

Original Research Paper

The Relationship between Body Image and Self-Esteem among Tuberculosis (TB) Patients at *Puskesmas*

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Abstract

Tuberculosis (TB) is one of the leading causes of death worldwide. TB patients often face challenges related to changes in body image, which are influenced by physical, economic, social, and psychological factors. Physically, patients may experience drastic weight loss, shortness of breath, paleness, and persistent coughing. Economically, TB can lead to a decrease in employment and income. Socially, it can result in stigma as part of a broader social process. Psychologically, TB can increase emotional stress and feelings of disappointment. These changes in body image can also impact a patient's self-esteem. This study aims to examine the relationship between body image and self-esteem among TB patients at *Puskesmas* (Community Health Centers) in Yogyakarta City. This was a quantitative study using a cross-sectional design. The sampling technique used was purposive sampling. A total of 56 respondents over the age of 15, all undergoing TB treatment and resistant to TB medication, participated in the study. Data were analyzed using the Spearman Rank correlation test. The results of the Spearman Rank test showed a p-value of 0.847 (>0.05), indicating that there is no significant relationship between body image and self-esteem in TB patients at *Puskesmas* in Yogyakarta City. It can be concluded that body image is not significantly related to self-esteem among TB patients in this setting. Nevertheless, respondents continued their treatment regularly and maintained both their body image and self-esteem.

Keywords: body image; tuberculosis (TB) patients; self-esteem

1. Introduction

Tuberculosis (TB) is one of the top ten causes of death worldwide (Suarnianti et al., 2021). The rod-shaped bacterium *Mycobacterium tuberculosis*, which causes TB, measures approximately 1–4 micrometers in length and 0.2–0.6 micrometers in thickness. Due to its high lipid content, *Mycobacterium tuberculosis* is resistant to physical, chemical, and acidic conditions (Situmorang, 2020). TB can damage up to 80% of lung tissue and may also affect other organs in about 20% of cases (Lestari et al., 2023). In Indonesia, there are approximately 969,000 TB cases and 93,000 TB-related deaths annually, equivalent to 11 deaths per hour (Kemenkes, 2023). Globally, Indonesia has one of the highest TB case numbers, particularly affecting the working-age group, especially individuals aged 45 to 54 years (WHO, 2022).

Several factors influence body image, including personality traits, weight or perceptions of being thin or overweight, self-concept, body image distortion, life cycle stages, socialization, gender roles, self-stigma, and stress (Abdussamad & Supradewi, 2020). According to Soedarsono et al. (2021), body image issues among TB patients are mainly influenced by psychosocial and economic factors.

Body image is generally categorized into two types: positive and negative. A positive body image refers to an accurate perception of one's body shape and a sense of comfort with one's current condition (Puspasari & Psi, 2019). In contrast, a negative body image is a distorted perception of one's body that

often leads to feelings of shame and an inability to accept one's physical condition (Puspasari & Psi, 2019).

Self-esteem represents a component of a person's self-image, indicating their overall assessment and sense of their personal worth at any moment (Chen et al., 2023). Low self-esteem is characterized by negative feelings toward oneself, including a lack of confidence and self-worth, feelings of failure, self-criticism, decreased productivity, a sense of inadequacy, irritability, and social withdrawal. Moderate self-esteem is marked by fluctuations between acceptance and rejection of oneself. High self-esteem is associated with better emotional tolerance, adaptability to pleasant environments, lower anxiety levels, and stronger resilience (Rani & Siti, 2018).

Based on interviews with five TB patients, it was found that two patients were dissatisfied with their current body shape, stating that they appeared too thin. One patient reported being satisfied and content with their body. Three patients expressed low confidence regarding their body image. In addition, three patients shared that upon being diagnosed with TB, they felt hopeless and questioned whether their lives were nearing an end. Three also reported feeling worthless at the time of diagnosis. Given these findings, the researcher is interested in examining the relationship between body image and self-esteem among TB patients at *Puskesmas* in Yogyakarta City.

2. Research Method

This study was a quantitative study using a cross-sectional time approach, aimed at examining the relationship between one variable and another. The population in this study consisted of tuberculosis (TB) patients from several *Puskesmas* (community health centers): *Puskesmas* Umbulharjo I, *Puskesmas* Umbulharjo II, *Puskesmas* Mergangsan, *Puskesmas* Tegalrejo, and *Puskesmas* Mantrijeron. The sampling technique used was purposive sampling, with inclusion criteria of TB patients aged 15 years or older, actively undergoing TB treatment, and resistant but still compliant with treatment. A total of 56 respondents participated in the study; however, 2 dropped out due to recovery from TB treatment.

The instruments used in this study were the Multidimensional Body-Self Relations Questionnaire – Appearance Scales (MBSRQ-AS) to assess body image, and the Rosenberg Self-Esteem Scale (RSES) to measure self-esteem. Data were analyzed using the Spearman Rank correlation test. This study received ethical clearance from Universitas Aisyiyah Yogyakarta under approval number 3471/KEP-UNISA/II/2024.

3. Results and Discussion

3.1. Results

3.1.1. Frequency Distribution by Age

Based on the research results, the characteristics of respondents by age are as follows:

Table 1. Distribution of Respondents by Age

No	Age Table		
	Age Group	Frequency	Percentage (%)
1.	17-25	16	29,6
2.	26-35	7	13,0
3.	36-45	5	9,3
4.	46-55	14	25,9
5.	56-65	6	11,1
6.	>65	6	11,1
	Total	54	100

Source: Primary Data, 2024

Based on Table 1, most respondents were between 17 and 25 years old, accounting for 16 individuals (29.6%). The smallest age group was 36–45 years, with only 5 respondents (9.3%).

3.1.2. Frequency Distribution by Gender

Based on the research results, the characteristics of respondents by gender are as follows:

Table 2. Distribution of Respondents by Gender

Gender Table			
No	Gender	Frequency	Percentage (%)
1.	Male	32	59,3
2.	Female	22	40,7
	Total	54	100

Source: Primary Data, 2024

According to Table 2, the majority of respondents were male, totaling 32 individuals (59.3%), while females made up the smaller portion with 22 individuals (40.7%).

3.1.3. Frequency Distribution by Occupation

Based on the research results, the characteristics of respondents by occupation are as follows:

Table 3. Distribution of Respondents by Occupation

Occupation Table			
No	Occupation	Frequency	Percentage (%)
1.	Farmer	3	5,6
2.	Laborer	6	11,1
3.	Entrepreneur	2	3,7
4.	Others (Not farmers, laborers, or entrepreneurs)	43	79,6
	Total	54	100

Source: Primary Data, 2024

Table 3 shows that most respondents (43 people or 79.6%) worked in occupations other than farming, labor, or entrepreneurship. Only 2 respondents (3.7%) were entrepreneurs.

3.1.4. Frequency Distribution by Education

Based on the research results, the characteristics of respondents by education level are as follows:

Table 4. Distribution of Respondents by Education Level

Education Table			
No	Education Level	Frequency	Percentage (%)
1.	Primary School or equivalent	10	18,5
2.	Junior High School or equivalent	4	7,4
3.	Senior High School/Vocational School or equivalent	28	51,9
4.	Bachelor's Degree (S1)	10	18,5
5.	Master's Degree (S2)	2	3,7
	Total	54	100

Source: Primary Data, 2024

As shown in Table 4, the majority of respondents had completed Senior High School/Vocational School or its equivalent, with 28 individuals (51.9%). Meanwhile, only 2 respondents (3.7%) held a Master's degree (S2).

3.1.5. Frequency Distribution by Duration of Illness

Based on the research results, the characteristics of respondents by duration of illness are as follows:

Table 5. Distribution of Respondents by Duration of TB Illness

Duration of TB Illness Table			
No	Duration of Illness	Frequency	Percentage (%)
1.	1 month	7	13,0
2.	2 months	6	11,1
3.	3 months	13	24,1
4.	4 months	8	14,8
5.	5 months	7	13,0
6.	6 months	9	16,7
7.	>6 months	4	7,4
Total		54	100

Source: Primary Data, 2024

Table 5 indicates that the most common duration of TB illness was 3 months, reported by 13 respondents (24.1%). The least common duration was more than 6 months, experienced by only 4 respondents (7.4%).

3.1.6. Frequency Distribution by Body Mass Index (BMI)

Based on the research results, the characteristics of respondents by BMI are as follows:

Table 6. Distribution of Respondents by Body Mass Index (BMI)

BMI Table			
No	BMI Category	Frequency	Percentage (%)
1.	Severely underweight <17	14	25,9
2.	Underweight 17,1-<18,5	10	18,5
3.	Normal 18,6-25,0	26	48,1
4.	Overweight 25,1-27	1	1,9
5.	Obese >27,1	3	5,6
Total		54	100

Source: Primary Data, 2024

According to Table 6, most respondents had a normal Body Mass Index (BMI), with 26 individuals (48.1%), while the fewest were categorized as overweight, with only 1 person (1.9%).

3.1.7. Frequency Distribution by Body Image

Based on the research results, the characteristics of respondents by body image are as follows:

Table 7. Distribution of Respondents by Body Image

Body Image Table			
No	Body Image	Frequency	Percentage (%)
1.	Negative Body Image	19	35,2
2.	Positive Body Image	35	64,8
Total		54	100

Source: Primary Data, 2024

Table 7 reveals that the majority of TB patients had a positive body image, with 35 respondents (64.8%), while 19 respondents (35.2%) had a negative body image.

3.1.8. Frequency Distribution by Self-Esteem

Based on the research results, the characteristics of respondents by self-esteem are as follows:

Table 8. Distribution of Respondents by Self-Esteem Level

No	Self-esteem Table		
	Self-Esteem Level	Frequency	Percentage (%)
1.	Low	9	16,7
2.	Moderate	32	59,3
3.	High	13	24,1
	Total	54	100

Source: Primary Data, 2024

Based on Table 8, most TB patients reported having a moderate level of self-esteem, with 32 individuals (59.3%), while 9 respondents (16.7%) had low self-esteem.

3.1.9. Cross Tabulation: Relationship Between Body Image and Self-Esteem among TB Patients at Puskesmas in Yogyakarta City

Based on the research results, the cross-tabulation of body image and self-esteem is as follows:

Table 9. Cross Tabulation of Body Image and Self-Esteem

Body Image	Low Self-Esteem	Moderate Self-Esteem	High Self-Esteem	Total	Correlation Coefficient Sig. (2-tailed)
Negative Body Image	3	12	4	19	0,847
Positive Body Image	6	20	9	35	
Total	9	32	13	54	

Source: Primary Data, 2024

Table 9 presents a cross-tabulation of body image and self-esteem. It shows that respondents with a positive body image tended to have moderate self-esteem. Likewise, respondents with a negative body image were also most commonly associated with moderate self-esteem. After statistical analysis using the Spearman Rank test in SPSS, the correlation result between body image and self-esteem showed a significance value of >0.847 . Therefore, the null hypothesis (H_0) is accepted, indicating that there is no significant relationship between body image and self-esteem among TB patients at *Puskesmas* in Yogyakarta City.

3.2. Discussion

3.2.1. Respondent Characteristics

Based on Table 1, the majority of respondents were aged 17–25 years, totaling 16 individuals (29.6%). This age group is categorized as young or productive. Productive age refers to a stage in a person's life when they are capable of working or producing something meaningful for themselves or others (Widiati & Majdi, 2021). TB tends to spread more easily among people in this age group due to their high mobility, which increases the likelihood of exposure to TB bacteria (Sunarmi & Kurniawaty, 2022). TB patients often interact with friends or individuals already infected, often unaware that they could contract the disease through droplets (Wachidin et al., 2020).

The researcher believes that individuals aged 17–25 often adopt less healthy lifestyles. Lifestyle refers to a pattern of behavior related to one's activities, interests, and opinions (Alamanda, 2018).

According to Table 2, the majority of TB respondents were male, with 32 individuals (59.3%). The researcher suggests that this is influenced by lifestyle factors such as frequent consumption of junk

food, smoking, high daily mobility, and higher levels of stress. Stress can significantly impact physical health, as it represents the inability to cope with perceived threats on mental, physical, emotional, and spiritual level (Kurniyawan et al., 2022).

A study by Nopita et al. (2023) shows that men have a risk of experiencing TB 0.305 times greater than women because they often do activities outside and smoke and drink alcohol. Saiful et al., (2022) also noted that most TB patients were male, although men reportedly experience lower stress levels compared to women. Stress itself is described as discomfort arising from one's environment (Mentari et al., 2020). Similarly, Agustian et al. (2022) reported that 52.4% of TB patients at community health centers were male.

Table 3 shows that 43 of the 54 respondents (79.6%) were employed in occupations other than farming, labor, or entrepreneurship. Employment plays a key role in meeting personal needs, including the cost of medical treatment. TB patients who are employed tend to experience a more stable life during treatment. Working individuals also spend less time at home, reducing their exposure to infected individuals. (Widiati & Majdi, 2021) found that 55.7% (29 respondents) of working respondents adhered to TB treatment, while non-compliance was more common among the unemployed (9.62%; 5 respondents).

According to Table 4, most respondents (28 individuals or 51.9%) had completed senior high school or equivalent. The researcher believes this educational background contributes positively to TB recovery, as it encourages consistent treatment. Indonesia enforces a 12-year compulsory education policy as stated in *Pasal 31 UUD Negara RI Tahun 1945 dan UU nomor 20 Tahun 2003 tentang Sisdiknas* (Article 31 of the 1945 Constitution and Law No. 20 of 2003 on the National Education System) (Kemendikbud, 2016). Fajriah Saraswati et al. (2022) also found that senior high school was the highest education level among 44.4% of their 63 participants. Education significantly affects a patient's ability to understand TB, and lack of knowledge can reduce adherence to treatment or cause patients to stop when symptoms lessen.

Saiful et al. (2022) found that 61.3% of patients (19 of them) with moderate education levels complied with regular treatment and were able to recover. A person who has a high level of education will have a more developed mindset and understanding to solve a problem will be better than someone who has a low level of education (Halawa et al., 2022).

Table 5 shows that most TB patients had been undergoing treatment for 3 months, totaling 13 respondents (24.1%). This indicates that many were in the intensive phase of treatment. TB treatment generally lasts 6–12 months, depending on the patient's condition (Khoerunisa et al., 2023). The initial phase aims to significantly reduce the number of bacteria in the body and minimize the effect of any bacteria that may already be resistant (Hasan et al., 2023).

According to Table 6, most TB patients (26 or 48.1%) had a normal Body Mass Index (BMI). The researcher believes this indicates that their nutritional status was well maintained despite having TB. Balaka et al. (2023) reported that of 22 TB patients, the majority were underweight, with only 2 having a normal BMI. Poor nutrition weakens the immune system, making individuals more susceptible to TB, especially when protein, calorie, and iron intake is inadequate. Good nutritional status supports immune function, and poor nutrition can lower resistance to TB in both adults and children (Balaka et al., 2023).

Table 7 shows that 35 respondents (64.8%) had a positive body image, while 19 respondents (35.2%) had a negative body image. The researcher believes the positive body image was influenced by self-perception, family support, and normal nutritional status. Positive body image is supported by several factors: evaluation of appearance revealed that respondents generally liked their body when not dressed; appearance orientation indicated that many used personal care products such as hair treatments, and (51.9%) made efforts to improve their physical appearance.

Regarding body satisfaction, 29 respondents (53.7%) reported feeling neutral or satisfied with various body parts, from feet to arms. In the aspect of anxiety about gaining weight, 92.6% (50) of respondents were not trying to lose weight through fasting or strict dieting. In terms of body size perception, 50% considered their body weight to be neutral or normal.

According to Table 8, 9 respondents (16.7%) had low self-esteem, 32 (59.3%) had moderate self-esteem, and 13 (24.1%) had high self-esteem. Factors contributing to moderate self-esteem included self-acceptance, where respondents felt they lacked special qualities, and 68.5% felt they were useful. In terms of self-respect, respondents expressed satisfaction with themselves.

The Spearman Rank test showed a p-value of 0.847, which is greater than 0.05. This means the alternative hypothesis (H_a) is rejected and the null hypothesis (H_o) is accepted. Thus, it can be concluded that there is no significant relationship between body image and self-esteem among TB patients at *Puskesmas* in Yogyakarta City.

This finding is consistent with Maemunah (2020), who found no significant relationship between body image and self-esteem among female psychology students. Satisfaction with body image alone does not necessarily influence an individual's belief in their ability to think, learn, or face life's challenges.

4. Conclusion

Based on the research findings and discussion, it can be concluded that there is no relationship between body image and self-esteem among TB patients at *Puskesmas* in Yogyakarta City.

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