

# The Relationship Between Physical Activity and Quality of Life Among Outpatient Patients with Schizophrenia at Sambang Lihum Psychiatric Hospital

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## ARTICLE INFO

### Article history

Received: 11 August 2025  
Revised: 08 September 2025  
Accepted: 26 December 2025

### Keywords:

Physical Activity, Quality of Life, Outpatient Care, Psychosocial Rehabilitation, Schizophrenia

### Kata kunci:

Aktivitas Fisik; Kualitas Hidup; Rawat Jalan; Rehabilitasi Psikososial; Skizofrenia

## ABSTRACT/ ABSTRAK

**ABSTRACT.** Outpatients with schizophrenia frequently experience a decline in quality of life due to disease-related symptoms, medication side effects, and limitations in social functioning. Physical activity has the potential to serve as a non-pharmacological intervention that supports patient recovery. This study aimed to analyze the relationship between physical activity and quality of life among outpatient patients with schizophrenia at Sambang Lihum Psychiatric Hospital. This quantitative study employed a cross-sectional design with purposive sampling involving 96 respondents. Physical activity was assessed using the International Physical Activity Questionnaire (IPAQ), while quality of life was measured using the Indonesian Modification of Subjective Well-Being Under Neuroleptics (IM-SWN). The results showed that the majority of respondents had a high level of physical activity (60.4%) and an adequate quality of life (79.2%). Spearman's correlation analysis revealed a significant positive relationship between physical activity and quality of life ( $p = 0.582$ ;  $p = 0.001$ ). These findings indicate that higher levels of physical activity are associated with better quality of life. Therefore, physical activity should be positioned as a potential non-pharmacological intervention that is integrated into outpatient care, rather than merely as a supporting factor, in order to sustainably improve the quality of life of patients with schizophrenia.

**ABSTRAK.** Pasien skizofrenia rawat jalan sering mengalami penurunan kualitas hidup akibat gejala penyakit, efek samping pengobatan, dan keterbatasan fungsi sosial. Aktivitas fisik berpotensi menjadi intervensi non-farmakologis yang mendukung pemulihan pasien. Penelitian ini bertujuan menganalisis hubungan aktivitas fisik dengan kualitas hidup pasien skizofrenia rawat jalan di Rumah Sakit Jiwa Sambang Lihum. Penelitian kuantitatif ini menggunakan desain *cross-sectional* dengan *purposive sampling* terhadap 96 responden. Aktivitas fisik diukur menggunakan *International Physical Activity Questionnaire* (IPAQ), sedangkan kualitas hidup diukur dengan *Indonesian Modification Subjective Well-being under Neuroleptics* (IMSWN). Hasil menunjukkan sebagian besar responden memiliki aktivitas fisik tinggi (60,4%) dan kualitas hidup yang adekuat (79,2%). Uji korelasi *Spearman* menunjukkan hubungan positif yang signifikan antara aktivitas fisik dan kualitas hidup ( $p = 0,582$ ;  $p = 0,001$ ). Temuan ini mengindikasikan bahwa peningkatan aktivitas fisik berasosiasi dengan kualitas hidup yang lebih baik. Oleh karena itu, aktivitas fisik perlu diposisikan sebagai intervensi non-farmakologis yang potensial dan terintegrasi dalam pelayanan rawat jalan, bukan hanya sebagai faktor pendukung, guna meningkatkan kualitas hidup pasien skizofrenia secara berkelanjutan.

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## INTRODUCTION

Schizophrenia is a chronic mental health disorder that has a significant impact on patients' cognitive, emotional, behavioral, and social functioning. This condition is frequently accompanied by perceptual disturbances, disorganized thinking, and limitations in performing daily activities, which cumulatively lead to a decline in patients' quality of life (Nasrullah & Angraini, 2023). The World Health Organization reports that more than 24 million people worldwide are living with schizophrenia, with an increased risk of disability and suicide when the condition is not optimally managed (WHO, 2022). In Indonesia, the 2023 Indonesian Health Survey reported a prevalence of 0.4% of households with members affected by psychosis/schizophrenia, with variation across provinces, including South Kalimantan, which shows a relatively higher prevalence compared with several other regions.

The quality of life of patients with schizophrenia is influenced by multiple multidimensional factors, including physical health status, psychological well-being, social relationships, independence in daily activities, and participation in community life (Afconneri et al., 2020). A decline in quality of life not only affects individuals but also places a burden on families and health care systems, as it is associated with increased relapse rates, greater dependence on health services, and reduced adherence to treatment. Therefore, improving quality of life is considered one of the key indicators of successful long-term management in patients with schizophrenia (Yulianti, 2021).

Efforts to improve the quality of life of patients with schizophrenia cannot rely solely on pharmacological therapy. Although antipsychotic medications remain the mainstay of treatment, long-term side effects such as fatigue, metabolic disturbances, weight gain, and decreased motivation often become barriers to functional recovery (Lo et al., 2023). These challenges highlight the need for more comprehensive and recovery-oriented approaches to care, including the implementation of safe, affordable, and sustainable non-pharmacological interventions.

Physical activity has emerged as one of the non-pharmacological interventions receiving increasing attention in the rehabilitation of patients with severe mental disorders, including schizophrenia. Physical activity is defined as any bodily movement produced by skeletal muscles that requires energy expenditure above resting levels (Ghoffer, 2022). Several studies have shown that patients with schizophrenia tend to have low levels of physical activity, which contributes to reduced physical fitness, increased risk of metabolic diseases, and poorer quality of life (Cui et al., 2024). Conversely, regular physical activity, such as walking, light aerobic exercise, and daily functional activities, has been shown to reduce positive and negative symptoms, enhance cognitive functioning, and improve patients' psychosocial well-being (Nasution et al., 2021).

In the context of mental health services, particularly for outpatient care, physical activity plays a strategic role because it can be implemented flexibly and tailored to individual patient conditions. However, in practice, physical activity is often not systematically integrated into outpatient psychosocial rehabilitation programs. Limited resources, a lack of operational guidelines, and a service focus that remains predominantly pharmacological result in physical activity being positioned more often as an additional activity rather than as a planned therapeutic intervention. This situation may reduce the optimal benefits of physical activity in supporting recovery and improving the quality of life

of patients with schizophrenia (Lopez-Moral et al., 2023; McKeon et al., 2022; Rovira-García & da Cuna-Carrera, 2022).

Most previous studies on physical activity in patients with schizophrenia have been conducted in inpatient settings or as short-term experimental intervention programs. Empirical evidence examining the relationship between physical activity and quality of life among outpatient patients with schizophrenia, particularly in regional referral mental health facilities, remains limited. In addition, differences in social, cultural, and health care system contexts may influence patterns of physical activity and patients' perceptions of quality of life. Therefore, research grounded in local contexts is essential to generate findings that are relevant and applicable to the development of mental health services.

Sambang Lihum Psychiatric Hospital was selected as the study setting because it serves as the main referral hospital for mental health services in South Kalimantan, with a continuously increasing number of outpatient patients with schizophrenia each year. Preliminary observations indicated that despite the rising number of outpatient visits, physical rehabilitation programs for outpatient patients with schizophrenia remain limited and are not optimally integrated into routine services. Most patients engage in physical activity independently, with varying intensity and duration, without structured supervision or evaluation, which may lead to uneven effects on their quality of life. This situation underscores the importance of a scientific investigation into the relationship between physical activity and quality of life within the context of outpatient services at Sambang Lihum Psychiatric Hospital.

Based on this background, the present study aimed to analyze the relationship between physical activity and quality of life among outpatient patients with schizophrenia at Sambang Lihum Psychiatric Hospital, as a basis for developing more integrated non-pharmacological interventions oriented toward improving patients' quality of life.

## **RESEARCH METHOD**

This study employed a correlational design with a cross-sectional approach, in which data were collected simultaneously during a single time period. The study was conducted at the Outpatient Unit of Sambang Lihum Psychiatric Hospital, South Kalimantan, from January to March 2025. The independent variable in this study was physical activity, while the dependent variable was the quality of life of patients with schizophrenia.

The study population comprised all patients diagnosed with schizophrenia who were receiving outpatient care at Sambang Lihum Psychiatric Hospital. The sample size was determined using the Lemeshow formula, resulting in a minimum required sample of 96 respondents. Participants were recruited using a purposive sampling technique, based on predefined inclusion and exclusion criteria to ensure participant safety and to enhance the validity and replicability of the study. Eligible participants were outpatient patients with schizophrenia who had been diagnosed based on medical records by a psychiatrist, were aged 18 years or older, and were in a clinically stable condition. Clinical stability was defined by the absence of acute psychotic relapse and the ability to engage in light to moderate physical activity in accordance with medical recommendations. In addition, participants were required to be able to communicate verbally and to provide written informed consent after receiving a full explanation of the study. Patients with acute psychotic conditions, uncontrolled

behavioral disturbances, or severe physical comorbidities that limited physical activity, such as severe cardiovascular disease or serious musculoskeletal disorders, were excluded. Patients with severe cognitive impairment that hindered comprehension of the questionnaires, as well as those who declined to participate or did not complete the research instruments, were also excluded from the sample.

The research instruments consisted of the International Physical Activity Questionnaire (IPAQ) to assess the level of physical activity and the Indonesian Modification of Subjective Well-Being Under Neuroleptics (IM-SWN) to evaluate the quality of life of patients with schizophrenia. The IPAQ has been widely used in previous studies and has demonstrated good validity and reliability, with reported Cronbach's alpha values ranging from 0.70 to 0.80 in adult populations. The IM-SWN, on the other hand, was specifically developed for patients with psychotic disorders undergoing antipsychotic therapy and has undergone linguistic adaptation as well as validity and reliability testing in Indonesia, with a Cronbach's alpha value greater than 0.80, indicating excellent internal consistency.

Data were analyzed using statistical software. Univariate analysis was performed to describe respondents' characteristics and the frequency distributions of each study variable. Subsequently, bivariate analysis was conducted using Spearman's rank correlation test, given that the data were ordinal and not normally distributed, to examine the relationship between the level of physical activity and the quality of life of outpatient patients with schizophrenia. Statistical significance was set at a p-value of less than 0.05.

## RESULTS

This study involved 96 patients with schizophrenia who were receiving outpatient care at Sambang Lihum Psychiatric Hospital. The data analyzed were primary data collected through self-administered questionnaires and included respondents' characteristics, levels of physical activity, quality of life, and the relationship between the two main study variables.

### *Univariate Analysis*

**Table 1. Characteristics of Outpatient Patients with Schizophrenia (n = 96)**

Characteristics	Frequency (n)	Percentage (%)
<b>Age (years)</b>		
18–25	18	18.8
26–40	44	45.8
>40	34	35.4
<b>Sex</b>		
Male	66	68.8
Female	30	31.3
<b>Marital Status</b>		
Unmarried	52	54.2
Married	38	39.6
Divorced	6	6.3
<b>Educational Level</b>		
Primary school	20	20.8
Junior secondary school	34	35.4
Senior secondary school	30	31.3

Higher education	12	12.5
<b>Occupation</b>		
Unemployed	40	41.7
Farmer	28	29.2
Self-employed	18	18.8
Civil servant	10	10.4

The respondents' characteristics indicated that the majority of patients were in the young to middle adulthood age groups, with the largest proportion in the 26–40-year age range. In terms of sex, respondents were predominantly male (68.8%), while females accounted for 31.3%. Most respondents were unmarried and had completed junior secondary education as their highest level of education. Regarding employment status, the largest proportion of respondents were unemployed, followed by farmers and other occupational groups, while the smallest proportion consisted of civil servants. Overall, these characteristics reflect a heterogeneous sociodemographic background among outpatient patients with schizophrenia.

**Table 2. Distribution of Physical Activity Levels Among Patients with Schizophrenia (n = 96)**

Physical Activity Level	Frequency (n)	Percentage (%)
Low	10	10.4
Moderate	28	29.2
High	58	60.4
Total	96	100.0

Based on physical activity levels, the majority of respondents were categorized as having a high level of physical activity (60.4%), followed by moderate (29.2%) and low (10.4%) levels of physical activity.

**Table 3. Distribution of Quality of Life Among Patients with Schizophrenia (n = 96)**

Quality of Life	Frequency (n)	Percentage (%)
Inadequate	20	20.8
Adequate	76	79.2
Total	96	100.0

The assessment of quality of life showed that most respondents had an adequate quality of life (79.2%), while the remaining respondents were classified as having an inadequate quality of life. These findings indicate that the majority of outpatient patients with schizophrenia were still able to maintain a relatively satisfactory quality of life despite the limitations associated with their mental condition.

### ***Bivariate Analysis***

**Table 4. Relationship Between Physical Activity Level and Quality of Life Among Patients with Schizophrenia**

Physical Activity Level	Quality of Life				Total	
	Inadequate		Adequate		N	%
	F	%	F	%		
Low	8	8.3	2	2.1	10	10.4
Moderate	10	10.4	18	18.8	28	29.2
High	2	2.1	56	58.3	58	60.4
Total	20	20.8	76	79.2	96	100.0

Based on Table 4, eight respondents (8.3%) with a low level of physical activity had an inadequate quality of life, whereas only two respondents (2.1%) with low physical activity reported an adequate quality of life. Among those with a moderate level of physical activity, 10 respondents (10.4%) had an inadequate quality of life, while 18 respondents (18.8%) reported an adequate quality of life. In contrast, among respondents with a high level of physical activity, 56 respondents (58.3%) reported an adequate quality of life, whereas only two respondents (2.1%) had an inadequate quality of life.

The results of the bivariate analysis demonstrated a statistically significant relationship between the level of physical activity and the quality of life of outpatient patients with schizophrenia. Respondents with a high level of physical activity were predominantly those with an adequate quality of life, whereas an inadequate quality of life was more frequently observed among respondents with a low level of physical activity. Spearman's rank correlation test indicated a positive relationship of moderate strength between physical activity and quality of life ( $\rho = 0.582$ ;  $p < 0.001$ ). These findings suggest that higher levels of physical activity are associated with better perceived quality of life.

## DISCUSSION

### *Physical Activity Among Outpatient Patients with Schizophrenia*

The findings of this study conducted at Sambang Lihum Psychiatric Hospital indicate that the majority of outpatient patients with schizophrenia were categorized as having a high level of physical activity. However, this finding should be interpreted critically, as the physical activity performed by most patients did not originate from planned and structured exercise, but rather from the demands of daily work, such as farming or informal physically demanding labor. Work-related physical activity differs fundamentally from exercise, particularly in terms of intensity control, health-oriented objectives, and the psychological effects produced (Beebe & Harris, 2013; Tew et al., 2023).

The literature suggests that work-based physical activity among patients with schizophrenia tends to be repetitive, unquantified, and not adjusted to individual clinical conditions. Consequently, although such activity may be classified quantitatively as high, its benefits for mental well-being are not always optimal. In addition, patients with schizophrenia often exhibit high levels of sedentary behavior outside working hours, such as prolonged sitting or lying down, which further contributes to increased physical and mental health risks (Soundy et al., 2013).

Previous studies have also reported that patients with schizophrenia generally demonstrate low engagement in structured moderate-to-vigorous physical activity. This condition is frequently associated with negative symptoms, motivational deficits, and limited energy, which are core characteristics of schizophrenia. These factors significantly constrain patients' participation in exercise programs designed to support health and long-term recovery (Yamamoto et al., 2011; Lee et al., 2018).

In contrast to unplanned physical activity, structured exercise has been shown to provide more consistent and meaningful benefits for the mental health of patients with

schizophrenia. Several studies have demonstrated that structured exercise programs, particularly aerobic exercise, play a significant role in reducing both positive and negative symptoms of schizophrenia and in improving quality of life. Acil et al. (2008) reported that a 10-week aerobic exercise program significantly improved scores on the Positive and Negative Syndrome Scale (PANSS) as well as patients' quality of life, underscoring the effectiveness of exercise as part of a comprehensive therapeutic approach.

Beyond its effects on clinical symptoms, structured exercise interventions have also been associated with improvements in cognitive functioning, including processing speed, attention, and working memory. These findings are particularly relevant given that cognitive deficits in schizophrenia are often not fully responsive to pharmacological treatment. Chang et al. (2024) and Strassnig et al. (2015) emphasized that regular exercise can contribute to improvements in cognitive and functional outcomes, which in turn positively affect patients' psychosocial functioning and productivity.

Conversely, physical activity performed solely due to economic pressure or survival needs tends to provide limited psychological benefits. Such activity is often characterized by uncontrolled intensity, a lack of therapeutic goals, and minimal supervision, thereby increasing the risk of physical fatigue and additional psychological stress. Soundy et al. (2013) emphasized that unstructured and unsupervised physical activity may reduce the potential positive effects on mental health and may even exacerbate the physical and psychological burden experienced by patients with schizophrenia.

Irregularity in the intensity, duration, and type of physical activity also leads to inconsistent benefits, particularly with respect to improvements in mental and cognitive functioning. Vila-Barrios et al. (2023) demonstrated that without clear structure and guidance, physical activity is unlikely to produce sustained improvements in psychological well-being. Therefore, although outpatient patients with schizophrenia may exhibit high levels of physical activity, this condition does not necessarily reflect optimal improvements in quality of life, especially in the mental domain.

These findings highlight the importance of developing and implementing structured, safe, and clinically tailored exercise programs for patients with schizophrenia. However, the implementation of such interventions is not without challenges, including low motivation, limited access to facilities, and insufficient social support. Fibbins et al. (2020) emphasized that the success of exercise programs largely depends on their ability to address these barriers. Moreover, there is currently no consensus regarding the most optimal form of exercise for patients with schizophrenia, underscoring the need for individualized approaches that consider patients' abilities, preferences, and clinical stability (Bredin et al., 2022).

Overall, the findings of this study are consistent with the literature suggesting that, among patients with schizophrenia, physical activity that provides maximal benefit is structured, repetitive, and tailored to clinical conditions, rather than merely compulsory or repetitive high-intensity physical activity. Accordingly, the context and type of physical activity are critical considerations in the design of physical activity-based rehabilitation interventions for outpatient patients with schizophrenia.

### ***Quality of Life and Low Mental Functioning Domain***

The results of this study indicate that although most respondents reported an adequate overall quality of life, the mental functioning domain exhibited the lowest scores compared with other domains. This finding suggests that high levels of physical activity are not necessarily accompanied by proportional improvements in mental functioning, particularly in aspects such as concentration, decision-making, and cognitive stability.

This condition can be explained through the concept of residual symptoms in schizophrenia. The literature indicates that even when patients are clinically stable and physically active, cognitive impairment and deficits in mental functioning often persist and show limited responsiveness to single interventions, including physical activity (McCutcheon et al., 2023; He et al., 2022). Negative symptoms and cognitive deficits represent core features of schizophrenia and frequently remain despite adequate control of positive symptoms through pharmacological treatment (Petrovic et al., 2024).

In contrast, the social integration domain demonstrated relatively higher scores, indicating that family support and the social environment continue to play an important role in maintaining patients' social functioning. This finding is supported by El-Monshed and Amr (2020), who emphasized that social support contributes significantly to improvements in quality of life and social functioning among patients with schizophrenia. These results indicate that improvements in quality of life do not necessarily occur uniformly across domains, and that gains in social functioning are not automatically accompanied by optimal recovery of mental functioning.

### ***Relationship Between Physical Activity and Quality of Life***

The results of Spearman's correlation analysis revealed a positive relationship of moderate strength between the level of physical activity and quality of life ( $\rho = 0.582$ ). These findings indicate that physical activity contributes to the quality of life of outpatient patients with schizophrenia; however, this contribution is partial and does not operate in isolation. This result is consistent with the findings of Afconneri et al. (2020) and Nasution et al. (2021), which suggest that physical activity serves as an important supportive factor in improving quality of life, but is not the sole determinant.

It is important to emphasize that the quality of life of patients with schizophrenia is influenced by various other factors that were not examined in this study, including medication adherence, symptom severity, duration of illness, family support, and socioeconomic conditions (Karow et al., 2016; Völker & Micluția, 2022). Without considering these factors, the role of physical activity risks being oversimplified as a single determinant of quality of life, whereas quality of life is a complex, multidimensional construct (Teoli & Bhardwaj, 2023).

The finding that some respondents with low levels of physical activity reported poor quality of life further underscores that physical activity alone is insufficient to guarantee optimal quality of life. Physical activity is more effective when combined with clinical stability, strong social support, and adherence to pharmacological therapy (Fitrikasari et al., 2022; Wardany et al., 2025).



## ***Scientific and Practical Implications***

From a scientific perspective, this study strengthens the evidence that physical activity is significantly associated with the quality of life of outpatient patients with schizophrenia; however, the type and context of physical activity are critical factors in determining the magnitude of its benefits. From a practical perspective, these findings highlight the need to integrate structured physical activity into psychosocial rehabilitation programs, rather than relying solely on incidental or work-based physical activity.

Physical activity-based interventions that are systematically designed, safe, and tailored to patients' clinical conditions have the potential to exert a greater impact on quality of life, particularly when combined with pharmacological approaches and family support. Accordingly, physical activity should be positioned as part of a comprehensive rehabilitation approach, rather than as a single intervention for improving the quality of life of patients with schizophrenia.

## **CONCLUSION**

Based on the results of this study involving 96 outpatient patients with schizophrenia at Sambang Lihum Psychiatric Hospital, the majority of respondents were classified as having a high level of physical activity (60.4%) and reported an adequate quality of life (79.2%). Correlation analysis demonstrated a statistically significant positive relationship of moderate strength between the level of physical activity and quality of life ( $\rho = 0.582$ ;  $p = 0.001$ ). These findings indicate that the level of physical activity contributes to the perceived quality of life of outpatient patients with schizophrenia; however, this contribution is not singular and should be interpreted within the broader context of clinical and psychosocial factors.

Accordingly, physical activity has the potential to serve as one component of non-pharmacological interventions aimed at improving the quality of life of patients with schizophrenia, particularly when integrated into a comprehensive and structured rehabilitation approach. The findings of this study support the inclusion of physical activity as part of psychosocial rehabilitation programs, rather than positioning it merely as a complementary or incidental activity.

This study may serve as a foundation for future research by expanding the range of variables examined, such as family support, medication adherence, the frequency and type of activity-based therapy, and patients' level of illness insight. Incorporating these variables is expected to provide a more comprehensive understanding of the factors influencing the quality of life of patients with schizophrenia and to enable the analysis of combined effects among multiple determinants in supporting rehabilitation efforts and long-term recovery.

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