such as onions, peppers, fried and fatty foods, alcohol, citrus fruits, and spicy foods [57, 60, 62].

Cross-sectional study was done at the Gastroenterology Department of Shahid Sadoughi Hospital, Yazd, Iran from September 2008 to March 2009. Of 384 patients, 152 were men and 231 were women with a mean ± SD age of 39.16±14 years (range: 13-80 years). The foods that caused the highest aggravation of symptoms were pickles vinegar, soft drinks, grain, tea, salt, pizza, watermelon, red pepper, and macaroni. However, the most frequent foods that led to the alleviation of symptoms were apples, rice, rock candy, bread, caraway seed, dates, honey, yogurt, quince, and walnut. This study shows that some foods, especially spicy, pickled, and high-fat foods, strongly induced dyspepsia and aggravated the symptoms in dyspeptic patient [60].

Consuming wheat and gluten was linked to functional dyspepsia's post-prandial misery and epigastric pain symptoms, and dietary lipids consistently affected post-prandial distress

symptoms [28]. In a recent systematic review, wheat and gluten ingestions were associated with to PDS and EPS of FD, while dietary fats consistently influence PDS [63]. A low-fat, low-calorie meal caused much less symptoms than a high-calorie dinner, according to a prospective cross-sectional study that was carried out in participants attending a conference over the course of four days [55].

One study of functional dyspepsia Evidences suggest that Fatty foods seem to be the main trigger, but other foods such as: unfermented milk and dairy products, citrus fruits, spicy foods, coffee, alcohol, high intake of salt and soy sauce have also been concerned. On the other hand, diets rich in fiber, fermented milk, polyunsaturated fatty acids (especially n-6 family) and vitamin A and C appear to be positive role in improving the patient[60, 64, 65].

By (2018) Systematic review Sixteen out of 6451 studies identified in a database search of six databases showed that Wheat-containing foods were implicated in FD symptom induction in six studies, four of which were not specifically investigating gluten and two that were gluten-specific, with the implementation of a gluten-free diet demonstrating a reduction in symptoms. Dietary fat was associated with FD in all three studies that specifically measured this association. Specific foods reported as inducing symptoms were high in either natural food chemicals, high in fermentable carbohydrates or high in wheat/gluten [15, 58, 60].

Food is clearly a triggering factor for dyspeptic symptoms in the majority of patients. However, the relationships between nutrients, except for fat, or other specific foods and the onset or intensity of dyspeptic symptoms have been poorly evaluated, and there is a lack of high-quality evidence to guide dietary therapies in functional dyspepsia.[24].

Psychological factors:

Psychological co-morbidity plays a major role in the development of FD, particularly as the gut and brain communicate through the enteric nervous system and the hypothalamic pituitary-adrenal axis [3]. An Australian observational study, adults with anxiety and depression scored strongly on the FD scale [5]. Psychological distress, particularly anxiety, is associated with functional dyspepsia and may precede the onset of the disorder in some persons.[14]. A cross sectional studies conducted at south east Iran in 2010 reported as functional dyspepsia was significantly associated with anxiety and depressive disorder; although it was slightly greater among females, and peaked in the age group 25- 34 years old [33].

Systematic Reviews and Meta-Analyses study conducted at Indonesia from 2010 to 2020 showed that magnitude of depression and anxiety is higher in patients with FD compared to controls[41].

In a Swedish population-based survey, anxiety led to an almost eight-fold increased odds of developing FD over a 10-year period[3]. The research conducted at Isfahan, Iran in (2015) the magnitude of FD according to anxiety, depression, and psychological distress in both genders is 76 (29.5%) ,129 (49.8%), 105 (40.4%) respectively, in this study, 4763 participants with mean age (36.87 ± 8.09) were included the 2106 males and 2657 females suffered from FD[41, 66].

In the context of COVID-19, many people suffer from anxiety and depression due to increased work and life stress, which in turn leads to symptoms of functional indigestion, such as early satiety and postprandial fullness [25].

A cross sectional study conducted at Pakistan in 2020, showed that Stress has physical and mental direct impact of brain and gut activity[29]. A strong positive correlation was observed among functional dyspepsia and both mental and physical stress[67].

Drug related factors:

The use of drugs have been associated with the development of gastrointestinal (GI) symptoms ranging from simple dyspepsia to life threatening GI bleeds and perforation [54].

In a case-control study from Australia, paracetamol exposure was associated with functional dyspepsia. However, whether this reflected a true cause and effect relationship, whether paracetamol use was a 'marker' for an underlying psychopathological process, or whether other painful somatic complaints accounted for the drug ingestion could not be assessed directly [68]. Talley and colleagues reported that smoking, alcohol, aspirin and the use of nonsteroidal anti-inflammatory drugs (NSAIDs) was not associated with an increased risk of functional dyspepsia in outpatients presenting for endoscopy[15]. However, in view of the Rome IV criteria Stanghellini and colleagues recently recommended that besides more frequent, smaller meals and avoiding a high-fat diet, patients with functional dyspepsia should avoid NSAID use, coffee, alcohol, and smoking [58].

Meta-analysis study, reported that Clinical trial data indicate that high dosages of any NSAID along with any dosage of indomethacin, meclofenamate, or piroxicam increase the risk of dyspepsia by about 3-fold. Other NSAIDs at lower dosages were not associated with an increased risk of functional dyspepsia[28, 43].

2.2. Conceptual frame work

The conceptual framework is adopted from a similar model developed for FD study after reviewing different literature[14, 19, 31], However, some Modifications are done to address the areas of interest without disrupting pathways of the original framework, the solid line shows the relationship between dependent and independent variables the study.

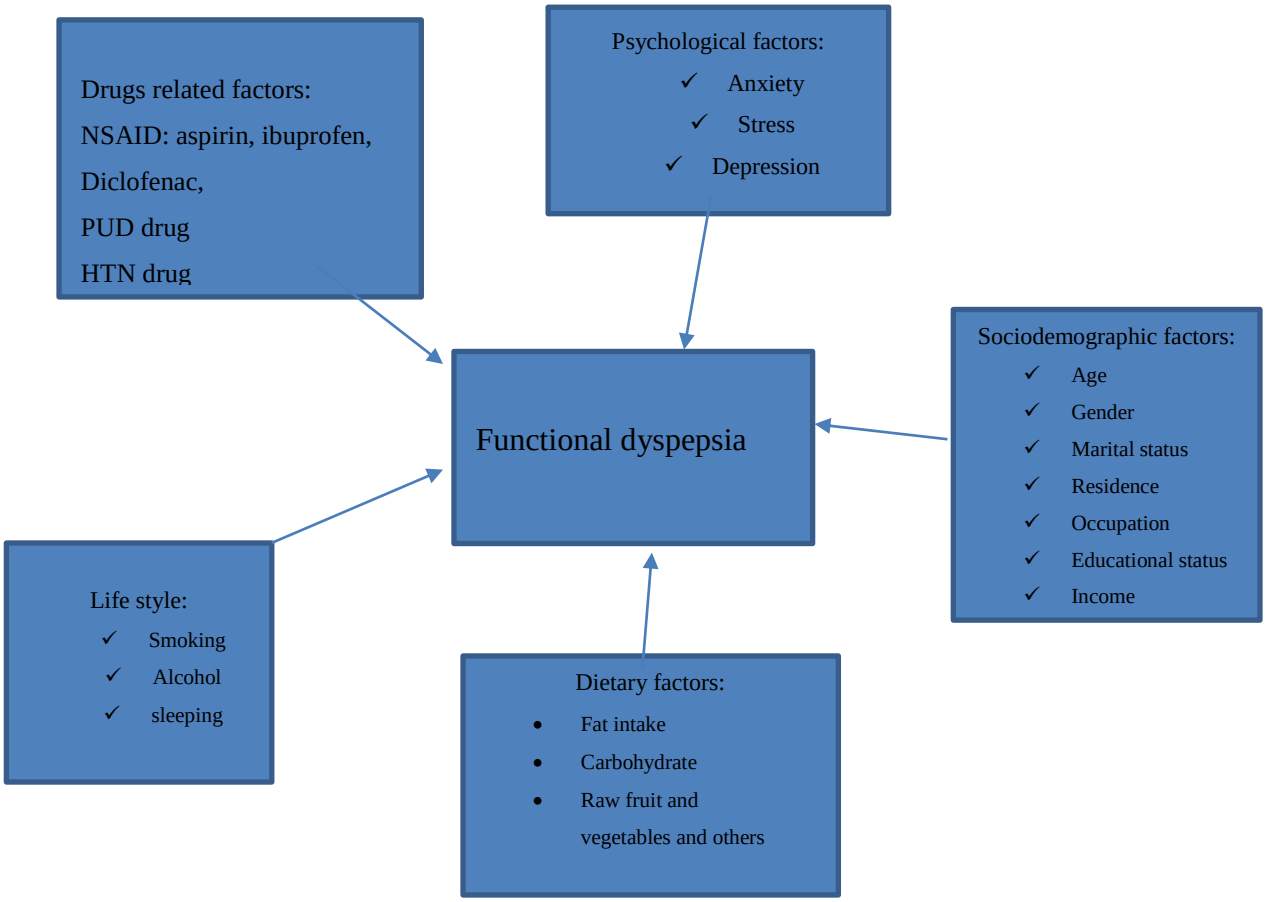

Figure 1.The schematic representation of the conceptual frame work of magnitude of functional dyspepsia and its associated factors among adults visiting outpatient department at Wolkite University specialized hospital, Wolkite, Ethiopia Aguast.2023.

CHAPTER THREE:

3. OBJECTIVE

3.1. General objective:

- To assess the magnitude of functional dyspepsia and its associated factors among adults attending outpatient department at Wolkite University specialized hospital, Ethiopia from May 17- June 18 / 2023.

3.2. Specific objectives:

- To determine the magnitude of functional dyspepsia among adults attending outpatient department at Wolkite University specialized hospital, Ethiopia, From May 17- June 18 /2023.
- To identify factors, associate with functional dyspepsia among adults attending outpatient department at Wolkite University specialized hospital, Ethiopia, from May 17- June 18/2023.

CHAPTER FOUR: Methodology

4.1. Study area and period

This study was conducted in Wolkite University teaching Specialized Hospital, from May 17-June 18,2023. which is located in Gubre sub-city in wolkite town, Gurage, Southern Ethiopia. It is found at a distance of 166 km from Addis Ababa, the capital city of Ethiopia. The hospital is established in 2018 GC, as a part of a teaching hospital for health science students to produce qualified health professionals by providing practical skills. The hospital delivers health services for Medical, Surgical, Gynecological/Obstetrics, and Pediatrics to 4 million catchment population living in Gurage zone and Yem special woreda both inpatient as well as an outpatient department (OPD). The Hospital has 218 health professional's indifferent departments. The current estimated total out patient in year 2023were 3220.

4.2. Study Design

Institutional based Cross-sectional study design was conducted.

4.3. Population

4.3.1. Source Population

All adult's population who have outpatient visiting at WKUSH adult OPD in 2023, during data collection period

4.3.2. Study population

All adult outpatient visiting, who fulfill the inclusion criteria from the source population were included in the study.

4.4. Inclusion and exclusion criteria

4.4.1. Inclusion criteria

All Adult patient, who were attending outpatient visiting at WKUSH adult OPD from May 17 to June 18,2023

4.4.2. Exclusion Criteria

Mentally ill, hearing impairment and unable to read, and vision impairment and unable to hear.

4.5. Sample Size Determination and Sampling Technique

The required sample size of eligible participants for the study was determined by using single population proportion formula. The sample size was calculated based on the following assumption.

When n = is required sample

W =marginal error 5%, and confidence interval (CL) 95%.

P= prevalence of Functional dyspepsia (21.6%)[40].

$$n = \frac{z^2 p(1-p)}{w^2} = \frac{1.96^2 \times 0.216(1-0.216)}{(0.05)^2} = \frac{(3.8416 \times 0.216 \times 0.784)}{(0.0025)} \cong 231$$

Considering 10% non-response rate the sample size is estimated 231×0.1=23 then total sample size was calculated total sample required plus non- response rate, which is 231+23=254 outpatient were planned to be include in the study.

4.6. Sampling Procedure

This study was conducted at WKU specialized hospital, In the first step, we were selected four OPD out of eight OPD randomly by lottery method, secondly we were access to the total number adult outpatient visiting in the last one months in each selected OPD (815 were medical outpatient department, 725 were surgical outpatient department, 483 were ophthalmology outpatient department and 376 were genecology outpatient department). There after a of total 254 sample size were proportionately allocated by considering the number of outpatients visiting in four outpatient departments in the last month.

Finally, Consecutive sampling technique was applied to choose the respondents, who fulfill the inclusion criteria. A proportion of the patient from each outpatient department was calculated as follows:

$nj = \frac{n}{N} \times Nj$, where nj= indicate OPD, Nj=indicate number of patient in each selected OPD and N= is indicate total outpatient at four selected OPD at WKUSH.

4.7. Variables of the Study

4.7.1. Dependent Variable

Functional dyspepsia

4.7.2. Independent variable

- Socio-Demographic factors; (age, gender, Unemployment, lower educational levels, low house hold income).
- Life style: Alcohol, smoking,
- Drug related factors (NSAID: aspirin, ibuprofen, Diclofenac).
- Dietary (high fat), tea, raw fruits and vegetables
- Psychological factors (stress, anxiety and depression).

4.8. Data Collection Procedure and data collectors

Standardized structured questionnaire was first prepared in English after reviewing literatures of similar surveys that have been carried out previously. The final version of English questionnaire translated to Amharic language. Then after data was collected using standardized structured questionnaire by face to face interviewing participants to obtain information on patients about demographic characteristics, and other FD associated factors. face to face interview was done at patient waiting area, before the leaving the hospital, after the got medical seek from WKUSH OPD.

The two BSc nurse who were work at WKUSH were recruited as data collector, both the data collectors were trained prior to data collection, by the team member of the researcher.

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4.8.1. Data collection instruments:

Socio-demographic information (gender, age, marital status, employment, educational status, residence place) were obtained using a predesigned questionnaire through interview by data collectors or self-administered way.

We used the modified English version of Rome III diagnostic questionnaire [36] , the R3DQ, has 18 multiple choices items, with the diagnostic criteria of PDS, (question 3>4) and (question 4=1), early satiety (question 5 >4) and (question 6=1), epigastric pain (question 7>3) and (question 8=1)

Patient Health Questionnaire, 9 item scale (PHQ-9): The items of this scale correspond to the features of depression enumerated in the Diagnostic and Statistical Manual of Mental Disorders [69]. The nine depression symptom items share a common stem: "Over the past 2 weeks, how often have you been bothered by any of the following problems?" The items share a common set of response options: 0, "Not at all"; 1, "Several days"; 2, "More than half the days"; and 3, "Nearly every day." The PHQ-9 total score ranges from 0 to 27 with five severity categories: minimal (0–4), mild (5 -9), moderate (10–14), moderately severe (15–19) and severe (20–27).

GAD-7 Anxiety Severity. This is calculated by assigning scores of 0, 1, 2, and 3, to the response categories of not at all, several days, more than half the days, and nearly every day, respectively. GAD-7 total score for the seven items ranges from 0 to 21. Scores of 5, 10, and 15 represent cut points for mild, moderate, and severe anxiety, respectively. The severity category of an anxiety: no anxiety (0-4), mild (5-9), moderate (10-14), sever (15-21) [70].

Life style and demographic assessment questionnaires, to assess the presence or absence of different symptoms of FD, and associated factors. after reviewing literatures of similar surveys that have been carried out previously [71]. The final version of English questionnaire translated to Amharic language, then after data will be collected using standardized structured questionnaire by interviewing participants to obtain information on patients' demographic characteristics, socio economic factors, and other associated factors for functional dyspepsia.

The Perceived Stress Scale (PSS) is a classic stress assessment instrument. The tool, while originally developed in 1983, remains a popular choice for helping us understand how different situations affect our feelings and our perceived stress [67, 72]. The questions in this scale ask about your feelings and thoughts during the last month. In each case, you will be asked to indicate how often you felt or thought a certain way. PSS has 10, questions, for each question choose from the following alternatives: 0 - never 1 - almost never 2 - sometimes 3 - fairly often 4 - very often.

4.8.2. Data quality controls

Before the actual data collection, data collectors were trained on the contents of the

questionnaire, checklist, data collection methods, and ethical concerns. Therefore, data collectors become familiar with the questionnaire. Structured questionnaire developed was pretested on Five percent of the study population who were not part of study population at the same study area to familiarize the data collector to the process and instrument. finally, after data collection, the collected data was checked by research team members every day for its consistency and completeness and also the data was checked during entry and compilation before analysis. The process of data collection was also followed and checked, in the field by advisors.

4.8.3. Data entry and Analysis

The collected data was coded, and entered into EPI data version 4.6 software, and exported to statistical package for social sciences (SPSS) version 27.0 software packages for further analysis. Binary logistic regression analyses were carried out to identify the association between the dependent variable and independent variables.

Variables with P-value <0.25 in bi-variable logistic regression were used for multivariable logistic regression. A p-value <0.05 was considered statistically significant.

4.8.4. Operational Definition

Functional dyspepsia: the patient who was positive either, Postprandial fullness, Early satiety or Epigastric pain by R3DQ.

Postprandial fullness: the patient who have Uncomfortably full (satiated) after a usual-sized meal, more than one day a week, and who answer R3DQ question number 3 choose 5 and 6. Uncomfortably full (satiated) after a usual-sized meal Started more than 6 months ago and the patient answer R3DQ question number 4, yes.

Early satiety: Unable to finish a usual-sized meal more than one day a week and the patient answer R3DQ question number 5, choose 5 and 6, and unable to finish a usual-sized meal started more than 6 months ago Pain or burning in the middle of your abdomen 6, yes.

Epigastric pain: Pain or burning in the middle of your abdomen at least 1 day a week and the patient answer R3DQ question number 7, choose 4,5 and 6, and Pain or burning in the middle of your abdomen started more than 6 months ago, the patient answer R3DQ question number 8, yes.

Generalized anxiety disorder; is a general, long-lasting worry and anxiety about everyday life, about anything and everything.

Perceived stress levels; an individual's perceived response to interaction with his or her environment as measured by the Perceived Stress Scale [67].

Major Depressive Disorder: impairment of social, occupational, or other important areas of functioning as measured by PHQ-9.

4.8.5. Data analysis

The collected data was cleaned and entered into Epi Data Entry version 4.6. The data was then imported to SPSS Statistics version 27 (IBM) for analysis. Descriptive statistics were used to present patient characteristics. First, we performed frequency of socio-demographic characteristics. Bivariate analysis was done to assess the association between single independent variables and the outcome variable. All variables with a P-value less than 0.25 in the bivariate logistic regression were entered together into a multivariable logistic regression in order to control for potential confounders such as age, gender, and other sociodemographic variables. Variables with P-values of 0.05 or lower were considered to be associated with the outcome variable. The strength of association of the variables was presented as odds ratio with its 95% confidence interval.

4.8.6. Ethical consideration

The ethical approval was given by the ethical board of health sciences college. Permission was obtained from Wolkite University teaching specialized hospital, outpatient department, Privacy and confidentiality were assured for all study participants. If the patient needs any help during data collection, I was immediately informing to physician or nurse present there. The right of any individual not to participate or withdraw from the study during data collection at any point was fully respected. Data collection from each study participants were started after they gave informed consent both orally and in written form. No name and other identifier of participants written on the questionnaire.

CHAPTER FIVE: RESULTS

5.1 Socio-demographic characteristics of participants

This study was carried out on a total of 254 participants at WKUSH, Wolikte, Ethiopia 2023. All study subjects were participated in the study giving a response rate of 100%. Majority of respondent were between (18-44) age groups that accounted 194 (76.4%) of the total, most of the respondents were married 164 (64.6%), and 41 (16.1%) were single, among total participant the majority of them 105 (41.3%) were attended primary school in educational status and 82(32.3%) were illiterate. A majority 188 (74.0 %) household income were with moderate income.

Table 1:Socio demographic characteristics of participants of outpatients visiting at WKUSH adult OPD 2023.

Variable	Category	Frequency	Percentage
Gender	Male	131	51.6
	Female	123	48.4
Age category	18-44	194	76.4
	45-60	50	19.7
	above 60	10	3.9
Residence	Urban	94	37.0
	Rural	160	63.0
Education status	Illiterate	82	32.3
	Primary school	105	41.3
	Secondary school	30	11.8
	College and above	37	14.6
Occupation	Housewife	45	17.7
	Trader	84	33.1
	Government employee	27	10.6
	Daily laborer	20	7.9
	Farmer	61	24.0
	Others	17	6.67
Marital status	Never married	41	16.1
	Married	164	64.6
	Divorced	24	9.4

	Widowed	25	9.8
Household income	Minimum	55	21.7
	Moderate	188	74.0
	Maximum	11	4.3

***Others:** "preacher" =7, student"=10

5.2 Drug related factors response of patients

Out of 254 participants 20 (7.5 %) were used PUD drugs, and 16(6.3%) were used hypertensive drugs 11 (4.3 %).

Table 2:percentage of drug users among outpatients visiting at WKUSH adult OPD 2023.

Variable	Category			Frequency	Percentage
Drug users	Yes			85	33.5
		Types of diseases	Asthma	8	3.1
			CHF	7	2.1
			DM	11	4.3
			HTN	16	6.3
			PNEUMONIA	6	2.4
			PUD	20	7.5
			TB	9	3.5
			UTI	8	3.1
	No			169	66.5

5.3 Life style and dietary related factors response of patients

The study participants were asked to express their health life style and dietary related factors, among those 195(76.8 %) were sleep inadequately,59(23.2 %) were sleep adequately ,137(53.9 %)were used fruit and vegetable for feeding. Among those participants 13(5.1 %) were current smoker and 11(4.3%) were current drinker.

Table 3:summery of patient Lifestyle and dietary status outpatients visiting at WKUSH adult OPD 2023.

Variable	Category	Frequency	Percentage
Sleep duration	Inadequate sleep	195	76.8
	Adequate sleep	59	23.2
Difficulty staying awake during routine tasks in the day	Never	77	30.3
	some times	158	62.2
	many times	16	6.3
	every day	3	1.2
Types of food	fruit and vegetable	137	53.9

	high sugar	56	22.0
	high fat	42	16.5
	Other specific	19	7.5
an average whole fruits and vegetables taken per day	Never	113	44.5
	Sometimes	126	49.6
	many times	9	4
	Always	6	1.5
smoke cigarette	Never	209	82.3
	ex-smoker	32	12.6
	current smoker	13	5.1
Drinking alcohol (beer, wine, liquor)	Never	201	79.1
	ex-drinker	42	16.5
	current drinker	11	4.3

5.3 Magnitude of functional dyspepsia

Among the participants 76(29.9%) were diagnosis with functional,60(23.6%) were EPS,53(20.9%) were PDS, and 44(17.3%) were diagnosis with early satiety. Out of 76(29.9%) FD patients 32(42.1%) were male and 44(76.9%) were females.

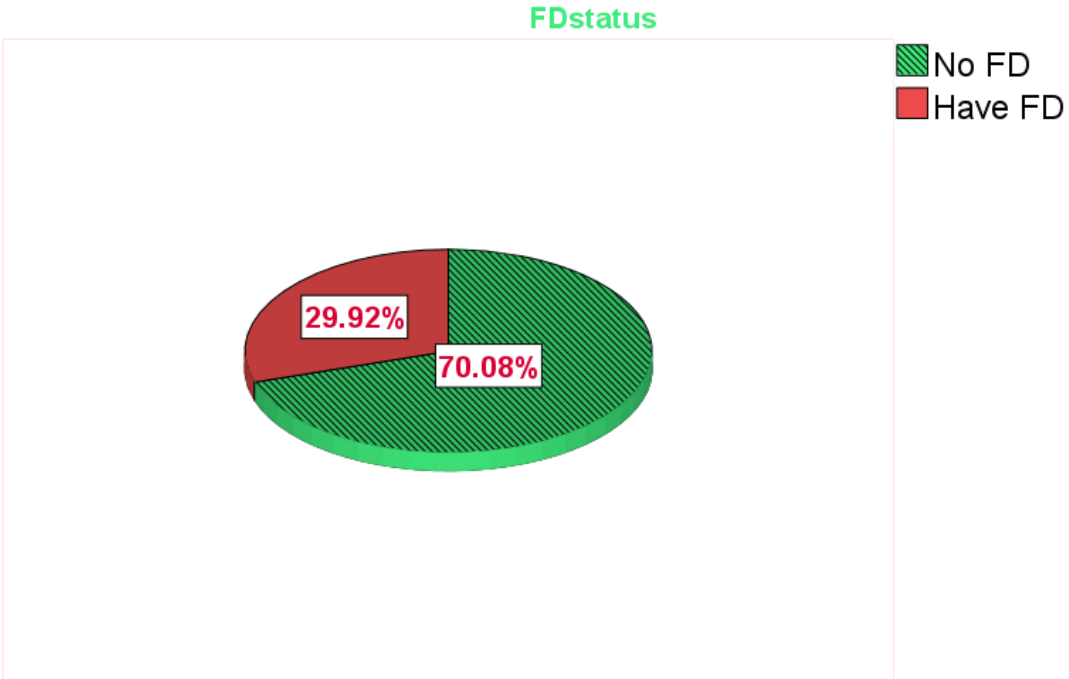

Figure 2:Magnitude of functional dyspepsia respondents of outpatient visiting at WKUSH adult OPD 2023.

5.4 Association of independent variables with functional dyspepsia

On bivariate logistic regression analysis: twelve variables (age, sex, educational status, marital status, household income, occupation, drug users, smoking, drinking alcohol, stress, anxiety and depression) were associated with the dependent variable at a p-value ≤0.25. Among the twelve independent variables only four variables (occupation, drug users, smoking and drinking alcohol) were significant associated with functional dyspepsia at the p-value of ≤0.05.

On multivariate logistic regression analysis at p-value <0.05, participant with merchant occupations were 72% less likely to develop functional dyspepsia as compared to house wife at (AOR:0.281,95%CI (0.11-0.721)). The participants who used drug were three times more likely to develop FD as compared to those who never used drugs, at (AOR: 3.421,95%CI (1.915,6.856), participants who drinking alcohol were 64.3% less likely to develop FD as compared to those who never drinking alcohol, the participants who smoke cigarette three time more likely to develop FD as compared to those who never smoking (AOR:3.181,95%CI (1.498, 6.758).

Table 4:bivariate and multivariate analysis show association of functional dyspepsia and independent variables in the study conducted at WKUSH adult OPD, 2023.

Variables	Category	FD status		COR(95%CI)	AOR(95%CI)	P-value ≤0.05
		No	Yes			
Age	18-44	142	52	1:00	1:00	
	45-60	33	17	0.157(0.04-0.63)	0.31(0.11-0.87)	0.070
	>60	3	7	0.221(0.05-0.96)	1.44(0.24-8.88)	0.692
Gender	Male	99	32	1:00	1:00	
	Female	79	44	1.723(1.001-2.966)	2.09(0.89-4.85)	0.088
Marital status	Single	34	7	1:00	1:00	
	Married	116	48	0.262(0.084-0.814)	1.74(0.57-5.31)	0.332

	Divorced	14	10	0.527(0223-1.242)	2.60(0.55-12.21)	0.227
	Widows	14	11	0.909(0.293-2.821)	4.77(0.94-24.23)	0.060
Education status	Illiterate	51	31	2.203(0.895-5.425)	1.15(0.29-4.47)	0.837
	Primary level	80	25	1.133(0.459-2.793)	1.24(0.33-4.70)	0.754
	Secondary level	18	12	2.417(0.828-7.05)	3.10(0.77-12.54)	0.113
	College and above	29	8	1:00	1:00	
Occupation	Housewife	25	20	1:00	1:00	
	Merchants	70	14	.250(0..11-0.569)	0.28(0.11-0.721)	0.008**
	Government employee	17	10	.735(0.277-1.955)	1.07(0.36-3.25)	0.896
	Daily laborer	12	8	.833(0.286-2431)	1.12(0.33-3.80)	0.860
	Farmer	40	21	.656(0.298-1.447)	0.86(0.35-2.15)	0.749
	Others	14	3	.268(0.067-1.063)	0.39(0.09-1.84)	0.238
Household Income	Minimum	33	22	0.34(0.036-3.23)	0.77(0.044-13.6)	0.337
	Moderate	139	49	0.486(0.264-0.893)	0.29(0.019-4.709)	0.390
	High income	6	5	1:00	1:00	
Drug users	Yes	43	42	3.878(2.198-6.842)	3.42(1.92-6.86)	0.001**
	No	135	34	1:00	1:00	
Smoking	Never	115	33	1:00	1:00	
	Ex-smoker	38	29	2.659(1.432-4.94)	1.97(0.80-4.84)	1.37
	Currently smoker	25	14	1.952(0.913-4.174)	3.181(1.50-6.76)	0.003**
Drinking alcohol	Never	112	48	1:00	1:00	
	Ex-drinking	39	11	.658(0.311-1.393)	0.247(0.07-0.88)	0.031**
	Currently drinker	27	17	1.469(0.733-2.943)	0.36(0.14-0.97)	0.044**
Stress	Mild stress	15	8	1:00	1:00	
	Moderate stress	126	29	0.432(0.167-1.114)	0.40(0.11-1.48)	0.171
	Sever stress	37	39	1.976(0.75-5.207)	1.37(0.34-5.50)	0.658
Depression	No depression	62	13	1:00	1:00	

	Mild depression	62	26	2.000(0.942-4.247)	1.166(0.40-3.42)	0.780
	Moderate depression	44	24	2.601(1.195-5.062)	1.718(0.553-5.33)	0.349
	Sever depression	10	13	6.200(2.239-17.166)	3.61(0.91-14.25)	0.067
Anxiety	No anxiety	65	14	1:00	1:00	
	Mild anxiety	79	37	2.175(1.083-4.247)	3.02(1.08-8.46)	0.05
	Moderate anxiety	32	21	3.047(1.372-6.765)	2.23(0.68-7.24)	0.184
	Sever anxiety	2	4	9.286(1.546-55.779)	7.12(0.69-73.03)	0.099

CHAPTER SIX: DISCUSSION

In this study the magnitude of functional dyspepsia was found to be 29.9%, with 95%CI range (24.4 -36), which is comparable with the study from Pakistan 2020 (34.8%) (1). magnitude of functional dyspepsia in the current study was higher than that of study conducted in Egypt 12.7%[74]. These variation of results might be attributed to the study design, racial difference, environmental factors, number of study subjects, and diagnostic criteria of FD.

Our study revealed that 29.9% outpatient visiting at WKUSH adult OPD. This finding is in line with the study conducted in Pakistan 2020 (34.8%) (1), and in Ghana's Eastern Region showed that the 25.5% [26]. This finding was slightly higher when we compared to the study conducted Taiwan 2020 (23.8%) [73], This may be due to the study sampling procedure and the overlapping of other functional gastro intestinal disease. This result implies that FD needs big concern to improve the quality of life patient and to increase productivity (2).

In contrast to findings from previous studies, the magnitude of FD (29.9%) is lower than findings from Ugandan (51%) [3], Nigeria 2012 (64.9%) [25], Korea, 46.5% [19], Brazil in (2011) 48.2% [37], Nigeria Teaching Hospital in 2020, shows 79.2% [63], in pakistan2022, shows (70.2%) [64], The possible explanation for the decrement of our study result from other, for instance in Brazil and Ugandan, life style habits, study design and study area. Additionally, the discrepancy might be due to the socio-cultural and study population difference.

The finding of this study revealed that being merchant occupation were 72% less likely to develop functional dyspepsia as compared to house wife. This finding is not supported by other studies conducted Ugandan, Nigeria [25], and Brazil [37].

The finding of this study also revealed that being drug users were significantly associated with FD. In this finding patients who had used drug were 3.42 times more likely to develop FD as compared to those patients who had never been experiencing using drugs. This finding

is supported by meta-analysis study [75], in Kenya 2017 [76] and additionally a study conducted in Uganda2019 [77].

The finding of this study also revealed that drinking alcohol is an independent predictor which is significantly associated FD. In this finding patient who drink alcohol frequently were 64% more likely to develop FD as compared to those who never drinking alcohol. The possible explanation for this might be alcohol in mild-to-moderate doses stimulates gastric acid secretion and gastrin release, in case it leads to for development of FD symptoms[38]. This finding is supported by study conducted in one cross sectional study[1].

The finding of this study also revealed that cigarette smoking was significantly associated FD. In this finding being cigarette smoking were 3.2 times more likely to develop functional dyspepsia as compared to those who never smoke cigarette. This finding is supported a study conducted in New Zealand [19, 64]. Which shows that association between smoking and FD was stronger in smokers who smoked >1 pack per day as compared to those who smoked <1 pack per day [64]. This results suggest that cigarette smoking might affect the development of FD, or it might be associated with the common pathogenesis of the overlapping diseases. Smoking decreases lower esophageal sphincter pressure and delays gastric emptying [78].These effects of smoking on GI function might be responsible for the development of FD. In the finding of this study there was no statistically significant difference in age, gender, sleep, stress, depression and anxiety and dietary related factors.

7. CONCLUSION

The result of this study have revealed that magnitude of FD was 76(29.9%) out of 254 study participants. and the association of risk factors like cigarette smoking, alcohol consumption, occupation and using drugs were significantly identified at p-value (<0.05).

8.RECOMMENDATION

- The finding of this study suggest WKUSH is better to conducted studies to know the severity of the problem and other factors that associate to the problem.
- Any interesting researcher of WKU can conduct further studies on the problem.
- The patients are better to stop smoking, drinking alcohol and modify their life style.
- Health professionals are better to work on health promotion, disease prevention of FD, create awareness regarding to the problem, and involve on feather study on the problem.
- Ethiopia minister of health is better to conduct research on the problem.

9. Strength and limitations of the study

9.1 Strength of the study

- This study uses primarily a primary data and the data collection method was interview.
- This finding can be used as base line data for other researchers

9.2 Limitation of the study

- Study was conducted in one hospital.
- This study does not show the exact drugs that associate to outcome variable.

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ANNEX

English Version of Questionnaires

Information sheet and consent:

Good morning/afternoon [According to its convenience]. I am _____and I am data collector for a research to be conducted by Elias Legasu, Daditu Taye and Muhammed Abido, who are a first degree student at Wolkite University, college of medicine and health science Department of Nursing. Today, I am here to collect health science information on "The magnitude of functional dyspepsia and its associated factors among adults visiting outpatient department in Wolkite University specialized Hospital, Wolkite, Ethiopia,"

where it is expected to identify the magnitude of functional dyspepsia and its associated factors, so, I want to ask you some questions. There is no immediate and direct benefit in terms of money that you will earn from this information; rather I hope, you might get moral satisfaction due to the information you give now, where it is a resource in contributing for the health care providers, to give medical attention and improve the quality of life, for a patient, who have functional dyspepsia symptoms.

If you take part in the study it will not take us more than 40 minutes, your name will not be included in the information, I promise to keep the confidentiality of your reply. There is no risk that comes due to your involvement in the study. Your participation is completely voluntary and you have full right to withdraw at any time in the course of data collection even after you get involved without being subject to any intimidation and incrimination to you.

Your choice either to involve or not will compromise any services that you ought to get from this unit/hospital. However, I hope that you will participate in this study considering that single genuine information you provide will contribute a lot to the fulfillment of the objective of the study. As a result, I request you sincerely to participate in the interview by providing authentic answers. Do you have any questions that you need to be clarified more?

If you have any question you can contact the principal investigator at any time convenient for you using the following address:

Address: Wolkite University, college of medicine and health science, department of nursing
Cell phone: +251983396258
E-mail: eliaslegasu999@gmail.com

Informed consent form

I have been briefly informed about the study and I clearly understood the objective.

a. Since it doesn't affect my personal life, I agreed to take part in the study. Consequently, I here approve my consent to take part in the study as an interviewee with my signature.

a. Agreed to participate ☐ →Sign and proceed to interview

b. Not agreed to participate ☐ →Thank the respondent and End the interview

Signature _____

Date _____

Questionnaire Number
Date: _____
Health Institution: ___WKSH_____
Interviewer: _____

PART I- Scio-demographics

No	Questionnaires	Response	code
Part I: Socio - demographic Characteristics of Study Participants			
1	How old are you?	_____years	
2	Gender	☐1.male ☐2. female	
3	What is your marital status?	1.Never married 2.Married 3. Divorced 4. Widowed	
4	Where is your residence	1.urban 2. Rural	
5	What is your occupation?	1.Housewife 2. merchant 3.Government employee 4. Daily laborer 5. farmer 6 Others(specify)	
6	What is your Level of education?	☐ 1.Illiterate ☐2.Primary school ☐3.Secondary school ☐3.College/university	
7	How many household income do have?	1.minimu 2.moderate 3.maximum	

PART II: **Medication related questionnaires**

1. Did you take drug in the past 3 month?	**1.yes** **2. no**	

2.If your answer Is yes in Q1.for what types of disease you have used the drug?		

Part III: Life style and Dietary related factors.

No	Question	Response
1	Over the last two weeks, how many hours of sleep did you average in a 24-hour period?	
2	Over the last two weeks, how often did you feel tired or have difficulty staying awake during routine tasks in the day?	1. never 2. some times 3. many times 4. always
3	In the past 3 month, what types of food did you often used?	1.Fruit and vegetable 2.high sugar 3.high fat 4.other-----
4	On an average day, how many servings of whole fruits and vegetables do you eat (1 serving is about a handful and does not include fruit juice)?	1. never 2. some times 3. many times 4. always
5	Do you smoke cigarette?	1.never 2.ex-smoker 3.current smoker
6	Do you drink alcohol (beer, wine, liquor)?	1.never 2.ex-drinker 3. current drinker

Part IV: Perceived Stress Scale

0 - never, 1 - almost never, 2 –some times**,** 3 - fairly often, 4 - very often

Question	never	Sometimes	almost never	fairly often	very often
1. In the last month, how often have you been upset because of something that happened unexpectedly?	0	1	2	3	4
2. In the last month, how often have you felt that you were unable to control the important things in your life?	0	1	2	3	4
3. In the last month, how often have you felt nervous and stressed?	0	1	2	3	4
4. In the last month, how often have you felt confident about your ability to handle your personal problems	0	1	2	3	4
5. In the last month, how often have you felt that things were going your way?	0	1	2	3	4
6. In the last month, how often have you found that you could not cope with all the things that you had to do?	0	1	2	3	4
7. In the last month, how often have you been able to control irritations in your life?	0	1	2	3	4
8. In the last month, how often have you felt that you were on top of things?	0	1	2	3	4
9. In the last month, how often have you been angered because of things that happened that	0	1	2	3	4

were outside of your control?					
10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	0	1	2	3	4

To calculate a total PSS score, response to the four positively stated items (item 4, 5, 7, and 8) First, need to be reverse your scores for questions 4, 5, 7, and 8. On these 4 questions, change the scores like this: 0 = 4, 1 = 3, 2 = 2, 3 = 1, 4 = 0. Now add up your scores for each item to get a total.

• Individual scores on the PSS can range from 0 to 40 with higher scores indicating higher perceived stress.

Part V： Patient Health Questionnaire (PHQ-9).

Table 4: Depression level Assessment by using PATIENT HEALTH QUESTIONNAIRE-9 (PHQ-9)

0=not at all ,1=several days,2=more than half the days, and 3=nearly every day

No	Questionnaires	Response			code
	Over the last 2 weeks, how often have you been bothered by any of the following problems?	**Not at all**	Several day	More than half the day	Nearly every day
1	Little interest or pleasure in doing things	0	1	2	3
2	Feeling down, depressed, or hopeless	0	1	2	3
3	Trouble falling or staying asleep, or sleeping too much	0	1	2	3
4	Feeling tired or having little energy	0	1	2	3
5	Poor appetite or overeating	0	1	2	3
6	Feeling bad about yourself or that you are a failure or have let yourself or your family down	0	1	2	3

7	Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
8	Moving or speaking so slowly that other people could have noticed. Or the opposite being so fidgety or restless that you have been moving around a lot more than usual	0	1	2	3
9	Thoughts that you would be better off dead, or of hurting yourself	0	1	2	3
	10. If you checked off any problems, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people? Not difficult at all … Somewhat difficult … Very difficult … Extremely difficult …				

Add column Total Score _____ = _____ + _____ + _____

Total Score _____

The total PHQ-9 score is classified as follows:

0 – 4 None-minimal

5 – 9 Mild

10 – 14 Moderate

15 – 19 Moderately Severe

20 – 27 Severe

PART VI: Anxiety level assessment questions

0=not at all ,1=several days,2=more than half the days, and 3=nearly every day

Anxiety level assessment by using Generalized Anxiety Disorder 7-item (GAD-7) scale					
	Over the last 2 weeks, how often have you been bothered by the following problems?	**Not at all**	Several day	More than half the day	Nearly every day
1	Feeling nervous, anxious, or on edge.	0	1	2	3
2	Not being able to stop or control worrying.	0	1	2	3
3	Worrying too much about different things.	0	1	2	3
4	Trouble relaxing.	0	1	2	3

5	Being so restless that it's hard to sit still.	0	1	2	3
6	Becoming easily annoyed or irritable.	0	1	2	3
7	Feeling afraid as if something awful might happen.	0	1	2	3
8	8. If you checked off any problems, how difficult have these made it for you to do your work, take care of things at home, or get along with other people? Not difficult at all _____ Somewhat difficult _____ Very difficult _____ Extremely difficult _____				

The GAD-7 is scored by adding the scores for all 7 items, giving a total score from 0 to 21.
The total GAD-7 score is classified as follows:

0 to 4 Minimal anxiety symptoms
5 to 10 Mild anxiety symptoms
10 to 14 Moderate anxiety symptoms
15 to 21 Severe anxiety symptoms

Part VII: FUNCTIONAL DYSPEPSIA ASSSESSMENT QUESTIONNAIRES

No	Questionnaires	Response	code
1	In the last 3 months, how often have you had pain or discomfort in the middle of your chest (unrelated to heart problems)?	0.Never ☒ 1.Less than one day per month ☐ 2.One day per month ☐ 3.Two to three days a month ☐ 4.One day a week ☐ 5.More than one day a week ☐ 6.Every day	

2	In the past 3 months, how often have you had heartburn (a discomfort or pain of burning in your chest)?	0.Never ☐ 1.Less than one day per month ☐ 2.One day per month ☐ 4.Two to three days a month ☐ 5. One day a week ☐ 6. More than one day a week ☐ 7.Every day ☐	
3	In the last 3 months, how often have you felt uncomfortably full (satiated) after a full-sized meal?	0.Never ---> ☐ 1.Less than one day per month ☐ 2. One day per month ☐ 3. Two to three days a month ☐ 4.One day a week ☐ 5.More than one day a week ☐ 6.Every day ☐	Skip to question 5.
4	Have you had this uncomfortable feeling of being full after meals for 6 months?	0.No ☐ 1.Yes ☐	
5	In the past 3 months, how often were you unable to finish a job? usual size meal?	0.Never ---> ☐ 1.Less than one day per month ☐ 2. One day per month ☐ 3.Two to three days a month ☐ 4.One day a week ☐ 5.More than one day a week ☐ 6.Every day ☐	Skip to question 7.
6	Have you had this inability to finish regular-sized meals for 6 months or more?	0.No ☐ 1.Yes ☐	

7	In the past 3 months, how often have you had pain or burning in your mid-your abdomen, above your navel, but not on your chest?	0.Never. ☐ 1.Less than one day per month ☐ 2.One day per month ☐ 3.Two to three days a month ☐ 4.One day a week ☐ 5. More than one day a week 6.Every day ☐	Skip to question 14.
8	Have you had this pain or burning for 6 months or longer?	0.No ☐ 1.Yes ☐	
9	Does this pain or burning occur and then disappear completely during the same day?	0. Never or rarely ☐ 1. Sometimes ☐ 2. Many times ☐ 3. Most of the time ☐ 4. Always ☐	
10	Typically, how severe was the pain or burning in the middle of the abdomen, above the your navel?	1. Very soft ☐ 2. Mild ☐ 3. Moderate ☐ 4. Severe ☐ 5. Very severe ☐	
11	Was this pain or burning relieved with the use of antacids?	0. Never or rarely ☐ 1. Sometimes ☐ 2. Many times ☐ 3. Most of the time ☐ 4. Always ☐ 5. I do not use antacids ☐	

12	This pain or burning usually got better or went away after a bowel movement or gas elimination?	0. Never or rarely ☐ 1. Sometimes ☐ 2. Many times ☐ 3. Most of the time ☐ 4. Always ☐	
13	How often was this pain or discomfort relieved by movement or changing? your body position?	0. Never or rarely ☐ 1. Sometimes ☐ 2. Many times ☐ 3. Most of the time ☐ 4. Always ☐	
14	In the past 6 months, how often have you had constant pain in your middle or lower back? upper right area of your abdomen?	0.Never ---> ☐ 1.Less than one day per month ☐ 2. One day per month ☐ 3.Two to three days a month ☐ 4.One day a week ☐ 5.More than one day a week ☐ 6. Every day ☐	Skip the remaining questions
15	Has this pain lasted 30 minutes or longer?	0. Never or rarely ☐ 1.Sometimes ☐ 2.Many times ☐ 3. Most of the time ☐ 4 Always ☐	

16	Did this pain increase in intensity until it became very strong and continuous?	0.Never or rarely ☐ 1.Sometimes ☐ 2. Many times ☐ 3. Most of the time ☐ 4. Always ☐	
17	Has this pain completely disappeared between episodes?	0.Never or rarely ☐ 1.Sometimes ☐ 2.Many times ☐ 3. Most of the time ☐ 4. Always ☐	
18	Has this pain prevented you from carrying out your usual activities or made you go urgently see a doctor or go to an emergency department?	0. Never or rarely ☐ 1. Sometimes ☐ 2. Many times ☐ 3.Most of the time ☐ 4.Always ☐	

Diagnostic criteria of FD, must include:

1. One or more of the followings:

a) postprandial fullness: Uncomfortably full (satiated) after a usual-sized meal, more than one day a week (question 3>4) and Started more than 6 months ago. Yes. (question 4=1)

b) early satiety: unable to finish a usual-sized meal more than one day a week (question 5 >4) and started more than 6 months ago. Yes. (question 6=1)

c) epigastric pain: Pain or burning in the middle of your abdomen at least 1 day a week (question 7>3) and started more than 6 months ago. Yes. (question 8=1)

d) Epigastric burning:(This criterion is incorporated in the same question as epigastric pain)

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ሁ ሉ በ ሚ ስ ጥ ር እ ን ደ ም ከ ብ ቅ ል ዎ ቃ ል እ ገ ባ ለ ሁ ፡ ፡ ይ ህ ን ን ም ለ ሜ ድ ረ ግ ከ እ ኔ ጋ ር ወ ደ ግ ማ ሽ

ሰ ዓ ት እ ን ቆ ያ ለ ን ፡ ፡ ይ ህ

ጊዜዎትን የሚይዝ ቢሆንም እርስውየሚሰጡሚጃ የምጣብ አለሜጨጩ ችግር ማከን ልማወቅ እና የእገልግሎት ጥራት

ማሻሻያ ለሚድረግ የሚያግዝ በሚሆኑ እንዲተባበሩኝ እጠይቅዎታለሁ። ። ተጨማሪ ማብራሪያ ማግኘት የሚያስፈልግህ

ጥያቄ አለህ/ሽ? ማነኛውም ጥያቄ ካለዎት የሚከተለውን አድራሻ በማከቀምለእርስዎ አሚቺ በሆነ በማነኛውምጊዜ

ዋናውን ሚሚሪ ማጋገር ይችላሉ።

አድራሻ ፡ ወልቂጥዩኒቨርሲቲ የህክምናእና ጤና ሳይንስ ኮሌጅ,ነርስ ክፍል።

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የተወሰኑ ደቂቃዎች ባነጋግርዎ ፈቃደኛ ነዎት?

ፈቃደኛ ነኝ □ ፈቃደኛ አይደለሁም□ አማክግናለሁ

የምርምር ጥናቱ ክፍል የሆኑ ሚጃዎችና ሂደቶች ተብራርተውልኛል። ። እኔ ምበተብራራልኝ መነገድ ተረድቻለሁ። ። ምርምሩ ምንምአደጋ የሚያስከትል በሚሆኑ ለሚያደርጉት የተሳትፎ ክፍያ አይኖረውም ። ስለዚህ በዚህ የምርምር ጥናቱላይ ለማሳተፍ ፈቃደኛ ሚሆኔን በፊርሜ አረጋግጣለሁ። ።

ፊርማ---------- ቀን ----------

ቀን ----------የጤና ድርጅቱ ስም----------የጥያቂ ስም[ኮድ]----------

ክፍል አንድ፤ አጠቃላይ ሚጃ (የተሳታፊውየሚህበራዊና ኢኮኖሚያዊ ሚጃ)			
ተ.ቁ	ጥያቄ	ሜልስ	ኮድ
1	እድሜዎት ስንት ነው?	_----------_____ዓመት	
2	ፆታ	1. ወንድ □ 2. ሴት □	
3	የጋብቻ ሁኔታ	1. ፈጽሞያላገባ/ች □ 2. ያገባ/ች □ 3. የፈታ/ች □ 4. በሞት የተለያዩ □ 5, ሌላ [ይገለጽ] □	
4	የሞሪያ ቦታ	1. ከተማ□ 2. ገጠር □	

5	የስራሁኔታ	1.የቤትእማኬት □ 2.የመንግስት ሰራተኛ □ 3.ነጋዴ □ 4.የቀን ሰራተኛ □ 5.አርሶአደር □ 6.ሊላ □	
6	የእርሶ የትምህርት ደረጃ ስንት ነው?	1. ሚደበኛ ትምህርት ያልተሚ/ች □ 2. አንደኛ ደረጃ [1-8 ክፍል] □ 3. ሁለተኛ ደረጃና [9-12 ክፍል] □ 4. ዲፕሎማእና ከዚያ በላይ □	
7	የቤት ውስጥ ገቢ ምን ያህል ነው?	1 አነስተኛ □ 2 መካከለኛ □ 3 ከፍተኛ □	

ክፍል ሁለት: ከሞድሀኒት ጋር የተያያዙ ጥያቄዎች

ተቁ	ጥያቂ	ሜልስ	ኮድ
1	በባለፈው 3 ወር ውስት ሞድሃኒት ተጠቅሚህ ታቃለህ/ሽ?	1 አወ □ 2 የለም□	
2	ጥያቄ ቁጥር 1 ሜልሱ አዎ ከሆነ ፣ ለምን አይነት ህሞም ነበር ሞድሃኒቱን የምትወስደው?	----------	

ክፍል ሶስት፡- የአኗኗር ዘይቤና ከአማገብጋር ተያያዝነት ያላቸውነገሮች ማከይቅ

ተቁ	ጥያቂ	ሜልስ
1	ባለፉት ሁለት ሳምንታት ውስጥ በአማከይ በ24 ሰዓት ውስጥ ምን ያህል ሰዓት እንቅልፍ ተኝተዋል?	----------
2	ባለፉት ሁለት ሳምንታት ውስጥ የዕለት ተዕለት እንቅስቃሴዎችን ለማከናወን ለምን ያህል ጊዜ የድካም ስሜት ይሰማክ ነበር? ወይም	1. በጭራሽ 2. አልፎ አልፎ

	በእለት ተአእለት እንቅስቃሴክ ነ ቅተህ ለምቐየ ት ትቸገ ር ነ በር?	3. ብዙ ጊ ዜ 4. ሁል ጊ ዜ
3	ባልፈው3 ወር ምን አ ይነ ት ምግብ ታዘ ወትር ነ በር?	1. አ ትክልት እ ና ፍራፍሪ 2. ከ ፍተኛ ስክር ያ ላ ቸውምግ ቦ ች 3.ከ ፍተኛ ቅ ባ ት ያ ላ ቸውምግ ቦ ች 4.ሊ ላ ----------
4	ባለ ፉት ሁለ ት ሳ ምን ታ ት ውስ ጥ ለ ምን ያ ህል ጊ ዜ ጣፋ ጭ, እ ና የ ታሸ ጉ ምግ ቦ ች (ለ ምሳ ሌ, ቺ ፕስ , ከ ረ ሜል ,) ታ ዘ ወትራ ለ ክ/ሽ?	1. ከ 2 እ ፍኝ ያ ነ ሰ 2. 2-3 እ ፍኝ 3. 4-5እ ፍኝ 4. ከ 5 እ ፍኝ በ ላ ይ
5	ሲ ጋ ራ አ ጨ ክ ታ ካ ለ ከ/ሽ ?	1. በ ጨ ራ ሽ 2. በ ፊ ት አ ጨ ክ ነ በ ር 3. አ ሁን አ ጨ ለ ው
6	በ ባ ለ ፈው 3 ውስ ጥ አ ል ኮ ል ማ ከ ሎ ች (ቢ ራ፣ ወ ይ ን ጠ ጅ፣ ማ ከ ሰ) ተ ጠ ቅ ም ክ/ሽ ታ ካ ለ ህ/ሽ?	1 በ ጨ ራ ሽ 2 በ ፊ ት እ ጠ ቀ ም ነ በ ር 3 አ ሁን እ ጠ ቀ ማ ለ ው

ክፍል አራት፡ የ ውጥረ ት መ ጣ ኛ ት ያ ቂ ው ች

መመሪያ፡- ከዚህ በታች የተዘረዘሩት ጥ ያ ቄ ዎች ሰ ዎች አ ስ ቸ ጋ ሪ ወ ይ ም ጭ ን ቀ ት የ ሚ ፈ ጥ ሩ ክ ስ ተ ቶ ች ና የ ህ ይ ወ ት ለ ው ጦ ች በ ሚ ያ ጋ ጥ ሟ ቸ ው ጊ ዜ ሊ ኖ ሯ ቸ ው የ ሚ ች ሉ ስ ሜ ቶ ች እ ና ሃ ሳ ቦ ች ን ይ መ ለ ከ ታ ሉ።. ለ እ ያ ን ዳ ን ዱ ጥ ያ ቄ ከ ሚ ከ ተ ሉ ት አ ማ ራ ጮ ች ይ ም ረ ጡ፡-

0=ምንም ጊ ዜ አ ል ነ በ ረ ም, 1=በ ጣ ም አ ል ፎ አ ል ፎ, 2 =አ ል ፎ አ ል ፎ,3=አ ብ ዛ ኛ ው ን ጊ ዜ, 4=ሁ ል ጊ ዜ

ጥ ያ ቄ	ምንም ጊ ዜ አ ል ነ በ ረ ም	በ ጣ ም አ ል ፎ አ ል ፎ	አ ል ፎ አ ል ፎ	አ ብ ዛ ኛ ው ን ጊ ዜ	ሁ ል ጊ ዜ
1. ባ ለ ፈ ው ወ ር ሳ ይ ጠ በ ቅ ድ ን ገ ት በ ተ ከ ሰ ተ ነ ገ ር ም ክ ን ያ ት ም ን ያ ህ ል ጊ ዜ ተ ረ ብ ሽ ው ወ ይ ም አ ዝ ነ ው ያ ው ቁ ነ በ ር?		1	2	3	4
2. ባ ለ ፈ ው ወ ር የ ዕ ለ ት ተ ዕ ለ ት የ ህ ይ ወ ት እ ን ቅ ስ ቃ ሴ ዎ ን መ ቆ ጣ ጠ ር የ ማ ይ ች ሉ አ ይ ነ ት ስ ሜ ት ም ን ያ ህ ል ጊ ዜ ተ ሰ ም ቶ ዎ ነ በ ር?	0	1	2	3	4
3. ባ ለ ፈ ው ወ ር የ አ ዕ ም ሮ ጭ ን ቀ ት ወ ይ ም ው ጥ ረ ት ም ን ያ ህ ል ጊ ዜ ያ ጠ ቃ ዎ ነ በ ር?	0	1	2	3	4
4. ባ ለ ፈ ው ወ ር ች ግ ሮ ች ባ ጋ ጠ ሙ ዎ ጊ ዜ ች ግ ሮ ች ን የ መ ፍ ታ ት ወ ይ ም የ መ ወ ጣ ት ች ሎ ታ ዎ ን በ ተ መ ለ ከ ተ ም ን ያ ህ ል ጊ ዜ በ ራ ስ ያ ለ መ ተ ማ መ ን ስ ሜ ት ይ ሰ ማ ዎ ነ በ ር?	0	1	2	3	4
5. ባ ለ ፈ ው ወ ር ነ ገ ሮ ች ሁ ሉ እ ር ስ ዎ እ ን ደ ማ ይ ፈ ል ጉ ት እ የ ሄ ዱ ል	0	1	2	3	4

ወይም እየተከናወኑ እነደሆነ አይነት ስሜት ምን ያህል ጊዜ ይሰማዎ ነበር?					
6. ባለፈው ወር እርስዎ ማንኛውንም ማከናወን ያለብዎን ነገር በብቃት መወጣት የማይችሉ ሰው እንደሆኑ ምን ያህል ጊዜ ይሰማዎ ነበር?	0	1	2	3	4
7. ባለፈው ወር ያጋጠሙዎትን የህይዎት ውጣ ውረዶች ወይም ፈታኝ ገጠመኞች ምን ያህል ጊዜ ያለብቃት መወጣት አልቻልኩም ብለው ያምናሉ?	0	1	2	3	4
8. ባለፈው ወር የሚያጋጥሙዎት ችግሮች ሁሉ በርስዎ ቁጥጥር ሥር እዳልሆኑ ዓይነት ስሜት ምን ያህል ጊዜ ተሰምቶዎት ነበር?	0	1	2	3	4
9. ባለፈው ወርከቁጥጥርዎ ውጪ በሆኑ ነገሮች ምክንያት ምን ያህል ጊዜ ተበሳጭተው ያውቁ ነበር?	0	1	2	3	4
10. ባለፈው ወር የተለያዩ ችግሮች ባጋጠሙዎት ጊዜ፡ ችግሮቹ ከአቅምዎ በላይ እንደሆኑና እርስዎ ችግሮችን መወጣት የማይችሉ እነደሆኑ ምን ያህል ጊዜ ይሰማዎ ነበር?	0	1	2	3	4

አጠቃላይ ውጤት ለማግኘት፣ የ ሁሉን ምጥያቄዎች ውጤት ሚደ ሚር

በፒ ኤስ ኤስ ላይ የሚገኘው እያንዳንዱ ውጤት ከ0 እስከ 40 ሲሆን

ከ0-13 ባለው ጊዜ ውስጥ ያለው ውጤት ዝቅተኛ ውጥረት እንደሆነ ተደርጎ ይቆጠራል።

ከ14-26 ባለው ጊዜ ውስጥ ያለው ውጤት መጠነኛ ውጥረት እንደሆነ ተደርጎ ይቆጠራል።

ከ27-40 ባለው ጊዜ ውስጥ ከፍተኛ ውጥረት እንደሚፈጠር ተደርጎ ይቆጠራል።

ክፍል አምስት፡የታካሚ የጤና ጥያቄን -9 (PHQ-9) በመጠቀም የድብርት ደረጃ የምዘና ጥያቄዎች

ማስታወሻ፡ በጭራሽ=0፣ ብዙ ቀናት/2-7/ ፣ከግማሽ ቀን በልይ /8-11/፣ በየቀኑ /12- 14/ መሆኑን ይግለፁ					
	ባለፉት 2 ሳምንታት ውስጥ በሚከተሉት ማንቸውም ችግሮች ስንት ጊዜ ተቸግረዋል? (ሜልስዎን ለማሜልከት "✓" ን ይጠቀማ	በጭራሽ	ብዙ ቀናት	ከግማሽ ቀናት በላይ	በየቀኑ ማለት ይቻላል
1	የእለት ተእለት እንቅስካሲ ለማድረግ ትንሽ የሆነ ፍላጎት ወይም ደስታ ነበረዎት?	0	1	2	3
2	ድብርት፣ የመንፈስ ጭንቀት ወይም ተስፋ የመቁረጥ ስሜት ነበር?	0	1	2	3
3	የለመተኛት ወይም ተኝቶ ለመቆየት መቸገር ፣ ወይም ብዙ መተኛት ነበር?	0	1	2	3
4	የድካም ስሜት ወይም አክም (ጉልበት) ማነስ ችግር ነበር?	0	1	2	3
5	የምግብ ፍላጎት መቀነስ ወይም ከመጠን በላይ መብላ?	0	1	2	3
6	ስለራስዎ መጥፎ ስሜት ተሰምቶት ያቃል	0	1		3
7	ጋዜጣ በማንበብ ወይም ቴሌቪዥን በመመልከት ባሉ ነገሮች ላይ ለማተኮር መቸገር	0	1	2	
8	ሌሎች ሰዎች አዩኝ አላዩኝ በሚል በጣም በዝግታ መንቀሳቀስ ወይም መናገር፣ ከወትሮውበበለጠብዙ ማቀሳቀስ ፣ በጣም መቁነጥነጥ ወይም እረፍት አልባ መሆን ነበር?	0	1	2	3
9	ብሞት ይሻላል ወይም በሆነ መንገድ ራሴን መጉዳት ይሻላል ብሎ ማሰብ ነበር?	0	1	2	3

10	ከላይ ከተዘረዘሩት ማንኛውንም ችግር ካረጋገጡ ሥራዎትን ለመሥራት ፣ በቤት ውስጥ ነገሮችን ለመንከባከብ ወይም ከሌሎች ሰዎች ጋር ለመግባባት እነዚህ ችግሮች ምን ያህል ከባድ አድርገውብዎታል?		በጭሩ አስቸጋሪ አይደለም	በተወሰነ ደረጃ ከባድ ነው	በጣም ከባድ ነው	እጅግ በጣም ከባድ ነው
			1	2	3	4

አ ጭቃላ ይድምር

Add column Total Score _____ = _____ + _____ + _ Total Score

The total PHQ-9 score is classified as follows:

0 – 4 None-minimal

5 – 9 Mild

10 – 14 Moderate

15 – 19 Moderately Severe

20 – 27 Severe

ክፍል ስድስት፡ችችችደረጃምዘናጥያቄዎች

ሠንጠረዥ : GAD-7 ልኬትበመጠቀምየጭንቀትደረጃግምገማ

	ባለፉት 2 ሳምንታትውስጥበሚከተሉትችግሮችምንያህልጊዜተ ረብሽዋል?1	በጭራ ሽ	በር ካታ ቀና ት	ከግማ ሽቀናት በ ላይ	በየቀኑማለ ትይቻ ላል
1	የመረበሽ ስሜት፣የመስጋት ወይም ጠርዝ ላይ የመ ሆን ስሜት	0	1	2	3
2	ጭንቀትንማቆም ወይም መቆጣጠር አለመቻል	0	1	2	3
3	ስለየተለያዩ ነገሮች ከመጠን በላይ መጨነቅ	0	1	2	3
4	ዘና ለማለት ችግር	0	1	2	3
5	በጣም እረፍት የሌለው መሆን ዝም ብሎ መቀመጥ ከ ባድ መሆን	0	1	2	3
6	በቀላሉ የሚናደድ ወይም ብስጩ መሆን	0	1	2	3
7	አንድ አስከፊነገር እንደሚከሰት የመፍራት ስሜት	0	1	2	3
8	ማንኛውንም ችግር ካረጋገጡ; ሥራዎን ለመሥራት፣በቤት ውስጥ ነገሮችን ለመንከባከብ ወይም ከሌሎች ሰዎች ጋርለ መግባባት እነዚህ ችግሮችም ን ያህል ከባድ አድርገውብዎታል?	በ ጭራ ሽአስ ቸጋሪ አ ይደ	በ መ ጠኑ ከባ ድ 2	በ ጣም ከ ባድ	እ ጅግበ ጣ ምከ ባድ 4

		ለም 1			
		1	2	3	4

አጠቃላይ ድምር፡ ሁሉንም 7 ጥያቄዎች መደምር፣ አጠቃላይ GAD-7 ውጤቶች እንደሚከተለው ይመደባሉ።
0 to 4 አነስተኛ ጭንቀት ምልክቶች

5 to 10 ዝቅተኛ ጭንቀት ምልክቶች

10 to 14 መካከለኛ ጭንቀት ምልክቶች

15 to 21ከፍተኛ ጭንቀት ምልክቶች

ክፍል ሰባት፡- የ ምግብ አለ ምፈጨት (FUNCTIONAL DYSPEPSIA) መጠዛኛ ጥያቄወች

1	1. ባለፉት 3 ወራት ውስጥ፣ ምን ያህል ጊዜ ከልብ ህመም ጋር ያልተገናኘ በደረትዎ መካከል ህመም አጋጥሞዎታል?	() 0 - በጭራሽ () 1 - በወር ከአንድ ቀን ያነሰ () 2 - በወር አንድ ቀን () 3 - በወር ከሁለት እስከ ሶስት ቀናት () 4 - በሳምንት አንድ ቀን () 5 - በሳምንት ከአንድ ቀን በላይ () 6 - በየቀኑ	
2	ባለፉት 3 ወራት ውስጥ ምን ያህል ጊዜ የልብ ሚቃጠል ህመም አጋጥሞዎታል ?	() 0 - በጭራሽ () 1 - በወር ከአንድ ቀን ያነሰ () 2 - በወር አንድ ቀን () 3 - በወር ከሁለት እስከ ሶስት ቀናት () 4 - በሳምንት አንድ ቀን () 5 - በሳምንት ከአንድ ቀን በላይ () 6 - በየቀኑ	
3	ባለፉት 3 ወራት ውስጥ፣ ምግብ ከበሉ በኋላ ምን ያህል ጊዜ ምቾት ማጣት ስሜት ተሰማዎት ?	( ) 0 – በጭራሽ ---> ወደ ጥያቄ 5 ዝለል። () 1 - በወር ከአንድ ቀን ያነሰ () 2 - በወር አንድ ቀን () 3 - በወር ከሁለት እስከ ሶስት ቀናት () 4 - በሳምንት አንድ ቀን () 5 - በሳምንት ከአንድ ቀን	በጥያቄ 3 ሜልስወ በጭራሽ ከሆነ ወደ ጥያቄ 5 ይለፉ

		በላይ () 6 - በየቀኑ	
4	በባለፈው 6 ወራትያህል ከተመገቡ በኋላ ምቾት ማጣት ስሜት ነበረውት?	() 0 - አይ () 1 - አዎ	
5	ባለፉት 3 ወራት ውስጥ መደበኛ መጠን ያለው ምግብ ከበሉ በኋላ ለ ምን ያህል ጊዜ ሥራ መጨረስ ተቸግረዋል?	( ) 0 - በጭራሽ --- () 1 - በወር ከአንድ ቀን ያነሰ () 2 - በወር አንድ ቀን () 3 - በወር ከሁለት እስከ ሶስት ቀናት () 4 - በሳምንት አንድ ቀን () 5 - በሳምንት ከአንድ ቀን በላይ () 6 - በየቀኑ	በ ጥያቄ 5 ላ ይ በ ጭራሽ ከ ሆነ ሜ ል ስ ዎ ወደ ጥያ ቄ 7 ይ ለ ፉ
6	ባለፉት 6 ወራት ውስጥ አዘውትረክ የምትጠቀአቸውን ምግቦች መጨረስ አለመቻል አጋጥሞዎት ያቃል?	() 0 - አይ () 1 - አዎ	
7	ባለፉት 3 ወራት ውስጥ፣ ምን ያህል ጊዜ ከእምብርትዎ በላይ ህመም ወይም ማቃጠል አጋጠመዎት ?	( ) 0 - በጭራሽ --->() () 1 - በወር ከአንድ ቀን ያነሰ () 2 - በወር አንድ ቀን () 3 - በወር ከሁለት እስከ ሶስት ቀናት () 4 - በሳምንት አንድ ቀን () 5 - በሳምንት ከአንድ ቀን በላይ () 6 - በየቀኑ	በ ጥያ ቄ 7 ሜ ል ስ ዎ በ ጭራሽ ከ ሆነ ወደ ጥያ ቄ 14 ዝ ለ ል።
8	ይህ ከእምብርት በላይ ህመም ወይም ማቃጠል በ ባ ለ ፈ ው6 ወራት አጋጥሞዎታል?	() 0 - አይ () 1 - አዎ	
9	ይህ ህመም ወይም ማቃጠል በተመሳሳይ ቀን ተከስቶ በ ተ ማ ሳ ይ ቀን ሙሉ በ ሙ ሉ ይጠፋል?	() 1 - አንዳንድ ጊዜ () 2 - ብዙ ጊዜ () 3 - አ ብዛ ኛ ው ን ጊዜ () 4 - ሁል ጊዜ	
10	በሆድዎ መካከል (ከ እ ምብር ትህ በ ላ ይ) ላይ ያለው ህመም ወይም ማቃጠል ምን ያህል ከባድ ነበር,?	() 1 - በጣም ለስላሳ () 2 - መለስተኛ () 3 - መካከለኛ () 4 - ከባድ () 5 - በጣም ከባድ	
1	ይህ ህመም ወይም ማቃጠል በጨጋራ ሞድሃ ኒ ቶ	() 0 - በጭራሽ	

1	በመጠቀም እፎይታ ነበር?	() 1 - አንዳንድ ጊዜ () 2 - ብዙ ጊዜ () 3 - አብዛኛውን ጊዜ () 4 - ሁልጊዜ () 5 - ፀረ-አሲዶችን አልጠቀምም	
12	ይህ ህመም ወይም ማቃጠል ብዙውን ጊዜ ከሰገራ ከተወገ ድ በኋላ ይሻላል /ይጠፋል ?	() 0 - በጭራሽ () 1 - አንዳንድ ጊዜ () 2 - ብዙ ጊዜ () 3 - አብዛኛው ጊዜ () 4 - ሁልጊዜ	
13	ይህ ህመም ወይም ምቾት ማጣት በምትቀሳቀስበት ጊዜ ምን ያህል ጊዜ እፎይታ ይሰጥሃል/ሽ?	() 0 - በጭራሽ () 1 - አንዳንድ ጊዜ () 2.አ ብዛ ኛ ውን ጊዜ () 3 - ብዙ ጊዜ () 4 - ሁልጊዜ	
14	ባለፉት 6 ወራት ውስጥ ምን ያህል ጊዜ በታችኛው ጀርባዎ እና የሆድዎ የላይኛው ቀኝ ክፍል? ላይ የማያቋርጥ ህመም አጋጥሞዎታል?	() 0 - በጭራሽ () 1 - በወር ከአንድ ቀን ያነሰ () 2 - በወር አንድ ቀን () 3 - በወር ከሁለት እስከ ሶስት ቀናት () 4 - በሳምንት አንድ ቀን () 5 - በሳምንት ከአንድ ቀን በላይ () 6 - በየቀኑ	በጥያቄ 14 መልስዎ በጭራሽ ከሆነ የተቀሩትን ጥያቄዎች ዝለል።
15	ይህ ህመም 30 ደቂቃ ወይም ከዚያ በላይ ቆይቷል?	() 0 - በጭራሽ ወይም አልፎ አልፎ () 1 - አንዳንድ ጊዜ () 2 - አብዛኛውን ጊዜ () 3 - ብዙ ጊዜ () 4 - ሁልጊዜ	
16	ይህ ህመም በጣም ጠንካራ እና ቀጣይነት ያለው እስኪሆን ድረስ በከፍተኛ ሁኔታ ጨምሯል?	() 0 - በጭራሽ ወይም አልፎ አልፎ () 1 - አንዳንድ ጊዜ () 2 - አ ብዛኛውን ጊዜ ()3¨-ብዙ ጊዜ () 4 - ሁልጊዜ	
1	ይህ ህመም በባለፈው 6 ወር መካከል ሙሉ በሙሉ	() 0 - በጭራሽ ወይም አልፎ	

7	የመጥፋት እና መምጣት ባህሪ ያሳይ ነበር?	አልፎ () 1 - አንዳንድ ጊዜ () 2 – አብዛኛውን ጊዜ ()3 -ብዙ ጊዜ () 4 - ሁልጊዜ	
18	ይህ ህመም የተለመዱ እንቅስቃሴዎችዎን እንዳያደርጉ ከልክሎዎታል? ወይም በአስቸኳይ ወደ ዶክተር/ ወደ ድንገተኛ ክፍል እንድትሄዱ አድርጓል?	0.በጭራሽ 1.አንዳንድጊዜ 2.አብዛኛውንጊዜ 3-ብዙጊዜ 4. ሁልጊዜ	