

Assessing the quality life of elderly individuals

Sheila Marie Oconer¹, Victor Jr Quimen¹

College of Allied Health Studies, Gordon College, Olongapo City, Philippines¹

Corresponding author:

Name: Sheila Marie Oconer
Address: College of Allied Health Studies, Gordon College, Olongapo City, Philippines
E-mail: smoconer1011@yahoo.com

Article info:

<http://dx.doi.org/10.70848/cnj.v1i2.4>
pISSN 3063-9247
eISSN 3063-9255

Article History:

Received: May 22th, 2024
Revised: December 27th, 2024
Accepted: December 28th, 2024

Abstract

Introduction: quality of life is very important in people over the age of 60 due to its close relationship with satisfaction and achievement of personal goals. **Objectives:** The study aims to describe the quality of life among elderlies and to determine the factors that may influence it. **Methods:** The respondents are the 158 elderly (60 to 75 years old) residing in barangay West Bajac-Bajac, Olongapo City. The instruments used for this study are an adaptation of WHOQOL-BREF. The researchers applied a convenience sampling method when distributing a paper survey to the respondents in the community. **Result:** The results indicated that the majority of respondents were female, aged 61 to 70 years old, married, and high school graduates, with pensions as their primary source of income. The prevalence of hypertension was high among the respondents, whereas participation in programs by the Office of Senior Citizens Affairs (OSCA) was low. Among the four QoL domains, the physical health domain had the highest mean score, reflecting satisfactory mobility and ability to perform daily activities. In contrast, the social relationships domain had the lowest score, particularly in sexual satisfaction. Psychological health showed positive self-acceptance but occasional negative feelings, while environmental health was significantly associated with sex differences. The findings emphasize the importance of a holistic approach to improving the QoL of the elderly, focusing on physical health, psychological well-being, and strengthening social connections. **Conclusion:** The study recommends implementing integrated community-based health programs tailored to the elderly's needs, enhancing social participation, and addressing gaps in healthcare access. Future research should expand the study scope to other regions and include broader demographic representations.

Keywords:

Elderly, Enviromental, Physical, Psychological, Quality of Life, Social Relationship



This is an Open Access article distributed under the terms of the Creative Commons Attribution 4.0 International License CC BY -4.0

INTRODUCTION

The world's population structure is experiencing a unique and sustained age change,

fueled by an increase of life expectancy, falling birthrates, remarkable government health programs as well as breakthrough developments in the field of healthcare According to the United Nations (2019).

Currently, there are 703 million older people around the world and it is estimated that this number will reach 1.5 billion by 2050. The Asian countries account for 52% of this population. Eastern and South-Eastern Asia home the largest number of older persons with 261 million people aged 60 years or over and it is projected to gain 573 million more by 2050. Currently, there are 703 million older people around the world and it is estimated that this number will reach 1.5 billion by 2050. Today, there are 703 million older people worldwide and it's expected that this figure will rise to 1.5 billion by 2050. This population is made up of 52% of Asian countries. Eastern and South-Eastern Asia home the largest number of older persons with 261 million people aged 60 years or over and it is projected to gain 573 million more by 2050. The problem of the elderly's wellbeing is becoming more serious in view of increasing population ageing and age-related changes. Aging is the multifaceted, ongoing degradation of a person's organ systems and tissue that is complex, inexorable, and unavoidable (Ismail et al., 2021). With respect to vulnerability in old age period in the life, aged people confront a number of difficulties which are related to their age and environment such as suffering from chronic diseases, loneliness and the lack of social protection and in many cases due to physical and mental disabilities, their independence is threatened. These problems lead to a reduction the quality of life (QOL) (Sanchini et al., 2022). Moreover, unique challenges relating to the quality of their lives are also faced by older persons who have recourse to a variety of sources of income. Better health outcomes, social connections and total wellbeing have been linked to the source of income (Carandang et al., 2024). However, not all people over the age of 60 have the same source of income and there may be variation in levels of good wellbeing and quality of life depending on whether they use a variety of sources (Ruggeri K et al., 2020). The Quality of Life is defined in the WHO's 2018 Report as an individual's sense of his or her position within a culture and value system that he or she lives under, with regards to its goals, expectations, standards and concerns (Badowska & Szkultecka-Dębek, 2023). A person's ability to assess their physical, mental, social and environmental health from a multidisciplinary perspective can be regarded as an indicator of his or her general wellbeing and is the basic parameter for maintaining good health (Haim-Litevsky et al., 2023). Particularly, quality of life is very important in people over the age of 60 due to its close relationship with satisfaction and achievement of personal goals (Gonnord et al., 2023). In accordance with Jazayeri et al. 2023, population studies on quality of life may be an ideal demographic for elderly persons in their 60s and to 75 years of age, given that they have comparatively normal health status, activity level or ability to withstand the effects of ageing and illness. In addition, these age groups may reveal information on the factors which enhance and sustain quality of life for elderly adults over 75

years old, especially when it comes to health issues such as wellbeing (Jazayeri et al., 2023).

In the Philippines, few studies were conducted to evaluate the quality of life for older people and no recorded study was carried out in Olongapo City. In the city of Olongapo, West Bajacabajac is a barangay. According to the Philippine Statistics Authority (2020) and the 2020 Census of Population and Housing (2020), the total population of West Bajac-bajac is 8,433. This represented 3.24% of the total population of Olongapo. The old dependent population consists of senior citizens, those aged 65 and over, with a total of 5.35% (428) in all.

The findings of this study provided valuable insights into the needs and challenges faced by the elderly population ages 60 to 75 years old residing in the West Bajac-bajac of Olongapo City, as well as potential solutions to address them. Specifically, the research proposed a health plan, program, or activity for the elderlies in the barangay based on the results of the study. The findings of this research can make recommendations and inform policy decisions and interventions aimed at improving the quality of life for elderlies who live in Olongapo City and the Philippines.

METHOD

1. Design

The quantitative descriptive method of research was used in this study. Quantitative research is able to make statistical findings with respect to a population based upon the study of an appropriate sample. The population is made up of all those involved in the study. Whether it is a broad or narrow population, only the inclusion of all those who are compatible with the study group's characteristics will determine its size. Since it is impractical to conduct a census (including everyone in the population) because of constant turnover and resource constraints, a representative sample is chosen from the population. If chosen properly, the sample is statistically identical to the population, and conclusions for the sample is inferred from the population (Garg, 2016).

Descriptive research is a method of quantitative analysis, which aims to obtain measurable information for statistical analyses on the population sample (Mohajan, 2020). It is quantitative, when it tries to gather data and analyses them in terms of statistical analysis. The type of research allows researchers to collect data and describe demographic characteristics with statistical analysis, making it a powerful tool for the study. This research method was used to elicit patterns related to the Quality of Life of the elderly in West Bajac-Bajac of Olongapo City and to provide necessary data for the development of interventions to improve the Quality of Life of people in this vulnerable population. This enables elderly persons to acquire greater independence and improve their quality of life through

examination of the relationship between need for assistance and assessment of living conditions in relation to health, mental illness, social relations, relationships with the environment.

2. Participants

In their study, Dyussenbayev and A. (2017) state that the World Health Organization has published an official review of its age criteria in 2015. According to the new age classification, the young age is from 25 to 44, the middle age is 44–60, the elderly age is 60–75, the senile age is 75–90, and the long-lived age is after 90. In the Philippines, under Republic Act 7641, the Retirement Pay Law, employees who reach the age of 60 have the option to retire and are required to retire when they reach 65 years old. Given that it is a borderline age between independents and dependent persons, the researchers intend to analyse elderly people 60 years of age or older. Simply put, it is when great lifestyle changes occur in terms of daily tasks and health. The researchers studied this age cohort's quality of life and the factors that may influence it.

The researchers first visited the Office of Senior Citizens Affairs (OSCA) at West Bajac-Bajac to collect data concerning the total population of elderlies currently residing in the barangay. After the raw data was collected, the researchers had proceeded with performing convenience sampling. According to Kassiani, N. (2022), convenience sampling is a non-probability sampling method where units are selected for inclusion in the sample because they are the easiest for the researcher to access. This can be due to geographical proximity, availability at a given time, or willingness to participate in the research.

Overall, for populations of 507 elderlies, a sampling ratio of 30 percent is advisable to ensure the representativeness of the sample. Therefore, the researchers must survey at least 152 respondents aged 60–75 years old from barangay West Bajac-Bajac. However, the researchers garnered data beyond the lowest limit, and surveyed a total of 158 respondents.

3. Instruments

In the context of a person's culture, values systems, individual objectives, standards and concerns, WHOQOLBREF evaluates his quality of life (World Health Organization, 2012). It is intended to provide for the development of a quality of life assessment which will be applicable across cultural borders. The WHO Group and other researchers from around the world have conducted extensive research and validation studies on WHOQOLBREF's psychometric properties. It was tested in a variety of languages, cultural groups and disease populations. The discriminant validity, content validity, internal consistency and test-retest reliability were good. A parallel study was conducted in June 2011 with the aim of comparing both data. At the China Medical University there were 1686 medical students aged 1–5 participating in this study. To assess quality of life for health students, the WHOQOLBREF instrument

was used in China. The study found that, compared to students in other stages of medical education, students in their third year showed a greater deterioration in their mental health and social relationships. The WHOQOLBREF therefore has been applicable for the assessment of quality of life in China, to be used with health students. Other studies also demonstrated the same results. Similar studies have been carried out in Thailand which support the use of WHOQOL0-BREF by Thai college students.

The researchers adapted this questionnaire tool to describe the quality of life of elderlies in West Bajac-Bajac, Olongapo City. Any information that was obtained in connection with the study remained confidential. The questionnaire contained two different parts. The first part of the questionnaire consisted of respondents' demographic profile information (sex, date of birth, age, civil status, educational attainment, source of income), present illness, and their participation in any of the Office of the Senior Citizen's programs or activities.

Then it is followed by the four domains of QOL. The first one is the physical domain, which contains seven questions that measure pain, energy, sleep, mobility, activities, medication, and work. The second domain is the psychological domain, which contains six questions that include their feelings of positivity, thinking, self-esteem, body, feeling of negligence, and spirituality. The third domain is the social relationships domain, which is measured in terms of three questions related to satisfaction with God, family, friends, and sex. Finally, the fourth domain is the environment domain, which includes seven questions that pertain to safety, home, finance, services, information, leisure, environment, and transportation.

4. Data collection

After the approval of the proposal and the final draft of the research instrument, the researchers wrote a letter of permission to the Dean of the College of Allied Health Studies of Gordon College, authorized persons of the Office of the Senior Citizen Affairs, and the Barangay Chairman of Barangay West Bajac-Bajac, Olongapo City. After receiving permission, the researchers conducted a structured interview with the elderlies of Barangay West Bajac-Bajac, Olongapo City through community visits. The researchers explained the purpose of the study to the selected elderlies and ensured each participant corresponded to the predefined criteria.

The researchers asked whether the elderly can answer the questionnaire independently or dependently, hence, they can be assisted in filling out the questionnaire by one of the researchers through a one-on-one interview. The researchers collected the data through a survey questionnaire that comprised the elderly' demographic profile, such as age, sex, civil status, educational attainment, source of income, also their community participation, and disease background. The respondents' perceptions of their physical health, psychological health, social relationships, and environmental health were

identified through the second part of the survey questionnaire. After the respondents filled out the questionnaires, the researchers provided refreshments and took the elderly's vital signs. After the respondents answered the questionnaires, the papers were checked, tallied, interpreted, and analyzed.

5. Data Analysis

The population of the study is the 507 residents aged 60–75 in West Bajac- Bajac, Olongapo City. In gathering information, the researchers first visited the Office of Senior Citizens Affairs (OSCA) at West Bajac-Bajac. Later on, the researchers conducted a community visit, wherein the respondents were asked to fill out the questionnaire needed for the study. After collecting the answered questionnaires, the raw data was coded and was submitted to the statistician.

The formula of frequency and percentage were utilized to describe the respondents' demographic profile, disease background, and community participation variables. Meanwhile, weighted mean was used to measure the quality of life of elderlies in terms of physical health, psychological health, social relationships, and environmental health. Through the Likert scale, the four domains were described. A value of 1 was assigned to "not at all." In contrast, a value of 5 refers "an extreme amount." Lastly, independent T-test and analysis of variance were computed to compare the significant differences among the respondents' demographic profiles, disease background, community participation, and factors affecting the quality of life.

6. Research Ethics

The research was conducted following the standards set by the Philippine Health Research Ethics Board (PHREB) and the Philippine National Health Research System (PNRHS). This is designed to ensure the safety and privacy of elderlies during the research process. The researchers followed the general and specific guidelines that include informed consent, research design, the conduct of the research, and dissemination of the research output. If there were respondents with disabilities that limited him or her from answering the questionnaire, the researchers conducted a structured interview following the guidelines set by the WHOQOL-BREF. For confidentiality, the completed survey questionnaires were collected, placed in a box, and kept by the researchers at home.

RESULT

Table 1 shows the distribution of respondents according to profiles, the majority of the respondents are 61 – 70 years old, with a total count of 53.2% of the responses. The majority of the respondents are female, with a total count of 57% of the responses, and married, with a total count of 45.6% of the responses. Many of the respondents graduated from secondary school, with a total count of 41.8% of the responses and their income comes from a pension is 34.8% of the respondents.

Table 1. Distribution of the respondents in terms of age, sex, civil status, educational attainment, and income (N = 158)

Variables	n	%
Age		
51 - 60 years old	14	8.9
61 - 70 years old	84	53.2
71 - 80 years old	60	38.0
Sex		
Male	68	43.0
Female	90	57.0
Civil Status		
Single	8	5.1
Married	72	45.6
Living as Married	9	5.7
Separated / Divorced	9	5.7
Widowed	60	38.0
Educational Attainment		
Primary School	41	25.9
Secondary School	66	41.8
Tertiary School	41	25.9
Vocational	6	3.8
None	4	2.5
Income		
Pension	55	34.8
Earnings From Work	30	19.0
Asset Income	33	20.9
Benefits from Retirement	4	2.5
Cash Public Assistance	2	1.3

Others	34	21.5
--------	----	------

Table 2. Distribution of the respondents in terms of disease background (N = 158)

Diseases	n	%
Hypertension		
No	75	47.4
Yes	83	52.5
Cataracts		
No	148	93.7
Yes	10	6.3
Disease of the joint		
No	123	77.8
Yes	35	22.2
Diabetes		
No	122	77.2
Yes	36	22.8
Heart Problems		
No	148	93.7
Yes	10	6.3
Others Health Condition		
No	127	80.4
Yes	31	19.6

Table 3. Factors affecting the quality of life of the respondents in terms of physical health

Statement	Weighted Mean	S.D	Verbal Interpretation
To what extent do you feel that physical pain prevents you from doing what you need to do?	3.30	1.275	Moderate amount
Do you have enough energy for everyday life?	3.20	1.309	Moderate amount
How satisfied are you with your sleep?	3.23	1.01	Neither satisfied nor dissatisfied
How well are you able to get around physically?	3.82	1.093	Very
How satisfied are you with your ability to perform daily living activities?	3.63	1.126	Satisfied
How much do you need any medical treatment to function in your daily life?	3.30	1.413	Moderate amount
How satisfied are you with your capacity for work?	3.65	1.046	Satisfied
Grand Total	3.75	0.781	Great Amount

Table 4. Factors affecting the quality of life of the respondents in terms of psychological health

Statement	Weighted Mean	S.D	Verbal Interpretation
How much do you enjoy life	3.68	1.072	Great Amount
How well are you able to concentrate	3.78	0.905	Very
How satisfied are you with yourself	4.03	0.870	Satisfied
Are you able to accept your bodily appearance?	4.08	0.948	Very
How often do you have negative feelings such as blue mood, despair, anxiety, or depression	3.31	1.105	Sometimes
To what extent do you feel your life to be meaningful	3.58	1.078	Great Amount
Grand Total	3.92	0.728	Great Amount

Table 5. Factors affecting the quality of life of the respondents in terms of social relationship

Statement	Weighted Mean	S.D	Verbal Interpretation
How satisfied are you with your personal relationships	4.25	0.886	Very Satisfied
How satisfied are you with the support you get from your friends	3.54	1.092	Satisfied
How satisfied are you with your sex life	2.60	1.484	Fairly Dissatisfied
Grand Total	3.73	0.975	Satisfied

DISCUSSION

The distribution of respondents based on disease background shows that 52.5% had hypertension (83 respondents), while 47.4% did not have hypertension (75 respondents). The high prevalence of hypertension may be attributed to lifestyle factors such as excessive salt consumption, lack of physical activity, and high stress levels in the population. Research by Schmidt et al (2020) indicates that hypertension is one of the most common diseases globally and often goes undetected until it leads to severe complications such as heart disease or kidney failure.

A total of 93.7% of respondents did not have cataracts (148 respondents), while only 6.3% reported having cataracts (10 respondents). The low prevalence of cataracts may be related to the age of respondents or their access to preventive measures, such as consuming foods rich in antioxidants and using eye protection against ultraviolet rays. However, for the small group experiencing cataracts, advanced age and prolonged exposure to free radicals are significant risk factors, as described by Mehta (2021), who noted that cataracts are closely associated with age-related degeneration.

In addition, 77.2% of respondents did not have joint diseases (124 respondents), while 22.8% reported having such conditions (35 respondents). Joint diseases, such as osteoarthritis, are typically caused by factors like excess weight, strenuous physical activity, or aging. Yao et al (2023) stated that

osteoarthritis is one of the leading causes of disability among older adults, mainly due to the deterioration of cartilage in frequently used joints.

The majority of respondents, 77.1%, did not have diabetes (121 respondents), while 22.9% did (36 respondents). This figure highlights diabetes as a critical health issue requiring serious attention. A high-sugar diet, obesity, and genetic factors are the main contributors to its prevalence. GBD 2021 Diabetes Collaborators (2023) explained in their study that the prevalence of diabetes continues to rise worldwide, particularly in developing countries, due to changes in diet and unhealthy lifestyles.

Lastly, 93.7% of respondents did not have heart problems (148 respondents), whereas 6.3% did (10 respondents). Although low, this prevalence of heart problems warrants attention, as hypertension and diabetes, which are common among respondents, are major risk factors for heart disease. Teo & Rafiq (2021) in the interheart study demonstrated that managing risk factors such as hypertension and diabetes could significantly reduce the incidence of heart disease in communities.

The results in Table 3 show the factors affecting respondents' quality of life in terms of physical health. The statement "*How well are you able to get around physically*" has the highest weighted mean of 3.82, with a verbal interpretation of *Very*. This indicates that most respondents feel they can move around physically very well. This ability may be due to adequate daily physical activity, good access to healthcare services, or generally well-maintained health conditions. A study by Marquez et al (2020)

supports this finding, stating that sufficient physical activity significantly contributes to a good physical state and improved quality of life.

Conversely, the statement *"Do you have enough energy for everyday life?"* has the lowest weighted mean of 3.20, with a verbal interpretation of *Moderate amount*. This suggests that many respondents feel they only have a moderate amount of energy to carry out daily activities. Factors such as an imbalanced diet, poor sleep quality, or high stress levels could influence their energy levels. Solanki et al (2020), in their study, explained that chronic stress and sleep disorders directly impact decreased energy levels and overall physical health.

Overall, the parameter of physical health has a weighted mean of 3.75, with a verbal interpretation of *Great Amount*. This indicates that respondents generally perceive their physical health as good. However, the significant difference between mobility and daily energy availability highlights the need for a more holistic approach to improving physical health. Research by the Daniels et al (2023) emphasized that physical health involves not only mobility but also aspects of energy and vitality, which are influenced by lifestyle and environment.

Additionally, a study by Angulo et al (2020) showed that regular physical activity enhances not only mobility but also contributes to increased energy levels and reduced fatigue risk. Izquierdo et al (2021) further supported this, stating that routine physical exercise can improve physical capacity and daily energy levels, especially in adult populations.

This article also identifies physical, psychological, and social health in older adults. Based on the study results, the statement *"Are you able to accept your bodily appearance"* has the highest weighted mean of 4.08, with a verbal interpretation of *Very*. This indicates that most older adults feel satisfied and able to accept their physical appearance. This acceptance may be due to a better understanding of the natural changes in the body with age and the application of effective coping strategies. Research by Saldivia et al (2023) showed that positive body acceptance in older adults is associated with higher life satisfaction and a reduced risk of psychological disorders.

Conversely, the statement *"How often do you have negative feelings such as blue mood, despair, anxiety, or depression"* has the lowest weighted mean of 3.31, with a verbal interpretation of *Sometimes*. This value indicates that, although the overall psychological health level is quite good, some older adults occasionally experience negative feelings such as low mood, despair, anxiety, or depression. Factors such as social isolation, loss of loved ones, or chronic health challenges may contribute to these negative feelings. Kupferberg & Hasler (2023) in his study explained that depression is a common mental health issue in older adults, especially those with social or physical limitations.

Overall, the psychological health parameter has a weighted mean of 3.92, with a verbal interpretation of *Great Amount*. This indicates that

most older adults have good psychological health. Factors such as social support, meaningful daily routines, and effective adaptation to life changes contribute to this result. Kovalenko & Spivak (2022) found that emotional balance and self-acceptance are significant indicators of psychological well-being, especially in the older adult population.

Additionally, research by Rolison & Lamarche (2023) showed that older adults with strong and active social networks are less likely to experience negative feelings and are better able to accept changes in themselves. Christopher & Facal (2023) also supported that the ability to regulate emotions and focus on the positive aspects of life helps older adults maintain good psychological health.

Based on the study results, the statement *"How satisfied are you with your personal relationships"* has the highest weighted mean of 4.25, with a verbal interpretation of *Very Satisfied*. This indicates that most respondents feel very satisfied with their personal relationships, such as with family, friends, or the community. This satisfaction is likely due to emotional support, mutual trust, and the presence of meaningful people in their lives. Research by Acoba (2024) supports this finding, showing that positive social relationships provide protective effects on individuals' psychological and physical well-being.

On the other hand, the statement *"How satisfied are you with your sex life"* has the lowest weighted mean of 2.60, with a verbal interpretation of *Fairly Dissatisfied*. This result indicates that many respondents are less satisfied with their sex life. This dissatisfaction may be caused by various factors, such as physiological changes due to aging, chronic health conditions, or ineffective communication with their partner. Józefacka et al (2023) explained in their study that age, health, and relationship dynamics significantly influence sexual satisfaction levels.

Overall, the parameter *"social relationships"* has a weighted mean of 3.73, with a verbal interpretation of *Satisfied*. This indicates that respondents are generally satisfied with their social relationships. Although there is dissatisfaction with aspects of sexual life, positive personal relationships remain a key factor in supporting social well-being. Research by Wickramaratne et al (2022) demonstrated that strong social connections contribute to improved mental health and reduced loneliness, which are crucial for enhancing overall life satisfaction.

Additionally, Acoba (2024) stated that good social support not only enhances mental health but also helps individuals cope with stress and life challenges. Ringwald & Wright (2021) also found that the quality of personal relationships, such as warmth and empathy, significantly impacts an individual's level of social satisfaction.

CONCLUSION

Based on the findings of the study conducted on the elderly population aged 60 to 75 years old in

West Bajac-bajac, Olongapo City, the results provide valuable insights into the challenges and health needs faced by this group, as well as potential solutions to address them. The study revealed that the majority of respondents did not have hypertension, cataracts, or heart problems, but the prevalence of diabetes, joint diseases, and issues related to sexual life warrant more attention. This can be explained by unhealthy lifestyles, lack of physical activity, and social and emotional conditions that affect their quality of life.

Overall, the study identifies the importance of addressing the physical, psychological, and social health of the elderly. Most respondents felt satisfied with their personal relationships, but were somewhat dissatisfied with their sexual life. Psychological health also requires attention, although the majority of respondents felt able to accept the physical changes that come with aging. The study emphasizes the need for a holistic approach to improving the quality of life for the elderly, considering their physical, psychological, and social factors together.

As a recommendation, it is essential to design more integrated, community-based health programs for the elderly in Olongapo City and the surrounding areas, including increased access to healthcare services, health lifestyle education, and stronger emotional and social support. Programs such as regular physical activity, improved mental well-being, and ongoing social support can contribute to better quality of life for the elderly. Policies that encourage elderly individuals to be more active and engaged in social life can also help reduce feelings of isolation and depression they may experience.

Overall, the findings of this study provide a solid foundation for planning health programs for the elderly in Olongapo City, which can be applied not only at the local level but also serve as a reference for broader public health policies in the Philippines.

Conflict of Interest

The authors declare no conflict of interest.

Funding

No funding for this research.

REFERENCES

- Acoba, E. F. (2024). Social support and mental health: the mediating role of perceived stress. *Frontiers in Psychology, 15*(February), 1–12. <https://doi.org/10.3389/fpsyg.2024.1330720>
- Angulo, J., El Assar, M., Álvarez-Bustos, A., & Rodríguez-Mañas, L. (2020). Physical activity and exercise: Strategies to manage frailty. *Redox Biology, 35*(January). <https://doi.org/10.1016/j.redox.2020.101513>
- Badowska, M., & Szkultecka-Dębek, M. (2023). Indicators affecting the quality of life of an individual and society. *Journal of Health Policy and Outcomes Research, 2023*(1), 11–20. <https://doi.org/10.7365/JHPOR.2023.1.2>
- Carandang, R. R., Olea, A. D., Legaspi, P. K., Quimen, Y., Ebrada, M. N., & Miranda, K. J. (2024). Health Care Access and Quality of Life of Community-Dwelling Senior Citizens in Pampanga, Philippines. *Gerontology and Geriatric Medicine, 10*. <https://doi.org/10.1177/23337214241280851>
- Christopher, G., & Facal, D. (2023). Editorial: Emotion Regulation and Mental Health in Older Adults. *Entomologia Experimentalis et Applicata, 103*(3), 239–248. <https://doi.org/10.1023/A>
- Daniels, K., Lemmens, R., Knippenberg, E., Marinus, N., Vonck, S., Baerts, J., Bergs, J., Spooren, A., Hansen, D., & Bonnechère, B. (2023). Promoting physical activity and a healthy active lifestyle in community-dwelling older adults: a design thinking approach for the development of a mobile health application. *Frontiers in Public Health, 11*(November), 1–17. <https://doi.org/10.3389/fpubh.2023.1280941>
- Dyussenbayev, A. (2017). Age periods of human life. Services for Science and Education, United Kingdom. <https://journals.scholarpublishing.org>
- Garg, R. (2016). Methodology for research I. *Indian Journal of Anaesthesia, 60*(9), 640–645. <https://doi.org/10.4103/0019-5049.190619>
- GBD 2021 Diabetes Collaborators. (2023). Global, regional, and national burden of diabetes from 1990 to 2021, with projections of prevalence to 2050. *Lancet, 402*(10397), 203–234. <https://www.healthdata.org/research-analysis/library/global-regional-and-national-burden-diabetes-1990-2021-projections>
- Gonnord, T., Clarys, D., Boucard, G., & Esnard, C. (2023). Positive impact of social relationships fostered by physical and/or cognitive group activity on older people's quality of life: PRISMA systematic review. *Frontiers in Psychology, 14*(September). <https://doi.org/10.3389/fpsyg.2023.1166072>
- Haim-Litevsky, D., Komemi, R., & Lipskaya-Velikovsky, L. (2023). Sense of Belonging, Meaningful Daily Life Participation, and Well-Being: Integrated Investigation. *International Journal of Environmental Research and Public Health, 20*(5). <https://doi.org/10.3390/ijerph20054121>
- Ismail, Z., Ahmad, W. I. W., Hamjah, S. H., & Astina, I. K. (2021). The impact of population ageing: A review. *Iranian Journal of Public Health, 50*(12), 2451–2460. <https://doi.org/10.18502/ijph.v50i12.7927>
- Izquierdo, M., Merchant, R. A., Morley, J. E., Anker, S. D., Aprahamian, I., Arai, H., Aubertin-Leheudre, M., Bernabei, R., Cadore, E. L., Cesari, M., Chen, L. K., de Souto Barreto, P., Duque, G., Ferrucci, L., Fielding, R. A., García-Hermoso, A., Gutiérrez-Robledo, L. M., Harridge, S. D. R., Kirk, B., ... Singh, M. F. (2021). International Exercise Recommendations in Older Adults (ICFSR): Expert Consensus Guidelines. *Journal of Nutrition, Health and Aging, 25*(7), 824–853. <https://doi.org/10.1007/s12603-021-1665-8>
- Jazayeri, E., Kazempour, S., Hosseini, S. R., &

- Radfar, M. (2023). Quality of life in the elderly: A community study. *Caspian Journal of Internal Medicine*, 14(3), 534–542. <https://doi.org/10.22088/cjim.14.3.543>
- Józefacka, N. M., Szpakiewicz, E., Lech, D., Guzowski, K., & Kania, G. (2023). What Matters in a Relationship—Age, Sexual Satisfaction, Relationship Length, and Interpersonal Closeness as Predictors of Relationship Satisfaction in Young Adults. *International Journal of Environmental Research and Public Health*, 20(5). <https://doi.org/10.3390/ijerph20054103>
- Kovalenko, O. H., & Spivak, L. M. (2022). Psychological well-being of elderly people: the social factors. *Social Welfare: Interdisciplinary Approach*, 8(1), 163–176. <https://doi.org/10.21277/sw.v1i8.323>
- Kupferberg, A., & Hasler, G. (2023). The social cost of depression: Investigating the impact of impaired social emotion regulation, social cognition, and interpersonal behavior on social functioning. *Journal of Affective Disorders Reports*, 14(July). <https://doi.org/10.1016/j.jadr.2023.100631>
- Marquez, D. X., Aguinãga, S., Vásquez, P. M., Conroy, D. E., Erickson, K. I., Hillman, C., Stillman, C. M., Ballard, R. M., Sheppard, B. B., Petruzzello, S. J., King, A. C., & Powell, K. E. (2020). A systematic review of physical activity and quality of life and well-being. *Translational Behavioral Medicine*, 10(5), 1098–1109. <https://doi.org/10.1093/tbm/ibz198>
- Mehta, H. (2021). Management of cataract in patients with age-related macular degeneration. *Journal of Clinical Medicine*, 10(12). <https://doi.org/10.3390/jcm10122538>
- Mohajan, H. K. (2020). Quantitative Research: A Successful Investigation in Natural and Social Sciences. In *Journal of Economic Development, Environment and People* (Vol. 9, Issue 4). <https://doi.org/10.26458/jedep.v9i4.679>
- Nikolopoulou, K. (2022, December 1). What is convenience sampling? | Definition & examples. Scribbr. <https://www.scribbr.com/methodology/convenience-sampling>
- RINGWALD, W. R., & WRIGHT, A. G. C. (2021). The Affiliative Role of Empathy in Everyday Interpersonal Interactions. *Physiology & Behavior*, 176(1), 100–106. <https://doi.org/10.1177/0022146515594631>
- Rolison, J. J., & Lamarche, V. M. (2023). Do older adults construct more emotionally gratifying social environments than younger adults? Evidence from a social network decision task. *Current Psychology*, 42(33), 29418–29434. <https://doi.org/10.1007/s12144-022-03960-9>
- Ruggeri K, Garcia-Garzon E, Maguire Á, Matz S, & Huppert F. (2020). Well-being is more than happiness and life satisfaction: A multidimensional analysis of 21 countries. *Health and Quality of Life Outcomes* [revista en Internet] 2020 [acceso 4 de julio de 2021]; 18(1): 1-16. *Health and Quality of Life Outcomes*, 1–16. <https://hqlo.biomedcentral.com/track/pdf/10.1186/s12955-020-01423-y.pdf>
- Saldivia, S., Aslan, J., Cova, F., Bustos, C., Inostroza, C., & Castillo-Carreño, A. (2023). Life satisfaction, positive affect, depression and anxiety symptoms, and their relationship with sociodemographic, psychosocial, and clinical variables in a general elderly population sample from Chile. *Frontiers in Psychiatry*, 14(June), 1–11. <https://doi.org/10.3389/fpsy.2023.1203590>
- Sanchini, V., Sala, R., & Gastmans, C. (2022). The concept of vulnerability in aged care: a systematic review of argument-based ethics literature. *BMC Medical Ethics*, 23(1), 1–20. <https://doi.org/10.1186/s12910-022-00819-3>
- Schmidt, B. M., Durao, S., Toews, I., Bavuma, C. M., Hohlfeld, A., Nury, E., Meerpohl, J. J., & Kredon, T. (2020). Screening strategies for hypertension. *Cochrane Database of Systematic Reviews*, 2020(5). <https://doi.org/10.1002/14651858.CD013212.pub2>
- Solanki, S., Fitzpatrick, D., Jones, M. R., & Lee, H. (2020). The impact of chronic stress on energy metabolism. *Educational Research Review*, 100359. <https://doi.org/https://doi.org/10.1016/j.mcn.2020.103525>
- Teo, K. K., & Rafiq, T. (2021). Cardiovascular Risk Factors and Prevention: A Perspective From Developing Countries. *Canadian Journal of Cardiology*, 37(5), 733–743. <https://doi.org/10.1016/j.cjca.2021.02.009>
- United Nations. World Population Ageing 2017—Highlights, Department of Economic and Social Affairs, Population Division. 2017. https://www.un.org/en/development/desa/population/publications/pdf/ageing/WPA217_Highlights.pdf
- Wickramaratne, P. J., Yangchen, T., Lepow, L., Patra, B. G., Glicksburg, B., Talati, A., Adekkanattu, P., Ryu, E., Biernacka, J. M., Charney, A., Mann, J. J., Pathak, J., Olfson, M., & Weissman, M. M. (2022). Social connectedness as a determinant of mental health: A scoping review. *PLoS ONE*, 17(10 October). <https://doi.org/10.1371/journal.pone.0275004>
- World Health Organization. (2012). Programme On Mental Health WHOQOL User Manual. In *World Health Organization* (Vol. 3304, Issue January).
- Yao, Q., Wu, X., Tao, C., Gong, W., Chen, M., Qu, M., Zhong, Y., He, T., Chen, S., & Xiao, G. (2023). Osteoarthritis: pathogenic signaling pathways and therapeutic targets. *Signal Transduction and Targeted Therapy*, 8(1). <https://doi.org/10.1038/s41392-023-01330-w>