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Self-Esteem and Spirituality as Predictors of Subjective Well-Being in Osteoarthritis Patients: Insights from Indonesian Muslim Context

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ABSTRACT: Background: Osteoarthritis significantly affects patients not only physically but also psychologically and spiritually. Psychological factors such as self-esteem and spirituality play critical roles in determining subjective well-being, particularly among the elderly population commonly affected by this disease. Aim: This study aims to analyze the relationship and predictive influence of self-esteem and spirituality on the subjective well-being of osteoarthritis patients. Method: A descriptive, correlational, cross-sectional study was conducted among 118 patients with osteoarthritis in Surabaya, Indonesia. Independent variables were self-esteem and spirituality (faith, meaning, peace), while the dependent variable was subjective well-being. Standardized instruments included the Satisfaction with Life Scale, Rosenberg Self-Esteem Scale, and Spiritual Well-Being Scale. Data was analyzed using Pearson correlation and linear regression. Results: Both self-esteem ($r = 0.768$, $p < 0.001$) and total spirituality ($r = 0.800$, $p < 0.001$) were positively correlated with subjective well-being. Regression analysis indicated that spirituality ($\beta = 0.147$, $p = 0.003$) and self-esteem ($\beta = 0.286$, $p = 0.001$) significantly predicted subjective well-being, accounting for 67.7% of the variance ($R^2 = 0.677$). However, the dimensions of faith and peace were not significant predictors when other factors were controlled. Conclusion: This study is one of the first in Indonesia, and even globally, to examine the influence of self-esteem and spirituality on subjective well-being in osteoarthritis patients. These findings underscore the importance of interventions that strengthen self-esteem and spirituality, particularly in the context of Indonesian Muslim culture, where religious beliefs and practices can serve as sources of meaning, acceptance, and peace for patients with chronic illnesses.

1. INTRODUCTION

Osteoarthritis not only causes physical pain but also affects psychological aspects, including self-esteem and subjective well-being (Chen et al., 2022). Low self-esteem contributes to feelings of depression and anxiety in osteoarthritis patients, thereby negatively impacting their subjective well-being (Kristanto Putra & Meiyuntariningsih, 2019). Additionally, spirituality has a positive influence on subjective well-being, providing meaningful and emotional support for individuals facing health challenges (Arung & Aditya, 2021; Gay et al., 2016; Palazzo et al., 2016). With the increasing prevalence of osteoarthritis worldwide (Lee & Kim, 2020), including in Indonesia, a deeper understanding of how self-esteem and spirituality can influence subjective well-being becomes highly relevant.

Data from the Global Burden of Disease Study in 2020 indicates that approximately 595 million people worldwide suffer from osteoarthritis, and this number is projected to increase as the population ages (Institute for Health Metrics and Evaluation, 2021). In Indonesia, the prevalence of osteoarthritis also shows a similar trend. Approximately 20% of the adult population in

Indonesia experiences osteoarthritis symptoms, with higher rates observed in those over 50 years of age (Kementerian Kesehatan Republik Indonesia, 2024). In East Java, particularly in Surabaya, data indicate that the prevalence of osteoarthritis among the elderly can reach 15% (Kementerian Kesehatan Republik Indonesia, 2024). With the increasing number of osteoarthritis sufferers in Surabaya and its impact on their quality of life, it is important to explore further how self-esteem and spirituality can contribute to improving the subjective well-being of sufferers.

Internal factors influencing subjective well-being, namely self-esteem and spirituality, play a significant role in shaping individuals' perceptions of their quality of life (Diener & Ryan, 2009) (Stone & Mackie, 2013). Research indicates that high self-esteem can enhance subjective well-being, as individuals with positive self-esteem tend to have a more optimistic outlook on life (Koniak-griffin, 1988; Rosenberg, 1965; Zhao et al., 2013). On the other hand, spirituality provides meaning and purpose in life, which also contributes to improved subjective well-being (Lucchetti et al., 2016; Syaiful & Bahar, 2016). However, when these two factors are disrupted, it impacts the subjective well-being of osteoarthritis patients. Patients with low self-esteem often experience feelings of worthlessness and depression, which can worsen their physical condition (Elizabeth & Rena, 2011; Gay et al., 2016; Nguyen et al., 2016; Palazzo et al., 2016). Additionally, a lack of spiritual support can lead to a loss of hope and motivation to manage osteoarthritis symptoms, thereby worsening overall quality of life.

Research on self-esteem and spirituality about subjective well-being among osteoarthritis patients has not been conducted. Previous studies have only focused on factors influencing osteoarthritis, which are limited to the physical condition of the patient. Therefore, this study aims to analyze the relationship and predictive influence of self-esteem and spirituality on subjective well-being among osteoarthritis patients in Surabaya. This investigation provides novel insights into the psychological and spiritual dimensions of chronic illness management, highlighting the role of cultural and religious context in shaping patient outcomes.

2. MATERIALS AND METHODS

2.1 Study Design

This study employed descriptive correlational design with a cross-sectional approach. The research was conducted in several community health centers (Puskesmas) in Surabaya, East Java, Indonesia, between June and August 2025.

2.2 Participants and Sampling

A total of 118 osteoarthritis patients participated. Sample size was determined using a minimum sample formula for correlation studies with $\alpha = 0.05$, power = 0.80, and expected correlation (r) = 0.25, resulting in a minimum of 97 participants; thus, 118 respondents were considered sufficient. Participants were recruited using simple random sampling from patient lists in the selected clinics.

Inclusion criteria: diagnosed with osteoarthritis for at least 6 months, aged ≥45 years, and able to communicate verbally.

Exclusion criteria: patients in acute pain episodes or with cognitive impairment.

2.3 Instruments

Three standardized instruments were used: the Satisfaction With Life Scale (SWLS) to measure subjective well-being (Diener et al., 1985), the Rosenberg Self-Esteem Scale (RSES) to measure self-esteem (Rosenberg, 1965), and the Spiritual Well-Being Scale (SWBS) to assess spirituality across its dimensions (faith, meaning, peace)(Ellison, 1982). Validated Indonesian versions of the instruments were applied.

2.4 Ethical Consideration

This study was conducted following the Declaration of Helsinki and supervised by the Chakra Brahmanda Lentera Ethics Committee (028/07/VI/EC/KEP/LCBL/2025). Written consent was obtained, and participants submitted their data anonymously and maintained confidentiality. Participation was voluntary, and participants had the right to withdraw at any time.

2.5 Data Collection Procedures

Data collection was conducted by trained enumerators. Respondents completed questionnaires in person after signing

informed consent. The process lasted approximately 20–25 minutes per participant.

2.6 Data Analysis

Demographic data were analyzed using descriptive statistics, with absolute and relative frequencies used to identify categorical variables such as gender, age, and duration of illness. This test was used to determine whether the difference in means between two groups was statistically significant at the significance level ($\alpha = 0.05$). Pearson's correlation coefficient (r) ranges from -1 to +1, where positive values indicate a positive correlation and negative values indicate a negative correlation. The statistical significance of the correlation was evaluated at a significance level of $\alpha = 0.05$. Additionally, linear regression was used to comprehensively analyze the predictive power of spirituality and self-esteem on subjective well-being.

The independent variables include self-esteem and spirituality scores, while the dependent variable is subjective well-being scores. Linear regression shows the statistical significance of the relationship between self-esteem and spirituality with subjective well-being, and the coefficient of determination R^2 shows the proportion of variables explained by the model. All statistical analyses and studies were conducted using IBM SPSS software (version 26). The requirements for performing parametric analyses, such as data normality (Kolmogorov–Smirnov test) and homogeneity of variance (Levene's test), were determined before analysis. For all analyses, the statistical significance threshold was set at $\alpha = 0.05$.

3. RESULTS AND DISCUSSION

3.1 Demographic and Clinical Characteristics

Table 1: Demographic and Clinical Characteristics (n=118)

		Frequency	Percentage (%)
Gender	Male	33	28.0
	Female	85	72.0
Education	Primary education	18	15.3
	Secondary education	62	52.5
	Higher education	38	32.2
Marital Status	Single	13	11.0
	Widower	24	20.3
	Married	69	58.5
	Divorced	12	10.2
Disease	Hypertension	98	83.1
	Diabetes mellitus	76	64.4
Smoke	No	101	85.6
	Yes	17	14.4
BMI	Underweight	16	13.6
	Normal	34	28.8
	Overweight	66	55.9
	Obesity	2	1.7
	Mean	Standard Deviation	Minimum- Maximum
Age	62.82	7.887	46-82

Years of Disease

In table 1 the research sample consisted of 118 participants, almost all of whom were women (85%). Regarding educational attainment, most participants were senior high school graduates (52.5%), and nearly half (32.2%) were college graduates. Most were married (58.5%), 11% were single, 20.3% were widowed, and 10.2% were divorced. From a clinical perspective, nearly all (83.1%) suffered from hypertension, and most (64.4%) had diabetes mellitus. Most (55.9%) were overweight, 28.8% were of normal weight, 13.6% were underweight, and 1.7% were obese. Nearly all (85.6%) did not smoke, while 14.4% did smoke. The average age of participants was 62.82 years (SD = 7.887), with a range of 46 to 82 years. The average duration of the disease was 8.1 years (SD = 8), with a range of 1 to 44 years.

3.2 Bivariate Analysis

3.2.1 The Relationship Between Self-Esteem, Spirituality, and Subjective Well-Being

Table 2: Pearson's Correlation Analysis

Variable		Subjective Well-Being
Meaning	Pearson's r	0.714
Peace	Pearson's r	0.634
Faith	Pearson's r	0.678
Spirituality Total	Pearson's r	0.800
Self-Esteem	Pearson's r	0.768

Table 2 presents the results of the correlation analysis of the scales used in this study. The analysis results indicate that the dimensions of spirituality and self-esteem have a positive relationship with the dimension of subjective well-being. Specifically, meaning has a strong correlation with subjective well-being ($r = 0.714$, $p < 0.001$), and peace also shows a positive correlation with subjective well-being ($r = 0.634$, $p < 0.001$). Faith has a positive correlation with subjective well-being ($r = 0.678$, $p < 0.001$). Total spirituality is positively related to subjective well-being ($r = 0.800$, $p < 0.001$). Self-esteem shows a positive correlation with subjective well-being ($r = 0.768$, $p < 0.001$).

3.3 Multivariate Analysis

Table 3: Multivariate Analysis

Variable	Unstandardized	Standard Error	Standardized	t	p	95% CI	
						Lower	Upper
Intercept	7.275	1.026		7.094	0.000	5.244	9.307
Peace	0.012	0.063	0.019	0.185	0.854	-0.113	0.136
Faith	-0.091	0.079	-0.158	-1.154	0.251	-0.248	0.066
Spirituality	0.147	0.049	0.644	2.999	0.003	0.050	0.245
Self-Esteem	0.286	0.086	0.335	3.311	0.001	0.115	0.457
F (59.315), $p = 0.000$, $R^2 = 0.677$							
Exclude Meaning							

Table 3 shows that faith does not influence subjective well-being ($\beta = -0.091$, $p = 0.251$), peace does not affect subjective well-being ($\beta = 0.012$, $p = 0.185$), and meaning has no significant connection with subjective well-being. Meanwhile, spirituality overall is a significant predictor of subjective well-being ($\beta = 0.147$, $p = 0.003$). Self-esteem also demonstrates a significant positive effect on subjective well-being ($\beta = 0.286$, $p = 0.001$). The total percentage of variance explained by the models (R^2) ranged from 6.77% for subjective well-being.

4. DISCUSSION

Subjective well-being is each person's evaluation of their overall life, encompassing their self-assessment of their environment and their response to life events, as well as the subjective consequences. Patients with osteoarthritis who have well-being in their lives can evaluate their overall life situation, their positive responses to life, and their self-assessment throughout their lives, while avoiding stress levels and demonstrating the ability to cope with problems in their lives. In this study, the average age of osteoarthritis patients was 66 years, meaning that the majority of osteoarthritis patients are elderly. The elderly are closer to religion, and religion is more meaningful to the elderly due to their concerns about death. This is often considered the primary motivation for the elderly to perform religious rituals. However, death is not the primary reason for the elderly to perform religious rituals; other unfulfilled aspects of their lives lead them to participate in various religious rituals.

All participants in this study were Muslim, reflecting the strong role of Islamic religiosity in shaping psychological well-being. Islamic spirituality includes daily rituals such as prayer, fasting, reciting dhikr, and supplication, which provide patients with emotional stability, acceptance of their illness, and a sense of closeness to God (Nuzula, 2024). In this cultural context, spirituality goes beyond ritual to encompass moral conduct, personal connection with God, and a framework for interpreting suffering as part of divine wisdom. Such practices foster resilience, patience, and hope, making spirituality a powerful internal resource for coping with the challenges of osteoarthritis. On the other hand, psychological well-being encompasses people's happiness, life satisfaction, and mental health. There are very strong spiritual guidelines in Islam. The cornerstones of a Muslim's spiritual practice are prayer, fasting, zakat, and the Hajj. Islamic spirituality encompasses more than just ritualistic elements; it also involves piety, the growth of moral character, and a personal contact with God (Bagis et al., 2024; Nuzula, 2024). Furthermore, Islam's definition of spirituality includes the basic understanding that Muslims must carry out good deeds because human life now is merely a means to bliss in the hereafter (Lucchetti et al., 2016). Accordingly, 'the level of the power of religion, the belief of a Muslim in which the dogma is practiced daily' is what is meant by Islamic religiosity.

This study shows a significant influence between spirituality and subjective well-being in osteoarthritis patients, where patients do not exhibit behaviour that reflects spiritual tension or struggle, nor do they blame God for events that occur in their lives. They do not blame God for the problems they face, which could lead to stress. Patients are aware that everything that happens to them is also influenced by their behaviour, and that the sins they commit and the punishments they experience are the result of their actions. By performing religious rituals, such as the obligatory five daily prayers, along with optional prayers, reciting dzikir, and making supplications, patients with osteoarthritis can enhance their subjective well-being. This finding is consistent with Ellison's (1983) theory, which highlights spirituality as a source of meaning, inner peace, and hope—key contributors to subjective well-being (Cross & Hofschneider, 2018);(Ellison, 1982)(De Neve et al., 2013). Furthermore, (Lee et al., 2013) emphasized that spiritual beliefs and practices help individuals cope with chronic illness by offering a framework to understand suffering and find strength. For individuals with osteoarthritis, who often experience chronic physical limitations, spirituality may serve as a powerful internal resource that promotes resilience and acceptance.

Interestingly, while faith and peace showed positive correlations with well-being, they were not significant predictors in regression analysis. One possible explanation is that faith and inner peace are universally high among Muslim elderly populations, resulting in limited variability. When nearly all patients report strong faith, its predictive effect diminishes in multivariate models. Additionally, peace of mind alone may not directly translate into well-being if patients lack broader frameworks of meaning and self-worth. This suggests that while faith and peace support emotional stability, it is the integration of spirituality as a whole—particularly meaning-making and self-esteem—that drives sustained subjective well-being.

Five critical indicators of life satisfaction include (1) enthusiasm for activities and awareness of one's living conditions; (2) resilience and acceptance of life values, along with tolerance for challenges and viewing problems as opportunities for growth; (3) alignment between desired and attained goals as a measure of success; (4) self-concept, which encompasses satisfaction with health and meaningful societal contributions; and (5) mood regulation, which involves the capacity to cultivate happiness, maintain a positive attitude towards others and the environment, and effectively navigate adverse experiences. In the context of chronic illness such as osteoarthritis, spirituality provides emotional stability and a sense of meaning, which plays a vital role in enhancing subjective well-being. This is especially relevant for individuals navigating prolonged physical discomfort and disability.

Findings indicate that both self-esteem and spirituality significantly predicted subjective well-being. Self-esteem enables patients to detach their sense of identity from illness and maintain dignity despite functional limitations (Diener & Ryan, 2009;

Rosenberg, 1965). Patients with high self-esteem tend to feel worthy and valued, which strengthens resilience against psychological distress and enhances satisfaction with life (Zhao et al., 2021). In Indonesian society, where older adults often face stigma related to physical decline and dependency, self-esteem is especially critical in maintaining social roles and personal dignity (Elizabeth & Rena, 2011).

Self-esteem includes positive affirmation, encouragement, motivation, and positive acceptance from the environment experienced by osteoarthritis patients. Research shows that self-esteem and motivation are vital aspects of life for these individuals (Koniak-griffin, 1988). Additionally, people with osteoarthritis need positive acceptance from their surroundings, which involves respectful attitudes toward older adults and praise or recognition for those with the condition. Patients with osteoarthritis become highly vulnerable to psychological distress due to their limited ability to adapt to the physical and mental changes associated with the disease (Chen et al., 2022). They also often face negative stigma from others because, in old age, they are seen as a different and unproductive group. Therefore, having people who offer encouragement and motivation provides osteoarthritis patients with important social support.

In Maslow's hierarchy of needs theory, it is stated that everyone in society (except those with pathological conditions) has a need or desire for a stable sense of self-worth, a solid foundation, and usually a high-quality sense of self-respect or self-esteem. Therefore, Maslow distinguishes this need into internal and external recognition. Internal recognition includes the need for self-esteem, self-confidence, competence, mastery, sufficiency, achievement, independence, and freedom. External recognition relates to recognition from others, prestige, acknowledgment, acceptance, status, and reputation. Individuals with self-esteem are more confident. Thus, high self-esteem can provide the support needed by osteoarthritis patients to continue engaging in society.

This finding aligns with (Rosenberg, 1965), concept of self-esteem as a global evaluation of the self, which affects one's emotional state and capacity to handle challenges. Additionally, (Diener et al., 1985) found that self-esteem is one of the most consistent predictors of happiness and life satisfaction across cultures. People with high self-esteem often feel competent, worthy, and valued, which buffers them from psychological distress and helps maintain well-being even when facing physical impairment. For osteoarthritis patients, maintaining self-worth and positive self-regard appears crucial. Self-esteem allows them to detach their sense of identity from their illness, helping preserve a more stable and hopeful mental state.

The influential role of self-esteem and spirituality can be understood through cultural, social, and psychological mechanisms. Psychologically, self-esteem bolsters confidence and helps patients preserve their self-concept beyond illness. Spiritually, Islamic beliefs and practices provide meaning, reduce existential distress, and encourage acceptance of suffering as a divine test (Bagis et al., 2024). Socially, spiritual practices connect patients to their religious community, providing support and belonging (Syaiful & Bahar, 2016). Together, these factors explain why self-esteem and spirituality are especially influential in the well-being of osteoarthritis patients in Indonesia.

5. CONCLUSION

This study demonstrates that self-esteem and spirituality are essential contributors to the subjective well-being of osteoarthritis patients. While faith and peace are positively associated with well-being, their independent predictive power is limited, likely due to cultural homogeneity in religious commitment. The findings underscore the importance of interventions that strengthen both self-esteem and spirituality. In the Indonesian Muslim context, enhancing these aspects may provide patients with meaning, acceptance, resilience, and social support, thereby improving their overall quality of life. This research is among the first in Indonesia, and globally, to highlight the cultural and psychological importance of self-esteem and spirituality in managing chronic illness, and it suggests a valuable direction for holistic care strategies in osteoarthritis management.

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