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Correlation Between Sociodemographic, Health, and Institutional Characteristics and Stress Levels Among Older Adults at Dewanata Cilacap Elderly Social Service Home

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ABSTRACT

Introduction: *Evidence regarding characteristics associated with perceived stress among institutionalized older adults in Indonesia remains limited. This study aimed to determine perceived stress levels and examine their associations with participant characteristics among residents aged 60 years and older at Dewanata Cilacap Elderly Social Service Home.*

Methods: *This cross-sectional correlational study included 47 residents aged 60–90 years. Participants were recruited through complete enumeration of eligible residents. Data were collected using a demographic questionnaire and the Indonesian version of the 10-item Perceived Stress Scale (PSS-10). Items 4, 5, 7, and 8 were reverse-scored before calculating the total score. Data were analyzed using IBM SPSS Statistics for Windows, version 26. Categorical variables were summarized using frequencies and percentages, while numerical PSS-10 scores were summarized using measures of central tendency and dispersion. Associations between perceived stress categories and participant characteristics were examined using Fisher's exact test or the Fisher–Freeman–Halton exact test. Pearson's correlation was used to examine the relationship between age and total PSS-10 score.*

Results: *The mean participant age was 71.15 ± 7.20 years. The mean PSS-10 score was 11.91 ± 5.34, with a median of 12, an interquartile range of 8.5–16.5, and a score range of 0–22. Thirty-three participants (70.2%) had low perceived stress, 14 (29.8%) had moderate perceived stress, and none had high perceived stress. The PSS-10 demonstrated a Cronbach's alpha of 0.628. No statistically significant associations were found between perceived stress category and sex, age group, educational level, chronic disease history, marital status, length of institutional stay, or reason for institutional residence (all $p > 0.05$). Age was also not significantly correlated with total PSS-10 score ($r = -0.023$; $p = 0.879$).*

Discussion: *Most residents had low perceived stress, and perceived stress was not significantly associated with the demographic, health-related, or institutional characteristics examined. Psychological and social factors not assessed in this study, including loneliness, social support, coping ability, autonomy, and adjustment to institutional living, may better explain variations in perceived stress. The findings should be interpreted cautiously because of the small sample, single-institution setting, and cross-sectional design.*

Keywords: institutionalized older adults; perceived stress; PSS-10; nursing home; correlational study.

Introduction

Older adults represent a rapidly growing population worldwide. Population ageing is accompanied by physical, psychological, social, and functional changes that may increase vulnerability to health problems. The World Health Organization reported that approximately 1 billion people worldwide were aged 60 years or older in 2020, and this number is projected to reach 1.4 billion by 2030 and 2.1 billion by 2050 (World Health Organization, 2025). This rapid demographic transition increases the need to address not only the physical health of older adults but also their psychological well-being. This issue is particularly relevant for older adults living in institutional settings, where adaptation to a new environment, separation from family, reduced autonomy, and chronic health problems may contribute to perceived stress. Identifying factors associated with perceived stress is therefore important to support early detection and the development of appropriate psychosocial care for institutionalized older adults.

Indonesia is also experiencing substantial population ageing. In 2021, approximately 30.16 million older adults lived in Indonesia, representing 11.01% of the total population of 273.88 million people (Badan Pusat Statistik, 2021). In Central Java, the older adult population

reached approximately 5.07 million people in 2023. In Cilacap Regency, older adults accounted for approximately 275.86 thousand people, or 13.74% of the total population (Badan Pusat Statistik, 2023). These demographic changes indicate an increasing need for health and social services that address both the physical and psychological needs of older adults.

Ageing is associated with declining physical endurance, increased vulnerability to disease, reduced functional capacity, and changes in cognitive and emotional functioning (Akbar et al., 2021). Older adults may experience reduced short-term memory, difficulty processing information, impaired independence, and increased sensitivity to environmental changes. Chronic illnesses, disease progression, disability, financial limitations, and dependence on others may further contribute to psychological problems, including anxiety, depression, loneliness, disappointment, and stress (Muchsin et al., 2023).

Stress is a physiological and psychological response that occurs when individuals perceive that the demands placed upon them exceed their ability to cope. Excessive or prolonged stress may manifest as dizziness, increased blood pressure, irritability, sadness, impaired concentration, appetite changes, and sleep disturbances (Rokhman, 2021). Stress among older adults may arise from internal factors, including illness, loneliness, boredom, fear of death, and concerns about the future. External factors may include inadequate family support, an unsupportive environment, social isolation, and poor interpersonal relationships (Lilis & Aryati, 2023; Untari & Pradnyandewi, 2023).

Older adults living in social service institutions may encounter additional stressors compared with those living with their families or in the community. Institutional placement may require adaptation to a new environment, established schedules, shared living arrangements, and reduced personal autonomy. Separation from family members, loss of a spouse, limited social interaction, chronic illness, and dependence on institutional staff may also affect their perceived stress levels. However, institutional care may provide protection, social interaction, and access to health services when adequate support is available. Despite these potential stressors, evidence regarding factors associated with perceived stress among institutionalized older adults remains limited, particularly in Indonesia. Identifying sociodemographic, health-related, and institutional characteristics associated with perceived stress is therefore necessary to better understand variations in stress among older adults living in institutional settings.

Perceived stress may differ according to individual and institutional characteristics. Age-related physical, psychological, economic, and spiritual changes may affect older adults' ability to cope with stress (Sisi & Ismahmudi, 2020). Changes in the sympathetic-adreno-medullary axis and hypothalamic–pituitary–adrenal axis may also influence physiological responses to stress in later life (Yiallouris et al., 2019; Moffat et al., 2020; Mikneviciute et al., 2023). Sex, educational level, chronic disease history, marital status, length of institutional stay, and the reason for entering an institution may also be associated with differences in stress levels. For example, older women may experience greater vulnerability to stress because of socioeconomic inequalities, health-related problems, and physiological changes associated with menopause (Kang et al., 2023; Choi et al., 2025). Lower educational attainment may limit access to health information and coping resources, while chronic illness and the absence of a spouse may increase psychological burden.

A standardized instrument is required to assess perceived stress consistently. The Perceived Stress Scale-10, or PSS-10, measures the extent to which individuals perceive situations in their lives as unpredictable, uncontrollable, and overwhelming. It is widely used as a standardized instrument for assessing perceived psychological stress (Harris et al., 2023).

A preliminary survey conducted on July 31, 2025, at Dewanata Cilacap Elderly Social Service Home identified 97 residents with varying health conditions and levels of independence. Interviews with eight residents indicated symptoms related to stress, including difficulty sleeping, sadness, anxiety, fear associated with illness, and difficulty concentrating. Reported stressors included loneliness, separation from family, bereavement, boredom, and persistent health problems. These preliminary findings indicated the presence of psychological concerns among residents but were not sufficient to establish the distribution of stress levels or their relationship with resident characteristics.

Although perceived stress has been examined among community-dwelling and institutionalized older adults, current evidence regarding perceived stress among residents of Dewanata Cilacap Elderly Social Service Home remains limited. In particular, limited data are available on whether sociodemographic, health, and institutional characteristics are associated with stress levels when assessed using a standardized instrument such as the PSS-10.

Therefore, this study aimed to determine perceived stress levels and analyze their associations with sex, age, educational level, chronic disease history, marital status, length of stay, and reason for residing at Dewanata Cilacap Elderly Social Service Home.

Methods

Study Design

This study used a descriptive quantitative design with a cross-sectional approach. The study aimed to describe perceived stress levels among residents of Dewanata Cilacap Elderly Social Service Home and their distribution according to participant characteristics at a single point in time. No intervention was administered, and the study was not designed to examine causal relationships or statistically test associations between participant characteristics and perceived stress levels.

Setting and Data Collection

The study was conducted at Dewanata Cilacap Elderly Social Service Home, Cilacap, Central Java, Indonesia, on November 18, 2025. Data were collected directly at the institution. Participants with adequate mobility completed the questionnaires in the institution hall, whereas participants with limited mobility were visited individually in their rooms.

Before data collection, prospective participants received an explanation of the study objectives, procedures, voluntary nature of participation, confidentiality measures, and right to withdraw. Participants who agreed to take part provided written informed consent.

Participants completed the questionnaires independently whenever possible. For participants who required assistance because of reading, visual, or physical limitations, the researchers read each questionnaire item and recorded the response selected by the participant. Assistance was limited to facilitating questionnaire completion without directing or influencing the participant's answers. Questionnaire administration took approximately 5–10 minutes per participant.

Participants and Recruitment

The source population consisted of 97 residents of Dewanata Cilacap Elderly Social Service Home. All residents were screened for eligibility, and all eligible residents who were available during the data-collection period were invited to participate using a complete-enumeration approach.

Residents were eligible for the original data collection if they were registered residents of the institution, were available during data collection, were able to communicate adequately and provide the information required for the study, were able to complete the PSS-10 independently or with assistance when necessary, and voluntarily agreed to participate by providing written informed consent. Residents with severe communication difficulties that prevented questionnaire completion were not included.

A total of 53 residents met the original eligibility requirements, provided informed consent, and completed the questionnaires. For the final analytical sample, the analysis was restricted to participants aged ≥60 years to correspond with the study population of older adults. Consequently, six participants aged <60 years were excluded from the reanalysis, resulting in a final analytical sample of 47 participants aged 60–90 years. No participants were excluded because of incomplete questionnaire data.

No formal sample-size calculation or statistical power analysis was performed because the study attempted to recruit all eligible residents who were available during the study period.

Study Instruments

Data were collected using a demographic data form and the Indonesian-language version of the Perceived Stress Scale-10.

Demographic Data Form

The demographic data form collected information on age, sex, educational level, history of chronic disease, marital status, length of stay in the institution, and reason for residing in the institution.

Sex was classified as male or female. Educational level was classified as no formal schooling, completion of basic education, completion of secondary education, or completion of higher education. History of chronic disease was classified as no history of chronic disease or a history of at least one chronic disease. Marital status was classified as unmarried, married, or divorced/widowed. Length of institutional stay was classified as less than 5 years, 5–9 years, 10–15 years, or more than 15 years. The reason for institutional residence was classified as personal choice or not personal choice.

Perceived Stress Scale-10

Perceived stress during the previous month was measured using the Indonesian-language version of the Perceived Stress Scale-10 (PSS-10) adapted by Hakim et al. (2024). The adaptation procedure followed a cross-cultural adaptation process consisting of forward translation by two independent translators, synthesis of the translated versions, backward translation by two other translators, expert committee review, and readability testing involving 10 respondents. The expert review and readability testing were conducted to ensure that the translated items were understandable and culturally appropriate for Indonesian respondents.

The construct validity of the Indonesian PSS-10 was evaluated using confirmatory factor analysis and measurement invariance analysis among 244 university students and 259 employees. The analysis supported a two-factor structure consisting of perceived helplessness and perceived self-efficacy. Convergent validity differed between participant groups, with a total average variance extracted value of 0.38 among students and 0.58 among employees. Composite reliability was 0.85 among students and 0.93 among employees. Multigroup confirmatory factor analysis indicated differences in the factor structure between students and employees, suggesting that the items may be interpreted differently across populations.

The PSS-10 consists of 10 items rated on a five-point Likert scale: 0 for never, 1 for almost never, 2 for sometimes, 3 for fairly often, and 4 for very often. Items 1, 2, 3, 6, 9, and 10 are negatively worded and retain their original scores. Items 4, 5, 7, and 8 are positively worded and were reverse-scored by converting scores of 0, 1, 2, 3, and 4 into 4, 3, 2, 1, and 0, respectively.

After reverse-scoring the positively worded items, all item scores were summed to produce a total score ranging from 0 to 40. Higher scores indicated greater perceived stress. For descriptive reporting, total scores were classified as low perceived stress for scores of 0–14, moderate perceived stress for scores of 15–26, and high perceived stress for scores of 27–40.

The internal consistency of the PSS-10 in the present sample was assessed after reverse-scoring items 4, 5, 7, and 8. Cronbach's alpha in the present sample was 0.607.

Data Management and Missing Responses

Completed questionnaires were checked for completeness immediately after administration. Data management included editing, coding, reverse scoring of positively worded PSS-10 items, calculation of total scores, data entry, cleaning, and tabulation.

All 53 participants completed all 10 PSS-10 items, resulting in 530 complete item responses. No missing responses were identified in the demographic variables or PSS-10 items. Therefore, no data imputation was performed, and no participants were excluded because of incomplete questionnaire data.

Statistical Analysis

Data were analyzed using IBM SPSS Statistics for Windows, version 26.0 (IBM Corp., Armonk, NY, USA).

Categorical variables were summarized using frequencies and percentages. Overall perceived stress levels were presented as the number and percentage of participants classified as having low, moderate, or high perceived stress. Cross-tabulations were used to describe the

distribution of perceived stress categories according to sex, age, educational level, history of chronic disease, marital status, length of institutional stay, and reason for institutional residence. Percentages were calculated within each participant-characteristic category to provide a consistent denominator for subgroup interpretation.

The PSS-10 total score was analyzed as a numerical variable. The distribution of total scores was assessed using the Shapiro–Wilk test and visual inspection of the histogram and normal Q–Q plot. Normally distributed data were summarized using the mean and standard deviation, whereas non-normally distributed data were summarized using the median and interquartile range. The median, interquartile range, minimum, and maximum scores were also calculated to provide a complete description of the score distribution.

The internal consistency of the PSS-10 in the present sample was evaluated using Cronbach's alpha after reverse-scoring items 4, 5, 7, and 8. Statistical analyses were descriptive. No inferential tests of association, correlation coefficients, or causal analyses were conducted.

Ethical Considerations

Ethical approval was obtained from the Health Research Ethics Committee of Universitas Harapan Bangsa under approval number BLPM-UHB/1164/11/2025. Administrative permission to conduct the study was also obtained from Dewanata Cilacap Elderly Social Service Home.

The study followed the ethical principles of respect for persons, beneficence, non-maleficence, and justice. Prospective participants received information regarding the study objectives, procedures, voluntary participation, confidentiality, and their right to withdraw at any time without consequences. Written informed consent was obtained before questionnaire administration. Participant data were coded and analyzed without directly identifying information.

Result

Participant Selection

The source population consisted of 97 residents of Dewanata Cilacap Elderly Social Service Home. Of these residents, 53 participated in the original data collection. To ensure consistency with the study definition of older adults as individuals aged 60 years or older, six participants aged below 60 years were excluded from the reanalysis. The final analytical sample consisted of 47 participants aged 60–90 years.

Participant Characteristics

The mean age of the participants was 71.15 ± 7.20 years, with an age range of 60–90 years. Most participants were aged 60–74 years. The numbers of male and female participants were nearly equal. Participant characteristics are presented in Table 1.

Table 1. Characteristics of the Participants

Participant characteristics	Frequency (n)	Percentage (%)
Sex		
Male	24	51.1
Female	23	48.9
Age group		
60–74 years	33	70.2
75–90 years	14	29.8
Educational level		
No formal schooling	15	31.9
Completed basic education	15	31.9
Completed secondary education	12	25.5
Completed higher education	5	10.6
History of chronic disease		
No history of chronic disease	25	53.2

Participant characteristics	Frequency (n)	Percentage (%)
History of at least one chronic disease	22	46.8
Marital status		
Unmarried	5	10.6
Married	7	14.9
Divorced/widowed	35	74.5
Length of stay in the institution		
<5 years	32	68.1
5–9 years	13	27.7
10–15 years	2	4.3
Reason for living in the institution		
By personal choice	29	61.7
Not by personal choice	18	38.3
Total	**47**	**100.0**

Of the 47 participants, 24 (51.1%) were male and 23 (48.9%) were female. Most participants were aged 60–74 years (70.2%). No formal schooling and completion of basic education were each reported by 15 participants (31.9%). Twenty-two participants (46.8%) had a history of at least one chronic disease. Most participants were divorced or widowed (74.5%), had lived in the institution for less than five years (68.1%), and reported that living in the institution was their personal choice (61.7%).

Perceived Stress Scores

All 47 participants completed all 10 PSS-10 items, resulting in 470 complete item responses. No item-level responses were missing. After reverse-scoring items 4, 5, 7, and 8, the total PSS-10 scores ranged from 0 to 22.

The mean PSS-10 score was 11.91 ± 5.34. The median score was 12, with an interquartile range of 8.5–16.5. The Shapiro–Wilk test indicated that the total PSS-10 scores did not significantly deviate from a normal distribution (W = 0.978, p = 0.499). The internal consistency of the PSS-10 in the final analytical sample was Cronbach's alpha = 0.628.

Table 2. Descriptive Statistics and Categories of the PSS-10 Scores

PSS-10 measure	Result
Mean ± standard deviation	11.91 ± 5.34
Median	12
Interquartile range	8.5–16.5
Minimum–maximum	0–22
Shapiro–Wilk W	0.978
Shapiro–Wilk p-value	0.499
Cronbach's alpha	0.628

Perceived stress category	Frequency (n)	Percentage (%)
Low perceived stress	33	70.2
Moderate perceived stress	14	29.8
High perceived stress	0	0.0
Total	**47**	**100.0**

Based on the predetermined score categories, 33 participants (70.2%) had low perceived stress and 14 participants (29.8%) had moderate perceived stress. No participant had high perceived stress.

Associations Between Participant Characteristics and Perceived Stress

Table 3 presents the distribution of perceived stress categories according to participant characteristics. Percentages were calculated within each participant-characteristic group.

Because no participant was classified as having high perceived stress, the association analyses compared the low and moderate perceived stress categories.

Table 3. Associations Between Participant Characteristics and Perceived Stress Categories

Participant characteristics	Low stress, n (%)	Moderate stress, n (%)	Total, n	*p*-value	Cramér's V
Sex				**0.534**	**0.107**
Male	18 (75.0)	6 (25.0)	24		
Female	15 (65.2)	8 (34.8)	23		
Age group				**0.729**	**0.084**
60–74 years	24 (72.7)	9 (27.3)	33		
75–90 years	9 (64.3)	5 (35.7)	14		
Educational level				**0.273**	**0.282**
No formal schooling	10 (66.7)	5 (33.3)	15		
Completed basic education	9 (60.0)	6 (40.0)	15		
Completed secondary education	11 (91.7)	1 (8.3)	12		
Completed higher education	3 (60.0)	2 (40.0)	5		
History of chronic disease				**0.358**	**0.145**
No history of chronic disease	16 (64.0)	9 (36.0)	25		
History of at least one chronic disease	17 (77.3)	5 (22.7)	22		
Marital status				**0.370**	**0.229**
Unmarried	2 (40.0)	3 (60.0)	5		
Married	5 (71.4)	2 (28.6)	7		
Divorced/widowed	26 (74.3)	9 (25.7)	35		
Length of stay in the institution				**1.000**	**0.137**
<5 years	22 (68.8)	10 (31.2)	32		
5–9 years	9 (69.2)	4 (30.8)	13		
10–15 years	2 (100.0)	0 (0.0)	2		
Reason for living in the institution				**0.336**	**0.157**
By personal choice	22 (75.9)	7 (24.1)	29		
Not by personal choice	11 (61.1)	7 (38.9)	18		

Values are presented as n (% within each participant-characteristic group). Fisher's exact test was used for variables with two participant categories. The Fisher–Freeman–Halton exact test was used for variables with more than two categories. The high perceived stress category was not included in the association analyses because no participants were classified in this category.

Moderate perceived stress was identified in 25.0% of male participants and 34.8% of female participants. It was also identified in 27.3% of participants aged 60–74 years and 35.7% of participants aged 75–90 years. These differences were descriptive and did not indicate statistically significant differences between the groups.

No statistically significant associations were found between perceived stress category and sex ($p = 0.534$), age group ($p = 0.729$), educational level ($p = 0.273$), history of chronic disease ($p = 0.358$), marital status ($p = 0.370$), length of institutional stay ($p = 1.000$), or reason for institutional residence ($p = 0.336$). Cramér's V values ranged from 0.084 to 0.282.

When age and the PSS-10 total score were analyzed as continuous variables, no statistically significant correlation was found between age and perceived stress (Pearson's $r = -0.023$, $p = 0.879$).

Discussion

1. Perceived Stress Level

The present study found that most residents aged 60 years and older had low perceived stress. Of the 47 participants, 33 (70.2%) had low perceived stress and 14 (29.8%) had moderate perceived stress, while no participant had high perceived stress. The mean PSS-10 score was 11.91 ± 5.34, with scores ranging from 0 to 22. These findings indicate that perceived stress was generally low in the study population, although almost one-third of the participants continued to experience moderate stress and may require further psychological assessment and support.

The predominance of low perceived stress does not necessarily indicate an absence of psychosocial stressors. The PSS-10 measures an individual's appraisal of whether life circumstances during the previous month were unpredictable, uncontrollable, or overwhelming. Residents exposed to similar institutional circumstances may therefore report different stress levels depending on their coping resources, self-efficacy, social relationships, and psychological adjustment. In a multicenter study of 386 nursing home residents in China, perceived stress negatively predicted psychological adjustment, while resourcefulness and self-efficacy mediated this relationship and social support modified the adjustment process. These findings suggest that personal and interpersonal resources may reduce the extent to which institutional demands are perceived as stressful (Yong et al., 2023).

The relatively low stress level found in the present study may be related to the structured environment and routine activities available at the institution, including physical, social, religious, and recreational activities. Most participants also reported that residing in the institution was their personal choice. These conditions may facilitate adaptation, provide opportunities for interaction, and reduce perceived unpredictability. This explanation remains tentative because social support, coping ability, resilience, institutional satisfaction, and participation in activities were not directly measured.

Institutional living may still expose residents to major life changes, separation from family, interpersonal conflict, functional decline, and concerns about health. Angevaare et al. examined 4,499 residents of long-term care facilities and found that major life stressors and conflict with staff or other residents were most strongly associated with adverse mood outcomes. The accumulation of multiple stressors was more strongly associated with mood symptoms than exposure to a single stressor (Angevaare et al., 2022). Thus, screening should not be discontinued merely because most participants were categorized as having low perceived stress.

The internal consistency of the PSS-10 in the present analytical sample was Cronbach's alpha = 0.628. This coefficient indicates modest internal consistency and suggests that the scale items may not have measured perceived stress uniformly in this population. Differences in language comprehension, educational background, cognitive interpretation, and interviewer-assisted administration may have contributed to the result. Consequently, both the overall stress distribution and the subgroup analyses should be interpreted cautiously.

2. Associations Between Participant Characteristics and Perceived Stress

a. Sex

Moderate perceived stress was found in 6 of 24 male participants (25.0%) and 8 of 23 female participants (34.8%). Although the proportion was numerically higher among women, sex was not significantly associated with perceived stress category (p = 0.534; Cramér's V = 0.107). The effect size was small, and the findings do not demonstrate that perceived stress differed between male and female residents.

Previous studies have reported inconsistent sex-related patterns in stress among older adults. Paolillo et al. found that older women reported higher average PSS scores than older men, although the longitudinal adverse association between stress and cognitive functioning was more evident among men. This indicates that sex differences may involve both the level of reported stress and vulnerability to its health consequences, which are not necessarily the same phenomenon (Paolillo et al., 2023).

Lin et al. found that multimorbidity was positively associated with depression, anxiety, and stress symptoms among 3,250 older adults, with stronger associations among women. However,

the study involved a substantially larger community sample and measured stress using the DASS-21 rather than the PSS-10 (Lin et al., 2021). Differences in the study population, measurement instrument, health status, and social environment may account for the discrepancy with the present findings.

Sex alone is unlikely to explain perceived stress among institutional residents. Social support, previous family roles, financial resources, health status, coping strategies, and adaptation to institutional life may differ within both male and female groups. The small sample size of the present study also limited its ability to identify small sex-related differences.

b. Age

Moderate perceived stress was observed in 9 of 33 participants aged 60–74 years (27.3%) and 5 of 14 participants aged 75–90 years (35.7%). Age group was not significantly associated with perceived stress category (p = 0.729; Cramér's V = 0.084). Analysis using numerical values also showed no correlation between age and the total PSS-10 score (Pearson's r = −0.023, p = 0.879). These findings indicate that chronological age was not associated with perceived stress in the study population.

Research regarding age and perceived stress has not produced a uniform pattern. Shahabi et al. found that adults aged 70–79 years had higher odds of being classified in the stressed group than those aged 60–69 years. However, their study specifically measured stress associated with the COVID-19 pandemic, during which health concerns, social restrictions, and uncertainty may have affected age groups differently (Shahabi et al., 2023).

The absence of an association in the present study suggests that chronological age alone may be less relevant than functional ability, cognitive status, severity of illness, social relationships, resilience, and coping resources. The exclusion of residents with severe communication impairment may also have produced a relatively functional analytical sample and reduced differences between age groups.

c. Educational Level

Moderate perceived stress was identified in 33.3% of participants with no formal schooling, 40.0% of those who completed basic education, 8.3% of those who completed secondary education, and 40.0% of those who completed higher education. Educational level was not significantly associated with perceived stress category (p = 0.273). Cramér's V was 0.282, representing the largest effect size among the characteristics examined, but the association remained statistically non-significant.

The observed pattern did not show a consistent gradient in which stress decreased as education increased. Although education may improve access to health information, problem-solving skills, and formal coping resources, it may also be associated with different expectations, previous social roles, and awareness of declining independence. The relationship between educational attainment and perceived stress may consequently vary according to the social and environmental setting.

Shahabi et al. also reported a non-linear educational pattern: participants with a diploma had higher odds of stress than illiterate participants in their study of older adults during the COVID-19 pandemic. This finding shows that higher education does not uniformly protect against perceived stress and that the association may depend on the type of stressor and the surrounding circumstances (Shahabi et al., 2023).

The non-significant finding in the present study should be interpreted in relation to the small number of participants in each educational category, particularly the five participants who had completed higher education. Larger studies are required to determine whether the observed small-to-moderate effect represents an actual association or random variation.

d. History of Chronic Disease

Moderate perceived stress occurred in 9 of 25 participants without a history of chronic disease (36.0%) and 5 of 22 participants with at least one chronic disease (22.7%). History of chronic disease was not significantly associated with perceived stress category (p = 0.358;

Cramér's V = 0.145). The results should not be interpreted as indicating that chronic disease protects against stress.

The chronic disease variable only distinguished between the presence and absence of at least one chronic condition. It did not incorporate the number of conditions, disease duration, symptom severity, functional limitations, pain, treatment burden, or perceived control over the illness. A participant with well-controlled hypertension was therefore placed in the same category as a participant with a disabling history of stroke. This broad categorization may have obscured clinically meaningful differences.

Lin et al. reported that multimorbidity was positively associated with stress symptoms among older adults and that psychological distress increased with a greater burden of chronic conditions. Their study defined multimorbidity as the presence of at least two chronic diseases and included a much larger sample, allowing more detailed assessment of disease burden (Lin et al., 2021).

The current findings may also reflect adaptation to long-standing illness. Residents who have lived with chronic disease for several years may have developed stable treatment routines and coping strategies. Conversely, participants without a documented chronic disease may still experience loneliness, financial concerns, bereavement, family separation, or institutional adjustment difficulties. Perceived stress is based on subjective appraisal and is not determined solely by the presence of a medical diagnosis.

e. Marital Status

Moderate perceived stress was found in 60.0% of unmarried participants, 28.6% of married participants, and 25.7% of divorced or widowed participants. Marital status was not significantly associated with perceived stress category (p = 0.370; Cramér's V = 0.229). Although unmarried participants had the largest descriptive proportion of moderate stress, this group consisted of only five individuals and cannot support a firm conclusion.

Marital status may not adequately represent the social support currently available to institutional residents. A divorced or widowed resident may receive support from children, relatives, friends, peers, or institutional staff, whereas a married resident may have limited contact with a spouse. The frequency, quality, and perceived adequacy of social relationships may be more relevant to stress than legal marital status.

Dehghankar et al. found that perceived social support was associated with lower disability and that perceived stress mediated this relationship among older adults. Their results support the view that the functional quality of support, rather than marital status alone, may influence psychological adaptation (Dehghankar et al., 2024).

A study conducted in Indonesian nursing homes found differences in depressive symptoms according to marital status and several other sociodemographic characteristics. However, depression and perceived stress are distinct constructs, and those results cannot be directly transferred to the present outcome (Gunawan & Huang, 2022). The non-significant result in the current study indicates that marital status was not independently associated with perceived stress category in this sample.

f. Length of Stay in the Institution

Moderate perceived stress was experienced by 31.2% of participants who had lived in the institution for less than five years and 30.8% of those who had lived there for 5–9 years. Neither of the two participants who had lived in the institution for 10–15 years had moderate perceived stress. Length of stay was not significantly associated with perceived stress category (p = 1.000; Cramér's V = 0.137).

The similar proportions in the first two duration groups suggest that length of stay alone did not differentiate perceived stress. Adaptation to institutional life does not necessarily proceed uniformly over time. Some residents may adjust rapidly, whereas others may continue to experience separation, loss of autonomy, interpersonal conflict, or dissatisfaction after several years.

Yong et al. found that the relationship between stress and nursing home adjustment was partly explained by resourcefulness, self-efficacy, and social support. These findings indicate that

psychological and interpersonal resources may be more informative than duration of residence alone (Yong et al., 2023).

The result for residents with a length of stay of 10–15 years cannot be generalized because this category included only two participants. The absence of moderate stress in this subgroup may reflect random variation rather than better long-term adjustment.

g. Reason for Living in the Institution

Moderate perceived stress occurred in 24.1% of residents who reported living in the institution by personal choice and 38.9% of those whose institutional placement was not based on personal choice. The difference suggests a possible descriptive pattern in which residents without personal choice experienced more stress. However, the association was not statistically significant (p = 0.336; Cramér's V = 0.157).

Participation in the decision to enter an institution may preserve autonomy and perceived control. In contrast, an unwanted transition may be appraised as a loss of independence, familiar routines, social roles, and contact with family. Chen and Wu identified four dimensions of relocation stress among older adults transferred to long-term care facilities: challenge or opportunity, positive appraisal, threat, and loss. Their findings demonstrate that relocation is not uniformly negative; its psychological effect depends on how the transition is interpreted by the resident (Chen & Wu, 2023).

In the study by Yong et al., 60.6% of nursing home residents reported that moving to the institution was based on their own decision. Nevertheless, adaptation remained related to stress, self-efficacy, resourcefulness, and social support. Personal choice may therefore contribute to adjustment but does not operate independently of other psychological and institutional conditions (Yong et al., 2023).

The non-significant result in the present study may be attributable to the small sample and the simplified binary classification of the reason for institutional residence. Residents categorized as entering by personal choice may have had substantially different motivations, including lack of family caregivers, financial limitations, family conflict, or a desire not to burden their children. Future research should assess the decision-making process, perceived autonomy, family involvement, and satisfaction with placement using more detailed measures.

3. Implications and Limitations

The study did not identify statistically significant associations between perceived stress category and sex, age group, educational level, chronic disease history, marital status, length of stay, or reason for institutional residence. Age was also not correlated with the numerical PSS-10 score. These results indicate that perceived stress in institutional residents may not be adequately explained by individual demographic characteristics alone.

Psychological resources and institutional experiences that were not measured—including resilience, loneliness, social support, functional dependence, cognitive status, conflict with other residents or staff, family contact, self-efficacy, coping strategies, and satisfaction with institutional care—may be more directly related to stress. Recent studies of older adults have shown that social support may reduce perceived stress and that self-efficacy and resourcefulness contribute to nursing home adjustment (Dehghankar et al., 2024; Yong et al., 2023).

The findings have several practical implications. Residents with moderate perceived stress should receive further assessment of sleep problems, loneliness, family separation, illness-related concerns, interpersonal conflict, and adaptation to institutional living. Institutional programs should maintain opportunities for social interaction, meaningful activities, physical activity, religious participation, family contact, and resident involvement in decisions. Conflict with staff or other residents should also be identified because interpersonal conflict has been strongly associated with adverse mood outcomes in long-term care settings (Angevaare et al., 2022).

Several limitations should be considered. The study included only 47 participants from one institution, resulting in limited statistical power and sparse observations in several subgroups. No participant was categorized as having high perceived stress, preventing analysis across all three stress categories. The cross-sectional design does not establish temporal or causal relationships. Residents with severe communication difficulties were not represented,

potentially excluding individuals with greater functional or psychological vulnerability. Data were obtained using self-report and interviewer-assisted questionnaires, which may have been affected by recall, comprehension, or social-desirability bias. Cronbach's alpha was 0.628, indicating modest internal consistency and possible measurement error that may have weakened the observed associations.

Future studies should include larger samples from multiple institutions and retain the PSS-10 score as a continuous outcome whenever appropriate. Multivariable analysis should examine chronic disease burden, functional status, cognitive function, social support, loneliness, resilience, family contact, autonomy, interpersonal conflict, and institutional satisfaction. A longitudinal design would provide stronger evidence regarding changes in perceived stress during adaptation to institutional living.

Conclusion

Most residents aged 60 years and older at Dewanata Cilacap Elderly Social Service Home had low perceived stress. Among the 47 participants, 33 participants (70.2%) had low perceived stress and 14 participants (29.8%) had moderate perceived stress, while no participant had high perceived stress. The mean PSS-10 score was 11.91 ± 5.34, with scores ranging from 0 to 22.

No statistically significant associations were found between perceived stress category and sex, age group, educational level, history of chronic disease, marital status, length of institutional stay, or reason for institutional residence. Age was also not significantly correlated with the total PSS-10 score. These findings indicate that perceived stress among institutional residents may not be adequately explained by demographic and institutional characteristics alone.

Psychological and social factors, including coping ability, loneliness, social support, autonomy, family contact, functional status, and adjustment to institutional living, may provide a more comprehensive explanation of perceived stress. Regular stress screening and psychosocial assessment should therefore remain part of institutional care, particularly for residents with moderate perceived stress. The findings should be interpreted cautiously because the study involved a small sample from a single institution and used a cross-sectional design, which limits generalizability and does not establish causal relationships.

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DECLARATION OF INTEREST

The authors declare that there is no conflict of interest related to this study.

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