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Factors associated with the quality of life of the elderly during the Covid-19 pandemic

Becea Florentina[1], Laura Giurgiu2
Ovidius University of Constanta, Faculty of Psychology and Educational Sciences1,2
becea_florentina@yahoo.ro[1], lauragiurgiu31@yahoo.com[2]

Abstract. In this paper we aimed to study how the quality of life of the elderly was affected during the COVID-19 pandemic. The participants in the research were 130 elderly from Constanța County, of which 92 people are female and 38 people male. The research instruments were Quality of Life Inventory (QOLI) - developed by Michael B. Frisch, and Clinical evaluation scales for the elderly (CASE-SF) - developed by Cecil R. Reynolds and Erin D. Bigler. The results obtained from the statistical analysis of the data did not confirm the hypothesis that the quality of life differs between male and female. Also, a negative correlation came out between Help Needed Scale and Depression Scale.

Keywords. Elderly, Quality of Life Inventory, Covid-19 pandemic

1. Introduction

Aging, as a multi-dimensional process, brings important changes in the bio-psycho-social structure of the individual, and also regarding the protective and risk factors that determine the mental health of the elderly. The problems faced by the old people are distinct and more complex than those specific to younger adults, and raise many challenges, both in psychological assessment and in therapy.

In this study, we want to synthesize the general information about the elderly from a social, biological, and especially psychological point of view, and also to identify the challenges they encountered during the COVID-19 pandemic and its short- and long-term effects on old people's lives.

2. Third age – a social, biological and psychological phenomenon

Aging is a gradual, continuous process of natural changes that begins in early adulthood. During middle age, many body functions begin to gradually decline. Generally, age 65 has been designated as the beginning of old age, but the reason for choosing it as a milestone

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is linked to the retirement system in Germany, the first nation to establish a retirement program, and continues to be for most people in the developed societies, although this paradigm is constantly increasing in European countries to 70 years. Nowadays, all countries are experiencing a development in both the size, and proportion of elderly within the total population.

The World Health Organization estimates that by 2030, 1 in 6 people in the world will be 60 or older. Currently, the distribution of the population aged 60 and over will increase from 1 billion in 2020 to 1.4 billion, and by 2050, the world's population of people aged 60 and over will double to 2.1 billion. Moreover, the number of people aged 80 or older is expected to triple between 2020 and 2050, reaching 426 million. While this shift in a country's population distribution towards elderly – known as ageing population – began in the most developed countries (for example, in Japan, 30% of the population is already over 60), it is now at low or medium levels in the developing countries. Thus, by 2050, two-thirds of the world's population over 60 will live in developing countries (World Health Organization, 2022).

a. General data on ageing

At the biological level, aging results from the impact of the accumulation of a wide variety of molecular and cellular damage over time, leading to a gradual decline in physical and mental capacity, an increasing risk of disease, and ultimately death. These changes are neither linear nor consistent and are only vaguely associated with a person's age.

The diversity observed in getting old is not accidental. Beyond biological change, aging is often associated with other life events, such as retirement, moving to age-appropriate housing, and the death of friends and life partners (World Health Organization, 2022).

Physically, common conditions in people of old age include hearing loss, cataracts and other forms of vision impairment, back and neck pain, osteoarthritis, chronic obstructive pulmonary disease, diabetes, depression and dementia. Elderly are also confronting the appearance of several complex health conditions, generally called geriatric syndromes.

Thus, aging increases the risk of human diseases such as cancer, Alzheimer's disease, diabetes, cardiovascular disease, stroke and other conditions. Of the approximately 150,000 people who die every day around the globe, about two-thirds die from age-related causes (de Grey, 2007).

Regarding the ageing, there are three concepts that can be associated with this notion (Besdine, 2020):

- Chronological ageing, which is based solely on the passage of time, and it is measured in years. The likelihood of developing a health problem, increases as time goes and is the main cause of functional loss during old age. Because chronological age predict many health problems, it has some legal and financial uses.
- Biological ageing refers to changes that occur at the body level as people get older, and these changes affect some people earlier than others (some people are biologically old at age 65, and others even more than a decade later). However, the most noticeable differences among people of similar ages are caused by lifestyle, habits, and subtle effects of some diseases, rather than differences in actual aging.
- **Psychological ageing** is based on how people act and feel. For example, an 80-year-old man who works, plans, looks forward to future events, and participates in many activities is considered psychologically young.

Longer lives present opportunities, not only for older people and their families, but also for societies as a whole. An old age offers the chance to pursue new activities, such as

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further education, a new career or a previously neglected passion. Elderly also contribute in many ways to their families and communities. However, the extent of these opportunities and contributions depends largely on one key factor for seniors: health status.

The World Health Organization argues that if people can experience this old age healthy and living in a supportive environment, their ability to do the things they value will be slightly different from that of a younger person. However, if these years are dominated by declines in physical and mental capacity, the implications for older people and society are highly negative.

3. Seniors' mental health issues in a post-pandemic context

Generally, mental health relates to our emotional, psychological, and social well-being, which influences how we think, feel, and act in our daily lives. Mental health also influences how individuals deal with stress, interact with others, and make decisions. Mental health is crucial at all stages of life, but especially in old age, as many older persons are predisposed to mental illnesses. However, mental health issues are not a typical component of the aging process. Despite having many illnesses or physical issues, studies demonstrate that most older persons are content with their lives.

The spread of infectious diseases like COVID-19 is associated to signs of psychological anguish, mental sickness, and physical pain. Furthermore, previous experiences with infectious diseases have revealed that the number of persons mentally afflicted by a pandemic outnumbers the people physically infected, suggesting the disease's tremendous impact on mental health. Another source of concern is that a prolonged pandemic situation may cause not only physical harm to individuals, but also a collective form of intense stress: witnessing or experiencing a disaster causes mental shock, such as anxiety or depression, and spreads tension and fear, all of which affect society collectively (Lee, Jeong, & Yim, 2020). Active mental health therapy and intervention has become an urgent necessity in all countries, to the point where the psychological and mental impacts of the quarantine, in conjunction with COVID-19 prevention, are a significant and growing global issue. Furthermore, a psychological support system for mental health and future calamities caused by epidemics is required.

COVID-19-related psychological and mental health problems in older individuals are an increasing problem since they are more physically and mentally vulnerable than other age groups and are designated as high-risk.

Globally applied severe restrictive measures to prevent the spread of COVID-19, such as avoiding social events, physical separation, and isolation, have exacerbated mental health issues among older people. While these social measures contribute to effective illness prevention and viral transmission prevention, the mental health of older people requires more attention and care because they are the demographic group suffering the longest period of social isolation (WHO, 2020).

4. Applied research

a. Research objectives and hypothesis

General objective:

The main goal of this research is to assess and discover the relationships between the health status, fear of aging, sadness and anxiety among the elderly in the context of the COVID-

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19 pandemic. The study also seeks to determine whether there are gender differences regarding the quality of life in the epidemic context.

Specific goals are:

O1- Identifying the gender differences in the quality of life.

O2- Identifying a correlation between the Help Needed Scale (QOLI) and Depression Scale (CASE-SF)

Research hypotheses:

Hypothesis no. 1: It is assumed that there is a significant difference between women and men regarding the quality of life.

Hypothesis no. 2: It is assumed that there is a correlation between the Help Needed Scale (QOLI) and Depression Scale (CASE-SF).

b. Research methods and instruments

The Quality-of-Life Inventory (QOLI), developed by Michael B. Frisch, Ph.D., is a brief but comprehensive way of measuring life satisfaction that is used in psychiatry, clinical psychology, and health psychology, as well as in other disciplines of medicine. The tool's application strives for an assessment result (total score) and aids the development of a treatment plan by exposing areas of contentment or dissatisfaction in 16 areas of life, such as love, work, money, community, or health. Respondents assess each category in terms of relevance and contribution to their own happiness and personal satisfaction.

The Clinical Assessment Scales for the Elderly (CASE-SF) - developed by Cecil R. Reynolds, Erin D. Bigler for the elderly are a set containing four tools intended to assist the clinical psychologist in diagnosing selected clinical disorders from Axis I in congruence with the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 1994), which relates to persons aged between 55 and 90 years. We used for this paper the screening version of the self-assessment test, the CASE Short Form Questionnaire (CASE-SF), the Ae variant and the short version of the CASE-SF Ap test.

c. Description of the sample

The sample that was tested was made up of 130 subjects aged between 65 and 86 years from Constanta County. The sample consisted of 92 women and 38 men, of which 101 people from urban areas and 29 people from rural areas. The participants in the research were non-institutionalized. The subjects took part in the research without receiving any benefit. The questionnaires were completed individually in the presence of the researcher, respecting the norms imposed by the COVID-19 pandemic, in pencil-paper version, and took place between November 2021 and February 2022.

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d. Presentation of research results and their interpretation

Hypothesis no. 1: It is assumed that there is a significant difference between women and men concerning the quality of life.

Table 1. Descriptives

	Gen		Statistic	Std. Error
Global standard of living	Male	Mean	2.95	.151
		Median	3	
		Variance	.862	
		Std. Deviation	.928	
	Female	Mean	3,10	.064
		Median	3	
		Variance	.375	
		Std. Deviation	.612	

The statistical indices visible in the table above indicate for the males, 2.95 mean, standard deviation 0.928, dispersion 0.862 and median 3, and for females: mean 3.10, standard deviation 0.612, dispersion 0.375 and median 3.

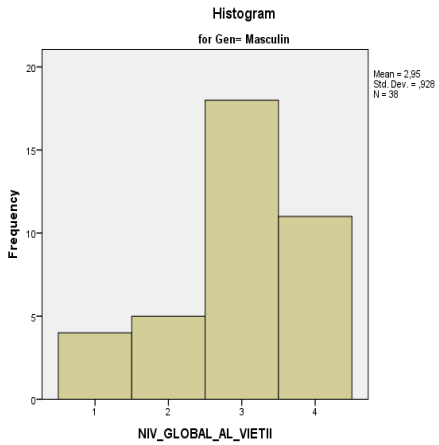

Figure 1. Histogram of single frequencies for men's „life satisfaction"

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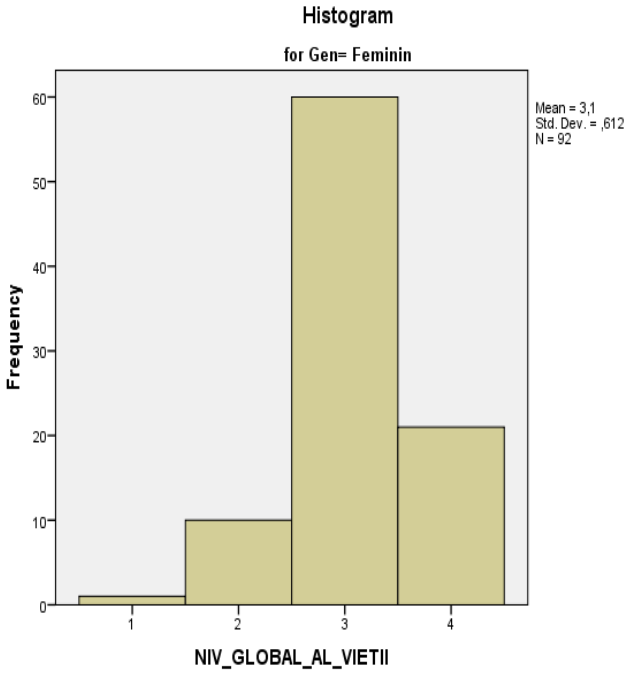

Figure 2. Histogram of simple frequencies for female's „life satisfaction"

Table 2. Tests of Normality

	Gen	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	Df	Say.	Statistic	Df	Say.
Global standard of living	Male	.286	38	.000	.829	38	.000
	Female	.335	92	.000	.761	92	.000

[a]. Lilliefors Significance Correction

Non-normal distributions were obtained (sig < 0.05), so the nonparametric method of comparison (U test Mann Whitney) was applied. The comparison test for two independent samples, the U Mann Whitney test, showed that there were no significant differences between the two samples (sig 2-tailed > 0.05), as shown in the table below.

Table 3. Independent Samples Test

Test Statistics[a]	
Mann-Whitney U	166.500
Wilcoxon W	2407.500
With	-.476
Asymp. Sig. (2-tailed)	.634

[a]. Grouping Variable: Gender

Quality of life is described by the World Health Organization's Quality of Life Assessment Group as "individuals' perception of their position in life in the context of the

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culture and value systems in which they live, as well as in relation to their goals, expectations, standards, and concerns" (WHOQoL, 1998). The multidimensional concept of the quality of life is an important dimension for understanding overall subjective well-being, which influences clinical decisions in elderly. Furthermore, in clinical practice, quality of life assessments can be used to track diseases dynamics, evaluate treatment, and prioritize concerns (Higginson, 2001). It is consequently critical to assess overall quality of life and related characteristics in older persons.

The majority of existing research on quality of life and its affecting elements in older individuals has been done in wealthy countries. As a result, the findings of these research may differ from those of low- and middle-income nations, consisting in the differences in social and economic development, health-care systems, and national life expectancy (Nielsen, 2011). There have been very few studies that have investigated factors influencing quality of life among older adults living in communities in low- and middle-income countries, and the majority of these studies have only looked at the relationship between a small number of independent variables and the quality of life in a specific country. Furthermore, there have been earlier studies that focused on specific areas, rather than general quality of life. Other research has concentrated on specific populations, such as stroke survivors, heart failure patients, or migratory laborers (Lee et al., 2020).

Another crucial issue in quality of life is the gender gap, because gender influences decision-making and the perceptions of health in different countries and cultures. Although studies have found that women have a lower health-related quality of life than males, it is still unclear what influence gender plays in overall quality of life.

Lee et al. (2020) discovered gender variations in quality of life in low- and middle-income nations, finding that male participants reported a higher quality of life than female participants in all five countries studied. These findings indicate that there is a gender gap concerning quality of life in poorer countries. According to previous research, men and women are exposed to various cultural norms and social influences.

Female participants had a lower overall social status than their male counterparts, and they were more likely to have a lower income, more barriers to accessing healthcare, and more responsibilities with household chores, all of which could affect perceived quality of life (Denton et al., 2004).

Hypothesis no. 2: It is assumed that there is a correlation between the Help Needed Scale (QOLI) and the Depression Scale (CASE-SF).

Table 4. Descriptives

		Statistic	Std. Error
Help Needed Scale	Mean	3.18	.205
	Median	3	
	Variance	5.485	
	Std. Deviation	2.342	
Depression Scale	Mean	20.10	.724
	Median	19	
	Variance	68.184	
	Std. Deviation	8.257	

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The starting statistical indices visible in the table above indicate for the elderly, the following values for the Help Needed scale (QOLI): mean 3.18, standard deviation 2.342, dispersion 5.485 and median 3.00, and for the Depression Scale (CASE-SF) mean 20.10, standard deviation 8.257, dispersion 68.184 and median 19.00.

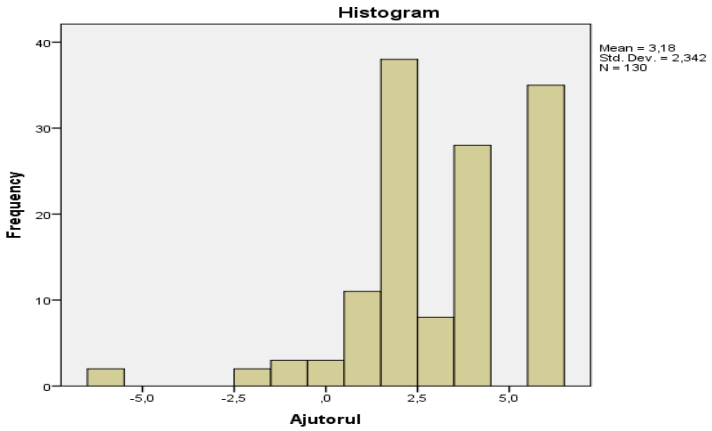

Figure 3. Histogram of single frequencies to the Help Needed Scale for the entire sample

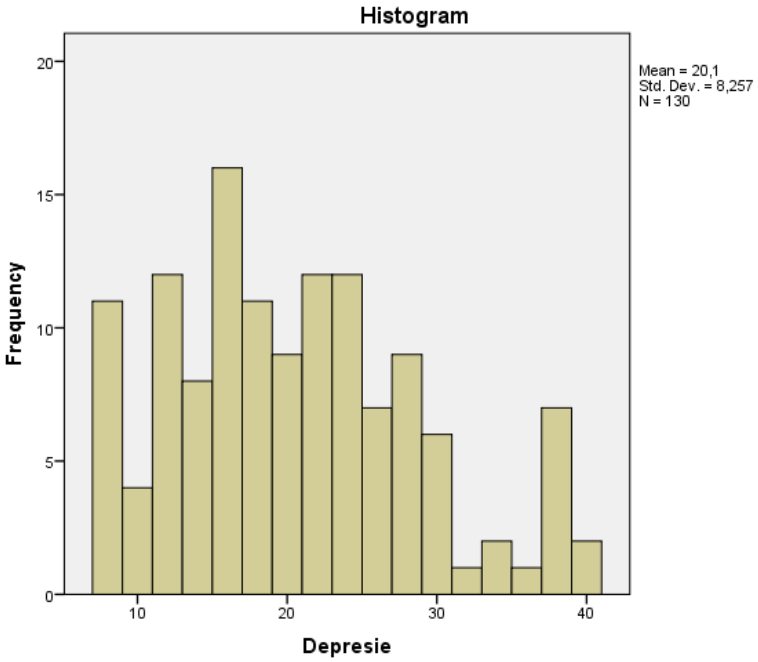

Figure 4. Histogram of simple frequencies on the Depression Scale for the entire sample

Table 5. Normality Tests

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	Say.	Statistic	Df	Say.
Help Needed Scale	.155	130	.000	.873	130	.000
Depression Scale	.083	130	.000	.955	130	.000

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a. Lilliefors Significance Correction

Non-normal distribution (**sig < 0.05) was** obtained, so the nonparametric method of correlation (Spearman) was applied.

Table 6. Correlations

			Help Needed Scale	Depression Scale
Spearman's rho	Help Needed Scale	Correlation Coefficient	1.000	-.249**
		Sig. (2-tailed)	.	.004
		N	130	130
	Depression Scale	Correlation Coefficient	-.249**	1.000
		Sig. (2-tailed)	.004	.
		N	130	130

**. Correlation is significant at the 0.01 level (2-tailed).

The graphical representation below shows the correlation between the two variables.

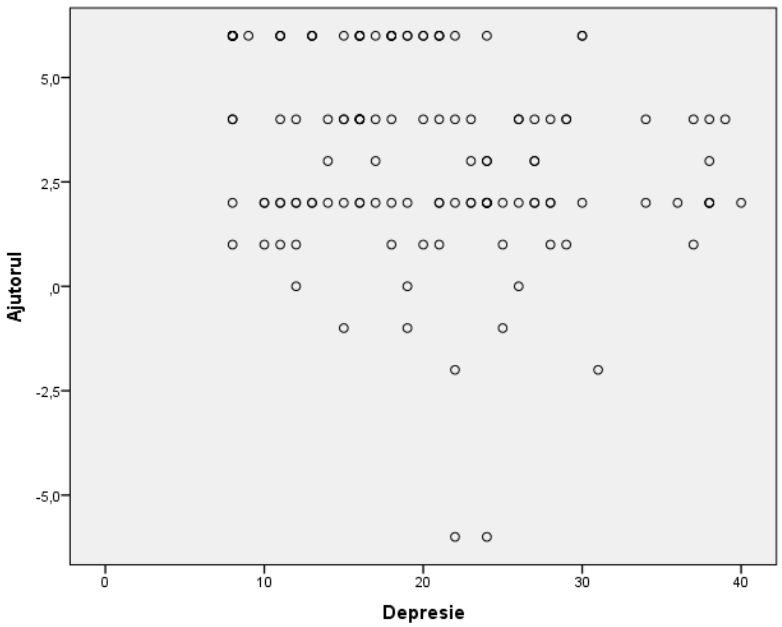

Figure 5. Point cloud of correlation between Help Needed Scale and the Depression Scale in elderly

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The hypothesis that there is a correlation between Help Needed Scale, and Depression Scale was confirmed by statistical analysis of the data, which revealed that, at threshold of p = 0.01, there is a statistically significant low negative correlation (0.4 -0.249 -0.2) between the two concepts (when one increases, the other decreases).

Depression, anxiety, stress, and dementia are all common psychological issues among the elderly. According to the World Health Organization, psychological problems, particularly anxiety, are on the rise, with anxiety levels increasing in advanced countries. Previous research has found that social support can reduce depression, and the most common mental disorders associated with the lack of social support have been identified as depression, isolation, indifference, and frustration (Riahi et al., 2011).

Social support is one of the variables associated with the lifestyle of the elderly, which can be considered as a product of the social dimension of lifestyle. The most common definition of social support is the availability and quality of communication with people who offers help and assistance when needed (Gallagher and Truglio-Londrigan, 2004).

Older individuals benefit greatly from social support since they confront various obstacles that cause psychological stress, such as chronic sickness and physical limitations, as well as loss of income and / or partner (Tajvar et al., 2018). According to the American Academy of Social Work, social isolation is a major issue for older persons (Hosseini et al., 2020). People who receive a lot of social support have better physical, mental, and social health, as well as greater adaptations to life's challenges (Roberts and Gotlib, 1997).

As the population of the elderly grows, so will their medical, psychological, and social problems and needs. Ageing and the particular conditions of the third age, as well as their mental and physical health, are among the topics that deserve special attention. Understanding the characteristics of the elderly community can be a first step in improving their quality of life based on their different lifestyles (institutionalized, in the family or independently), related to the type of intervention in the social, health, and psychological area.

Conclusions

The current study tried to highlight biological, psychological, and social variables that are specific to older people. There are research gaps on the impact of the COVID-19 pandemic on the general population, and the older population in particular, which have been identified in studies. These might indicate a variety of study limitations, such as sample size and the presence of psychosocial inadequacies prior to the study, owing to the fact that these events are relatively new and have not yet been well researched. Despite these challenges, our study has shown a multi-dimensional approach to the psychological and social impact of the pandemic in the context of rising global aging.

Physical changes such as wrinkles or greying hair, the most visible signs of aging, and the chronological age of 65 have no direct impact on the physical functioning or cognitive ability of people who exhibit these signs or have reached the age of 65 but have profound effects on social interactions and opportunities for older people in social work communities, family life, and socio-community engagement. Once they reach the age of 65 or retire, older people are more likely to experience events such as the death of a partner or a decrease in socioeconomic status, and these psychological stressors can result in isolation, loneliness, or psychological distress, which can lead to the need for long-term care.

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