

Psycho-educational Program for Enhancing Quality of Life for Elderly at Geriatric Home

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ABSTRACT

Background: Aging is unavoidable developmental facts that bring along several changes in the physical, psychological, hormonal, and social status. Most of these changes are expected to affect the quality of life of the elderly. **Aim:** is to evaluate the effect of the psycho-educational program for enhancing the quality of life for the elderly at a geriatric home. **Methods:** a quasi-experimental research design was performed on a convenient sample consisted of 20 elderly at Elhlal Elahmer and Noor Wel Amal geriatric homes that are located in Beni-Suef governorate, Egypt. **Tools:** Data were collected using Socio-demographic Questionnaire, Facts on Aging Quiz, and The Older People's Quality of Life Questionnaire. **Results:** The results of this study showed that there is a higher improvement in the level of knowledge post-program than preprogram from less than fifth to majority of studied elderly and in follow up to two thirds of them have sufficient knowledge and there is a higher improvement in the level of quality of life post-program than preprogram from one third to majority of studied elderly and in follow up to two thirds of them have higher quality of life. Also, there is a highly significant relationship between total quality of life and total knowledge ($p<0.01$) in pre, post and follow up program. **Conclusions:** Psycho-educational program is effective in enhancing the quality of life and improving knowledge related to aging changes of the elderly in a geriatric home. **Recommendations:** The study recommended that develop awareness programs for elderly that include all physical, psychological, and social consequences related to aging and how to deal with it.

Keywords: Quality of life, Elderly, psycho-educational program.

Introduction

Aging is an unavoidable physiologic fact and a natural process that brings about physical, mental, and social deterioration. The biopsychosocial changes produced by aging bring about chronic diseases; psychosocial problems and inactivity-

related problems can result in a vicious circle. Also, loneliness may play an etiological role in the growth of physical and mental health problems in older people. Prolonged loneliness may jeopardize the mental well-being of an individual and increase the risk of suicide (1).

The number of elderly persons is gradually growing, as well as their relative share in total world population; therefore, the recognition of the causes that are

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important for successful aging is one of the vital concerns for society and the relationship between healthy aging, quality of life (QOL), and mental health is the subject of several studies. The concept of QOL refers to an individual's awareness of their position in life in the context of the culture and values systems in which they live and concerning their goals, expectations, standards, and concerns. Besides, quality of life is defined as wellness resulting from a combination of physical, functional, emotional, and social factors (2).

Psycho-education is an educative method aimed to provide necessary information and training that promote physical, social, and emotional and independence in the elderly population for healthy aging. It is generally known that elderlies who have a thorough understanding of the challenges they are facing as well as knowledge of personal coping ability, internal and external resources, and their areas of strength are often better able to address difficulties, feel more in control of the condition(s), and have a better quality of life. Therefore, the need for psycho-educational programs, containing a combination of activities and balance training for enhancing the quality of life for elderlies (3).

Moreover, psychiatric Nursing or caregivers have an important role in enhancing the quality of life for the elderly through providing effective care. The knowledge and skills of Psychiatric nurses make them act as counselors for the procedure and program development, determine the needs of the elderly, develop individualized care plans, provide clinically training, make referrals and implement the psycho-educational program (4).

Significance of the Study

In Egypt, One of the main features of the Egyptian population over the last few decades is the ongoing increase in the absolute and relative numbers of older people. In 2050, Egypt is expected to have the largest number of old (23.7 million) and oldest-old (3.1 million) populations in the area. If this trend continues we will, hereafter, have a population which is known as the elderly population (5). According to World Population Prospects, the number of older people in the world is growing rapidly and the population of those 60 years of age and older is expected to double from 12% to 22% between (2015 and 2050). Furthermore, By 2050, the world's population aged 60 years and older is expected to total 2 billion, up from 900 million in 2015 (6).

Moreover, Factors such as the increasing number of elderly people suffering from disability and functional disorder, lack of a supportive family system due to shrinking family size, women's

employment and jobs, and dispersion of family members have a negative effect on the quality of life for the elderly. So, the most important issue in this regard is “better quality of life”. This is completely evident because the elderly does not only mean having greater age and being alive, but their type and quality of life are very important issues. Therefore, enhancing the quality of life for the elderly in the first instance.

Aim of the Study

Evaluate the effect of the psycho-educational program for enhancing the quality of life for the elderly at a geriatric home.

Research Hypothesis

The current research hypothesized that the developed Psycho-educational program will enhance the quality of life (physical, social, psychological, and spiritual status) of the elderly.

Subjects and Methods

Research Design

A quasi-experimental research design was used in the current study.

The setting of the Study

This study conducted at Elhlal Elahmer and Noor Wel Amal geriatrics home that is located in Beni-Suef governorate, Egypt.

Type of Sample:

A convenient sample was selected in the current study. All elderlies enrolled in both Elhlal Elahmer geriatric home and Noor Wel Amal geriatric home that have a satisfactory level of cooperation and free

from psychiatric disorders were included in the study after obtaining informed consent for participation

Data Collections Tools

Data were collected using the following:

1. Socio-Demographic Questionnaire:

It was developed by the researcher after reviewing related literature. It includes 15 self-reported items which include items such as age, gender, education level, place of residence, marital status, occupation, economic status..... etc and medical history of the elderly.

2-Facts on Aging Quiz (Breytspraak & Badura, 2015):

The Facts on Aging Quiz adapted from (7) was used to measure knowledge about aging. The original quiz consists of 50 items, certain modifications were done by the research investigator in the adapted quiz such as excluded (21) items and added extra (3) items to the original quiz to suit the studied subjects and nature of the study. This tool consisted of 32 items comprising physical (12 items), psychological (10 items), mental (5 items), and social (5 items) subcategories. Responses based on aging change were scored 1, and responses that not based on aging change were scored 0. The total score ranged from 0 to 32, with

a higher score indicating a higher level of correct knowledge about aging.

3- The Older People's Quality of Life Questionnaire (OPQOL):

The Older People's Quality of Life Questionnaire (OPQOL) adapted from (8) was used for assessment of the quality of life for the elderly. This tool consisted of 40 statements that cover the following dimensions life overall (4 items), health (8 items), social relationships and participation (6 items), independence, control over life and freedom (3 items), home and neighborhood (4 items), psychological and emotional well-being (9 items), leisure and activities (4 items), culture and religion (2 items).

The participant is asked to indicate the extent to which he/she agrees with each statement by selecting one of five possible options ("strongly disagree", "disagree", "neither agree nor disagree", "agree" and "strongly agree", each with a score of 1–5). Higher scores indicate a higher QOL. The total score ranges from 40 (worst possible QOL) to 200 (best possible QOL).

Pilot Study

The pilot study was conducted on 10% of the total study sample to ensure the clarity of questions, the applicability of the tools, and the time needed to complete them. The

necessary modifications were done as a result of the pilot study; pilot study subjects were excluded from the actual study sample.

Ethical Consideration

The ethical research considerations in this study included the following:

1. Written initial approval was obtained from the research ethical committee at the Faculty of Nursing, Helwan University.
2. Individual oral consent was obtained from each participating subject after explaining the nature and benefits of the study.
3. The researcher cleared the objectives and aim of the study to participating students.
4. The researcher maintained the anonymity and confidentiality of participating elderlies.
5. Participating elderlies were allowed to choose to participate or not in the study, and were given the right to withdraw at any time from the study.

Results

Table (1): Socio-demographic Characters of Studied Elderly (n=20).

Item	No	%
Age in years		
• Less than 70	14	70
• 71-80	3	15
• More than 80	3	15
Mean \pmSD 69.65 \pm7.81 year		
Sex		
• Male	11	55
• Female	9	45
Marital status		
• Single	5	25
• Divorce	1	5
• widow	8	40
• Married	6	30
Occupation before retirement		
• Governmental Working	8	40
• Free Business	6	30
• Not working	6	30
Level of Education		
• Illiterate	5	25
• Reading and writing	6	30
• Secondary	6	30
• Academic	2	10
• Postgraduate	1	5
Is your monthly income sufficient		
• Yes	15	75
• No	5	25

Table (1) reveals that 70% of studied subjects aged less than: 70 years and means age of them was (69.65 ± 7.81) , while 55% of studied subjects were males and 40% of them were widows. Also, 40% of studied subjects reported that they had governmental work and 75% of them had sufficient income. Regarding education, the most reported education level among studied subjects is reading and writing and secondary education 30%, followed by 25% being illiterate.

Items	Pre-program		Post-program		Follow up		Pre-post		Pre -follow		Post -follow	
	N	%	N	%	N	%	X ²	P-value	X ²	P-value	X ²	P-value
Physical change												
Insufficient	19	95	1	5	6	30	32.40	0.000**	18.02	0.000**	4.329	0.091
Sufficient	1	5	19	95	14	70						
psychological change												
Insufficient	18	90	0	0	4	20	32.72	0.000**	25.60	0.000**	2.105	0.487
Sufficient	2	10	20	100	16	80						
Mental change												
Insufficient	17	85	7	35	8	40	32.72	0.000**	8.640	0.008**	0.107	1.000
Sufficient	3	15	13	65	12	60						
Social change												
Insufficient	16	80	2	10	6	30	32.72	0.000**	10.10	0.004**	2.500	0.235
Sufficient	4	20	18	90	14	70						

* Significant at p<0.05 ** highly significant at p<0.01 Fisher's Exact Test is expected when cell count less than 5

In this table by analyzing the relation between total knowledge about aging change subscale of studied subjects in pre, post, and follow up program shows that there is a highly significant increase in the physical, psychological, mental and social knowledge related to aging in post than preprogramming. Besides, there is a highly significant increase in the physical, psychological, mental, and social knowledge in following than preprogram (p<0.01).

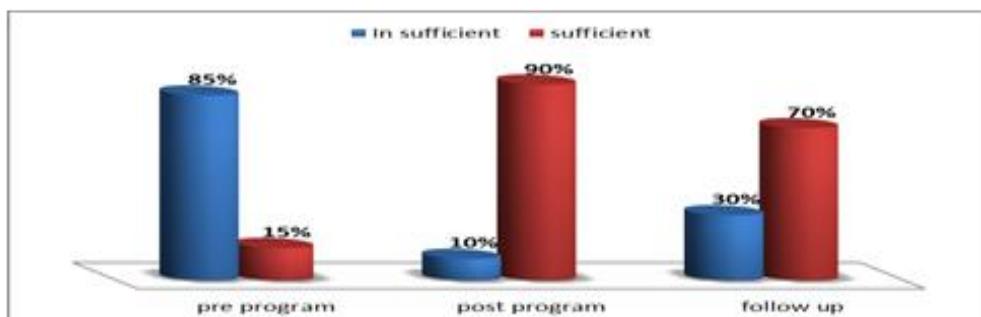


Figure (1): Comparison between Total Knowledge of Aging Changes as Reported by Studied Subjects in Pre, Post and Follows up Program. (n=20).

Figure (1) clarifies that there is a higher improvement in the level of knowledge related to aging post-program than preprogram from (15% to 90%) and in follow up from (15% to 70%) sufficient knowledge.

Table (3a): Comparison between Total Quality of Life Subscale as Reported by Studied Subjects in Pre, Post, and follow up Program. (No=20)												
Items	Pre-program		Post-program		Follow up		Pre-post		Pre –follow		Post –follow	
	N	%	N	%	N	%	X ²	P-value	X ²	P-value	X ²	P-value
Life overall												
Low QoL	18	90	2	10	4	20	25.60	0.000**	19.79	0.000**	0.784	0.661
High QoL	2	10	18	90	16	80			24.00	0.000**	24.00	0.487
Physical Health												
Low QoL	15	75	1	5	4	20	24.00	0.000**	24.00	0.000**	2.105	0.487
High QoL	5	25	19	90	16	80			22.55	0.000**	3.135	0.002**
Social relationships												
Low QoL	17	85	2	10	10	50	22.55	0.000**	3.135	0.155	10.98	0.002**
High QoL	3	15	18	90	10	50			22.55	0.005**	7.059	0.023*
Independence, control over life, freedom												
Low QoL	13	65	2	10	6	30	22.55	0.000**	4.912 ^a	0.005**	7.059	0.023*
High QoL	7	35	18	90	14	70			22.55	0.000**	0.005**	

* Significant at p<0.05 ** highly significant at p<0.01 Fisher's Exact Test is expected when cell count less than 5

In this table by analyzing the relation between total quality of life subscale of studied subjects in pre, post and follow up program shows that there is a highly significant increase in the (life overall, health, social relationships, and independence, control over life, freedom) domains of quality of life in post than preprogram and there is a highly significant increase in the social relationship quality of life domain in post-program than follow up ($p<0.01$). Also, there is a highly significant increase in the (life overall, health) domains of quality of life ($p<0.01$), and a significant increase in the (Independence, control over life, freedom) domains of quality of life in follow up than preprogram ($p<0.05$)

Table (3b): Comparison between Total Quality of Life Subscale as reported by Studied Subjects in Pre, Post and Follows up Program. (No=20)

Items	Pre-program		Post-program		Follow up		Pre-post		Pre –follow		post –follow	
	N	%	N	%	N	%	X ²	P-value	X ²	P-value	X ²	P-value
Home and neighborhood												
Low QoL	16	80	12	60	13	65	0.700	0.653	0.529	0.863	0.329	0.91
High QoL	4	20	8	40	7	35			0.700	0.653	0.529	

Psychological and mental well-being											
Low QoL	13	65	2	10	4	20	19.259	0.000**	17.259	0.000**	2.105
High QoL	7	35	18	90	16	80					0.487
leisure and activities											
Low QoL	17	85	1	5	5	25	25.714	0.000**	22.556	0.000**	0.360
High QoL	3	15	19	95	15	75					1.000
Religion/culture											
Low QoL	5	25	1	5	2	10	5.714	0.047*	5.714	0.047*	2.500
High QoL	15	75	19	95	18	90					0.135

* Significant at p<0.05 ** highly significant at p<0.01 Fisher's Exact Test is expected when cell count less than 5

In this table by analyzing the relation between total quality of life subscale of studied subjects in pre, post and follow up program shows that there is a highly significant increase in the (Psychological, mental well-being, and leisure and activities) domains of quality of life in post than preprogram (p<0.01), and there is a significant increase in the religion/culture domains of quality of life in post than preprogram (p<0.05).

Besides, there is a highly significant increase in the (Psychological, mental well-being, and leisure and activities) domains of quality of life in follow up than preprogram (p<0.01), and there is a significant increase in the religion/culture domains of quality of life in follow up than preprogram (p<0.05).

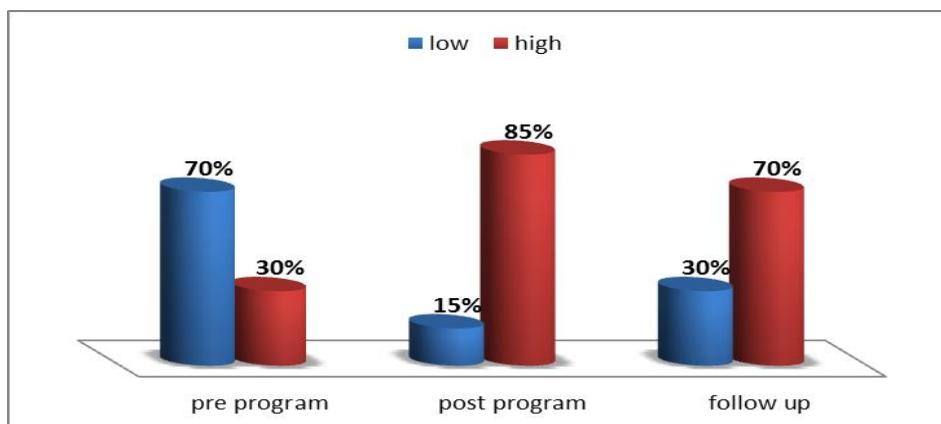


Figure (2): Comparison between Total Quality of Life as reported by Studied Subjects in Pre, Post and Follows up Program. (n=20)

Figure (2) clarifies that there is a higher improvement in the level of quality of life post-program than preprogram from (30% to 85 %) and in follow up from (30% to 70%) higher quality of life.

Socio-demographic Characteristics	Total QoL					
	Pre-program		Post-program		Follow up	
	r	P-value	r	P-value	r	P-value
Age in years	0.161	.497	-0.187	.557	-0.177	.457
Sex	-0.482	.031*	-0.129	.638	-0.119	.618
Marital status	-0.144	.545	-0.250	.278	-0.260	.268
Job	0.187	.429	0.148	.552	0.138	.562
Level of Education	0.516	.041*	-0.549	.031*	0.599	.032*
Is your monthly income sufficient	-0.027	.911	-0.072	.785	-0.062	.795
Do you live in a common room	0.233	.323	0.025	.981	0.015	.951
History of chronic disease	-0.420	.065	0.155	.489	0.195	.409
Period of chronic disease	0.193	.414	0.261	.346	0.241	.306

* Significant at p<0.05 ** highly significant at p<0.01 r=Pearson correlation

Table (4) reveals that in preprogram there is a negative significant correlation between sex and total QoL, and a positive significant correlation between the level of education and total QoL. Also in the post-program, there is a positive significant correlation between levels of education, total QoL ($p \leq 0.05$). Regarding follow up, there is a positive significant correlation between levels of education and total QoL ($p \leq 0.05$).

Table (5): Correlation between Total knowledge and Quality of Life subscale as reported by Studied subjects (n=20).						
Items	Total knowledge		QoL		r	P-value
	Insufficient	Sufficient	Low	High		
Pre	85	15	70	30	1.000	0.000**
Post	10	90	15	85		
Follow up	30	70	30	70		
Mean ±SD	21.3 ± 4.86		128.4 ±19.47			

**p value is considered highly significant < 0.01

In this table by analyzing the correlation between the total quality of life and total knowledge of studied subjects, there is a highly significant correlation between the total quality of life and total knowledge ($p < 0.01$) in pre, post and follow up program.

Discussion

Aging is inevitable developmental facts that bring along several changes in the physical, psychological, hormonal, and social status. Most of these changes are expected to affect the QoL of the elderly. One of the greatest challenges to public health is to improve the quality of later years of life as life expectancy continues to rise (9).

The present study was carried out on twenty elderlies who lived in the geriatric home, the current study results revealed that more than two-thirds of studied elderlies aged less than 70 years old with a mean age (69.65 ± 7.81) years. This result consistent with the study of (10) who declared that the mean age of studied subjects was 69.6 ± 6.1 years.

Concerning knowledge about aging changes, the present study illustrated that there was a highly statistically significant improvement between pre and post-program implementation as regards knowledge about aging changes for the elderly under study. All knowledge related to physical, psychological, mental, and social changes was increased after program implementation.

These results may be related to applying psycho-educational programs which included knowledge related to normal aging changes such as changes to different body organs, psychological changes, and most common psychological problems in old age, also mental and social changes related to aging. The results of the current study are supported by (11) who reported that there was a highly significant improvement in the level of knowledge about aging changes between pre and post-program implementation.

Regarding QoL (physical health domain), the present study finding revealed that there was a highly statistically significant difference between pre, post, and follow up the program as regards the physical health of elderlies under the study. Where before program implementation, the elderlies did not interest in physical activities, having a sleep disturbance, and not interested in healthy dietary patterns, but after implementation of the program the elderlies became interested in physical activities such as walking, sleep quality and the dietary pattern was improved. These results may be due to the implementation of the program, informing the elderly about the importance of physical activities and how to overcome sleep disturbance, and how to follow a healthy dietary pattern.

Supporting the current study results the study (12) who revealed that there were statistically significant correlations between QoL and the physical activity level and the study of (13) who revealed that sleep problems have a significant negative impact on the QoL in patients with hypertension, especially in the physical domain of QoL. Also, the study of (14) who revealed that there was a significant association between healthy dietary patterns with better self-rated health and QoL.

Regarding QoL (social relationship), the present study finding revealed that there was a highly statistically significant difference between pre, post, and follow up the program as regards the social relation of elderlies under the study. Where before program implementation, the elderly would like more contact with other people, they did not have someone who gives them love and affection

and they did not satisfy with their relationships. After the implementation of the program, the elderly became satisfied with their relationships. These results may be due to inform the elderly how to overcome communication difficulties and how to improve their social relationship with others. This finding agrees with (15) who reported that there was a positive and significant relationship between a social network and QoL in the elderly.

Regarding QoL (Psychological and mental well-being domains), the study finding revealed that there was a highly statistically significant difference between pre, post, and follow up the program as regards satisfying with themselves. Where before program implementation, more than half of the studied elderly were not satisfying with themselves, but after implementation of the program these results changed to less than two-third of elderly satisfying with themselves. These results may be due to identify the meaning of self-esteem and apply ways to improve self-esteem for them. Supporting the current study results in the study of (16) who revealed that there was a significant association between high self-esteem and better QoL.

Also, the study finding revealed that there was a highly statistically significant difference between pre, post, and follow up the program as regards practicing relaxation techniques. Where before program implementation, half of the studied elderly did not practice relaxation techniques to reduce psychological stress, but after implementation of the program these results changed to less than two-thirds of elderly practice some relaxation techniques to reduce psychological stress. These results may be due to training the elderly on some relaxation

techniques such as deep breathing exercises and muscle relaxation techniques to reduce psychological stress. The finding of the present study is congruent with the results of (17) who reported that there was a statistically significant improvement in QoL and physical functioning after progressive muscle relaxation, guided imagery, and deep diaphragmatic breathing intervention.

Regarding QoL (leisure activities), the present study finding revealed that there was a highly statistically significant difference between pre, post, and follow up the program as regards leisure activities of elderly under the study. Where before program implementation, three-quarters of studied elderly disagree with having social or leisure activities/hobbies that they enjoy doing and more than half of them didn't have paid or unpaid work or activities that give them a role in life. After the implementation of the program, these results changed to a majority of studied elderly having leisure activities/hobbies that they enjoy doing and have a feeling of a role in life, these results may be due to implementation of the program and informing the elderly how to spend their free time positively. This finding is congruent with the results of (18) who reported that participation in leisure activities facilitates health and well-being, participation in meaningful, valued, and individualized leisure activities leads to internal and external benefits and subsequently will improve the QoL.

In regards to QoL (religion and culture domains), the present study result showed that there was a statistically significant difference between pre, post, and follow up the program as regards the importance of religion, culture, and spiritual activities to QoL for elderly

under the study. These results may be due to informing the elderly the importance of religious and spiritual activities to QoL. This finding is congruent with the results of (19) who reported that religious and spiritual activities were significantly associated with QOL for elderlies.

Regarding the correlation between knowledge about aging changes and total QoL, the present study result illustrated that there was a positive significant correlation between total knowledge and total QoL. This relationship describing that elderlies who had sufficient knowledge reported higher QoL. In agreement with the current study result, the study of (20) revealed that there was a positive significant correlation between knowledge about aging changes and QoL. Also, the study of (21) supported the current study results; the researchers revealed that better knowledge about aging was associated with enhanced life satisfaction.

Conclusion

Based on the results of the present study, the researcher concluded that the Psycho-educational program is effective in enhancing the quality of life of the elderly in a geriatric home. The Psycho-educational program is also effective in improving the elderly's knowledge related to aging changes. There was an association between quality of life and knowledge related to aging changes of subjects under the study.

Recommendation

- 1) Awareness programs for elderlies that include all physical, psychological, and social consequences related to aging and how to manage it.
- 2) Educational programs that include all psychological and social consequences related to aging and how to manage it should be added to the nursing curriculum of geriatric nursing.
- 3) Provide an in-service training program for nurses who working with elderlies about psychological consequences related to aging and scientific base to manage it.
- 4) Replication of the study using a large study sample in different settings to generalized the results.
- 5) Conduct a research study that includes specific domains (physical, social, psychological, and spiritual) of quality of life.

Conflict of Interest

The authors declared no potential conflicts of interest concerning the research, authorship, and/or publication of this article.

References

1. Bakar N, Aşilar R. Factors affecting depression and quality of life in the elderly. *J Gerontol Geriatr Res.* 2015;4(249):2.
2. Shrestha M, Heera K, Bhattacharai P, Mishra A, Parajuli SB. Quality of life of elderly people living with family and in old age home in Morang District, Nepal. *BIBECHANA.* 2019;16:221-7.
3. Groenewald E, Joska J, Araya R. Psychotherapy adaptation in aging populations. *Global Mental Health and Psychotherapy:* Elsevier; 2019. p. 321-40.
4. Shokry AAE, Adel MR, Rashad AE-sA. Educational program to improve quality of life among elderly regarding oral health. *Future Dental Journal.* 2018;4(2):211-5.
5. Sweed H. Egypt Report. *Middle East Journal of Age and Ageing.* 2016;13(2).
6. World Health Organization. Ageing and health. Facts about ageing <https://wwwwho.int/news-room/fact-sheets/detail/ageing-and-health>. 2018.
7. Breytspraak L, Badura L. Facts on Aging Quiz (revised; based on Palmore (1977; 1981)). 2015.
8. Bowling A, Hankins M, Windle G, Bilotta C, Grant R. A short measure of quality of life in older age: The performance of the brief Older People's Quality of Life questionnaire (OPQOL-brief). *Archives of gerontology and geriatrics.* 2013;56(1):181-7.
9. Shrestha M, KC H, Bhattacharai P, Mishra A, Parajuli S. Quality of life of elderly people living with family and in old age home in Morang District, Nepal. *A Multidisciplinary Journal of Science, Technology and Mathematics.* 2019.
10. Ćwirlej-Sozańska AB, Sozański B, Wiśniowska-Szurlej A, Wilmowska-Pietruszyńska A. Quality of life and related factors among older people living in rural areas in south-eastern Poland. *Annals of Agricultural and Environmental Medicine.* 2018;25(3).
11. Estebsari F, Taghdisi MH, Foroushani AR, Ardebili HE, Shojaeizadeh D. An educational program based on the successful aging approach on health-promoting behaviors in the elderly: A clinical trial study. *Iranian Red Crescent Medical Journal.* 2014;16(4).
12. Puciato D, Borysiuk Z, Rozpara M. Quality of life and physical activity in an older working-age population. *Clinical interventions in aging.* 2017;12:1627.
13. Izabella U, Karolina M, Bartosz U, Aleksandra K, Joanna R. The relationship between sleep

disturbances and quality of life in elderly patients with hypertension. Clinical interventions in aging. 2019;14:155.

14. Govindaraju T, Sahle BW, McCaffrey TA, McNeil JJ, Owen AJ. Dietary patterns and quality of life in older adults: A systematic review. Nutrients. 2018;10(8):971.

15. Bahramnezhad F, Chalik R, Bastani F, Taherpour M, Navab E. The social network among the elderly and its relationship with quality of life. Electronic physician. 2017;9(5):4306.

16. Tavares DMdS, Matias TGC, Ferreira PCdS, Pegorari MS, Nascimento JS, Paiva MMd. Quality of life and self-esteem among the elderly in the community. Ciencia & saude coletiva. 2016;21(11):3557-64.

17. Shahriari M, Dehghan M, Pahlavanzadeh S, Hazini A. Effects of progressive muscle relaxation, guided imagery and deep diaphragmatic breathing on quality of life in elderly with breast or prostate cancer. Journal of education and health promotion. 2017;6.

18. Sajin NB, Dahlal A, Ibrahim SAS. Quality of life and leisure participation amongst malay older people in the institution. Procedia-Social and Behavioral Sciences. 2016;234:83-9.

19. Vitorino LM, Low G, Vianna LAC. Linking spiritual and religious coping with the quality of life of community-dwelling older adults and nursing home residents. Gerontology and geriatric medicine. 2016;2:2333721416658140.

20. de Paiva FTF, Lima LR, Funez MI, Volpe CRG, Funghetto SS, Stival MM. A influência da dor na qualidade de vida de idosos portadores de Diabetes Mellitus [The influence of pain on elderly diabetics' quality of life][La influencia del dolor en la calidad de vida de ancianos portadores de Diabetes Mellitus]. Revista Enfermagem UERJ. 2019;27:31517.

21. Suh S, Choi H, Lee C, Cha M, Jo I. Association between knowledge and attitude about aging and life satisfaction among older Koreans. Asian Nursing Research. 2012;6(3):96-101.