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Thank You.

Regards,

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M **Mohammad Nazmul Hoq** 5 months ago

Dear Dewi Susanna

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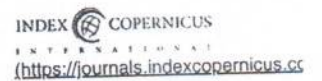
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Relationship between Spirituality and Acceptance of Illness Level in Bipolar Patients

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Abstract

Bipolar disorder is a chronic mental condition that affects patients' quality of life. The management process is affected by acceptance of illness. The ability to accept illness is related to spirituality level, a value that is upheld by Indonesian people. Limited research has been conducted on the relationship between spirituality and bipolar disorder. This study aims to analyze the relationship between spirituality levels and acceptance of illness in patients with bipolar disorder. This correlational study uses a questionnaire for bipolar disorder patients contacted through Harmony in Diversity online community. A total of 30 samples were obtained according to inclusion and exclusion criteria. The correlation was calculated between acceptance of illness and vertical aspect of spirituality (p-value = 0.050, $r = 0.306$), horizontal aspect of spirituality (p-value = 0.001, $r = 0.556$), and general spirituality (p-value = 0.007, $r = 0.444$). A significant positive correlation exists between general spirituality and acceptance of illness with a more significant horizontal dimension than vertical dimension.

Keywords: acceptance of illness, bipolar disorder, spirituality

Introduction

Bipolar disorder, also known as manic-depressive disease, is a brain disorder that causes changes in mood, energy, activity level, and ability to perform daily activities.¹ The global prevalence of bipolar disorder is 2.4% in the United States of America, Europe, Asia, the Middle East, and New Zealand.² Bipolar disorder is a chronic recurring disease that necessitates in-depth identification of attitudes and behavioral and social factors that can assist in disease management.³

Bipolar disorder causes the patient's life expectancy to decrease by more than 10 years, increases likelihood of suicide attempt by 30 times, and carries a heavy economic burden. Bipolar disorder is also often associated with family disputes, and problems with the justice system and at work. People with bipolar disorder have a high likelihood of substance use.^{4,5}

Problems with the management process of bipolar disorder are due to disobedience, psychiatric comorbidity disorders, medical disease comorbidity, childbearing age, and suicide.⁶ The ability of patients to undergo medical procedures depends on their understanding, and acceptance level of the disease, as well as treatment procedures.⁷ Lack of acceptance can lead to low adherence to

medical care and treatment delay.⁸ Acceptance of illness has a direct effect on adherence to the diagnosis, and treatment process.

Adaptation to chronic disease is influenced by external factors (e.g., social support and living conditions) and internal factors (e.g., personal resources, self-defense mechanisms, and coping strategies). Personal resources include spirituality, optimism, and assertive behavior.⁹ Good spirituality can increase one's emotional strength, self-awareness, and acceptance of the world, thereby increasing the ability to deal with stress, uncertainty, and ambiguity, such as the occurrence of an acute illness or a disease diagnosis.¹⁰ Spirituality also supports positive coping strategies, social relationships and engagement, and self-control.¹¹⁻¹³ Furthermore, spirituality is correlated with positive emotions, and associated with a reduction of psychological stresses such as anxiety, depressive symptoms, use of harmful substances, and eating disorders.¹⁴

Spirituality is often defined as a basic or inherent quality in all humans that involves belief in an almighty being that positively affirms life. Spirituality is an important form of support when dealing with illness.¹⁵ Spirituality and mental health are both connected with

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fundamental existential issues.

Indonesians always act on the basis of spiritual values, and spirituality is deeply important for them. Spirituality has a strong potential to influence acceptance of illness, thereby maximizing the treatment process in patients with bipolar disorder. Limited research has been conducted on the relationship of spirituality with bipolar disorder and no specific study on the acceptance of illness in patients with bipolar disorder is available.¹⁴ Therefore, this study aims to analyze the relationship of spirituality levels with the acceptance of illness in patients with bipolar disorder.

Method

This observational study was conducted using the correlational method. The study design is cross-sectional and the data collection technique is total sampling. This study has obtained ethical clearance (No. 85/EC/KEPK/FKUA/2019) from the Health Research Ethics Committee, Faculty of Medicine at Airlangga University. The study population consisted of bipolar disorder patients contacted through the Harmony in Diversity online community from June to August 2019. Patients with bipolar disorder (F31) were included based on a positive mood disorder questionnaire (MDQ) or a positive diagnosis of bipolar disorder, ability to speak Indonesian, and age over 17 years. The MDQ consisted of several questions that could determine whether the patients had bipolar disorder or not and a question about whether or not the patients had been diagnosed by a healthcare professional. Agnostic patients and those who could not read, were uncooperative, and did not give consent to this study were excluded.

A total of 30 samples were included according to the minimum sample, which had been counted using formula with alpha = 0.05, beta = 0.2, and estimated correlation coefficient = 0.5 (Formula 1). The sample was obtained through patient interviews using four questionnaires, namely, MDQ for bipolar disorder screening; Malay Version of Spiritual Well-being (SWB) to assess spirituality level; Acceptance of Illness Scale to assess acceptance of illness; and Depression, Anxiety, and Stress Scales to assess depression, anxiety, and stress levels.¹⁶⁻¹⁹ All questionnaires had been proven valid and reliable and had been translated into the Indonesian language.

Characteristics that were obtained and evaluated were age, gender, general spirituality level (SWB), vertical spirituality level (RWB/Religious Well-Being), horizontal spirituality (EWB/ Existential Well-Being), and acceptance of illness level. Data analysis was performed using Kolmogorov–Smirnov normality test followed by correlational test with Pearson’s method using SPSS 23 trial version.

Results

A total of 30 samples met the inclusion and exclusion criteria. Majority of the patients (19 = 63.3%) were in the 20–29 age group. The ratio of male and female subjects was 2:3 (Table 1). The average level of SWB, RWB, and EWB were 79.00, 42.23, and 36.77, respectively. The majority of the research subjects (70.0%) were in the moderate category for the SWB level. The average acceptance of illness was 25.47, which was considered low (see Table 2).

Correlation test of spirituality level with acceptance of illness using Pearson’s method shows the relationship between acceptance of illness with RWB (p-value = 0.050, r = 0.306), EWB (p-value = 0.001, r = 0.556), and SWB (p-value = 0.007, r = 0.444) (Table 3).

Discussion

This study shows that the research subjects were mostly in the 20–29 age group (63%), followed by the 40–49 age group. These findings are in accordance with

$$n \geq \left(\frac{Z_{1-\frac{\alpha}{2}} + Z_{1-\beta}}{\frac{1}{2} \log_e \frac{1+r}{1-r}} \right)^2 + 3$$

Notes:
n = sample size
α = type-I error
β = type-II error
r = correlation coefficient

Formula 1. Minimum Sample Size Formula

Table 1. Subject Characteristic by Age and Sex

Characteristic	Category	N	(%)
Age (years)	20–29	19	63.3
	30–39	5	16.7
	40–49	6	20.0
Sex	Female	18	60.0
	Male	12	40.0

Table 2. Subject’s Characteristics Based on General Spirituality Level (SWB), Vertical Spirituality Level (RWB), Horizontal Spirituality (EWB), and Acceptance of Illness Level

Characteristic	N	(%)	Mean
SWB			79.00
Low (20–40)	2	6.7	
Moderate (41–99)	21	70.0	
High (100–120)	7	23.3	
RWB			42.23
Below average (< 42.23)	13	43.3	
Above average (> 42.23)	17	56.7	
EWB			36.77
Below average (< 36.77)	14	46.7	
Above average (> 36.77)	16	53.3	
Acceptance of illness level			25.47
Low (0–29)	18	60.0	
High (30–40)	12	40.0	

Notes: SWB: Spiritual Well-being ; RWB: Religious Well-Being ; EWB: Existential Well-Being

Table 3. Relationship of Vertical Spirituality Level (RWB), Horizontal Spirituality Level (EWB), and General Spirituality Level (SWB) with Acceptance of Illness in Research Subjects

		RWB	EWB	SWB
Acceptance of illness	Pearson correlation	.306	.556	.444
	Sig. (1-tailed)	.050	.001	.007
	N	30	30	30

Notes: SWB: Spiritual Well-being ; RWB: Religious Well-Being ; EWB: Existential Well-Being

epidemiological studies, which state that the average bipolar onset varies in the 20–30 age range. A large population cohort study found two peaks of onset in the 15–24 and 45–54 age groups.²⁰ The ratio between female and male research subjects is 3:2. Based on studies of bipolar characteristics, a balanced prevalence exists between men and women with type I bipolar disorder, and a higher prevalence occurs in women than men with type II bipolar disorder.²¹

The average level of general spirituality is moderate at 79.00, with an average of vertical dimension higher than the average of horizontal dimension. This result is in line with the findings of Allahbakhshian, *et al.*,²² regarding the relationship between general spirituality and multiple sclerosis, which shows that the average level of general spirituality is also in the moderate category. However, the results of this study differ from the findings of Rezaie, *et al.*,²³ that the average level of general spirituality is high in cancer patients. The average general spirituality level of patients with bipolar disorder and multiple sclerosis was in line because of an association between bipolar and multiple sclerosis, which is likely caused by brain damage in certain locations and a higher frequency of the human leukocyte antigen (HLA)-DR2 haplotype the same genetic.²⁴ The difference between patients with bipolar disorder and those with cancer is due to the absence of an association between the two diseases.²⁵

The result that shows a vertical dimension average was higher than the horizontal dimension average is in line with the findings of Nasiry Zarrin Ghabaee, *et al.*,²⁶ However, these results were inconsistent with the findings of Allahbakhshian, *et al.*,²² that show a horizontal dimension average higher than the vertical dimension average. This result is likely due to the diversity of cultures and religious backgrounds in different places.

This study shows that the average level of acceptance among research subjects is in the low category with mean value of 25.47. These results are consistent with studies of acceptance rates with various mental disorders such as anxiety (24.41), depression (22.80), and personality disorders (23.89).²⁷ These results are also consistent with studies on patients of chronic diseases, such as chronic obstructive pulmonary disease (COPD), which has a

slightly lower average acceptance rate of 20.6; asthma with a slightly higher average acceptance rate of 29.4; and renal insufficiency (undergoing dialysis) with the closest average acceptance rate of 25.00.²⁸ The slight difference in the level of acceptance in each chronic disease is due to several factors. Uchmanowicz I, *et al.*,²⁸ study on the level of acceptance in patients with COPD shows a positive effect with minimal comorbidities and a negative effect with increased dyspnea. The study on the level of acceptance in patients with renal insufficiency who are undergoing dialysis has the closest results to this study possibly due to the association of all mood dimensions in each disease on the level of acceptance. A study found that mood was a deterrent factor in the level of acceptance of patients undergoing dialysis.²⁹

A study on the relationship between the spirituality level and acceptance of illness has shown positive results. This finding is consistent with a review of 110 studies prior to 2000 and 344 studies between 2000 and 2010 on the relationship of spirituality with mental and physical health, which shows that spirituality helps patients to adapt to a wide range of diseases or various conditions related to depression, general illness, chronic disease, kidney disease, diabetes, lung disease, cancer, blood disorders, heart and vascular disease, dental disease, eye problems, neurological diseases, HIV/AIDS, systemic lupus erythematosus, irritable bowel syndrome, musculoskeletal disease, caregiver burden, psychiatric illness, overall stress, natural disasters, and war or acts of terrorism.¹⁴

This study defines horizontal spirituality dimension as a sense of purpose in life, peace, and life satisfaction, and vertical spirituality dimension as a sense of well-being in relation to God or a higher power. General spirituality is a combination of both dimensions. This study found a positive relationship between general spirituality and its horizontal dimension with acceptance of illness in bipolar disorder patients. This result is in line with those of Jafari, *et al.*,³⁰ that showed a significant negative relationship between general spirituality and mental disorders as well as a significant negative relationship between horizontal spirituality with social performance dysfunction and depression. The level of spirituality contributes toward providing a place to describe life experiences, thereby resulting in a sense of integrity and existential reciprocal connections. This level of spirituality allows patients to adapt to stress and psychological problems, and is a powerful method of confrontation. Spirituality creates forces that influence one another through physical postures, feelings, thoughts, and communication. General spirituality has protective effects and actions against pressure that increase positive habits such as having purpose and meaning in life, hopefulness, optimism, and good psychological status.³¹

This study shows that the horizontal dimension has a higher significance than the vertical dimension in relation to acceptance of illness. This result was consistent with research conducted by Yahaya, *et al.*,³² on Malaysian subjects who had characteristics similar to Indonesians in terms of religion and culture; the study showed that the horizontal dimension was more significant (58% reduced the likelihood of mental disorders) than the vertical dimension (37% reduced the likelihood of mental disorders). Previous research on the relationship of spirituality with depression and stress also illustrates that the horizontal dimension has a more significant negative relationship with depression, surrender, and suicidal thoughts than vertical spirituality.³³ Other studies have shown that the horizontal dimension has a direct effect on the uncertain feelings of patients with fibromyalgia syndrome.³⁴ An interpretation for these results is that the horizontal dimension has stronger internal psychosocial abilities by recognizing a person's existence compared with the vertical dimension that focuses on one's relationship with their God.³⁵

Although this study has been conducted in accordance with scientific procedures, it still has limitations such as the self-reporting feature of the questionnaire, which leaves room for bias. Furthermore, the results of the study are influenced by confounding factors, such as financial and life events, that can affect the acceptance of the disease together with the spirituality level. The questionnaire used to assess the spirituality level in this study is the SWB Scale, which focuses on assessing cognitive spirituality (attitude and belief in spirituality), and affective spirituality (feelings related to spirituality) at the time the questionnaire is given so that the results cannot describe the level of spirituality from other aspects such as habitual spirituality (obedience in organizational worship), and spirituality seen from the function of the subject in society (altruism).

Conclusion

This study finds that 70% of bipolar disorder patients have a moderate average of general spiritual well-being, 56.7% above average vertical aspect of spiritual well-being and 53.3% above average horizontal aspect of spiritual well-being, and 60% has a low average acceptance of illness rate.

A significant relationship (p -value = 0.007) exists between the level of general spirituality and acceptance of illness in patients with bipolar disorder. The higher the general spirituality, the higher the acceptance of illness ($r = 0.444$), with a more significant horizontal dimension (p -value = 0.001, $r = 0.556$) than vertical dimension (p -value = 0.050, $r = 0.306$).

Further study on spirituality-based bipolar therapy should be conducted.

Abbreviations

SWB: Spiritual Well-being; RWB: Religious Well-Being; EWB: Existential Well-Being; MDQ: Mood Disorder Questionnaire; COPD: Chronic Obstructive Pulmonary Disease.

Ethics Approval and Consent to Participate

This study has obtained ethical clearance (No. 85/EC/KEPK/FKUA/2019) from the Health Research Ethics Committee, Faculty of Medicine at Airlangga University.

Competing Interest

Author declares that there are no significant competing financial, professional, or personal interests that might have affected the performance or presentation of the work described in this manuscript.

Availability of Data and Materials

Data are not available due to the ethical restrictions of the research. Participants of this study did not agree for their data to be shared publicly.

Authors' Contribution

Olga Putri Atsira: conceiving and design, analysis and interpretation, data collection, literature research; Erikavitri Yuliati: final approval of the article; Atika: statistical expertise; Abdurachman: conceiving and design, analysis and interpretation; Margarita Maria Maramis: conceiving and design, analysis and interpretation, final approval of the article, provision of materials, patients, or resources

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