

Self-Care Among Women With Scoliosis in Light Of Age and Disease Severity Variables -A Field Study in the Wilaya Of Batna– Algeria

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ABSTRACT

Objective: The study aimed to assess the level of self-care and to identify differences therein according to the variables of age and disease severity among women with scoliosis.

Materials and Methods: The study included 58 women (80.56%), aged between 20 and 67 years, diagnosed with mild to moderate scoliosis. Data collection relied on a demographic questionnaire comprising four items, alongside the Self-Care of Chronic Illness Inventory (SC-CII). Data were analyzed using SPSS, version 23.

Results: The level of self-care among women with scoliosis was high, with a mean score of 92.27 and a standard deviation of 16.95.

No statistically significant differences were found in self-care levels attributable to age or disease severity, as the F values were 1.05 ($p = 0.357 > 0.05$) and 3.10 ($p = 0.053 > 0.05$).

Conclusions: The findings underscore the importance and role of self-care in disease management, as it constitutes a fundamental pillar in adapting to the daily challenges faced by women with scoliosis, through effective behaviors that contribute to alleviating disease severity.

Enhancing self-care in scoliosis necessitates the adoption of a more individualized and patient-centered approach, taking into account the variables of age and disease severity—despite their non-significant effect in the present study, in order to strengthen patients' roles and to develop interventions yielding sustained long-term health outcomes.

KEYWORDS: Self-care; Scoliosis; Women

INTRODUCTION

The progression and management of spinal deformities constitute one of the most complex contemporary challenges. According to assessments by experts at the World Health Organization, musculoskeletal disorders rank fourth after cardiovascular diseases, cancer, and COVID-19. Scoliosis occupies a prominent position within the spectrum of skeletal disorders, thereby attracting increasing attention from researchers, physicians, and physiotherapists. (Chekhovskaa et al, 2024)

A review of the scientific literature on scoliosis indicates that most studies have predominantly focused on children and adolescents, whereas adults, particularly women, have not received adequate attention or coverage. This is despite statistical evidence indicating that women account for between 62% and 82% of all diagnosed cases, suggesting a higher level of risk compared to men (AANS, 2020).

According to a classical American study, the prevalence of scoliosis among women aged 25–74 years reached 10.7%, compared to 5.6% among men. (Carter & Haynes, 1987)

Furthermore, a systematic review and meta-analysis published in *BMC Public Health*, encompassing 239 studies and 46.5 million participants, reported a prevalence of 1.76% among females versus 0.87% among males, with an odds ratio of 2.16 in favor of females . (Wang et al,2025) Similarly, an Asian study involving more than 7,000 adults found a scoliosis prevalence of 9.4% among women, with a relative risk of 2.4 compared to men.(Liu et al,2016) Given that scoliosis significantly affects functional capacity,(Lukman et al,2020) markedly deteriorates patients' quality of life due to reduced work ability, and acts as a predisposing factor for various internal organ diseases . (Chekhovskaa et al,2024) it also exerts broader implications on productivity and healthcare costs at the societal level . (Lukman et al,2020) With the growing emphasis in recent years on health maintenance and promotion, beyond mere treatment, the concept of self-care has gained increasing prominence.

The World Health Organization(WHO,2021) defines self-care as the ability of individuals, families, and communities to promote health, prevent disease, maintain health, and cope with illness, with or without the support of healthcare providers. It recognizes individuals as active agents in managing their own healthcare across domains including health promotion, disease prevention and control, self-medication, caregiving for dependents, and rehabilitative care, including palliative care.

Self-care constitutes a fundamental component in the management of chronic illnesses. According to the middle-range theory of self-care, it encompasses the actions and behaviors undertaken by individuals to monitor and manage their condition and to maintain their health. These experiences, however, are inherently complex, as patients differ in their perceptions of illness, their priorities, their expectations of support, and their modes of practicing self-care .

(Lukman et al,2020)

Within this theoretical framework, self-care is influenced by factors such as skills and motivation, medical knowledge and health literacy, cultural beliefs and values, lifestyle habits, social support, and access to healthcare services. (Lukman et al,2020)The literature has explored the intersection of self-care with these factors, offering several relevant lines of inquiry, including studies by Freidel et al. (2002), Urrutia et al. (2011), and Doi et al. (2021), which examined quality of life and mental health in relation to age and curvature severity. Other studies, such as Li et al. (2024) and Sbihli et al. (2021), have investigated coping strategies and self-management. Additionally, some research has addressed self-care through its association with body image and self-esteem, as seen in Durmala et al. (2015) and Cantele et al. (2020).

Despite the pivotal role of self-care in chronic disease management, its examination among patients with scoliosis remains an underexplored research domain. The literature reveals a clear gap, with a lack of studies addressing self-care as a structured theoretical construct in scoliosis patients—particularly among women—while simultaneously analyzing the interaction between age and disease severity. This gap has prompted the present study, as self-care represents a fundamental pillar in adapting to the daily challenges faced by women with scoliosis. It provides effective strategies for alleviating the condition through natural means, while understanding the influence of age and disease severity on self-care and its outcomes is crucial for developing targeted interventions that enhance patient engagement and support long-term health outcomes.

Study Objectives:

This study focused on achieving the following objectives:

1. To determine the level of self-care among women with scoliosis.

2. To identify differences in self-care levels within the sample according to the variables of age and disease severity.

Study Hypotheses:

The study hypotheses were formulated as follows:

- The level of self-care among women with spinal curvature is high.
- There are statistically significant differences in self-care among women with scoliosis attributable to the variables of age and disease severity.

Study Methodology:

A descriptive research design was adopted, as it is considered the most appropriate approach for this type of study. It allows for the description of the phenomenon and the analysis of its dimensions, as well as the identification of differences between groups according to the studied variables, thereby enhancing the accuracy of the findings and the depth of analysis.

Study Sample:

The study was conducted on a purposive sample of 58 women with scoliosis, representing 80.56% of the initial pool, after excluding approximately 19.44% of responses that did not meet the required criteria.

The characteristics of the final sample are presented in the following table:

Table 1: Characteristics of the final sample

Characteristics	Number	Percentage	
Age	20–35 years	43	74.1%
	36–51 years	12	20.7%
	52–67 years	3	5.21%
Educational level	No formal education	8	13.8%
	Primary	1	1.7%
	Intermediate	6	10.3%
	Secondary	12	20.7%
	University	31	53.4%
Marital status	Single	32	49.2%
	Married	25	43.1%
	Widowed	1	1.7%
Degree of Deviation	Low (10–25°)	24	41.4%
	Moderate (25–40°)	26	44.8%
	Severe (>40°)	8	13.8%

Demographic and medical variables play a significant role in shaping individuals' responses to different situations and conditions. The table shows that the majority of participants were aged between 20 and 35 years (74.1%). Regarding educational level, most participants had a university education (53.4%). In terms of marital status, single women constituted the largest proportion (49.2%). As for the degree of scoliosis, moderate cases were the most prevalent (44.8%).

Study Instruments

The researcher used the Self-Care of Chronic Illness Inventory (SC-CII), developed based on the middle-range theory of self-care. It includes four distinct self-care behavior scales:

- **Self-care maintenance:** behaviors aimed at improving well-being, maintaining health, and ensuring physical and emotional stability.
- **Self-care monitoring:** monitoring chronic disease status, observing signs and symptoms, and assessing and recognizing physical changes.
- **Self-care management:** identifying signs and symptoms of chronic illness and the patient's behavioral responses to these symptoms.
- **Self-care confidence:** reflects patients' level of confidence in managing their condition.

The questionnaire is scored using a 5-point Likert scale ranging from 1 (never) to 5 (always), with higher scores indicating better self-care (Riegel, et al., 2018)

Its psychometric properties were tested in a local context on a sample of 30 individuals. Cronbach's alpha values for each dimension were as follows:

- Self-care maintenance: 0.608
- Self-care monitoring: 0.741
- Self-care management: 0.467
- Self-care confidence: 0.847

These values indicate generally acceptable reliability, although the self-care management dimension showed relatively low internal consistency

METHODOLOGICAL PROCEDURES

Study Limits:

Spatial limits: The study was conducted at the November 1st Sports Complex – swimming pool unit, and at an orthopedic surgery clinic in Batna Province, Algeria.

Temporal limits: The study was carried out during the year 2025.

Thematic limits: The study focused on self-care due to its fundamental role in enabling patients to cope with illness and adapt to its demands through the adoption of health behaviors that enhance physical, psychological, and social well-being.

The study gains its specificity from its focus on women with scoliosis in the Algerian context, which is characterized by features that differ from Western societies where most previous studies were conducted. Accordingly, the findings may either confirm or challenge previous research and contribute to enriching knowledge on the study variable.

RESULTS

Table 2: One-sample T-test results comparing theoretical mean and sample mean

Variable	N	Mean	SD	Theoretical Mean	T	Sig.
Self-care	58	92.275	16.957	81	5.064	0.0001

The mean score of self-care among participants was 92.275 with a standard deviation of 16.957. When compared to the theoretical mean of 81, the sample mean is substantially higher. The significance of this difference was tested, yielding a T-value of 5.064 with a significance level of 0.0001, which is well below the significance threshold ($p < 0.05$). This indicates that the difference is statistically significant.

Accordingly, the level of self-care among women with scoliosis is high, thus confirming the hypothesis.

Table 3: Differences in the Level of Self-Care According to Age Category

Variable	Source of Variance	Sum of Variance	Sum of Squares	Mean Square	F	Significance
Age Category	Between Groups	1639.586	603.206	301.603	1.051	0.357
	Within Groups		15788.380	287.061		

Table 4: Significance of Differences in the Level of Self-Care According to Disease Severity

Variable	Source of Variance	Sum of Variance	Sum of Squares	Mean Square	F	Significance
Disease Severity	Between Groups	1639.586	1661.24	830.607	3.101	0.053
	Within Groups		14730.372	267.825		

The results of the one-way analysis of variance (ANOVA) revealed the absence of statistically significant differences in the levels of self-care among women with scoliosis attributable to the variables of age category and disease severity, as the significance values exceeded (0.05), thereby indicating that the hypothesis was not confirmed.

DISCUSSION

According to Bandura (1997), belief in one's capacity to exert control over illness enhances the adoption of effective strategies for coping with health-related challenges, including adherence to the therapeutic regimen, monitoring one's health status, and adopting healthy habits that mitigate symptom severity. This accounts for the elevated level of self-care observed in the study sample, as patients appear more aware of the importance of engaging positively with their health condition through the regular implementation of self-care practices.

The Middle-Range Theory of Self-Care in Chronic Illness likewise substantiates this finding, positing that self-care constitutes a fundamental process in adapting to illness, with the majority of daily care responsibility resting upon the patient and their family, while the role of healthcare providers remains complementary rather than primary. (Riegel et al, 2012) This is further corroborated by the study of Jokar et al. (2024), which demonstrated that educational programmes oriented toward self-care exert a positive influence on disease outcomes, as individuals who acquire self-care skills exhibit greater awareness in managing their condition.

The findings obtained in the present study may be interpreted in light of the characteristics and circumstances of the sample. Within the Algerian local context, self-care experiences reflect disparities in education and health culture, which in turn give rise to variations in the practice of self-care behaviours. The majority of the sample possesses a university-level education, a factor often associated with a belief in self-efficacy and the capacity to manage illness, which itself correlates with the adoption of positive health behaviours. Moreover, patients' understanding and awareness of the anticipated benefits have enabled them to integrate these behaviours into their daily lives.

The patients' awareness and understanding of the importance of self-care reflect a sound recognition of the significance of these practices in adapting to illness and the necessity of maintaining daily control over their health condition. This includes the adoption of effective strategies such as engaging in appropriate exercise, adhering to the treatment plan, continuously monitoring pain and symptoms, seeking support when needed, and maintaining balance across various domains of life.

It also appears that health culture, structured medical follow-up, prior experiences, social and familial support, previous positive or negative outcomes, as well as the degree of spinal deviation—which ranged from moderate to mild (25 to 45 degrees), constitute influential factors in enhancing patients' motivation to care for themselves and to engage in self-care behaviours.

Perceived self-efficacy, according to Bandura (1997), plays a pivotal role in promoting health behaviours such as self-care, irrespective of age. This may account for the absence of discernible differences between age categories in self-care, potentially attributable to their awareness of the importance of disease control and the prevention of complications. The study by Jokar et al. (2024) supports this perspective by highlighting the importance of self-care-oriented education as a determining factor, without indicating clear age-related differences. Nevertheless, the Albanian study by Arapi et al. (2026), conducted on 376 elderly patients, revealed deficiencies in self-care behaviours such as physical activity and stress management, alongside low self-confidence in maintaining stability.

According to Riegel et al. (2012), self-care is a dynamic, self-regulatory, and natural process for managing chronic illness, requiring daily decision-making irrespective of disease severity, age, gender, culture, education, or socio-economic status. This aligns with the notion that adherence to self-care practices is not invariably contingent upon the progression of the illness, but rather upon factors such as individual awareness, social support, and the extent to which the importance of these practices is perceived.

This is further illustrated by the findings of Jokar et al. (2024), wherein disease severity did not constitute a decisive factor in determining the level of self-care; rather, education and health awareness emerged as the most influential factors. In the present study, this result may be attributed to certain factors that contributed to enhancing self-care among all participants irrespective of disease severity, such as limited familial obligations, the availability of familial support, and medical awareness.

The findings of this study do not necessarily imply that age or disease severity exert no influence whatsoever; rather, they may reflect the particularities of the sample or the environment in which the research was conducted, which appears to support self-care uniformly across groups—thereby potentially accounting for discrepancies among study findings.

CONCLUSION

The findings of the study indicate that women with scoliosis exhibit a high level of self-care, reflecting sound health awareness and a clear recognition of the importance of adherence to the therapeutic plan, adaptation to illness, and the effective management of its associated challenges. The results further confirmed the absence of statistically significant differences in self-care levels attributable to age and disease severity, suggesting that these variables may not constitute primary determinants of variation in self-care capacity. Women with scoliosis in the study sample have developed adaptive strategies enabling them to practice self-care consistently across age groups, provided that the disease has not progressed to a stage of severe functional impairment.

These findings underscore the importance of empowering patients to develop self-care skills and to enhance their capacity to manage chronic illness with flexibility, thereby contributing to improved quality of life and mitigating the impact of the disease on daily functioning and psychological well-being.

Despite the significance of the results obtained, this study remains a modest initial step, necessitating further research and studies aimed at strengthening and developing appropriate and comprehensive self-care interventions that take into account the biological, psychological, and social dimensions of the illness.

Recommendations:

- Developing self-care measures for various chronic illnesses based on the Middle-Range Theory of Self-Care in Chronic Illness.
- Organising awareness campaigns for women with scoliosis regarding the importance of self-care and its role in improving quality of life, with an emphasis on continuity in daily practices.
- Proposing psychological and social support programmes within rehabilitation centres or healthcare institutions to accompany patients and assist them in coping and adapting more effectively.
- Encouraging families to provide emotional and moral support to affected individuals, given its positive impact on enhancing adherence to the therapeutic plan.
- Calling upon researchers to conduct future studies on broader samples and in diverse contexts to ensure the generalisability of findings.

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