Conference Paper

Perception of Weight changes among People with Depression SymptoCities in Indonesia

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Abstract

Background: Obesity is a growing problem so obesity is a threat to health, especially in a developing country like Indonesia. Obesity is a caused for death and burden of disease-causing various diseases. This study looked at the correlation between mental disorders associated with eating disorders or perceptions of changes in respondents' weight toward depressive disorders. The perception to the body weight is one of the factors that are often found in symptoms of mental disorders. **Objectives:** This research aim to understand the individuals' obesity condition picture of patients based on their characteristics. **Methods:** In this study individuals with depressive symptoms were established using MINI instruments through interviews using the ICD-10 Mini International Neuropsychiatric Interview Version mental health instrument conducted in October–November 2017 by nursing diploma enumerators who were trained by psychiatrists. The perception of the state of body weight obtained from sampling was carried out by stratified random sampling. This study is a further analysis of data on mental health research conducted in 3 districts/ cities in Indonesia, namely in the city of Bogor, Jombang and Tojouna-Una districts using cross sectional method. The research samples analyzed were individuals who experienced symptoms of depression. **Results:** From the 262 respondents who experienced a history of symptoms of depressive disorders, appetite disorders/changes in body weight experienced by majority of the respondents, amounting to 66.0%.A significant relation between gender and ownership economy level with the appetite disorder/body weight changes. Where women on lower economy level suffered from depression were highly probable risking appetite disorder/body weight changes experience. **Conclusion:** A majority of people with the depression symptoms history has the symptom of lack of appetite or the feel of the weight change. The symptom of lack of appetite/weight change happened to woman with depression and low income respondents.

Keywords: Changes in body weight, Depression, Perception,

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Received: 22 September 2019
Accepted: 4 October 2019
Published: 10 October 2019

Publishing services provided by Knowledge E

Selection and Peer-review under the responsibility of the ICHT 2019 Conference Committee.

1. Introduction

WHO declare in 2016 worldwide obesity has nearly tripled since 1975. Overweight and obesity are defined as abnormal or excessive fat accumulation that may impair health. Changes of weight are usually measured by BMI or by abdominal obesity. Body mass index (BMI) is a simple index of weight-for-height that is commonly used to classify

overweight and obesity in adults. It is defined as a person's weight in kilograms divided by the square of his height in meters (kg/m2).WHO indicated that at least one in three adults in the world is overweight and nearly one in 10 people is overweight and 40 million children under five are overweight. 39% of adults are overweight. As is known to be overweight and obesity can have a serious impact on health. For example heart disease, stroke, diabetes and cancer. Measurements of overweight are usually done by measuring BMI (body mass measurement)[1].

Even more stated that obesity (weight gain) is more related to bullying disorder. Obesity is an increase in BMI is when BMI (body mass index) more than 30, psychological stress can cause changes in eating pattern [2].

A major survey relevant to health conducted in Indonesia is Riskesdas which was a national scale community based survey using the cross-sectional design conducted periodically since 2007 and ultimately in 2018 expressed that there is an increase in weight proportion namely in the year 2007 is 8.6%, 2013 is 11.5% and in the year 2018 is 13.5% and Riskesdasnumber proportion of national depression in 2018 is 21.8% the highest number was from the province of Southeast Sulawesi [3, 4]. Mental health research was conducted in three cities within 3 provinces namely West Java Province (The City of Bogor), Central Sulawesi (Tojouna-una District) and East Java Province (Jombang District) this study was observing whether the survey conducted in the aforementioned three major cities using cross sectional method in the year 2017. To see the relation of the respondent's weight changes perception to the depression measured by MINI instrument, this research was a study on the community based.

Depression is a mental disorder was influenced by psychosocial stress. Depression could be a symptom, a syndrome and a diagnose based on the psychosocial stress affecting the aforementioned individual [2, 5]. Depression patient has two eating tendencies such as anorexia that triggered weight deficiency or an increase in food intake especially high glucose and grew heavier. This study showed the relation between depression and nutrition status[6]. Psychological stress could cause a change in diet and research showed the correlation between temporomandibular disorder (TMD) and psychological pressure. This research explored the connection between TMD and body mass indes (BMI) in a major representative sample from South Korea population[7].

Several studies has been conducted showed a relation between weight with the mental health disorder symptom yet this study analyzed symptom of changes in appetite or weight changes perception is one of the variable of MINI instrument question for the depression where the weight changes perception is condition of changes in appetite

or feeling of weight changes continously and creating an interference such as sadness. Which was obtained on community survey.

2. Methods

2.1. Study Population

Individual data analyzed were the mental health research samples in three districts/cities in Indonesia, namely The City of Bogor (West Java), Jombang District (East Java), Tojouna-una District (Central Sulawesi). Samples are individuals aged 15 years old and above selected by stratified random sampling, starting from sub-districts, village, neighborhood selection until each citizen names are selected. With a minimum number of samples in each regency/cities are 761 individuals. In this analysis individuals included in the analysis are individuals who have experienced symptoms of depression.

Analyzed sample of the research was individuals with depressive symptoms. Depressive symptom using MINI (Mini International Neuropsychiatric Interview Version ICD-10) translated into Indonesian language. The symptoms of depression was referring to depression history, namely experiencing depressive disorder in the last two weeks within the interview or in a lifetime. Depression instrument (both two weeks condition or the lifetime experience) consisted of 10 questions. Including depressive condition if there are minimum of 2 “yes” answers on question 1–3, and a least 2 “yes” answers on the 4–10 questions [8]. Data was obtained through interview using structurized instrumenton October–November 2017**.** Interviews conducted in October–November 2017 by nursing D3 enumerators who were trained by psychiatrists.

2.2. Variables Analysis

Dependent variable analyzed was an appetite disorder symptoms or the feeling of the body weight changes. This variable was one of the question on the MINI instrument for depression. The appetite disorder symptom or the feeling of body weight change meant is related to a condition of continual sadness, depressive or melancholic, almost all day long, almost everyday. The independent variables are gender characteristic; age: 15–25, 26–45, 46–55, 65+; marital status: unmarried, married, divorced; education: diploma/bachelor, high school, junior high school, elementary school or lower than elementary school; occupation: civil servant, private employee, entrepreneur, farmer, laborer, unemployed; ownership quintile of home facility (fuel for cooking, defecating

facilities, type of toilet, television, refrigerator)and amenities including vehicle measured using PCA (Principal Component Analysis) which mirrored the level of wealth, divided into two levels[9], residence geographic characteristic grouped into city and village region assessed based on population density, farmer or the percentage of families working in framing related work, and access/city facility avalaibility[10].

2.3. Data Analysis

Data analysis conducted with univariate and bivariate. Univariate analysis to give a picture on the respondent's characteristic condition. Bivariate to learn the dependent and independent variable distribution, also measure the crude relationsip (OR). Analysis was using SPSS with a 95% confidence interval and signification %.

2.4. Research Ethics

This research has been qualified from the health research ethic appraisal test from Ethics Commision Health Research and Development Agency, Ministry of Health in the year 2017.

3. Results

As much as 262 respondent has a history of experiencing depressive disorder. An appetite disorders/weight changes symptom experienced by most of the respondent (66.0%) Also largely the respondent experiencing depression are women (67.2%), the age group 26–45 years old (41.2%), has a low education level (30.5%), unemployed (41.2%), married (75.2%), living in rural area (52.3%), and is in the lower ownership quintile.

Table 2 showed the Distribution and the relation between appetite or weight based on characteristic. The significant correlation is gender (p=0.0004) and ownership quintile (0.025). Where the appetite changes/weight changes symptom are higher in femalewith depression and on respondents in ownership quintile 1.

The significant correlation is gender (p=0.0004) and ownership quintile (0.025). Where the appetite changes/weight changes symptom are higher in women with depression (72.2%) and on respondents in the first ownership quintile (71.9%).

Table 1: Distribution of people with depressive symptoms according to characteristics.

Characteristic	n	%
Appetite Disorder/Body weight changes		
Not experienced	89	34.0
Experienced	173	66.0
Gender		
Male	86	32.8
Female	176	67.2
Age group		
15-25	34	13.0
26-45	108	41.2
46-65	103	39.3
65+	17	6.5
Educationlevel		
Diploma/Bachelor	9	3.4
High School/Islamic High School	61	23.3
Junior High/Islamic Junior High	45	17.2
Elementary School/Islamic Elementary school	67	25.6
<lower than elementary school	80	30.5
Employment status		
Civil servant	8	3.1
Private employee	13	5.0
Entrepreneurship	31	11.8
Farmer	49	18.7
Laborer	53	20.2
Unemployed	108	41.2
Marital status		
Single	27	10.3
Married	197	75.2
Divorced	38	14.5
Residence type		
Rural area	137	52.3
Urban area	125	47.7
Ownership quintile		
quintile 2	109	41.6
quintile 1	153	58.4
Total	262	100.0

The third table showed the risk property (OR) characteristic on the appetite or weight changes. Women risked experiencing appetite or weight changes (OR=2.25, (% CI 1.32–3.86). And the respondent in lower economic ownership quintile risked experiencing appetite or weight changes (OR=1.87, 95%CI 1.11–3.14).

Table 2: Appetite disorders in people with symptoms of depression according to the characteristics.

		Appetite Changesor Body Weight				p
	N	Not Problematic		Problematic		
Gender						
Male	86	40	(46.5)	46	(53.5)	0.004
Female	176	49	(27.8)	127	(72.2)	
Age group						
15-25	34	8	(23.5)	26	(76.5)	0.531
26-45	108	39	(36.1)	69	(63.9)	
46-65	103	37	(35.9)	66	(64.1)	
65+	17	5	(29.4)	12	(70.6)	
Education						
Diploma/Bachelor	9	4	(44.4)	5	(55.6)	0.148
High School/Islamic High School	61	23	(37.7)	38	(62.3)	
Junior High/Islamic Junior High	45	21	(46.7)	24	(53.3)	
Elementary School/Islamic Elementary school	67	17	(25.4)	50	(74.6)	
<lower than elementary school	80	24	(30.0)	56	(70.0)	
Employment status						
Civil servant	8	3	(37.5)	5	(62.5)	0.781
Private employee	13	5	(38.5)	8	(61.5)	
Entrepreneurship	31	12	(38.7)	19	(61.3)	
Farmer	49	20	(40.8)	29	(59.2)	
Laborer	53	17	(32.1)	36	(67.9)	
Unemployed	108	32	(29.6)	76	(70.4)	
Marital status						
Single	27	8	(29.6)	19	(70.4)	0.272
Married	197	72	(36.5)	125	(63.5)	
Divorced	38	9	(23.7)	29	(76.3)	
Residence type						
Rural area	137	43	(31.4)	94	(68.6)	0.43
Urban area	125	46	(36.8)	79	(63.2)	
Ownership quintile						
quintile 2	109	46	(42.2)	63	(57.8)	0.025
quintile 1	153	43	(28.1)	110	(71.9)	

4. Discussion

The research indicated that appetite or weight changes on women risked to experience the appetite or weight changes (OR=2.25, 95%CI 1.32–3.86) in comparison to men, also respondents in lower economic situation in the first quintile in this study, in relation to gender and race. A research suggested that a self-perception on weight changes

Table 3: Logistic regression Disorders of appetite in people with depressive symptoms according to characteristics.

	OR crude	95% CI	
Gender			
Male	1		
Female	2.25	1.32	3.86
Age group			
15-25	1		
26-45	0.54	0.22	1.32
46-65	0.55	0.23	1.33
65+	0.74	0.20	2.74
Education			
Diploma/Bachelor	1		
High School/Islamic High School	1.32	0.32	5.43
Junior High/Islamic Junior High	0.91	0.22	3.86
Elementary School/Islamic Elementary school	2.35	0.57	9.79
<lower than elementary school	1.87	0.46	7.56
Employment status			
Civil servant	1		
Private employee	0.96	0.16	5.90
Entrepreneurship	0.95	0.19	4.72
Farmer	0.87	0.19	4.06
Laborer	1.27	0.27	5.95
Unemployed	1.43	0.32	6.32
Marital status			
Single	1		
Married	0.73	0.30	1.75
Divorced	1.36	0.45	4.13
Residence type			
Rural area	1		
Urban area	0.79	0.47	1.31
Ownership quintile			
quintile 2	1		
quintile 1	1.87	1.11	3.14

is more common on women than men and white people than black people or Hispanic. Overweight perceived independently varied by gender, race/ethnicity, and social economical status. The wrong perception on weight might have important health and behavioural implication[11]. The matter was related to food intake, personality traits, and mental health issues[11].Yet another research on people with Bipolar disorder mentioned that over eating disorder and obesity is a stigmatic condition known to influence both

men and women. The Bipolar Disorder prevalence is significantly higher on the obese population in comparison to the non-obese population[7, 11].

A study in Brazil indicated that food addiction in Brazil correspondent to sociodemographic and the pathology of psychopathic correlation of food addiction and association to the quality. Food addiction might be prevalent in lower and middle income countries, although might be less prevalent than in United States.

Food addition related to mood breakdown at the same time as a psychological harassment and early sexual life[7]. Likewise in Korea a study indicated that weight perception on the correlation between weight perception and depression symptoms in Korean adults, indicated and potential differential association in all gender aged 19–65 years old, without depression history and body mass index (BMI)>= 18.5kg. A research in China showed that overweight and obesity during the teen era is a societal health problem all around the world. A boy is more likely to be overweight or obese than a girl (30.4% vs 21.5%, p <0.05), but girls is more likely to not be satisfied with their body rather than a boy [12]. To compare overweight youth and obese with the accurate or inaccurate weight perception reported in numerous behavioural and psychological benefit measure or inaccurate observer (weight perception is 'regarding true').

Almost a third of the youth had a discrepancy between the weight status perceived independently and weight defined by body mass index. The accurate weight perception between overweight and teen obesity was associated with the increase of the opportunities of feeling sadness or depressed in the last 6 months. Further research on social, familial and psychological factors predicted or mediated in relation to a healthy and unhealthy weight behaviour among the teenagers with an accurate weight perception was needed.

An accurate weight perception must be taken to consideration in behaviour counselling; obesity; perception; psychological accuracy[5].An individual depressive symptom could contribute to the chronic depression risk. This research was meant to explored which symptom predicted chronic dysphoria, a signature of depression. Method: 1057 participants of Young Finland study based on population investigated for four times for the 16 years period. They had the score Beck Depression Inventory modified in third on the same fourth screening considered to have a chronic dysphoria(n¼135). A participant having only a high depression score made a transient dysphoriareferenced group. An individual item from the Inventory analyzed in the relation to dysphoria and chronic status, control to a potential ambiguous factor, namely a personality valued using Temperament and Character [13].

A study exploring individual nutrition status needed to indicate that obesed women involved in treatment for weight loss showing higher prevalence than a participant with a normal weight[5].Several studies indicated many evidence showing the significant correlation between emotional inconveniences, irregular eating habit and weight status. In the overweight and obesity scope, emotionally triggered eating habit which mimics addictive behaviour as a risk factor[3].

The perception of overweight and underweight is more than the weight status or the mistaken perception of weight is a significant factor relevant to the prevalence of middle and high psychological pressure and the uniform effect for men and women. The further prospective study designed well was needed to determine whether weight perception causing psychological pressure, and if so, was the symptom significantly decrease after effective intervention[14].A finding indicated that obesity status is substantially more related to living quality variables in correlation to physical health (namely, the total phys ical condition, decreasing mobility) whereas diagnostic status is more predictive[15]. Obesity and major depression disorder (MDD) / anxiety disorder often happen at the same time and worsen one another and have bad effect on health[16].

5. Conclusion

Most patient with history of depressive symptoms experienced symptoms of changes in appetite or feelings of changes in body weight. The symptom of changes in appetite/Body weight growth were higher in women who were depressed and in respondents who were in level 1 /economic ownership low quintiles.

Acknowledgments

We would like to thank the Muhammadiyah Pekajangan Health Science Higher School that has supported us to this scientific journal publication.

Conflict of Interest

The authors have no conflict of interest to declare.

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