

## THE EFFECTIVENESS OF INFORMAL EDUCATION: ELDERLY SCHOOL ON THE HEALTH STATUS OF ELDERLY

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### Abstract

Elderly is an at risk population because it experiences some decline in function in the body. The increasing of the elderly population is a concern of the government and society. The high number of elderly people is a challenge for the elderly to remain healthy, active and productive so that the health status of the elderly does not decrease. One of the activities that can be done in the community to contribute to the health of the elderly is through informal education, namely the elderly school. **The aim of this study** was to determine the effectiveness of the implementation of the elderly school towards the health status of the elderly. This was an experiment with pre and post test without control group design. The sampling technique used quota sampling which attention to inclusion criteria totaling 33 elderly. The researcher used the SF-12 instrument to measure the health status of the elderly. Data from the groups were compare with a *t-test paired*. Based on the bivariate test results to test the effectiveness of the implementation of the elderly school on the health status of the elderly using the Paired t test with a p value of 0.004 (p value <0.05). There is an increase in the mean value of 0.72 points before and after the implementation of the elderly school. There are significant differences in mean values before and after the elderly school so that the implementation of the elderly school is effective towards improving the health status of the elderly

**Keywords :** Elderly, Elderly School, Health Status

### 1. INTRODUCTION

Indonesia is a country with 8.9% of elderly population in the world (1). The result of population projection in 2010-2035 showed that Indonesia has entered the ageing era, there will be 10% of >60 years old population in 2020. Yogyakarta Special Region is the region with the highest population of elderly in Indonesia namely 13.4% (2). The province with highest proportion of elderly is Yogyakarta Special Region (14.02%) (3). The increasing population of elderly requires special attention especially concerning the improvement of health status of elderly to be able of maintaining and enhancing the life quality in spending the old age. The improvement of elderly population should be managed seriously with positive actions to make them be independent and not depending on others who should generate active contributions in the society (4). The health status of elderly depends on health behaviors such as being able to understand the personal health status, being able to maintain optimal health status, being able to avoid disease or injury risk factors, and being able of reaching physical and mental potentials in optimal manner (5).

One of the efforts that can be done to prevent the decrease of elderly's health status is by establishing informal education of elderly school. This program helps provide services to enhance the well-being of elderly in education and health sectors. The elderly school program is anticipated to be able of making the elderly people especially in Yogyakarta Special Region to be empowered, independent, and still participate in the development either in a small scope within the region itself or in a wider scope i.e. national or international.

The education and training services are one of the rights of elderly. As the effort to improve the well-being of elderly, education can make the elderly to be empowered, independent, and proficient. Education services are more prioritized on potential group of elderly which still able to work and/or do activities that can produce goods and/or services (6). Long life education does not merely stop after individuals become adults but last for the life. Long life education becomes a crucial need because humans need to adjust themselves to be able of live normally in the always-changing environment of the society. Elderly school does not only study about physical health aspect but correlated to various elements including social, psychological, economic, and spiritual aspects (7). One of the implementation of elderly school was done in Karet Hamlet, Pleret, Bantul. The researcher created the curriculum of elderly school which consists of biological, psychological, social, spiritual, and economic aspects for elderly. The curriculum consists of 3 levels namely basic level (10 meetings), intermediate level (8 meetings), and advance level (4 meetings). Elderly school is held once a month with physicians, dentists, nurses, nutritionists, public health experts, physiotherapies, ustadz, psychologists or the experts in entrepreneurship. In this research, the researcher will measure the health status of elderly after following the education in basic level.

## **2. MATERIAL AND METHODS**

This research was a quantitative study with quasi experimental type. This research was using pre and post without control group design to discover the effectiveness of the implementation of elderly school on the health status of elderly. The 33 elderlies who attend the elderly school in Karet, Pleret, Bantul were the population of this research. Quota sampling was used as the sampling technique by keep referring to the criteria of research sample. Bivariate analysis was applied to analyze and identify the score disparity of health status in before and after the implementation of elderly school. Paired t-test was used because the data were normally distributed by implementing SF-12 instrument.

## **3. RESULTS AND DISCUSSIONS**

The characteristics of the respondents include age, occupation, and level of education of the respondents in Elderly School of Karet, Pleret, Bantul.

Table 1. The Frequency Distribution of Respondents' Characteristics Based on Age, Level of Education, and Occupation in May 2019 (n=33)

Characteristics of Respondents	f	%
Age		
Middle age (45-59 years old)	16	48.4
Elderly (60-74 years old)	12	36.4
Old (75-90 years old)	5	15.2
Occupation		
Labor	9	27.4
Teacher of Early Childhood Education	1	3
Merchant	10	30.3
Tailor	1	3
Farmer	1	3
Unemployment	11	33.3
Education		
Bachelor	1	3
High School	5	15.2
Elementary School	12	36.4
Uneducated	15	45.4
Total	33	100

According to **Table 1**, it is known that the age characteristic of respondents is mostly in middle age category (45-59 years old) which amounts to 16 (48.4%). The memory ability of an individual is determined by age (8). Age is a variable that always put into a consideration in epidemiology study as one of the elements that influence knowledge (9). The degradation of body functions on elderly occurs along with the time and age, therefore, the elderly will experience physical and psychological changes (10). Of some concepts above, it can be concluded that the degradation of body functions will occur along with the ageing process. The degradation of body functions either physically or psychologically experienced by elderly will affect their ability to receive new information.

Most of the level of education is uneducated which amounts to 15 (45.5%). The level of education will impact the health purpose that will be achieved by the elderly, therefore, it will affect the behavior of elderly in achieving health and well-being purposes (11). The level of education will affect the elderly in receiving information and will affect the pattern of knowledge and behavior of elderly. Low-educated elderlies do not simply mean that they conceive low knowledge. The improvement of knowledge is not absolutely acquired formal education but can be achieved through informal education. Low-educated elderlies do not close the possibility to have good comprehension, knowledge, and insight if the elderly read a lot of information sources.

Most of the respondent is unemployed which amounts to 11 (33.3%). The work environment can make someone to obtain experience and knowledge either directly (through friends) or indirectly (mass media), thus, the acquired information can enhance the knowledge of elderly (12)

Table 2. The Knowledge of Elderlies in Before and After Participating in Elderly School Activities

	<i>Mean</i>		<i>Median</i>	
	Pre	Post	Pre	Post
Score of the Health Status of Elderlies	68.24	87.27	60	80

Source: Primary Data - 2019

The bivariate test used Wilcoxon's signed rank test because the data were not normally distributed. According to Table 2, the mean and median values of the change of score of elderlies' health status have been acquired in before and after the intervention was performed. There were 19.03 and 20 difference of points in mean and median values.

Table 3. Health Status of Elderlies in After and Before Participating in Elderly School Activities

Paired t-test	<i>Mean</i>		<i>p-value</i>
	Pre	Post	
Score of the Health Status of Elderlies	39.67	40.39	0.004

Source: Primary Data - 2019

The bivariate test used paired t-test because the data were distributed normally. According to Table 3, the mean values of the change of score of elderlies' health status have been acquired in before and after the intervention was performed. There was 0.72 difference of point in mean values. The hypothesis test has acquired 0.004 p-value which means that there is a significant score difference of elderlies' health status in after and before participating the elderly school.

According to Table 2, it is known that the knowledge of elderlies is improving in before and after the elderlies participated in the process of basic level of elderly school. This condition can be seen from the increase in mean and median values. Several stages in the implementation process of elderly school include assessment, planning, implementation, and evaluation (13). The first stage, the author conducted assessment or data collecting regarding the conditions of elderlies in the community which include the health history of elderlies in the community, social-economy condition, level of education, elderly program in the community, the information which sourced from health workers or facilitators, and the knowledge of elderlies. The assessment results acquired by the author then analyzed and processed. In the second stage, the author conducted a planning. In this stage, the author formulated the curriculum of elderly school by gathering the teaching team and the experts in their respective sectors. The teachers, materials, objectives, teaching methods, implementation place, time and the duration of the implementation have been determined in the curriculum of elderly school. The

third stage was implementing the pre-determined plan or curriculum. The last stage was evaluating the conducted activities. The implementation of evaluation includes both qualitative and quantitative evaluations. The quantitative evaluation includes the data of knowledge, attitude as well as the action of elderlies in before and after the materials were provided in the elderly school. The qualitative evaluation includes observation and interview to elderlies that encompass the satisfaction and the desire of elderlies in attending the elderly school. In the final stage, there will be a graduation of elderly school. This activity was held for the elderlies to feel content, happy, and proud due to the respect and reward from others.

At this basic level, the elderlies obtained 10 meetings of education. The taught materials include the ageing on elderly, the treatment of diabetes mellitus, the treatment of hypertension, the treatment of stroke, spiritual therapy of elderly, the management of psychological disorder of elderly (stress, anxiety, depression), the ageing of musculoskeletal and joint system, the management of cognitive disorder (dementia) on elderly, the nutrition on elderly, and the workout for elderly. All the materials were taught in 60 minutes which consist of 45 minutes of theories, simulation, practices, and discussion) added by 15 minutes of opening, praying, and ice-breaking. The materials that being taught were not only theories but also practices which accompanied by teachers.

The knowledge and attitude of elderly about hypertension experienced an improvement after the health counseling about hypertension. The difference between the research conducted by author and the previous studies is that the author did not only teach about hypertension alone but every aspect occurs on elderly (14). The promotion of health is crucial to do in the community health service to decrease the number of coronary artery disease (CAD) on elderly (15).

The author collaborated with other profession teams including physicians, dentists, nurses, nutritionists, public health experts, physiotherapies, ustadz, psychologists, or the experts in entrepreneurship as the educators in the curriculum of the elderly school. It is expected that each professional or expert in this cross-professional collaboration could provide information to elderly in accordance with the issues experienced by them. Inter-professional education is required to perform a comprehensive cross-professional collaboration to overcome the issues on elderly in the society. The professionals include mid-level and high-level professionals. The mid-level professionals are community health agents, dental health workers, and nurses while higher-level professionals include dentists, nurses, and physicians (16).

Elderly school has short-term and long-term purposes. The short-term purpose is the knowledge improvement of the elderly while the long-term purpose is the improvement of elderly's health status which includes mental and physical functions. The knowledge improvement of elderly will increase their health status. According to Table 3, there is a 0.72 point of improvement in health status score after participating in elderly school and there was a significant correlation of health status score of elderlies in before and after following the elderly school based on the result of bivariate analysis. The health status of specific individual namely the elderly is the health situation or condition of someone in a certain period. The health status of elderly depends on the health behaviors of elderly such as being able of understanding personal health status, being able of maintaining optimal health status, being able of preventing disease or injury risk factors, and being able of reaching physical and mental potentials in optimal manner (5). The chance/possibility of which a disease might occur can be

minimized if anticipation is performed and by conducting an approach of risk factor at individual level that include the knowledge of elderly (17).

Elderlies were having good emotional support and reward from friends, families, educators or the community during their participation in the elderly school. Good emotional support and reward can make the elderlies feel comfortable in the community, thus, the health status of the elderly will be high as well. In addition, other aspects that able to improve the health status of elderly are when the elderly can do their activities independently, stay away from depression and desperation while keep socializing with others although having a decreased body condition or being depressed at the moment. According to the final result of interview and observation conducted toward the respondents, 33 elderlies (100%) feel content after participating in elderly school in which the indicators are when the teachers/educators give clear information and understandable by elderlies, the teachers answer all question of elderlies in fast and responsive manners, teachers being friendly and polite in giving information as well as comfortable room for the activity of elderly school.

#### **4. CONCLUSION**

The health status of elderlies was increasing after they participated in basic level of the elderly school. There was a difference in mean value of the health status of elderlies in after and before participating in elderly school. The implementation of elderly school is effective to improve the health status of elderlies.

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