

Effects of Spiritual Mindfulness on Spiritual Self-Reliance and Medication Adherence in Patients with Schizophrenia

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ABSTRACT

Background: Mental health problems have been a concern in all countries throughout the world. Patients with schizophrenia tend to have low spiritual self-reliance and medication adherence, resulting in an increasing number of hospitalizations. Spiritual interventions, for example, spiritual mindfulness, are evident to improve patients' spiritual self-reliance and self-awareness to adhere to medication.

Purpose: This study aimed to determine the effects of Spiritual Mindfulness on spiritual self-reliance and medication adherence in patients with schizophrenia.

Methods: [The present study used a pre-posttest quasi-experimental design without a control group. The samples were 45 patients with schizophrenia at a psychiatric hospital in Semarang, Indonesia. Spiritual Mindfulness was given to the patients for six meetings. The data were collected using the questionnaires of DAI and NAMA and analyzed using a t-test or mean/median difference test or delta analysis.]

Results: The results showed that Spiritual Mindfulness affected the spiritual self-reliance of schizophrenic patients with a p-value of 0.001. Spiritual Mindfulness also affected drug-taking behaviors (p=0.027) and drug-taking acceptance (p=0.000).

Conclusion: Spiritual Mindfulness gave effects on the level of self-efficacy of spiritual self-reliance and medication adherence in patients with schizophrenia.

Keywords: Medication adherence; schizophrenia; spiritual mindfulness; spiritual self-reliance

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BACKGROUND

Globalization, which demands increasingly rapid socio-economic changes and uncertain social conditions, is a potential factor that causes increasing mental disorders in humans. People who experience various problems and life pressures are at a high risk of stress, which leads to severe depression and mental disorders. Health education by nurses has proven to be effective in increasing the level of mind awareness and patient compliance.⁽¹⁾

According to the World Health Organization (WHO), there were approximately 35 million people affected by depression, 60 million people affected by bipolar disorder, and 21 million people affected by schizophrenia.⁽²⁾ Every 40 seconds, there is an individual who dies of suicide due to a psychiatric disorder in the world; even more, one in four adults will experience mental health problems at a particular time in their lives.⁽³⁾ The Basic Health Research reported that the prevalence of mental-emotional disorders, indicated by depression and anxiety for people aged 15 and more, reached about 14 million people or 6% of the total population of Indonesia.⁽⁴⁾ Meanwhile, the prevalence of severe mental disorders, such as schizophrenia, was approximately 400,000 people or 1.7 per 1,000 residents.⁽⁴⁾

A study by Lafredi showed that higher spiritual well-being might indirectly affect QOL at baseline through an impact on service satisfaction.⁽⁵⁾ Spirituality, religiosity, and personal beliefs are the only variables consistently associated with compliance to medication in a cohort of outpatients with heart failure.

Our study highlights that spirituality could be an important variable associated with adherence to treatment in the setting of outpatients with heart failure, suggesting that physicians and health professionals should be aware of its importance to improve clinical practice outcomes and implement measures to address the spiritual needs of patients.⁽⁶⁾ The results showed that some studies relate the religious/spirituality and therapeutic adherence positively, but others determine an opposite or even mixed effect, mainly addressing pathologies such as HIV and other chronic diseases. The influence of religiosity/spirituality on therapeutic adherence requires that health professionals acquire sensitivity and competence to address these issues with their patients.⁽⁷⁾

Mental health has been a significant health problem in the world, including in Indonesia. The increasing number of people with mental disorders has become a challenge for health workers, especially nurses.⁽⁸⁾ Mental disorders may not cause death, but the severe mental disorder can lead to an inability to carry out activities productively. Patients with schizophrenia may experience disruptions in various dimensions, such as cognitive, emotional, perceptual as well as behavioral. Schizophrenic patients generally cannot perform basic functions such as self-care, appearance, and socialization. They run into a decline in their psychosocial functioning and ability to move and communicate with others and are unable to deal with reality.

Mindfulness has been evident to reduce psychological problems such as stress, anxiety, and depression, and thus, it enhances positive behavior in everyday life.⁽⁹⁾ A Study by Sari and Dwidiyanti reported that mindfulness, as a form of spiritual approach, helped patients control anger and increase a sense of calm.⁽¹⁰⁾

Spiritual-based mindfulness has been developed in the last few years, especially in Hindu, Buddhist, and Christian beliefs. Mindfulness has been adopted to cope with physical problems and psychological problems. Mindfulness spiritual intervention is

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expected to be an alternative intervention and primary prevention that positively affects self-care and spiritual self-reliance in patients with schizophrenia.

OBJECTIVE

This study aimed to determine the effects of Spiritual Mindfulness on spiritual self-reliance and medication adherence in patients with schizophrenia.

METHODS

This study used a pre-post quasi-experimental design without a control group and was conducted in a hospital in Semarang, Indonesia. The participants were 45 patients diagnosed with schizophrenia who were able to perform the prayers. Patients with aggressive behavior were not included in this study. Spiritual Mindfulness was given to the participants to increase spiritual self-reliance and medication adherence. Assistance from the nurses in the hospital was also given. The nurses were also enumerators in this study. Before giving the intervention, the nurses were given the training of Spiritual Mindfulness.

Before the intervention began, the patients were asked about their feelings and reasons for admission to the hospital. This was carried out to help the therapists identify the diagnosis of patients' problems. Next, the patients were guided to perform Spiritual mindfulness, consisting of five steps. First was developing awareness. In this step, the patients were requested to focus on breathing. They breathed slowly and held it for 3-5 seconds, and then exhaled. This exercise was performed until the patients felt more relaxed, calm, and comfortable. The second was body scan, which requested the patients to return to breathe slowly while praying in their heart to ask God for forgiveness for the sins that have been committed. The patients were asked to identify parts of their body which were in pain. They held the affected parts and prayed as much as possible. The patients then eliminated the pain by crying or coughing until they felt more relaxed or did not feel any more pain. In the third step, the patients were requested to find a small thing that made them happy; they hugged themselves to feel happy and comfortable. In the fourth step, the therapists motivated the patients to accept the illness or problem and get closer to God. In the last step, the patients were requested to make some targets, including being able to perform worships independently and routinely, as well as being adherent to medication. This Spiritual Mindfulness was given six times with a duration of 20-30 minutes each.

The data were collected using DAI and NAMA questionnaires and analyzed using a t-test or mean/median difference test or delta analysis.

RESULTS

The following describes the results of the study on the effects of Spiritual Mindfulness on spiritual self-reliance and medication adherence in patients with a mental disorder. This study involved 45 patients who were given the intervention for six times.

Table 1. Distribution of Participants Based on Age (n=45)

Variable	Mean ±SD	Min-Max
Age	37.58 ± 14.80	13-75

The age of participants in this study ranged from 13 to 75 years old. The mean age was 37.58±14.80.

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Table 2. Distribution of Participants Based on Level of Education (n=45)

Variable	f(n)	%
No formal education	1	2.22
Elementary	14	31.11
Junior High	12	26.67
Senior High	16	35.57
Bachelor Degree	2	4.44

Most of the participants (n=16; 35.57%) were high school graduates. Other participants were the elementary and junior high school graduates, as many as 14 (31.11%) and 12 (26.67%), respectively. Furthermore, 2 (4.44%) participants obtained a bachelor's degree, and 1 (2.22%) did not obtain any formal education.

Table 3. Effects of Mindfulness on Spiritual Self-Reliance and Medication Adherence in Patients with Schizophrenia (n = 45)

Category	Mean \pm SD		Mean Difference	p-value
	Pre-Test	Post-Test		
Spiritual self-reliance	13 \pm 4.80	14.64 \pm 4.48	1.64	0.001
Medication confidence				
Drug-taking behaviors	6.38 \pm 1.47	6.91 \pm 1.06	0.35	0.027
Drug-taking acceptance	36.78 \pm 6.61	42.64 \pm 8.04	5.85	0.000

Based on Table 3, it can be seen that there were significant differences in spiritual self-reliance and medication adherence between pre-test and post-test ($p=0.000 > \alpha=0.05$). Thus, it was evident that Spiritual Mindfulness significantly affected spiritual self-reliance and medication adherence in patients with schizophrenia.

DISCUSSION

Mindfulness is an exercise performed by an individual to develop an ability to realize what is happening at present so that he can make goals and focus on solving the problems through behavioral changes. Mindfulness, which is carried out by an individual, is generally intended to know what is happening consciously to him at present, which then brings the individual to focus on doing the activities with full acceptance, without judgment and negative reaction.⁽¹¹⁾

Spiritual Mindfulness can be defined as an exercise that involves God (remembering God) in every process. It is to help patients consciously understand that their conditions or experiences occur not as a coincidence but because of God. Patients are taught to be independent in their activities of worship and obedient in taking medication.⁽¹²⁾

Mindfulness exercises have been widely used to empower patients in dealing with various kinds of mental health problems, including developing self-reliance in college students, school students, working mothers, pregnant women, and the elderly in reducing stress, depression, and anxiety.^{(13) (14) (15) (16) (17)} The results of a study by Wiguna showed that mindfulness training using a RAIN method and a mobile

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application (SIMBA) had an effect on decreasing the level of anxiety of final-year undergraduate students in nursing. Students were able to make independent health targets to deal with stress.⁽¹⁶⁾ This is supported by the concept of mindfulness that is intended to know what is happening at present consciously to an individual, which then brings the individual to focus on doing the activities with full acceptance, without judgment and negative reaction. Focusing on what is being worked on is an attempt of an individual to do what should be done well without any negativity in it. This effort is followed by certain ways to solve problems independently, which are then called self-care targets.⁽¹²⁾

The results of another study related to mindfulness to decrease stress levels in working mothers showed that mindfulness had a significant effect ($p=0.001$) in reducing stress levels in mothers who worked as nurses. The independent health targets carried out by working mothers included self-reliance in reducing stress through mindfulness therapy, independent health targets for smart nurses, and well-being of mothers while working. Maternal well-being can be achieved through independent health targets such as being able to control oneself, working happily and sincerely, and becoming a prosperous wife and mother.⁽¹⁷⁾

Spiritual Mindfulness exercises had been carried out to patients with schizophrenia in a pilot study by Dwidiyanti et al.⁽¹²⁾ The results showed that Spiritual Mindfulness had a significant effect on spiritual self-reliance ($p=0.024$) and medication adherence ($p=0.023$).⁽¹²⁾

Spiritual orientation has an important role in helping patients recover from being dependence and increase medication adherence.⁽¹⁸⁾ Another study showed that there is no relationship between religious beliefs and medication adherence in patients with schizophrenia.⁽¹⁹⁾ In these studies, however, spiritual interventions were carried out through spiritual meetings.⁽¹⁹⁾ Interestingly, in the present study, there were no spiritual meetings since the patients performed their independent spiritual activities individually.

The process of practicing Spiritual Mindfulness in this study consisted of five important components. The first was the patients' awareness of the problems faced (emotions, treatment programs, and activities of daily roles and functions). The second was body scans, in which the patients were trained to be able to identify physical complaints to be solved holistically. The third was learning about comfort; the patients were taught about the comfort of what was happening around him or his environment (e.g., feeling the cool air or feeling happy with a friend next to him). The fourth, the patients began to feel the problems faced to maintain their health, e.g., having the ability to control anger, unable to sleep, not eating well, lack of exercise, and others. The fifth was the independent health targets; patients were able to determine what was important to maintain their health, e.g., how to control anger, how to have quality sleep, and how to be able to do exercises with limited time.⁽¹²⁾

CONCLUSION

The results of this study indicated that Spiritual Mindfulness increased spiritual self-reliance and medication adherence in patients with schizophrenia. Further studies related to the use of technological innovations in diagnosing problems faced by schizophrenic patients and the provision of specific media about the steps of performing Spiritual Mindfulness for nurses are needed.

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ABSTRACT

Background: Mental health problems have been a concern in all countries throughout the world. Patients with schizophrenia tend to have low spiritual self-reliance and medication adherence, resulting in an increasing number of hospitalizations. Spiritual interventions, for example, spiritual mindfulness, are evident to improve patients' spiritual self-reliance and self-awareness to adhere to medication.

Purpose: This study aimed to determine the effects of Spiritual Mindfulness on spiritual self-reliance and medication adherence in patients with schizophrenia.

Methods: The present study used a pre-posttest quasi-experimental design without a control group. The samples were 45 patients with schizophrenia at a psychiatric hospital in Semarang, Indonesia. Spiritual Mindfulness was given to the patients for six meetings. The data were collected using the questionnaires of DAI (Drug Attitude Inventory) and NAMA (Nursing Assessment of Medication Acceptance) and analyzed using a t-test or mean/median difference test or delta analysis.

Results: The results showed that Spiritual Mindfulness affected the spiritual self-reliance of schizophrenic patients with a p-value of 0.001. Spiritual Mindfulness also affected drug-taking behaviors ($p=0.027$) and drug-taking acceptance ($p=0.000$).

Conclusion: Spiritual Mindfulness gave effects on the level of self-efficacy of spiritual self-reliance and medication adherence in patients with schizophrenia.

Keywords: Medication adherence; schizophrenia; spiritual mindfulness; spiritual self-reliance

BACKGROUND

Globalization, which demands increasingly rapid socio-economic changes and uncertain social conditions, is a potential factor that causes increasing mental disorders in humans. People who experience various problems and life pressures are at a high risk of stress, which leads to severe depression and mental disorders. Health education by nurses has proven to be effective in increasing the level of mind awareness and patient compliance (Çetin & Aylaz, 2018).

According to the World Health Organization (WHO), there were approximately 35 million people affected by depression, 60 million people affected by bipolar disorder, and 21 million people affected by schizophrenia (Boxer, 2005). Every 40 seconds, there is an individual who dies of suicide due to a psychiatric disorder in the world; even more, one in four adults will experience mental health problems at a particular time in their lives (World Federation for Mental Health (WFMH), 2016). The Basic Health Research reported that the prevalence of mental-emotional disorders, indicated by depression and anxiety for people aged 15 and more, reached about 14 million people or 6% of the total population of Indonesia (The Basic Health Research, 2015). Meanwhile, the prevalence of severe mental disorders, such as schizophrenia, was approximately 400,000 people or 1.7 per 1,000 residents (The Basic Health Research, 2015).

A study by Lafredi showed that higher spiritual well-being might indirectly affect QOL at baseline through an impact on service satisfaction (Lanfredi et al., 2014). Spirituality, religiosity, and personal beliefs are the only variables consistently associated with compliance to medication in a cohort of outpatients with heart failure.

Our study highlights that spirituality could be an important variable associated with adherence to treatment in the setting of outpatients with heart failure, suggesting that physicians and health professionals should be aware of its importance to improve clinical practice outcomes and implement measures to address the spiritual needs of patients (Alvarez et al., 2016). The results showed that some studies relate the religious/spirituality and therapeutic adherence positively, but others determine an opposite or even mixed effect, mainly addressing pathologies such as HIV and other chronic diseases. The influence of religiosity/spirituality on therapeutic adherence requires that health professionals acquire sensitivity and competence to address these issues with their patients

Mental health has been a significant health problem in the world, including in Indonesia. The increasing number of people with mental disorders has become a challenge for health workers, especially nurses (Ana & Akemat 2011). Mental disorders may not cause death, but the severe mental disorder can lead to an inability to carry out activities productively. Patients with schizophrenia may experience disruptions in various dimensions, such as cognitive, emotional, perceptual as well as behavioral. Schizophrenic patients generally cannot perform basic functions such as self-care, appearance, and socialization. They run into a decline in their psychosocial functioning and ability to move and communicate with others and are unable to deal with reality.

Mindfulness has been evident to reduce psychological problems such as stress, anxiety, and depression, and thus, it enhances positive behavior in everyday life (Walker & Mann, 2016). A Study by Sari and Dwidiyanti reported that mindfulness, as a form of spiritual approach, helped patients control anger and increase a sense of calm (Sari & Dwidiyanti, 2014).

Spiritual-based mindfulness has been developed in the last few years, especially in Hindu, Buddhist, and Christian beliefs. Mindfulness has been adopted to cope with physical problems and psychological problems. Mindfulness spiritual intervention is expected to be an alternative intervention and primary prevention that positively affects self-care and spiritual self-reliance in patients with schizophrenia.

OBJECTIVE

This study aimed to determine the effects of Spiritual Mindfulness on spiritual self-reliance and medication adherence in patients with schizophrenia. The study used a pre-post quasi-experimental design without a control group

METHODS

This study used a pre-post quasi-experimental design without a control group and was conducted in a hospital in Semarang, Indonesia. The sampling technique used was purposive sampling. The participants were 45 patients diagnosed with schizophrenia who were able to perform the prayers. Patients with aggressive behavior were not included in this study. Spiritual Mindfulness was given to the participants to increase spiritual self-reliance and medication adherence. Assistance from the nurses in the hospital was also given. The nurses were also enumerators in this study. Before giving the intervention, the nurses were given the training of Spiritual Mindfulness.

Before the intervention began, the patients were asked about their feelings and reasons for admission to the hospital. This was carried out to help the therapists identify the diagnosis of patients' problems. Next, the patients were guided to perform Spiritual mindfulness, consisting of five steps. First was developing awareness. In this step, the patients were requested to focus on breathing. They breathed slowly and held it for 3-5 seconds, and then exhaled. This exercise was performed until the patients felt more relaxed, calm, and comfortable. The second was body scan, which requested the patients to return to breathe slowly while praying in their heart to ask God for forgiveness for the sins that have been committed. The patients were asked to identify parts of their body which were in pain. They held the affected parts and prayed as much as possible. The patients then eliminated the pain by crying or coughing until they felt more relaxed or did not feel any more pain. In the third step, the patients were requested to find a small thing that made them happy; they hugged themselves to feel happy and comfortable. In the fourth step, the therapists motivated the patients to accept the illness or problem and get closer to God. In the last step, the patients were requested to make some targets, including being able to perform worships independently and routinely, as well as being adherent to medication. This Spiritual Mindfulness was given six times with a duration of 20-30 minutes each.

The data were collected using DAI (Drug Attitude Inventory) questionnaires and analyzed using a t-test or mean/median difference test or delta analysis. The DAI-10 scoring ranges from -10 to +10 with a total score >0 indicating a positive attitude toward psychiatric medications and a total score of <0 indicating a negative attitude toward psychiatric medications. The NAMA (Nursing Assessment of Medication Acceptance) was developed to assess medication adherence and acceptance) and has been used to evaluate adherence in clinical trials (Czekalla et al. 2007; Hori et al. 2009; Kinon et al. 2003). This tool is composed of the following four categories: (1) attitude, (2) compliance, (3) ingestion, and (4) nursing effort. Each category is rated on

a 5-point scale (ranging from strongly agree = 1 to strongly disagree = 5), and lower scores indicate higher degrees of adherence. NAMA scores were assigned based on observations of patients' behavior and information provided by their nurses.

RESULTS

The following describes the results of the study on the effects of Spiritual Mindfulness on spiritual self-reliance and medication adherence in patients with a mental disorder. This study involved 45 patients who were given the intervention for six times.

Table 1. Distribution of Participants Based on Age (n=45)

Variable	Mean ±SD	Min-Max
Age	37.58 ± 14.80	13-75

The age of participants in this study ranged from 13 to 75 years old. The mean age was 37.58±14.80.

Table 2. Distribution of Participants Based on Level of Education (n=45)

Variable	f(n)	%
No formal education	1	2.22
Elementary	14	31.11
Junior High	12	26.67
Senior High	16	35.57
Bachelor Degree	2	4.44

Most of the participants who took part were Senior High School graduate and the lowest was no formal education

Table 3. Effects of Mindfulness on Spiritual Self-Reliance and Medication Adherence in Patients with Schizophrenia (n = 45)

Category	Mean ±SD		Mean Difference	p-value
	Pre-Test	Post-Test		
Spiritual self-reliance	13 ± 4.80	14.64 ± 4.48	1.64	0.001
Medication confidence				
Drug-taking behaviors	6.38 ± 1.47	6.91 ± 1.06	0.35	0.027
Drug-taking acceptance	36.78 ± 6.61	42.64 ± 8.04	5.85	0.000

Based on Table 3, it can be seen that there were significant differences in spiritual self-reliance and medication adherence between pre-test and post-test ($p=0.000 > \alpha=0.05$). Thus, it was evident that Spiritual Mindfulness significantly affected spiritual self-reliance and medication adherence in patients with schizophrenia.

DISCUSSION

Mindfulness is an exercise performed by an individual to develop an ability to realize what is happening at present so that he can make goals and focus on solving the problems through behavioral changes. Mindfulness, which is carried out by an individual, is generally intended to know what is happening consciously to him at

present, which then brings the individual to focus on doing the activities with full acceptance, without judgment and negative reaction (Dwidiyanti et al., 2018).

Spiritual Mindfulness can be defined as an exercise that involves God (remembering God) in every process. It is to help patients consciously understand that their conditions or experiences occur not as a coincidence but because of God. Patients are taught to be independent in their activities of worship and obedient in taking medication (Dwidiyanti et al., 2018).

Mindfulness exercises have been widely used to empower patients in dealing with various kinds of mental health problems, including developing self-reliance in college students, school students, working mothers, pregnant women, and the elderly in reducing stress, depression, and anxiety (Fahmi et al., 2018; Indra et al., 2018; Ningsih et al., 2018; Triyono et al., 2018; Handayani et al., 2018). The results of a study by Wiguna showed that mindfulness training using a RAIN method and a mobile application (SIMBA) had an effect on decreasing the level of anxiety of final-year undergraduate students in nursing. Students were able to make independent health targets to deal with stress (Triyono et al., 2018). This is supported by the concept of mindfulness that is intended to know what is happening at present consciously to an individual, which then brings the individual to focus on doing the activities with full acceptance, without judgment and negative reaction. Focusing on what is being worked on is an attempt of an individual to do what should be done well without any negativity in it. This effort is followed by certain ways to solve problems independently, which are then called self-care targets (Dwidiyanti et al., 2018).

The results of another study related to mindfulness to decrease stress levels in working mothers showed that mindfulness had a significant effect ($p=0.001$) in reducing stress levels in mothers who worked as nurses. The independent health targets carried out by working mothers included self-reliance in reducing stress through mindfulness therapy, independent health targets for smart nurses, and well-being of mothers while working. Maternal well-being can be achieved through independent health targets such as being able to control oneself, working happily and sincerely, and becoming a prosperous wife and mother (Handayani et al., 2018).

Spiritual Mindfulness exercises had been carried out to patients with schizophrenia in a pilot study by Dwidiyanti et al (Dwidiyanti et al., 2018). The results showed that Spiritual Mindfulness had a significant effect on spiritual self-reliance ($p=0.024$) and medication adherence ($p=0.023$) (Dwidiyanti et al., 2018).

Spiritual orientation has an important role in helping patients recover from being dependence and increase medication adherence (Zagożdżon & Wrotkowska, 2017). Another study showed that there is no relationship between religious beliefs and medication adherence in patients with schizophrenia (Şahin Altun et al., 2018). In these studies, however, spiritual interventions were carried out through spiritual meetings (Şahin Altun et al., 2018). Interestingly, in the present study, there were no spiritual meetings since the patients performed their independent spiritual activities individually.

The process of practicing Spiritual Mindfulness in this study consisted of five important components. The first was the patients' awareness of the problems faced (emotions, treatment programs, and activities of daily roles and functions). The second was body scans, in which the patients were trained to be able to identify physical complaints to be solved holistically. The third was learning about comfort; the patients were taught about the comfort of what was happening around him or his environment

(e.g., feeling the cool air or feeling happy with a friend next to him). The fourth, the patients began to feel the problems faced to maintain their health, e.g., having the ability to control anger, unable to sleep, not eating well, lack of exercise, and others. The fifth was the independent health targets; patients were able to determine what was important to maintain their health, e.g., how to control anger, how to have quality sleep, and how to be able to do exercises with limited time (Dwidiyanti et al., 2018).

CONCLUSION

The results of this study indicated that Spiritual Mindfulness increased spiritual self-reliance and medication adherence in patients with schizophrenia. Further studies related to the use of technological innovations in diagnosing problems faced by schizophrenic patients and the provision of specific media about the steps of performing Spiritual Mindfulness for nurses are needed.

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Effects of Spiritual Mindfulness on Spiritual Self-Reliance and Medication Adherence in Patients with Schizophrenia

ABSTRACT

Background: Mental health problems have been a concern in all countries throughout the world. Patients with schizophrenia tend to have low spiritual self-reliance and medication adherence, resulting in an increasing number of hospitalizations. Spiritual interventions, for example, spiritual mindfulness, are evident to improve patients' spiritual self-reliance and self-awareness to adhere to medication.

Purpose: This study aimed to determine the effects of Spiritual Mindfulness on spiritual self-reliance and medication adherence in patients with schizophrenia.

Methods: The present study used a pre-posttest quasi-experimental design without a control group. The samples were 45 patients with schizophrenia at a psychiatric hospital in Semarang, Indonesia. Spiritual Mindfulness was given to the patients for six meetings. The data were collected using the questionnaires of DAI and NAMA and analyzed using a t-test or mean/median difference test or delta analysis.

Results: The results showed that Spiritual Mindfulness affected the spiritual self-reliance of schizophrenic patients with a p-value of 0.001. Spiritual Mindfulness also affected drug-taking behaviors ($p=0.027$) and drug-taking acceptance ($p=0.000$).

Conclusion: Spiritual Mindfulness gave effects on the level of self-efficacy of spiritual self-reliance and medication adherence in patients with schizophrenia.

Keywords: Medication adherence; schizophrenia; spiritual mindfulness; spiritual self-reliance

Commented [H1]: Urutkan abjad

BACKGROUND

Globalization, which demands increasingly rapid socio-economic changes and uncertain social conditions, is a potential factor that causes increasing mental disorders in humans. People who experience various problems and life pressures are at a high risk of stress, which leads to severe depression and mental disorders. Health education by nurses has proven to be effective in increasing the level of mind awareness and patient compliance.⁽¹⁾

According to the World Health Organization (WHO), there were approximately 35 million people affected by depression, 60 million people affected by bipolar disorder, and 21 million people affected by schizophrenia.⁽²⁾ Every 40 seconds, there is an individual who dies of suicide due to a psychiatric disorder in the world; even more, one in four adults will experience mental health problems at a particular time in their lives.⁽³⁾ The Basic Health Research reported that the prevalence of mental-emotional disorders, indicated by depression and anxiety for people aged 15 and more, reached about 14 million people or 6% of the total population of Indonesia.⁽⁴⁾ Meanwhile, the prevalence of severe mental disorders, such as schizophrenia, was approximately 400,000 people or 1.7 per 1,000 residents⁽⁴⁾

A study by Lafredi showed that higher spiritual well-being might indirectly affect QOL at baseline through an impact on service satisfaction.⁽⁵⁾ Spirituality, religiosity, and personal beliefs are the only variables consistently associated with compliance to medication in a cohort of outpatients with heart failure.

Our study highlights that spirituality could be an important variable associated with adherence to treatment in the setting of outpatients with heart failure, suggesting that physicians and health professionals should be aware of its importance to improve clinical practice outcomes and implement measures to address the spiritual needs of patients.⁽⁶⁾ The results showed that some studies relate the religious/spirituality and therapeutic adherence positively, but others determine an opposite or even mixed effect, mainly addressing pathologies such as HIV and other chronic diseases. The influence of religiosity/spirituality on therapeutic adherence requires that health professionals acquire sensitivity and competence to address these issues with their patients.⁽⁷⁾

Mental health has been a significant health problem in the world, including in Indonesia. The increasing number of people with mental disorders has become a challenge for health workers, especially nurses.⁽⁸⁾ Mental disorders may not cause death, but the severe mental disorder can lead to an inability to carry out activities productively. Patients with schizophrenia may experience disruptions in various dimensions, such as cognitive, emotional, perceptual as well as behavioral. Schizophrenic patients generally cannot perform basic functions such as self-care, appearance, and socialization. They run into a decline in their psychosocial functioning and ability to move and communicate with others and are unable to deal with reality.

Mindfulness has been evident to reduce psychological problems such as stress, anxiety, and depression, and thus, it enhances positive behavior in everyday life.⁽⁹⁾ A Study by Sari and Dwidiyanti reported that mindfulness, as a form of spiritual approach, helped patients control anger and increase a sense of calm.⁽¹⁰⁾

Spiritual-based mindfulness has been developed in the last few years, especially in Hindu, Buddhist, and Christian beliefs. Mindfulness has been adopted to cope with physical problems and psychological problems. Mindfulness spiritual intervention is

expected to be an alternative intervention and primary prevention that positively affects self-care and spiritual self-reliance in patients with schizophrenia.

OBJECTIVE

[This study aimed to determine the effects of Spiritual Mindfulness on spiritual self-reliance and medication adherence in patients with schizophrenia.]

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METHODS

This study used a pre-post quasi-experimental design without a control group and was conducted in a hospital in Semarang, Indonesia. The participants were [45 patients] diagnosed with schizophrenia who were able to perform the prayers. Patients with aggressive behavior were not included in this study. Spiritual Mindfulness was given to the participants to increase spiritual self-reliance and medication adherence. Assistance from the nurses in the hospital was also given. The nurses were also enumerators in this study. Before giving the intervention, the nurses were given the training of Spiritual Mindfulness.

Commented [H4]: teknik sampling???

Before the intervention began, the patients were asked about their feelings and reasons for admission to the hospital. This was carried out to help the therapists identify the diagnosis of patients' problems. Next, the patients were guided to perform Spiritual mindfulness, consisting of five steps. First was developing awareness. In this step, the patients were requested to focus on breathing. They breathed slowly and held it for 3-5 seconds, and then exhaled. This exercise was performed until the patients felt more relaxed, calm, and comfortable. The second was body scan, which requested the patients to return to breathe slowly while praying in their heart to ask God for forgiveness for the sins that have been committed. The patients were asked to identify parts of their body which were in pain. They held the affected parts and prayed as much as possible. The patients then eliminated the pain by crying or coughing until they felt more relaxed or did not feel any more pain. In the third step, the patients were requested to find a small thing that made them happy; they hugged themselves to feel happy and comfortable. In the fourth step, the therapists motivated the patients to accept the illness or problem and get closer to God. In the last step, the patients were requested to make some targets, including being able to perform worships independently and routinely, as well as being adherent to medication. This Spiritual Mindfulness was given six times with a duration of 20-30 minutes each.

[The data were collected using DAI and NAMA questionnaires] and analyzed using a t-test or mean/median difference test or delta analysis.

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RESULTS

The following describes the results of the study on the effects of Spiritual Mindfulness on spiritual self-reliance and medication adherence in patients with a mental disorder. This study involved 45 patients who were given the intervention for six times.

Table 1. Distribution of Participants Based on Age (n=45)

<i>Variable</i>	<i>Mean ±SD</i>	<i>Min-Max</i>
Age	37.58 ± 14.80	13-75

The age of participants in this study ranged from 13 to 75 years old. The mean age was 37.58±14.80.

Table 2. Distribution of Participants Based on Level of Education (n=45)

Variable	f(n)	%
No formal education	1	2.22
Elementary	14	31.11
Junior High	12	26.67
Senior High	16	35.57
Bachelor Degree	2	4.44

Most of the participants (n=16; 35.57%) were high school graduates. Other participants were the elementary and junior high school graduates, as many as 14 (31.11%) and 12 (26.67%), respectively. Furthermore, 2 (4.44%) participants obtained a bachelor's degree, and 1 (2.22%) did not obtain any formal education.

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Table 3. Effects of Mindfulness on Spiritual Self-Reliance and Medication Adherence in Patients with Schizophrenia (n = 45)

[Category]	Mean ±SD		Mean Difference	p-value
	Pre-Test	Post-Test		
Spiritual self-reliance	13 ± 4.80	14.64 ± 4.48	1.64	0.001
Medication confidence				
Drug-taking behaviors	6.38 ± 1.47	6.91 ± 1.06	0.35	0.027
Drug-taking acceptance	36.78 ± 6.61	42.64 ± 8.04	5.85	0.000

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Based on Table 3, it can be seen that there were significant differences in spiritual self-reliance and medication adherence between pre-test and post-test ($p=0.000 > \alpha=0.05$). Thus, it was evident that Spiritual Mindfulness significantly affected spiritual self-reliance and medication adherence in patients with schizophrenia.

DISCUSSION

Mindfulness is an exercise performed by an individual to develop an ability to realize what is happening at present so that he can make goals and focus on solving the problems through behavioral changes. Mindfulness, which is carried out by an individual, is generally intended to know what is happening consciously to him at present, which then brings the individual to focus on doing the activities with full acceptance, without judgment and negative reaction⁽¹¹⁾.

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Spiritual Mindfulness can be defined as an exercise that involves God (remembering God) in every process. It is to help patients consciously understand that their conditions or experiences occur not as a coincidence but because of God. Patients are taught to be independent in their activities of worship and obedient in taking medication.⁽¹²⁾

Mindfulness exercises have been widely used to empower patients in dealing with various kinds of mental health problems, including developing self-reliance in college students, school students, working mothers, pregnant women, and the elderly in reducing stress, depression, and anxiety.^{(13) (14) (15) (16) (17)} The results of a study by Wiguna showed that mindfulness training using a RAIN method and a mobile

application (SIMBA) had an effect on decreasing the level of anxiety of final-year undergraduate students in nursing. Students were able to make independent health targets to deal with stress.⁽¹⁶⁾ This is supported by the concept of mindfulness that is intended to know what is happening at present consciously to an individual, which then brings the individual to focus on doing the activities with full acceptance, without judgment and negative reaction. Focusing on what is being worked on is an attempt of an individual to do what should be done well without any negativity in it. This effort is followed by certain ways to solve problems independently, which are then called self-care targets.⁽¹²⁾

The results of another study related to mindfulness to decrease stress levels in working mothers showed that mindfulness had a significant effect ($p=0.001$) in reducing stress levels in mothers who worked as nurses. The independent health targets carried out by working mothers included self-reliance in reducing stress through mindfulness therapy, independent health targets for smart nurses, and well-being of mothers while working. Maternal well-being can be achieved through independent health targets such as being able to control oneself, working happily and sincerely, and becoming a prosperous wife and mother.⁽¹⁷⁾

Spiritual Mindfulness exercises had been carried out to patients with schizophrenia in a pilot study by Dwidiyanti et al.⁽¹²⁾ The results showed that Spiritual Mindfulness had a significant effect on spiritual self-reliance ($p=0.024$) and medication adherence ($p=0.023$).⁽¹²⁾

Spiritual orientation has an important role in helping patients recover from being dependence and increase medication adherence.⁽¹⁸⁾ Another study showed that there is no relationship between religious beliefs and medication adherence in patients with schizophrenia.⁽¹⁹⁾ In these studies, however, spiritual interventions were carried out through spiritual meetings.⁽¹⁹⁾ Interestingly, in the present study, there were no spiritual meetings since the patients performed their independent spiritual activities individually.

The process of practicing Spiritual Mindfulness in this study consisted of five important components. The first was the patients' awareness of the problems faced (emotions, treatment programs, and activities of daily roles and functions). The second was body scans, in which the patients were trained to be able to identify physical complaints to be solved holistically. The third was learning about comfort; the patients were taught about the comfort of what was happening around him or his environment (e.g., feeling the cool air or feeling happy with a friend next to him). The fourth, the patients began to feel the problems faced to maintain their health, e.g., having the ability to control anger, unable to sleep, not eating well, lack of exercise, and others. The fifth was the independent health targets; patients were able to determine what was important to maintain their health, e.g., how to control anger, how to have quality sleep, and how to be able to do exercises with limited time.⁽¹²⁾

CONCLUSION

The results of this study indicated that Spiritual Mindfulness increased spiritual self-reliance and medication adherence in patients with schizophrenia. Further studies related to the use of technological innovations in diagnosing problems faced by schizophrenic patients and the provision of specific media about the steps of performing Spiritual Mindfulness for nurses are needed.

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