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Assessment of Quality of Life for Elderly Residents: A Cross Sectional Study in Nursing Home Settings

Evaluación de la calidad de vida de los residentes de edad avanzada: un estudio transversal en entornos de hogares de ancianos

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Declaration of interests
The authors have declared that there is no conflict of interest.

Abstract

Objective. We aim to assess the quality of life of older individuals living in nursing homes.

Methodology. A descriptive cross-sectional study was conducted on institutionalized elderly individuals for over three months. The sample size of the study was 260 and Non-randomized convenience sampling was used. The study excluded participants with cognitive impairment, severe medical conditions, physical limitations, communication barriers, severe pain, recent surgery, acute illness, or psychiatric disorders. Ethical approval was obtained, and participants were given informed consent. The study took place in various nursing homes in Lahore in June and July 2023, for the analysis of data Statistical Package for Social Sciences (SPSS version 22) was used, employing frequency distribution, mean, standard deviation, and correlation.

Results. The Pearson Correlation coefficient of 0.459 suggests a significant positive correlation between these variables ($p < 0.01$). This correlation is evident in both directions: Quality of life (QoL) score to Mini Mental Scale and vice versa.

Conclusion. While assessing the QoL in elderly inhabitants of nursing residences, cognitive impairment, and high Body mass index (BMI) appeared to influence the overall QoL.

Keywords

Nursing homes; quality of life; mini-mental scale; physical activity; BMI; Geriatric; aging; physical activity; cross-sectional study.

Data availability
All relevant data is in the article. For futher information, contact the corresponding author.

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Contribution of the authors
Isha Manzoor: Conceptualization, data curation, software, writing – original draft, writing – review & editing.
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Resumen

Objetivo. Nuestro objetivo es evaluar la calidad de vida de las personas mayores que viven en residencias de ancianos.

Metodología. Se realizó un estudio descriptivo transversal en ancianos institucionalizados durante más de tres meses. El tamaño de la muestra del estudio fue de 260 y se utilizó un muestreo de conveniencia no aleatorizado. El estudio excluyó a los participantes con deterioro cognitivo, afecciones médicas graves, limitaciones físicas, barreras de comunicación, dolor intenso, cirugía reciente, enfermedad aguda o trastornos psiquiátricos. Se obtuvo la aprobación ética y los participantes dieron su consentimiento informado. El estudio se llevó a cabo en varias residencias de ancianos de Lahore en junio y julio de 2023. Para el análisis de los datos se utilizó Statistical Package for Social Sciences (SPSS versión 22), empleando distribución de frecuencias, media, desviación estándar y correlación.

Resultados. El coeficiente de correlación de Pearson de 0,459 sugiere una correlación positiva significativa entre estas variables ($p < 0,01$). Esta correlación es evidente en ambas direcciones: puntuación de calidad de vida a Escala Mini-Mental y viceversa.

Conclusión. Al evaluar la calidad de vida de los ancianos que viven en residencias, el deterioro cognitivo y un índice de masa corporal (IMC) elevado parecen afectar la calidad de vida general.

Palabras clave

Hogares de ancianos; calidad de vida; escala minimental; actividad física; IMC; geriátrico; envejecimiento; actividad física; estudio transversal.

Introduction

According to the World Health Organization (WHO), the percentage of the global population aged over 60 years is projected to double, rising from 12% in 2015 to 22% by 2050 [1]. As people age, there is a decline in physical and cognitive abilities, leading to an increased prevalence of disabilities, particularly after reaching the age of 85 [2], which significantly affects the quality of life. With the change in demographic structure, there is an increased need for health assistance. Relying solely on family support cannot meet the fundamental requirements for medical and health services, leading older individuals, especially those with no spouse or offspring and those with multiple health conditions, to opt for nursing homes for assisted living and healthcare [3]. Nursing homes can provide professional care for older individuals with severe impairment, improving their QoL and lessening the stress on family caregivers. However, the decision to place a loved one in a nursing home should be made thoughtfully [3]. The transition to nursing homes comes with various changes such as physical dependency, change in living arrangements, and loss of social interactions. Therefore, this transition causes poor QoL.

Also, a good QoL for the elderly is defined as independence, carrying out basic everyday activities, and feeling better. QoL is a target for programs designed to help the elderly [4]. Quality of life considers both physical and mental soundness and ser-

ves as a crucial measure of the overall health status of an individual. It is a multidimensional and subjective concept influenced by factors such as socio-demographic characteristics, social support, and psychological and physical characteristics [5].

Therefore, QoL is a crucial consideration in healthcare policies, focusing on promoting peace, mental well-being, and physical health alongside treating illnesses. A holistic approach to healthcare, including prevention and well-being, is essential for effective policies [6].

Elderly individuals in nursing homes often experience significant changes in their circumstances, including limited physical and mental abilities, loss of their homes and belongings, reduced contact with relatives and friends, the rigid structure of institutional living, and a sense of powerlessness in decision-making [7].

Therefore, older adults in care facilities often face increasing physical disabilities, leading to higher levels of depression, anxiety, and reduced interest in social activities. This can result in a poor quality of life compared to the community-dwelling elderly due to the loss of independence and social disconnection [8]. Also, spending time on meaningful activities is important to sustain QoL. If elderly residents are disengaged, it can cause loneliness and apathy that accelerate mental and physical deterioration [9].

BMI is a factor that influences the QoL in the Geriatric population. Elderly people with high BMI have a worse quality of life than people with normal weight [10].

Older individuals with higher BMI have a poorer quality of life and institutionalization tends to exacerbate that condition due to lack of physical activity and associated physiological effects.

Moreover, the social environment within the nursing homes shapes the perception of resident's perception of QoL [11]. Residents with more social network and family support have better cognitive impairment than those with moderately sized social engagement [12]. Quality of life is dependent on cognitive functioning, so if there is an impairment in mental abilities, the elderly are less likely to sustain a healthy lifestyle [13] Understanding the complex interplay of physical, social, and cognitive factors is crucial in assessing the needs of older individuals in care [14]. By investigating these dynamics, we can inform the development of tailored healthcare interventions and policies that aim to optimize the QoL for elderly citizens in nursing homes.

Therefore, the main goal of this study is to investigate the assessment of quality of life (QOL) in elderly individuals residing in nursing homes, providing valuable insight to guide future healthcare initiatives.

Methodology

This cross-sectional study aimed to assess the quality of life (QoL) among male and female older adults aged 60 and above, residing in long-term care facilities for more than three months. The sample size comprised 260 participants selected through convenience sampling.

Exclusion criteria included cognitive impairment (defined as a score < 23 on the Mini-Mental Scale), severe medical conditions, physical limitations, communication barriers, severe pain, recent surgery, acute illness, or psychiatric disorders.

The WHO's QoL scale was employed for the evaluation of participants' perceptions of their quality of life during structured interviews. Participants rated their QoL on a scale from 1 to 7, with higher scores indicating better QoL (7: delighted, 6: pleased, 5: satisfied, 4:

mixed, 3: dissatisfied, 2: unhappy, 1: terrible) [15]. The Mini-Mental Scale was employed for assessing cognitive abilities, with scores ranging from 0 to 30, categorizing participants into severity levels [16]. BMI was calculated by integrating weight measurements obtained from a digital healthcare scale and height measurements from tape measurements.

Ethical approval was obtained from the Institutional Review Board of the University of Management and Technology. Moreover, all participants provided informed consent before participation. Data collection involved administering questionnaires, conducting cognitive assessments using the Mini-Mental Scale, and obtaining BMI measurements.

Researchers conducted interviews and assessments at various nursing homes, including Happy Homes, Rahimoon Welfare Foundation Old Homes, Fountain House, Affiat Old Age Homes, and Bahria Old Age Homes in Lahore, over two months. Data entry and analysis were performed using the Statistical Package for Social Sciences (SPSS) version 22, utilizing descriptive statistics such as frequency distribution, mean, and standard deviation, along with pie charts and correlation analysis to explore relationships between variables.

Results

The study's demographic analysis revealed that the majority of participants were aged between 60 to 75 years (190 participants, 73.1%), married (196 participants, 75.4%) and had predominantly undergraduate education (175 participants, 67.3%). Additionally, the sample consisted of 144 male participants (55.4%) and 116 female participants (44.6%).

Regarding their stay in nursing homes, a considerable proportion had been residing for up to 6 months (117 participants, 45.0%). In terms of BMI and cognitive function, the findings indicated that 140 participants were overweight (53.8%), while 111 had a normal BMI (42.7%), and 9 were underweight (3.5%). Furthermore, the majority showed no cognitive impairment on the Mini-Mental Scale (201 participants, 77.3%), while 54 participants had mild cognitive impairment (20.8%), and 5 had severe cognitive impairment (1.9%) (Table 1).

The analysis revealed strong positive correlations between Quality of Life (QOL) and Mini-Mental Scale Score (Table 2), which implies that participants with higher Mini-Mental scores had more satisfactory QoL. The correlation analysis unveiled a noteworthy negative correlation between BMI and quality of life (QoL), with a Pearson correlation coefficient of -0.224 ($p < 0.01$) (Table 2). This finding signifies that as BMI increased, QoL tended to decrease among elderly residents in nursing homes.

These findings suggest potential effects on the quality of life in nursing home residents, particularly focusing on BMI and Cognition.

Discussion

This study assessed the Quality of Life (QoL) of individuals in nursing homes, and the findings highlight that individuals with a low QoL either had impaired Cognition or high BMI. As far as cognition is concerned, this study shows a definite effect of Cognition impairment on QoL similar to the one conducted previously [17]. Additionally, limitation in the movements of two obese case subjects from a nursing home was also reported, which signifies the inability an active lifestyle leading to relatively poor QoL. The focus of the study was to observe, based on the quality of life of geriatrics in old homes with no comorbidities, the possible effects of other factors on residents towards the sustainment of their quality of life [18].

Table 1. Descriptive Statistics of Demographics.

Variable	Description	Frequency	Percent
Age	60-75 years	190	73.1%
	> 75 years	70	26.9%
Marital Status	Married	196	75.4%
	Unmarried	64	24.6%
Gender	Male	144	55.4%
	Female	116	44.6%
Nursing Home Stay	Up to 3 months	46	17.7%
	Up to 6 months	117	45.0%
	Up to 9 months	70	26.9%
	1 year or more	27	10.4%
Level of Education	Undergraduate	175	67.3%
	Graduate	67	25.8%
	Postgraduate	18	6.9%
Body mass index	Underweight	9	3.5%
	Normal	111	42.7%
	Overweight	140	53.8%
Mini-Mental Scale	No cognitive impairment	201	77.3%
	Mild cognitive impairment	54	20.8%
	Severe cognitive impairment	5	1.9%

A correlation of 0.459 between the Mini-mental score and QoL was observed. This result means that there was a positive correlation between these variables, suggesting that if the mental abilities of the residents are intact, then it will help them achieve a better life quality. As implied by this study, most individuals (77.3%) at the retirement homes exhibited no cognitive impairment, so their quality of life was relatively good. These results are opposite to the results of the study conducted previously, as it shows a higher percentage of residents with cognitive impairment and a lower percentage of residents with normal MMS examination scores [19].

The difference can be due to the overall facilities of the nursing homes and mental health care provision. However, the BMI factor was also under consideration, which appeared to have influenced the QoL with the Pearson Correlation of -0.224 ($p < = 0.01$). As the results revealed, approximately 53.8% of residents with high BMI had also compromised their quality of life, due to a lack of self-care and dynamic participation in ADLs.

Table 2. Correlation between QOL and Mini-Mental State Score, BMI and QOL, and BMI and Mini-Mental State score.

Correlation between QOL and Mini-Mental State score			
		QOL score	**Mini-Mental State score**
QOL score	Pearson Correlation	1	.459**
	Sig. (2-tailed)		.000
Mini-Mental State score	Pearson Correlation	.459**	1
	Sig. (2-tailed)	.000	
Correlation between BMI and QOL			
		BMI score	**QOL score**
BMI score	Pearson Correlation	1	-.224**
	Sig. (2-tailed)		.000
QOL score	Pearson Correlation	-.224**	1
	Sig. (2-tailed)	.000	
Correlation between BMI and Mini-Mental State Score.			
		BMI score	**Mini-Mental State score**
BMI score	Pearson Correlation	1	-.088
	Sig. (2-tailed)		.158
Mini-Mental State score	Pearson Correlation	-.088	1
	Sig. (2-tailed)	.158	

Moreover, the study also pointed out a non-significant negative correlation of -0.088($p > 0.158$) between BMI and the mini-mental scale, indicating that a person's mental abilities cannot be affected by weight even if they are living in residential homes. Although all the factors that impacted the Quality of life of older residents of nursing homes were apparent, the fact that there is a background of emotional distress that leads to the lack of active self-care cannot be denied. The study also highlights the relationship between depression and social aspects of quality of life [20].

However, it can also be assumed that QoL somehow also reflects the ambiance provided by care homes to its residents. The long-term homes included in this study had a well-balanced environment for the residents that included regular medical check-ups, counseling, and availability of modern facilities, which can be an element in the relatively good quality of life of most residents than often presumed in standard long-term care home settings.

Limitations and Recommendations

Recommendations

Researchers should explore the effectiveness of various exercise programs and social engagement initiatives in enhancing the quality of life (QoL) among elderly individuals in nursing homes.

Further investigation into the impact of the physical environment of nursing homes, including accessibility to continuous medical and physical care, is warranted to better understand its influence on residents' well-being.

Limitations

The study's narrow focus on assessing QoL in elderly nursing home residents using only two variables, BMI and cognition, limits the comprehensive understanding of factors influencing their well-being.

Relying solely on self-reported data for QoL assessment may introduce biases such as social desirability bias and subjective interpretation, potentially impacting the accuracy of study outcomes.

Conclusion

In conclusion, our study sheds light on the intricate relationship between BMI, cognitive function, and quality of life (QoL) among elderly residents in nursing homes. We found that individuals with better cognitive function and lower BMI generally reported higher QoL compared to those with impaired cognition and higher BMI. These findings emphasize the importance of managing both cognitive health and weight management to improve the QoL of elderly nursing home residents. Future interventions should focus on tailored strategies to promote healthy aging and enhance QoL in this population.

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