



THE RELATIONSHIP BETWEEN BODY IMAGE WITH EATING DISORDER IN MEDICAL STUDENT

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ABSTRACT

Background: Adolescence is a critical stage when a person experiences a fast and significant changes in their physic, cognitive, emotion and social. This change affects their body image. Body image dissatisfaction leads them to do anything, even by changing their eating behaviour, to have a body goal. This behaviour can lead to an eating disorder. **Objective:** To know the relationship between body image perception with the incidence of eating disorders in medical students. **Methods:** An observational study with a cross sectional design on 240 first year medical students at Faculty of Medicine, Diponegoro University using the Multidimensional Body-Self Relations Questionnaire-Appearance Scale (MBSRQ-AS) test for scoring the body image and Eating Attitude Test-26 (EAT-26) for scoring the eating disorder. **Results :** The questionnaires about body image perception showed a negative result on some aspects, that is on evaluation appearance subscale (148 persons (61,67%)), on appearance orientation subscale (199 persons (82.91%)), on body area satisfaction subscale (167 persons (69,58%)), on overweight preoccupation (137 persons (57,08%)) and on self-classified weight 102 persons (42,50%). Eating disorders, 19 persons (7,9%) had risk of eating disorders. Positive appearance orientation had a significant effect on the incidence of eating disorders. $p < 0,05$, OR = 3, dan CI95% = 0.115 – 0.848. Positive overweight preoccupation had a significant effect on the incident of eating disorders. $p < 0,05$, OR = 4 , dan CI95% = 0.084 - 0.692. **Conclusion:** There is relation between body image on appearance orientation subscale and overweight preoccupation subscale with eating disorders.

Keywords : adolescence, body image, eating disorder

INTRODUCTION

Adolescence is a critical phase from children to adult¹ that followed by fast and significant changes in physic, cognitive, emotion and social²⁻⁴. That significant changes brings adolescent into the concept about their body image, which is how they behave towards their body size and shape⁵. Body image is an identity that an individual had since childhood⁶ and it can be positive (accept their body) or negative (looked down their body)^{7,8}. There are many factors that affect body image, such as gender, body mass index (BMI), social, and media⁹.

A person with negative body image tends to have body image dissatisfaction. It happened when there is discrepancy between their actual body shape and their body goal perception¹⁰. Study in Asia showed that Asian tend to dissatisfied with their body, especially face, height, and upper body¹¹. Adolescent who has body image dissatisfaction will have a greater risk of psychological problem such as controlling body weight abnormally. If this condition continue, it can lead them to eating disorder^{12,13}.

The present study in China and South Korea showed an escalation of eating disorder prevalence¹⁴. In Indonesia there are not much research about eating

disorder so the precise prevalence is still unknown. The aim of this research is to know the relationship between body image and eating disorder in medical student.

METHOD

This cross-sectional descriptive study included 240 medical students in Diponegoro University. The sampling is done with voluntary response sampling with criteria first year of medical student, not on a diet under health professional supervision and agree to take part in this research.

Data collection was taken between June-July 2020 using self-administered questionnaires. The purpose of the research and the format of the questionnaire were explained using a video. Questionnaire about general characteristic consist of age, gender, residence status, allowance, parent salary, and BMI. Body image questionnaire is using Multidimensional *Body-Self Relations Questionnaire-Appearance Scale* (MBSRQ-AS) consist of 34 questions about body satisfaction with five subscale : evaluation appearance, appearance orientation, body area satisfaction, overweight preoccupation and self-classified weight^{15,16}. Eating



disorder questionnaire is using Eating Attitude Tes-26 (EAT-26) consist of 26 questions about eating attitude and behavior. The scoring is using rating scale from 1-6 and a total score more than 20 is conclude to have a risk of eating disorder¹⁰.

All data will be analyzed using univariate descriptive to show respondents distribution. To know the relationship between body image and eating disorder will be analyzed using chi-square test.

RESULTS

Respondents characteristic are shown in Table 1. Most of the respondents are female (61.7%), lived with parent (55%), have monthly allowance >Rp1.000.000 (72.5%), parent salary >Rp5.000.000 (75%) and have abnormal body mass index (51.7%) which consist of underweight (12.5%) and overweight (39.2%). Most of the respondents have negative evaluation appearance (61.7%), orientation appearance (82.9%), body area satisfaction (69.6%) overweight preoccupation (57.1%) and positive self-classified weight (57.7%). 19 respondents (7.9%) have a risk of eating disorder.

Bivariate analysis is shown in Table 2. Chi-square analysis between respondent general characteristic shows there is relation between residence status and eating disorder $p < 0,05$, OR = 4, dan CI95% = 1.368 - 17.037. BMI also shows relation with eating disorder $p < 0,05$, OR = 3, dan CI95% = 0.1240 - 11.976.

Based on Table 2 there is relation between orientation appearance subscale and eating disorder $p < 0,05$, OR = 3, dan CI95% = 0.115 - 0.848. Overweight preoccupation also shows relation with eating disorder $p < 0,05$, OR = 4, dan CI95% = 0.084 - 0.692.

Table 1. Respondents Characteristics

VARIABLE	N	%
Gender		
Male	92	38.3
Female	148	61.7
Residence Status		
With Parent	132	55.0
Boarding house	104	43.3
With relative	4	1.7
Allowance		
< 1.000.000	66	27.5
> 1.000.000	174	72.5
Parent Salary		
< 3.000.000	13	5.4
3.000.000 – 5.000.000	47	19.6
> 5.000.000	180	75
BMI		
Underweight	30	12.5
Normal	116	48.3
Overweight	94	39.2
Evaluation appearance		
Positive	92	38.3
Negative	148	61.7
Orientation appearance		
Positive	41	17.1
Negative	199	82.9
Body Area Satisfaction		
Positive	73	30.4
Negative	167	69.9
Overweight Preoccupation		
Positive	103	42.9
Negative	137	57.1
Self-Classified Weight		
Positive	138	57.5
Negative	102	42.5
Eating Disorder		
Risk	19	7.9
No risk	221	92.1

Table 2. Relationship between General Characteristic and Eating Disorder

Variable	Eating Disorder				OR (CI95%)
	Risk		No risk		
	n	%	n	%	
Gender					
Male	6	31.58	86	38.91	0.725 (0.265 – 1.978)
Female	13	68.42	135	61.06	
Residence Status					
With Parent	16	84.21	105	52.49	4.828* (1.368 – 17.037)
Without Parent	3	15.79	116	47.51	
Allowance					
< 1.000.000	5	26.32	61	27.60	0.937 (0.324 – 2.712)
> 1.000.000	14	73.68	160	72.40	



Parent Salary					
< 3.000.000	5	26.32	55	24.89	1.078 (.371 – 3.129)
> 5.000.000	14	73.68	166	75.11	
BMI					
Abnormal	15	78.95	109	49.32	3.853*) (1.240 – 11.976)
Normal	4	21.05	112	50.86	
Evaluation appearance					
Positive	5	26.32	87	39.37	0.550 (0.191 – 1.582)
Negative	14	73.68	134	60.63	
Orientation appearance					
Positive	7	36.84	34	15.38	3.208*) (1.179 – 8.732)
Negative	12	63.16	187	84.62	
Body Area Satisfaction					
Positive	4	21.05	69	31.22	1.702 (0.545 – 5.318)
Negative	15	78.95	152	68.78	
Overweight Preoccupation					
Positive	14	73.68	89	40.27	4.153*) (1.445 – 11.938)
Negative	5	26.32	132	59.73	
Self-Classified Weight					
Positive	14	73.68	124	56.11	2.190 (0.763 – 6.291)
Negative	5	26.32	97	43.89	

*) significant. *Chi-square* correlation test.

DISCUSSION

According to this research, it can be found that most of the respondent have negative evaluation appearance, which mean most of them feel that their looks and body is not interesting. This finding supports previous findings that both men and women have negative evaluation appearance¹⁷. A person satisfaction towards their body is influenced by many factor such as age, gender, social and media¹⁸. Social and media influences on the ideal thin and athletic body image increase the incidence of eating disorders disorder¹⁹. It is because people will control their diet or exercise compulsively to gain the body goal²⁰.

Orientation appearance subscale shows negative perception which mean most of the respondent do not care about their appearance. It happened because the more mature person is, the more self-appreciation will they have¹⁷. People who controlling their diet to get their body goal, have their mind focus on their weight, body shape, food and how they control their weight. This condition make people do not aware about their appearance because it blocked by that thoughts²¹.

Body area satisfaction subscale shows negative perception which mean most of the respondent do not satisfied with their body specifically. Asian people tend to not sati-

sified with their body particularly face, height, and upper body¹¹. Asian culture tend to give body goal standard as slim, athletic, and good looking^{20,22}. When someone does not have the same body shape as standard body goal, it could lead them to not satisfied with their body.

From this present study, it can be found that overweight preoccupation shows positive perception on respondent who have eating disorder risk which mean they do not anxious about getting fat. It is contrary with the previous study that showed overweight preoccupation is one of the factor of eating disorder²³. Eating disorder is influenced by many factors such gender, self-esteem and family⁹ In this study, it shows that the preoccupation factor of obesity does not really have an effect on the risk of eating disorders, but is influenced by other factors.

Meanwhile on respondent who do not have eating disorder risk have negative overweight preoccupation which mean they are anxious of getting fat. A current view develop shows that the ideal body is a 'healthy' body that makes a person tend to be afraid to get fat because they want to maintain a 'normal' body weight²⁴.

As for self-classified weight shows positive perception which mean most of respondent have a positive perception (fatter) than their actual body size. A person body image, whether it is normal or not, is influenced by their beliefs, mind and action on



their body²⁵. All of that cannot be separated from social influences. Asian culture tend to build fatter perception on their body²⁰. This belief can lead a person to feel dissatisfied with their own body.

From this research, showed that female gender, residence status with parent, allowance between >1.000.000, parent salary about >5.000.000, abnormal BMI tend to have a higher risk of eating disorder. This findings supports previous study that female tends to dislike their body and lead them to change their eating behaviour to have an ideal body^{5,17,26}. Family and socio-economy also be one of the factor that build a person body image^{9,34}.

This study shows us that there are relation between orientation appearance, overweight preoccupation and eating disorder. Positive orientation appearance give risk three times higher of having eating disorder. This finding supports previous study that the more people pay attention to their appearance, the more higher possibility they can have eating disorder²⁷.

Positive overweight preoccupation give risk four times hinger of having eating disorder. It is contrary with the previous study that shows overweight preoccupation is one of the factor of eating disorder²³. In study that conducted for about 18 years to women in the age of 11-29 years shows that there is a decline in body dissatisfaction dan weight preoccupation²⁸. However, eating disorder can still occurred because previous study shows that eating disorder influenced by biological factors (false eating behavior and restricting eating euphoria), genetic and social²⁹.

This study also shows us that there are relation between residence status with parent, BMI and eating disorder. Parent has a great influences to their children's body image⁹. Previous study showed parent who like to criticize their children's body shape and push their child to have an ideal body can caused eating disorder on their child^{9,30}. An abnormal BMI (underweight or overweight) tends to leads a person has eating disorder because BMI influenced a person body image and self-esteem⁹. This can lead a person who has an abnormal BMI tends to change their BMI to be normal³¹.

There are no relation between evaluation appearance, body area satisfaction, self-classified weight and eating disorder. Previous study shows that there are no significant relation between evaluation appearance¹⁶, body area satisfaction, self-

classified weight³² and eating disorder. This means that appearance satisfaction does not affect people of having eating disorder.

There are also no correlation between gender, allowance, parent salary and eating disorder. Previous study shows that there are no significant relation between gender and eating disorder³³. Otherwise for allowance and parent salary are contrary with previous study that showed having a stable economic state is more likely to have eating disorder³⁴. This could happened because the data collect from this research cannot completely represent the subject economic condition.

The present study is cross-sectional, thus could not explain the cause and effect. The population in this research are limited, so that it could not be applied in a wide scope. There are many variables about body image and eating disorder which still not tested yet such as eating behaviour, and knowledge.

CONCLUSION

In conclusion, most of the respondent have negative body image in evaluation appearance, orientation appearance, body area satisfaction and overweight preoccupation subscale and positive body image in self classified weight subscale. According to this research, there are relation between body image in orientation appearance subscale, overweight preoccupation subscale and eating disorder.

Ethical Approval

This research has been approved from Komite Etik Fakultas Kedokteran Universitas Diponegoro, 53/EC/KEPK/FK-UNDIP/V/2020.

Conflicts of Interest

The authors declare no conflict of interest.

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