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THE SEVERITY OF STRESS IN FUNCTIONAL DYSPEPSIA COMPARED TO ORGANIC DYSPEPSIA

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ABSTRACT

Dyspepsia is a collection of symptoms in the form of pain or discomfort centered in the upper abdomen. Discomfort specifically includes an immediate sense of fullness, burning, bloating in theupper abdomen, and nausea. Symptoms that arise due to various factors such as lifestyle smoking, alcohol, excess weight, stress, anxiety, and stress are relevant to dyspepsia. To determine the severity of stress in patients with functional dyspepsia compared to organic dyspepsia at H. Adam Malik Medan Hospital. Iis observational analytical research and is conducted with a cross-sectional design. The study sample was selected randomly, sampling patients who met the criteria until the required number ofsamples were met, and 52 people obtained the sample. The data is analyzed with the Exact Fisher test. There is a relationship between patients who experience stress with the occurrence of Functional Dyspepsia. In normal people, organic dyspepsia is higher than functional dyspepsia.

Keyword : Dyspepsia, functional dyspepsia, organic dyspepsia, stress levels

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1. INTRODUCTION

Dyspepsia is a collection of symptoms in the form of pain or discomfort centered in the upper abdomen. Discomfort specifically includes an immediate sense of fullness, burning, bloating in theupper abdomen, and nausea. Symptoms that arise due to various factors such as lifestyle smoking, alcohol, excess weight, stress, anxiety, and stress are relevant to dyspepsia.[1] Dyspepsia affects up to 40% of adults each year and is often diagnosed as functional non-ulcer dyspepsia. Symptoms in the form of fullness after eating, rapid satiety, or epigastric pain or burning in the absence of structural causes. These symptoms can coexist withsymptoms of functional indigestion, such as gastroesophageal reflux and irritable bowel syndrome, as well as anxiety and depression.[2]

The incidence of dyspepsia globally, the prevalence reaches 7-41%, but only 10-20% use medical help. The prevalence of dyspepsia in western countries reaches 1-8%.[3] According to Drossman et al. (1993), research states that in the United States, a person aged<45 years has as muchas 26% at risk of developing dyspepsia, with aprevalence of 23-25.8%. British and Scandinavian dyspepsia prevalence is 7-14%, but only 10-20% use medical help. Functional dyspepsia in Asia Fasifik is more common at a more leisurely age. In Japan, the prevalence of dyspepsia is estimated at 13% and 18% of the age group under and over 50 years old, the

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prevalence in India is 30.4%, and in Hong Kong, the prevalence is 18.4%.[4] Dyspepsia is reported by nearly one-third of the population inMumbai, India as significant symptoms occur at 12%.[5]

The prevalence of dyspepsia in Indonesia reaches 40-50%. By the age of 40 years, it is estimated that there are about 10 million people or 6.5% of the total population. In 2020 it was estimatedthat the incidence of dyspepsia has increased from 10 million people to 28 people, equivalent to 11.3% of the population in Indonesia. The incidence of non- ulcer dyspepsia (functional dyspepsia) at Dr.M. Djamil Padang Hospital in 2011 was 231 people.[6]

Based on the cause and complaint of symptoms that arise, dyspepsia is divided into 2, namely organic and functional dyspepsia. Organic dyspepsia if the cause of dyspepsia is evident, for example, the presence of peptic ulcers, gastric carcinoma, and cholelithiasis that can be found easily through clinical examination, radiology, laboratory, and conventional gastroenterology (endoscopy). Functional dyspepsia if the cause is not known or not found abnormalities in conventional gastroenterology examination or no organic damage and systemic diseases.[7] Endoscopic examination in the hospital is needed to distinguish between organic and functional dyspepsia.[8]

Stress is a condition in which individuals respond to changes in normal equilibrium status. Stress can have physical, emotional, intellectual, social, and spiritual consequences.Usually, these effects co-occur because stressaffects a person as a whole. Physically, stress can lead to negative or non-constructive feelings toward yourself. Intellectually, stress can affect a person's perception and ability to solve problems. Socially stress can threaten a person's beliefs and values. Many diseases areassociated or can be caused by stress.[9]

The presence of acute stress can affect gastrointestinal function and trigger complaintsin healthy people. There was a reported decrease in gastric contractility that preceded nausea complaints after a central stress stimulus. The correlation between psychological factors of life stress, autonomic function, and motility remains controversial. There was no personality characteristic for thisfunctional dyspepsia group compared to the control group, although it was reported in limited studies of psychiatric disorders in casesof functional dyspepsia.[10]

Table 1: Assessment level (DASS)

	Depression	Anxiety	Stress
Normal	0 - 9	0 - 7	0 - 14
Mild	10 - 13	8 - 9	15 -18
Moderate	14 - 20	10 - 14	19 - 25
Severe	21 - 27	15 - 19	26 - 33
Extremely Severe	28 +	20 +	34 +

Objectives

To determine the severity of stress in patients with functional dyspepsia compared to organic dyspepsia at H. Adam Malik Medan Hospital.

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2. METHOD

The research design used is observational analytics, using the Fisher Exact test. The study sample was selected randomly, sampling patientswho met the criteria with a minimum sample of 52 people. To determine the relationship between the severity of dyspepsia and the type of dyspepsia(functional and organic). The desired deviation (α) is 0.05 with a confidence level of 95%.

3. RESULTS

Table 2: Characteristics of dyspepsia patients (functional and organic) at H. Adam Malik Medan Hospital

Variable	Frequency (n)	Percentage (%)
Sex		
Men	30	57.6
Women	22	42,3
Age		
18 – 30	7	13.4
31 – 45	15	28.4
46 – 60	16	30.7
61 – 75	12	23.1
76 – 90	3	3.8

Based on Table 2, it is known that respondentsobtained with male sex more than women distributionand the age of respondents of 52 patients with the highest dyspepsia in the age range of 45-60 years.

Table 3: Characteristics of complaints and length of complaints of patients with dyspepsia (functional and organic) at H. Adam Malik Medan Hospital

Characteristic Data	Frequency (n)	Percentage (%)
Complaints of Dyspepsia		
Pain		
+	37	71.1
-	15	28.8
Fullness		
+	29	55.7
-	23	44.2
Bloating		
+	27	51.9
-	25	48.1
Burning in the Stomach		
+	38	73.1
-	14	26.9
Long Periods of Dyspepsia (months)		
3 – 12	33	63.4
13 – 24	18	34.6
25 - 36	1	1.9

Respondents to this study mainlyexperienced pain, satiety, bloating, and burning. Complaints of dyspepsia felt byrespondents ranging from 0-12 months had thehighest percentage followed by 13-24 months.

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Table 4: Long-standing characteristics of dyspepsia and severity of stress in H. Adam Malik Medan Hospital

Severity of stress		Stress		
		Normal	Mild	Moderate
Long Periods of Dyspepsia (month)	3 – 12	8 (15,3%)	19 (36,5%)	5 (9,6%)
	13 – 24	-	11 (21,1%)	8 (15,5%)
	25 - 36	-	-	1 (1,9%)

Table 5: Characteristics of dyspepsia type and severity of stress in H. Adam Malik Medan Hospital

Variable	Frequency (n)	Percentage (%)
Dyspepsia		
Functional	23	44,2
Organic	29	55,7
Severity of Stress		
Normal	10	19,2
Mild	28	53,8
Moderate	14	26,9

Endoscopic examinations obtained organic dyspepsia is found more than functional dyspepsia.Mild stress levels became the highest presentation of perceived stress levels of respondents, followed by moderate stress levels and normal.

Bivariate Analysis

The severity of stress in Functional Dyspepsiacompared to Organic Dyspepsia.

Table 6: Relationship between dyspepsia type and severity of stress

Severity of Stress		Stress			p
		Normal	Mild	Severe	
Dyspepsia	Functional	4 (17.3%)	10 (43.4%)	9 (39.1%)	0.036
	Organic	7 (24.1%)	18 (62.1%)	4 (13.7%)	

*p<0,05

The study used the Fisher's Exact test because twocells (33.3%) had an expected count of less than 5.There is a relationship between the type ofdyspepsia and the degree of severity of stress (p=0.036). Of the 23 functional dyspepsia patients, 39.1% experienced moderate stress, and 43.4% experienced mild stress. Of the 29 patients with organic dyspepsia, 13.7% experienced moderatestress, and 62.1% experienced mild stress.

4. Discussions

Descriptive data in this study can bedescribed from the data obtained, including 52people sampled and obtained differences in prevalence rates between the sex groups of people with dyspepsia. In this study, the prevalence of male dyspepsia patients was higher at 57.6% and women by 42.3%. This issimilar to research conducted by Hemriyantton et al. at Dr.M. Djamil PadangHospital, where the number of people with male dyspepsia syndrome was 55.7% and women by 44.3%.

In a study conducted by Darwin etal., The prevalence of women with functional dyspepsia was 65% and men by 35%.Nwokediuko *et al.* found that sex comparisonshad more functional dyspepsia than men by 120 women and 72 men. Widya et al. also geta comparison of the female sex: men in functional dyspepsia is 2: 1, while in organic dyspepsia, the ratio of the female sex: men are1 : 2,[13] or data obtained in 2009 on endoscopicexaminations conducted in the Endoscopy section of Wahidin Sudiro Husodo Hospital, found more organic dyspepsia in men while more functional dyspepsia in women.[14] This isbecause women are more prone to experiencestress, diet is often irregular, and women oftenrun the wrong diet program, using slimming drugs that disrupt stomach acid production. A strict diet with only fruits or vegetables will cause indigestion, or in women who experience first-trimester pregnancy, they often experience symptoms similar to dyspepsia.[13]

While in research conducted by Farejo et al., women have different expectations of uncomfortable feelings when experiencing symptoms such as flatulence or abdominal pain, the disease is considered a sensitive subject and an embarrassing condition that may be more difficult for womento cope with than men. Hence, women more often come to control. Health services to checkthis complaint.[15]

In this study, more male respondents were found compared to women. This is likely related to the pattern of life in men who tend to be more unhealthy when compared to women, such as smoking habits, caffeine consumption (coffee),alcohol, or carbonated beverages (soft drinks), foods that produce gas (tape, jackfruit, durian), or consumption of certain drugs.[12]

In this study, respondents with the age group of 46-60 years more experienced dyspepsia. It is anold adult age group. This is also following research conducted by Cahyanto et al. in the Internal Medicine Section of Dr. Sardjito Hospital, Yogyakarta, which gained prevalence in the age group of < 45 years by 46.6% and the age group of ≥ 45 years by 53.4%.[16] However, a study conductedby Braig et al. in Germany comparing studies in1996 and 2015 showed differences. In a study conducted in 1996, there was a difference in the prevalence of age groups with dyspepsia. The prevalence is highest in the age group 20 - 29 yearsat 50.8%, then the age group of 30 - 44 years by 29.4%, and the age group ≥ 45 years at 19.8%. While in research conducted in 2015 found the samething as the study was done. The prevalence is highest in the age group 30 - 44 years at 46.6%, thenin the age group ≥ 45 by 42.3%, and the age group of 20 - 29 years by 11.1%.[17]

Of the respondents obtained during the study,patients with functional dyspepsia with organicdyspepsia in patients in the GastroenterologySection of RSU H. Adam Malik Medan was 44.2% infunctional dyspepsia and 55.7% in organic dyspepsia. This is similar to research conducted byWesta conducted at The Polyclinic Disease InSanglah Denpasar Hospital, which is 43.5% infunctional dyspepsia and 56.5% in organic dyspepsia. A study conducted by Kumar et al. inMumbai, India, also found similar data where theprevalence of functional dyspepsia is lower thanorganic dyspepsia.[18]

The stress levels found in this study were mildat 57.7%, moderate by 25.0%, and normal at 17.3%.In a study conducted by Cahyanto *et al.*, Stress symptoms are found in people with functional dyspepsia. Prevalence of mood disorders by 26.7%,clinical symptoms of stress by 16.3%, stress by 33.3%, and significant stress by 10%.[16]

Research conducted by Reiny et al., about the relationship of stress levels with the incidence of functional dyspepsia syndrome instudents of the final semester of Nursing Study Program at STIKes Yarsi Sumbar Bukittinggi Year 2015 that there is a relationship between stress levels and the incidence of functional dyspepsia syndrome in final semester students.

Relationship of Stress Severity in Patients with Functional Dyspepsia Versus OrganicDyspepsia

Analysis of the data showed a relationship between the severity of stress andthe type of dyspepsia, where more severestress was associated with functional dyspepsia than organic dyspepsia (p = 0.036).Of the 14 moderately stressed patients, 76.9%had functional dyspepsia. Research conducted by Lee et al. states that stress is associated with a wide variety of digestivediseases. They can be a predisposing factor forfunctional dyspepsia and irritable bowel syndrome. This study also stated that psychological evaluation of gastroenterology patients.[19]

Research conducted by Darwin et al. also stated that stress levels are associatedwith releasing proinflammatory cytokines (IL- 6) in patients with functional dyspepsia.Increased production of peripheral cytokines and proinflammatory markers is associatedwith psychiatric disorders such as major stressdisorder and post-traumatic stress disorder.[20]

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