The effect of the Elderly Development Program on the quality of life of elderly individuals

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Abstract

Introduction The increasing aging population of the Philippines impacts on the socioeconomic development of the country, prompting a deeper look into their quality of life. This study sought to determine the effect of the Elderly Development Program on the quality of life of the elderly population of Los Baños.

Methods A 4-month prospective cohort study of the elderly population in Los Baños, Laguna compared the quality of life scores of a group enrolled in the Elderly Development Program and an unexposed control, using the World Health Organization Quality of Life Abbreviated Version for Filipino Older Persons questionnaire.

Results Quality of life scores where higher for the EDP group during the four months of observation. In Month 2, significant differences were found in all domains except for the psychological domain. Only the physical health domain score was significant in the EDP group for Month 3 ($p = 0.003$) and Month 4 ($p = 0.029$). Both the EDP and control groups had higher overall and domain scores in Month 4 compared with baseline.

Conclusion The Elderly Development Program may improve the overall quality of life of elderly persons, specifically in the physical health domain. These improvements are likely due to the focus of the program on the physical aspect of the elderly.

Key words: Elderly, quality of life, Elderly Development Program

The elderly population of the Philippines has been steadily increasing during the past decade. Based on the latest National Statistical Coordination Board figures, the elderlies comprise 3.83% of the national population, and are expected to rise to 10.25% by 2025.[1] Certain socioeconomic implications of having an increasing elderly population include increasing dependency and changes in social productivity.[2] It may thus be beneficial for policymakers and concerned government agencies to evaluate trends in the quality of life of the elderly population, and seek ways to delay the onset of their dependency. One intervention designed to maintain the quality of life of the elderly is the Elderly Development Program initiated by the

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University of the Philippines at Los Baños College of Human Ecology.[3] This program aims to help the senior citizens of Los Baños, Laguna maintain a standard quality of life through their monthly activities such as medical screenings, seminars and physical activities.

This study sought to assess quality of life of elderly Filipinos residing in Los Baños, Laguna and the effect of Elderly Development Program on their quality of life and its domains. Results of this study may help health care workers and social development institutions render improved services to the elderly population. Involved stakeholders and policymakers may also make needed modifications in their policies, procedures and programs on the provision of care to the elderly population, thereby improving the overall standard of care and quality of life.

Methods

This prospective cohort study done from April to July 2016 aimed to compare the quality of life (QoL) of elderly residents from Los Baños, Laguna enrolled in the Elderly Development Program (EDP) with a group which did not participate in the EDP, using the World Health Organization Quality of Life Abbreviated Version for Filipino Older Persons questionnaire. The mean scores of the exposed and unexposed cohorts in each of the domains and the overall QoL scores were compared and tested for significant differences. The study was approved by the Ethics Review Committee and coordinated with the local Office for Senior Citizens Affairs.

From the target population - residents of Los Baños, Laguna aged 60 years or older, single-stage cluster sampling was done by grouping prospective participants in their respective barangays. From 14 barangays, two were randomly chosen and eligible participants were invited to join in the study. These participants served as the control group, while the exposed group were the elderly participants who had already registered for the EDP. Those with dementia or refused to participate were excluded. A sample size of 100 per group was computed based standard deviations of 6 and 4.5 and means of 74.1 and 72 taken from the Act on Aging study.[4]

The World Health Organization Quality of Life Abbreviated Version for Filipino Older Persons (WHOQOL-BREF Fil OP) questionnaire was used to assess the quality of life of the participants.[5] It is a 26-item questionnaire covering four domains - physical health, psychological, social relationship and environment - answered with a 5-point Likert-type scale. A higher score denotes a better quality of life.[5] The physical health domain components are the activities of everyday life, dependence on medical substances and aids, energy and fatigue, mobility, pain and discomfort, sleep and rest, and work and capacity. Bodily image and appearance, positive and negative feelings, self-esteem, spiritual beliefs, thinking, learning, memory, and concentration are covered under the psychological domain. Personal relationships, social support and sexual relationships are covered in the social relationships domain. The environment domain includes financial resources, freedom, safety and security, health and social care, home environment, physical environment, chance of obtaining new knowledge and skill, participation in leisure activities and transport.[5] This version was taken from de la Vega and was found to be internally consistent, with a Cronbach's alpha of 0.88, and domain values of >0.70.[6] It was noted to have concurrent validity domain scores correlating at 0.001 significance levels with general questions on quality of life, physical health and well-being.

The questionnaire was self-administered for capable respondents; assistance in answering and explaining certain questions were provided by the researchers for those who had difficulty accomplishing the questionnaire. Data collection was proctored by two members of the research group on a house-to-house basis to minimize communication among participants and facilitate participant convenience. Quality of life measurements were done every month for four months, with the first session serving as the baseline. This was in line with EDP's monthly operations.

Distribution analysis was done to determine the comparability of the participant groups, and an independent t-test was done to determine if the quality of life scores of the EDP group were significantly higher than those of the unexposed group. Differences between the groups across domains were also compared. A paired t-test was used to assess the difference in the quality of life of each group between the first and fourth month. All statistical analyses were done using SPSS.

Results

There were 68 participants in the study, majority of the whom were women (n = 41), for both EDP and

control groups and were between 60 and 69 years old (n = 42). Most of the respondents were married (n = 40). Distribution analysis revealed that the subject groups are non-comparable. The complete demographic data are shown in Table 1.

Quality of life scores where higher for the EDP group during the four months of observation. The difference was significant only for Month 2. Table 2 gives the summary of mean scores per month. Further analysis suggests that in Month 2, significant differences were found in all domains except for the psychological domain (physical health p = 0.015; social relationships p = 0.041; environment p = 0.047). Only the physical health domain score was significantly higher in the EDP group for Month 3 (p = 0.003) and Month 4 (p = 0.029). Table 3 illustrates the domain scores per group per month.

Both the EDP and control groups had higher overall and domain scores in Month 4 compared with baseline, however the difference was significant only in the environment domain (p=0.023) in the control group. A summary of the paired t-test results is shown in Table 4.

Table 1. Demographic characteristics of the subjects in EDP and control groups

	EDP (n = 35)	Control (n = 33)	p-value
Sex			
Male	13	14	0.362
Female	22	19	
Age			
60-69	21	21	0.657
70-79	10	9	
80+	4	3	
Civil Status			
Single	1	1	0.063
Married	23	17	
Separated	3	0	
Widowed	8	15	
Educational Attainment			
None	0	2	0.055
Elementary	2	11	
High School	7	16	
College	19	4	
Post Graduate	7	0	
Socio-economic Status			
Poor	13	15	0.214
Low income	8	6	
Lower middle income	5	4	
Middle income	7	5	
Upper income	2	3	

Table 2. Comparison overall mean scores of EDP and control groups from baseline to Month 4

	EDP	Control	p-value
Month 1	56.67	52.95	0.023
Month 2	56.34	51.99	0.014
Month 3	58.89	55.04	0.066
Month 4	57.62	55.14	0.207

* Independent T-test

Table 3. Comparison of mean domain scores per month of EDP and control groups

	EDP	Control	p-value*
Month 1			
Physical health	14.12	12.36	<0.001
Psychological	14.91	14.24	0.217
Social relationships	13.90	14.02	0.848
Environment	13.73	12.33	0.013
Month 2			
Physical health	13.81	12.39	0.015
Psychological	14.71	14.37	0.483
Social relationships	14.02	12.50	0.041
Environment	13.79	12.72	0.047
Month 3			
Physical health	14.43	12.46	0.003
Psychological	15.07	14.42	0.294
Social relationships	15.14	14.71	0.597
Environment	14.25	13.45	0.180
Month 4			
Physical health	14.14	12.66	0.029
Psychological	15.08	14.69	0.445
Social relationships	14.00	14.03	0.972
Environment	14.40	13.76	0.288

* Independent T-test

Table 4. Comparison of domain and overall scores of EDP and control groups at Month 4 vs baseline

	Month 1	Month 4	Difference	p-value*
Physical health				
Control	12.36	12.66	0.30	0.624
EDP	14.12	14.14	0.02	0.834
Psychological				
Control	14.24	14.69	0.45	0.879
EDP	14.91	15.08	0.17	0.535
Social				
Control	14.02	14.03	0.01	0.952
EDP	13.90	14.00	0.10	0.698
Environment				
Control	12.33	13.76	1.43	0.023
EDP	13.73	14.40	0.67	0.097
Overall				
Control	52.95	55.14	2.19	0.174
EDP	56.67	57.62	0.95	0.201

* Paired T-test

Discussion

Present findings show that the overall QoL scores and the specific domain scores of the EDP group are higher than those of the unexposed group at each monthly determination and at the end of the study. The difference in overall QoL was significant during Month 2 but not at Month 4. The difference in the physical health domain scores was significant in favor of the EDP group up to Month 4.

The physical health domain showed a significant difference between the EDP and control groups throughout the whole duration of the study. Previous studies have suggested that physical health is a crucial factor influencing the quality of life of the elderly. A study by Paterson and Rice on exercise interventions showed that older adults can adapt physiologically to exercise training and improve their functional capabilities.[7] Physical recommendations for older adults included moderately vigorous cardiorespiratory activities (e.g., brisk walking), strength and/or power training for maintenance of muscle mass and specific muscle-group performance, as well as "balance-mobility practice" and flexibility (stretching) exercise as needed.[7] A previous study showed that the level of physical activity in the elderly population residing in Los Baños was moderate to low, with 46% of the respondents perceiving themselves to have low physical activity.[8] To address this, the EDP sessions incorporated lectures on the importance of physical activity; physical activities such as tai chi and zumba are conducted. These factors could have played a positive role on this significant difference.

While the EDP includes activities which encourage participation of the elderly and increase knowledge and skill (e.g., cooking lessons and lectures), it does not fully address all areas of the environment domain. In the study, quality of life scores of those exposed to EDP were found to be higher compared to controls in the second month.

The social relationship domain of those who attended the EDP was significantly higher on the 2nd month - however, this significance was mainly attributed to a decrease within the control group from 14.02 to 12.5. A study by Khan and Tahir states that in the elderly population, social aspects involve social networks and social support, and better social networks lead to better health outcome and well-being.[9] By being an active participant of social activities like the EDP, the elderlies are able to develop their social network, leading to less social alienation and QoL score declines. This is supported by a study in which participation in such activities was likely to lead to more social contacts with the outside community, therefore providing an additional source of support.[10]

No statistical differences were noted in both groups in the psychological domain throughout the whole duration of the study. These findings may be because the EDP did not focus on the psychological aspect of its participants.

In summary, the overall QoL scores and the specific domain scores of the EDP group are higher than those of the unexposed group at each monthly determination and at the end of the study. The difference in overall QoL was significant during Month 2 but not at Month 4. The difference in the physical health domain scores was significant in favor of the EDP group up to Month 4. The Elderly Development Program may improve the quality of life of elderly individuals, especially in the physical health domain.

One of the limitations of this study is the small sample recruited from the population, which may have accounted for failure to reach statistical significance for some of the domains studied. It is

suggested that future research utilize a larger study population with a longer follow up. Overall, the Elderly Development Program may be recommended for implementation based on its effect on quality of life in comparison to the control group. It may be worthwhile to consider increasing the frequency of sessions per month and evaluating the program regularly. Based on the study findings, program developers should consider adding activities related to the psychological and social relationship domains.

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