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Education and Training Improve Quality of Life and Decrease Depression Score in Elderly Population

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Abstract: The elderly population in Bali have increased in recent years, influenced by the improvement of health and nutrition. On one hand, still very few programs exist to help the elderly live independently. On the other hand, there is a decreasing trend in the quality of life and an increasing trend in depression score. **Aim:** To understand the effect of education and training on quality of life and score of depression in the elderly population. **Method:** Elderly individuals were divided into three groups with 22 members, 32 members, and 38 members respectively. One group was in the University is an urban group, one group was in Kuta Utara (suburban) and one rural group was in Munggu village. All groups received education from Dhyana Pura University lecturers with different topics twice a week for 5 months, with physical exercise each Saturday. Before and after the proses, depression scores (Back Depression Index) and quality of life using the World Health Organization Quality of Life (WHOQOL) were measured. **Result:** The result of this process is as follows: for the urban group BDI before the process was 17.14 ±14.87, and after the process was 7.14 ±4.29. The rural (village) group were 11.59 and 8.19, and the suburban group was 13,44 before process and 7.87 after the process. The quality of life scores was 20.41±2.32 and 22.50±1.50, for the physical domain, 16.45±3.10 to 19.82±2.38 for the psychological domain, 8.32±1.39 to 10.82±1.68 for social domain, and 24.14±2.75 to28.09±3.06, for environmental domain. **Conclusion:** Education and training can improve the quality of life and depression for elderly people. More participants are needed to achieve a general conclusion.
Key terms: elderly people, education, training, depression, and quality of life.

INTRODUCTION

The number and proportion of the elderly population in Indonesia are increasing year by year, because of improvements in health, nutrition status and environment. According to the Indonesian statutory regulation (*Undang-Undang No. 13 tahun 1998 tentang Kesejahteraan Lanjut Usia*), elderly is defined as people in the age group of more than 60 years old. The elderly population increases around the world more rapidly compared to other population groups. In 2006, there are 500 million people who are 65 years old and older. The most rapid increase in the over 65 age group is occurring in developing countries, with predicted 140 percent increases in 2030.

With improvements in many aspects of human life such as in a state of health and in medical technology, the length of life expectancy will be lengthened, coupled with decreased mortality and morbidity. This situation will make the population of elderly people increase. According to a report from the Coordinating Ministry of Social Welfare (Kantor Kementerian Koordinator Kesejahteraan Rakyat, KESRA), in 1980 the life expectancy for Indonesia was 52.2 years, and the number of elderly was 7.998.543 (5.45%). The figure increased to 19 million elderly population in 2006, and life expectancy also increased to 66.2 years. In 2010, the numbers increased yet again to 23.9 million (9.77%), and life expectancy increased to 67.4 years. By 2020, it is predicted that the elderly group will increase to 28.8 million (11.34%), and life expectancy will be 71.1 years. Around 42% will stay in urban areas and the others in rural areas.

The increasing elderly population increases the importance of maintaining and improving the quality of life. There is a popular saying in this field, "*Add Life to Years, Add Health to Life, and Add Years to Life*". The elderly population should have a good quality of health and good quality of life. Quality of life and

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depression in elderly people have a strong relationship. Depression decreases the quality of life, and low quality of life will perpetuate depression. Depression is one of the common mental disorders for the elderly. Cross-sectional study about the relationship depression and physical, social, environmental factors showed that population of elderly suffering from depression is 63% and 21% of them experienced severe depression (Kim *et al.,* 2009). The other study by Sherina in Selangor as an urban area found about 6.3 percent of the 300 population elderly people had depression (Sherina. et al, 2005). Another study in Iran, using the Geriatric Depression Scale (GDS), found about 23.5% elderly people with depression (Majdi. et al, 2011). There are varieties in the prevalence of depression in the elderly population depending on many factors.

Some factors that influence depression in the elderly include living alone and supporting system (Majdi et al, 2011). The other study found that depression symptom 3 months post-hospitalization was significantly associated with daily living skill and social support (Ciro et al, 2012). In a study examining the quality of life in elderly people, Lapid researched 45 subjects around 74 years old, 67% were female, 58% were married, with the education level of senior high school. A negative relationship between depression, quality of life, mental well-being and physical well-being was found. This study concluded that improvement in the quality of life relates to the improvement of depression disorders (Lapid.et al, 2010).

A study to explore the relationship between quality of life and social interaction found that there is a relationship between quality of life and social interaction in the elderly population (Rantepadang, 2012). A study by Akyo of the elderly population with an average age of 71.53 years, 88.3% female and 11.7 % male, found that 80.8% of them had chronic diseases such as diabetes and hypertension. There is a negative relationship between quality of life and intensity of pain and level of depression. Chronic diseases and lower education decreased quality of life and increased depression in the elderly group (Akyo et al, 2009).

Various programs and concerted efforts have been done to improve the quality of life for elderly people. Said efforts seek to improve the quality of life and to keep the people healthy, including but not limited to exercise nutrition and early detection for disease prevention. In the present study, elderly groups were given a series of lecture (education) to give stimulation for the brain and exercise to make the people active, in order to understand the effects on quality of life and depression. It is hoped that the treatment in the educational program used in this study could give an idea to create a program for the elderly population in the future.

MATERIALS AND METHODS

With the basic concept to keep elderly people mentally and physically active, we gave a series of lecture (education) and exercise for groups of people more than 60 years old. There was 92 participants in this study, divided into three groups. The program for one group took please in Dhyana Pura University (22 participants), one group was in the rural area (Munggu village) with 38 participants, and the third group in a suburban setting (Kuta Utara subdistrict) with 32 participants. The class ran twice a week, every Tuesday and Saturday for 5 months each.   The topics of material include health, aging process, neurology, ergonomic, mental disorder for elderly people, communication gap among generations, exercise, orchid gardening, and spiritual excursion. Pre and post-process were measured by Back Depression Inventory (BDI) and Quality of Life based on The World Health Organization Quality of Life (WHOQOL).

RESULTS

There were three groups in the current study. One group in University campus with 22 participants, suburban groups in Kuta Utara with 32 participants, and rural group in Munggu village with 38 participants. Before and after the education and exercise programs, all participants filled out Beck Depression Inventory with 21 items about the quality of emotion and the *World Health Organization Quality of Life* (WHOQOL), Indonesian version, with 26 items with 4 domains (i.e., physical, psychological, social, and environmental).

1. Normality Test

All data before and after the process were tested for normality by *Shapiro-Wilk*. The result shows that all data in a normal distribution ($p > 0.05$).

2. BDI Score

Average BDI score was 14.05 before the process and decreased to 7.73 after the process. Every group showed different scores, in urban group 17.14 before the process, and after the process decreased to be 7.14. The average BDI score for the participant from rural groups before the process was 11.59 and after the process decreased to 8.19. And the group in suburban setting had BDI score of 13.44 before the process and 7.87 after the process. Significance test showed that the BDI scores decreased in all three groups before and after the process.

In the suburban groups (Kuta Utara group) we tried to explore more detail, though only with basic descriptive statistics. For example on question 21, about sexual interest, before the process 29% of participants answered "I have enough interest in sexual activities" and after the process, 41 % answered such. This fact has an interesting question to discuss more deeply.
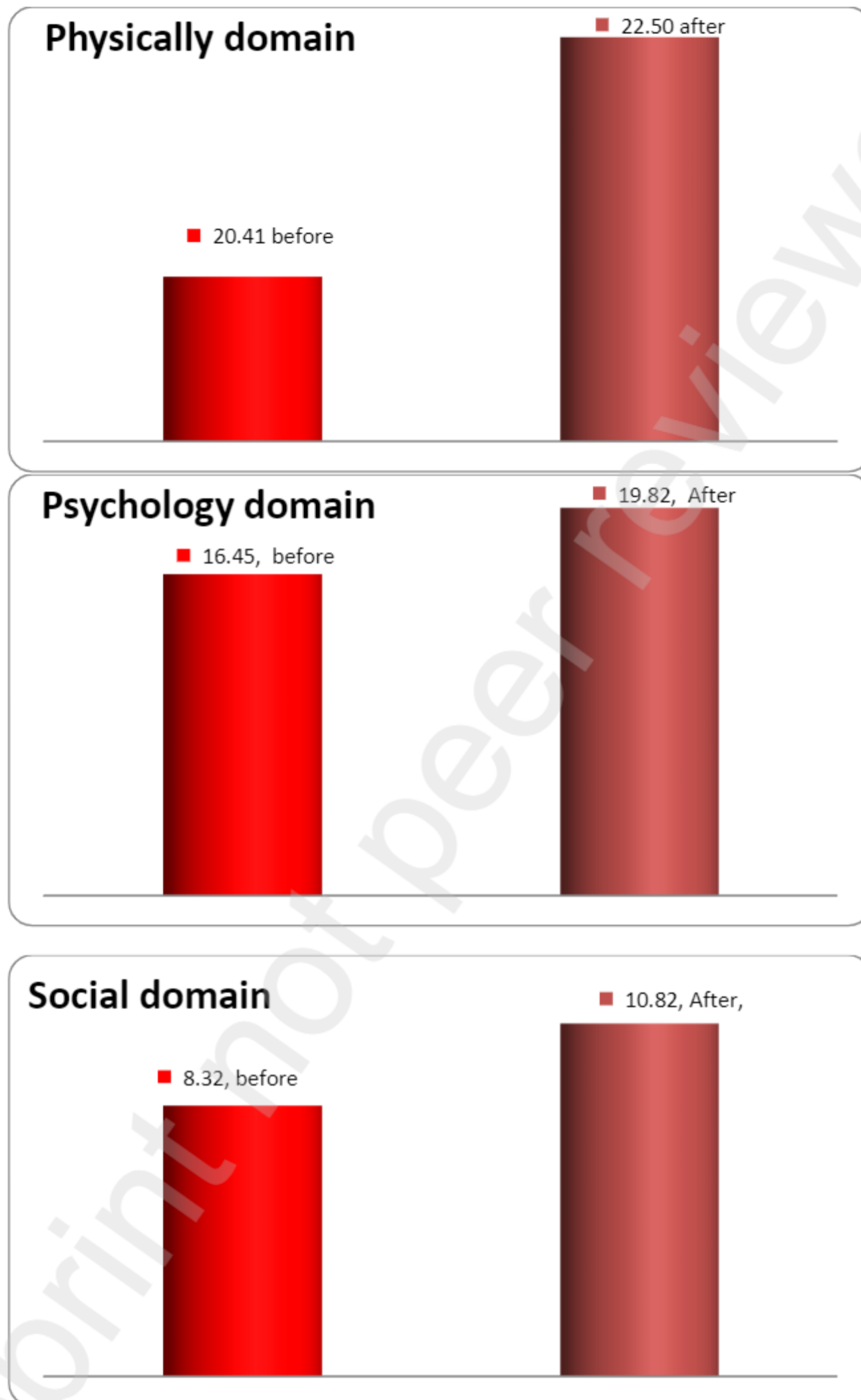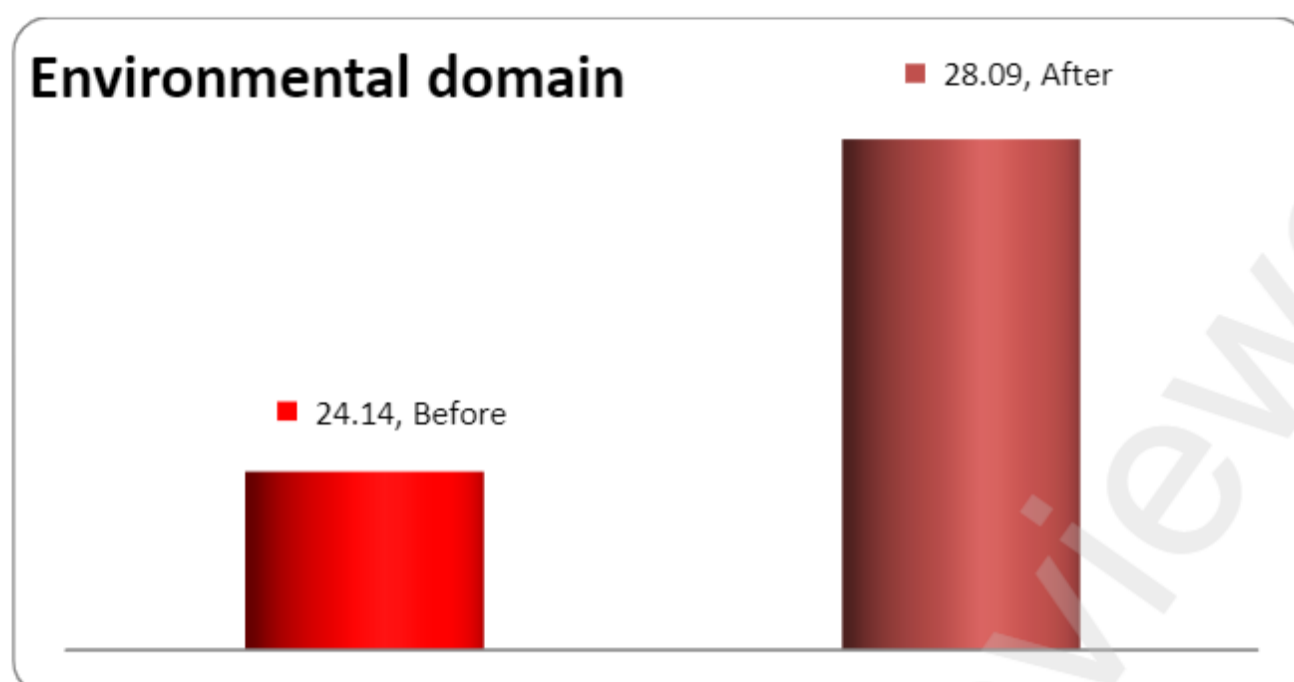
3. Quality of Life Analistic

The WHOQOL have 4 domain. We try to do analyzed urban group more detail to have conclusions. The table below shows the analysis in 4 domain of WHOQOL.

Tabel
Pre and post-Average scores of WHOQOL

WHOQOL	Treatment		Differences	P
	Pre	Post		
Domain 1	20.41±2.32	22.50±1.50	2.09	0.001
Domain 2	16.45±3.10	19.82±2.38	3.36	0.001
Domain 3	8.32±1.39	10.82±1.68	2.50	0.001
Domain 4	24.14±2.75	28.09±3.06	3.96	0.001

Data in the table above shows that the average score for domain 1 before the process is 20.41±2.32. and after the process is 22.50±1.50. The average score of domain 2, before the process 16.45±3.10, and average score after the process is 19.82±2.38. The average score of domain 3 before the process is 8.32±1.39, and after the process is 10.82±1.68. And the average score of domain 4 before the process is 24.14±2.75, and after the process is 28.09±3.06. Significance analysis with paired t-test shows that all scores for quality life domains increased significance. ($p < 0.05$).

Physically domain

■ 22.50 after

■ 20.41 before

Psychology domain

■ 19.82, After

■ 16.45, before

Social domain

■ 10.82, After,

■ 8.32, before

■ 22.50 after

DISCUSSIONS

From this result, a relationship between decreased score of depression and an increased score of quality of life was found. This result is similar to Lapid's study, which suggested that the improvement in the quality of life relate to the improvement of depression score (Lapid.et al, 2011). Education and exercise improve quality of life in all four aspects namely physical, psychological, social, and environmental.

Education will stimulate the neurons to improve their function. Exercise increases the body's metabolism gives a chance for elderly people to stay active. There are some activities that can increase the longevity of life while avoiding stress and depression, including exercise for a minimum of 30 minutes per day, limit the intake saturated fat, sleep for 8 hours, drink minimum amount of alcohol, no smoking, maintain ideal body weight, and think younger (Klatz and Goldman, 2007). Well-being is an important state to achieve and maintain. A study to understand the effect of stress through religiosity, spirituality, healthy lifestyle and subjective physical well-being in 221 patients with chronic illness concluded that spirituality, physical activities and a healthy diet have a good contribution for the subjective physical well-being (Boswell et al, 2006).

Physical activities related to the prolongation of the telomere. A study on the relationship between physical activities and prolongation of telomere and activities of telomerase enzyme was carried out for 69 subjects (34 male and 35 female). The ages of the subject were 50-70 years old. They measured Exercise Energy Expenditure (EEE) with Yale Physical Activity Survey. There were five levels of physical activities: (1) very active (aerobic exercise); (2) fairly physically active (sport and active leisure); (3) Moderately physical *alyctive* (hobbies, active leisure activities); (4) fairly physically inactive (very few leisure activities); 5) very physically inactive (no sport, no physical leisure activities). This study found there is a significant relationship between physical activities (moderate) with prolongation of telomere compare to the very active and very passive (Ludlow et al, 2008).

Physical and mental activities as in our present study improved the quality of life and decreased the score of depression. Another study on physical activities was conducted by Rizzuto in 1810 subject with age range of more than 75 years old, and using 18 years follow up longitudinal study (1987 – 2005). The Result of this study 1661 subject died during observation, 50% of the subjects lived to be more than 90 years old. The conclusion of this study that a good lifestyle (physical activities, no smoking) related to the longevity life (Rizzuto *et.al.,* 2012)

Education will stimulate the neurons and neurotransmitters to improve their function and improve depression. Activities in groups give an opportunity for elderly people to socialize with each other and improve their depression scores as well as for their social and environmental aspects. Exercise and

togetherness give elderly people the chance to share their problems with their colleagues in the same situation.

CONCLUSION

Education and exercise can improve the quality of life by decreasing depression in the elderly population. Both are very important strategies to keep elderly people active as long as possible. Physical and mental activities are important for the elderly population. More study is needed with control design in the future and further implementation of life long education program for the elderly population.

REFERENCES

[1] Akyol, Y., Durmuş, D., Doğan, C., Bek, Y., & Cantürk, F. (2010). Quality of life and level of depressive symptoms in the geriatric population. *Archives of Rheumatology*, 25(4), 165-173.

[2] Boswell, G. H., Kahana, E., & Dilworth-Anderson, P. (2006). Spirituality and healthy lifestyle behaviors: Stress counter-balancing effects on the well-being of older adults. *Journal of Religion and Health*, 45(4), 587-602. https://doi.org/10.1007/s10943-006-9060-7

[3] Ciro, C. A., Ottenbacher, K. J., Graham, J. E., Fisher, S., Berges, I., & Ostir, G. V. (2012). Patterns and correlates of depression in hospitalized older adults. *Archives of gerontology and geriatrics*, 54(1), 202-205. https://doi.org/10.1016/j.archger.2011.04.001

[4] Javed, S., & Mustafa, N. (2013). Prevalence of depression in various demographic variables among elderly. *Open Access Scientific Reports*, 2(1), 1-4.

[5] Kim, J. I., Choe, M. A., & Chae, Y. R. (2009). Prevalence and predictors of geriatric depression in community-dwelling elderly. *Asian Nursing Research*, 3(3), 121-129. https://doi.org/10.1016/S1976-1317(09)60023-2

[6] Klatz, R. (2009). *The Official Anti-aging Revolution: Stop the Clock Time Is on Your Side for a Younger, Stronger, Happier You: Easyread Edition*. ReadHowYouWant. com.

[7] Kurniawan.F., Alexander.P., Turana.Y. (2013). Olahraga dan Kebugaran Otak pada Lansia. Medika, Jurnal Kedokteran Indonesia, (3), 204-212

[8] Lapid, M. I., Piderman, K. M., Ryan, S. M., Somers, K. J., Clark, M. M., & Rummans, T. A. (2011). Improvement of quality of life in hospitalized depressed elderly. *International psychogeriatrics*, 23(3), 485-495. https://doi.org/10.1017/S104161021000133X

[9] Ludlow, A.T., Zimmerman.J.B.,Witkowski.S. (2008). Relathionship Between Physical Activity Level, Telomere Length, and Telomerease Activity. *Med Sci Sport Exerc* (October); 40(10): 1764-1771.

[10] Majdi, M.R., Mobarhan.M.G., Salek. M., Taghi.M., Mokhber N. (2011). Prevalence of Depression in an Elderly Population: A Population-Based Study in Iran. *Iranian Journal of Psychiatry and Behavior Science (IJPBS)*, (5), 17-24

[11] Rantepadang, A. (2012). Interaksi sosial dan kualitas hidup lansia di Kelurahan Lansot Kecamatan Tomohon Selatan. *Jurnal Interaksi Sosial Dan Kualitas Hidup*, 1(1), 63-80.

[12] Rizzuto, D., Orsini, N., Qiu, C., Wang, H. X., & Fratiglioni, L. (2012). Lifestyle, social factors, and survival after age 75: population based study. *Bmj*, 345, e5568. https://doi.org/10.1136/bmj.e5568

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[13] Sherina, M., Sidik, R.L., Aini.M., Norhidayati, M.H. (2005). The Prevalence of Depression among Elderly in Urban area of Selangor, Malaysia. *The International Medical Journal.* (4), 57-58