Aging Medicine and Healthcare 2019;10(1):62-71. doi:10.33879/AMH.2019.1778

Aging Medicine and Healthcare
https://www.agingmedhealthc.com

Original Article

The Elderly's Quality of Life Based on Individual Characteristics Determinants in the Elderly Population of Surabaya, Indonesia

*Yudhiakuari Sincihu[1], Galuh Nawang Prawesti[1]

[1]Widya Mandala Catholic University Surabaya, Surabaya, Indonesia

ABSTRACT

Backgroud/Purpose: The data showed that 62.5% of the elderly's quality of life in the community is at the medium level, which have a tendency to downgrade to a lower level over the aging process in the future if there is no immediate intervention. As expected, analyzes of the individual determinants of the elderly can produce insights that will reinforce the improvement of their quality of life.

Methods: An analytical study of correlation, using crosssectional approach. The population were the elderly in Surabaya, Indonesia who joined the gemeinschaft (n=120). The sample was taken using consecutive sampling technique among those who the aged ≥60 years.

Results: The data indicated that the elderly's dissatisfaction regarding their quality of life mainly comes from psychological domain (26.7%), environmental domain (15.0%), physical domain (14.7%), and social relationships domain (10,8%). There are correlations found between age (p=0.006), education level (p=0.035), health condition (p=0.001), and financial condition (p=0.005) with the elderly's quality of life. However, the determinants of gender, ethnicity, workload, marital status, and living conditions are found to have no influence upon their quality of life.

Conclusion: The specific characteristics of the elderly that need to be targeted are those who aged ≥71 years with education level of or below senior high school, have physical health problems, elderly whose retirement income is not sufficient for their daily living expenses, and who are still forced to work.

***Correspondence**
Dr. Yudhiakuari Sincihu
Widya Mandala Catholic University Surabaya, Indonesia
E-mail:
yudhiakuari@ukwms.ac.id

Received 21 December 2017
Accepted 10 Febuary 2019

Keywords
Characteristics, elderly, individual determinants, quality of life.

1. INTRODUCTION

The improvement in health and education sector within the national development context has an impact on the increase of life expectancy the elderly people. The Law Number 13, 1998 about elderly welfare stated that Indonesian citizen who are categorizedas the elderly are those who aged over 60 years.[1]

From the social-health demography perspective, increasing the elderly's life expectancy has become a

concern not only for the elderly themselves but also, consequently for their family and the state. A previous research showed that there is a relationship between the independence of elderly in living their daily activities with the increasing age and their physical changes.[2] Hence, one of the main challenges for the elderly isto adapt to all the changesin their life, as this adaptation capability will determine their quality of life in the future. The effort for adaptation as one of the challenge phenomenon can be seen from biological, psychological, and social aspect.[3]

The Statistic Central Bureau revealed a significant increase of life expectancy in Indonesia: in 2000, UHH has exceeded 64.5 years (with the percentage ratio of the elderly population is 7.18%). This number had been increasing since then with life expentancy became 69.43 years in 2010 (7.56%), 69.65 years in 2011 (7.58%). In 2020, the estimated life expectancy will be 71.1 years (7.73%). This constant increase has made Indonesia as a country that has passed the status of developing countries.[4]

Based on this estimation, the number of elderly will keep increasing in Indonesia. Consequently, it is necessary to think of the approaches to sustainthe elderly's welfare with Indonesian citizen structure system taken into account.

According to AsianQoL research, Indonesia is now ranked 19th on The QoL Index from a total of 23 countries in Asia. The ranking is mainly considered from the education level, income, health condition and social relationship aspect.[5]

According to the Law number 36, 2009, article 138 section,[1] every healthcare effort for the elderly has to aim for keeping the healthy and productive life on both social and economic aspect based on human dignity. This indicates that the elderly's quality of life is of important concern for the Indonesian citizen welfare level.

Quality of life can be defined as an individual's overall perception about happiness and satisfaction regarding his/her life and the environment where one lives. Quality of life can also be defined as an evaluation of the overall satisfaction of someone's life.[6]

Individual determinants are the crucial factors in deciding the score yielded by every domain in the quality of life measurement. There are individual determinants which are non-modifiable (can not be changed) such as gender, age, ethnicity, and there are also the modifiable ones (can be changed) such as financial condition, health condition, family support, social support, spiritual interaction, marital status, personality type, education level, workload, life circumstances and sleep quality.[7]

Every determinat of the elderly individual characteristics has a multiple effect to every domain of the quality of life instrument (WHOQoL). Therefore, in conducting a program that support elderly, it is important to consider which of those determinants should be used as the indicators - which then being quantified, so that there will no bias in clarifying whether the success of a programis achieved.

Therefore, the most appropriate approach to address the problems explained above is to gather descriptive data and provide a theoretical recommendation regarding which of the determinats of elderly's individual characteristic that should be the focus in overcoming the elderly's life concerns. The result of this study can be used by the stakeholders as a guide for focusing any program's purposes in resolving the elderly's life problems, particularly in Indonesia where this research is undertaken. An individual determinant will be considered as a recommendation only if it is proved to have a significant correlation with the elderly's quality of life (WHOQoL-Bref).

2. METHODS

A correlation study analysis was employed to assess the individual determinants of the elderly in relation to their quality of life. Quantitative data was attained using a measurement approach. Researchers did not give any intervention to the sample and all observed variables were measured only once. The research was undertaken at the Bapa Abraham community at Gembala Yang Baik Catholic Church, Surabaya, Indonesia in 2015. Population of the study are 156 elderlies registered in this community. Sample was taken using consecutive sampling technique. There were 120 elderlies who met the inclusion criteria (aged ≥60 years) and the exclusion criteria (elderly with one or more of the following conditions): schizophrenia, orientation disorder, consciousness disorder, illiteracy, blindness, dementia, depression, parkinsonism and paralysis.

Primary data was collected by an in-depth interview method with each of the elderlies. Quality of life variables used in this study are from WHOQoL-Bref Indonesian version which consists of 26 questions, where 2 questions are about quality of life in general and 24 other questions which are included in the 4 domains: physical health, psychological, social, and environmental *(Coef validity 0.409-0.850; Cronbach's Alpha 0.875; r table 0.444)*. Data processing is done through several steps: editing, coding, entry, and tabulation were done with IBM SPSS program *Statistics series 16.*

Data and results are presented using distribution tables, cross tables, mean, and standart deviation. The quality of life's data quantification and calculation follows the WHOQoL-BREF method: the data was modified into interval periodic categorization (high, medium and low quality of life) by determining the

top, middle and bottom quartiles of the standard deviation. Data was analysed using Kendall Tau-b Correlation test, Anova test, and Kruskal Wallis test.

This research holds the principle of ethics, such as respect for human dignity, respect for privacy and confidentiality, respect for justice and inclusiveness, and balancing harms and benefits. The ethical feasibility test has been met.

3. RESULTS

3.1. Description of the Elderly's Individual Determinants

Individual elderly's characteristics associated with achieving a good quality of life in this research can be explained with determinant's variety that un-modified and modified determinants.

Elderly's characteristic based on un-modified determinants factor as an innate factor that inherent in the elderly, showed in Table 1.

Table 1. Description of elderly with un-modified individual determinants.

Characteristics of Respondents	Frequency (n)	Percentage (%)
Gender		
Man	31	25.8
Women	89	74.2
Age		
60-64 years old	27	22.5
65-70 years old	46	38.3
>70 years old	47	39.2
Ethnicity		
Outsider tribe (Chinese, India, Arab)	70	58.3
Natives (Java, Sunda, Madura)	47	39.2
Mixed tribe/others	3	2.5
Sources: primary data.		

Tabel 1 explained that women's elderly (74.2%) more joined in the gemeinschaft than man's elderly (25.8%). The comparation 3:1. Their age doesn't have so much difference in every category, 60-64 years old (22.5%), 65-70 years old (38.3%), and ≥71 years old (39.2%). Most of the subject who lived in Surabaya and join the gemeinschaft are outsider tribe (58.3%) compare with natives (39.2%).

Elderly's characteristic based on modified determinant factor as an inherent factor to the elderly showed in Table 2. Table 2 explained 83.3% of elderly think that their health condition now at not good and bad condition. Almost all of them jobless (83.3%) so their financial condition at not good and bad condition (51.6%). Their education level at good chategory, 80.9% already passed senior high school. The most marital status are married (53.4%). Elderly's who lived without their spouse, into not married, divorce and widow/widower only as 46.6%. Most of the elderly assess their situation at home is not good for him/her (63.3%) and bad to their life (27.5%).

3.2. Description Quality of Life of Elderly

The elderly's satisfaction as they go through their life is defined as quality of life (QoL). The Quality of Life is measured with WHOQoL-Bref instrument. The quality of life is categorized as high, intermediate and low based on the mean (82.70) and standard deviation

Table 2. Description of elderly with modified individual determinants.

Characteristics of Respondents	Frequency (n)	Percentage (%)
Health condition		
Bad	39	32.5
Not good	61	50.8
Health	20	16.7
Education level		
Haven't any certificate	1	0.8
Passed elementary school	6	5.0
Passed junior high school	16	13.3
Passed senior high school	61	50.8
Passed bachelor	29	24.2
Passed master or doctorate	7	5.9
Financial condition		
Bad	22	18.3
Not good	40	33.3
Good	35	29.2
Very good	23	19.2
Workload		
Still working	20	16.7
Jobless	100	83.3
Marital status		
Not married	13	10.8
Married	64	53.4
Divorce	1	0.8
Widow/widower	42	35.0
Together without married	0	0.0
Living arrangement		
Situation at home is bad for him/her	33	27.5
Situation at home is not good for him/her	76	63.3
Situation at home make him/her happy	11	9.2
Sources: primary data.		

Table 3. Description of the elderly quality of life.

Perception Quality of Life	Frequency (n)	Percentage (%)
High	24	20.0
Intermediate	75	62.5
Low	21	17.5
Sources: primary data.		

Table 4. Elderly perceptions to quality of life and Satisfaction with his/her health condition.

No	Question	Assessment				
		Very Bad/Very Dissatisfaction	Bad/ Dissatisfaction	Neither Good/Bad	Good/Satisfied	Very Good/Very Satisfied
Q1.	How would you rate your quality of life	0 (0.0%)	2 (1.7%)	36 (30.0%)	57 (47.5%)	25 (20.8%)
Q2.	How satisfied are you with your health	0 (0.0%)	18 (15.0%)	32 (26.7%)	41 (34.2%)	29 (24.2%)

Sources: primary data.

(12.09) from the domain total score. The description of the elderly's quality of life can be explained in Table 3. The most of the elderly's quality of life in the gemeinschaft at intermediate chategory (62.5%) and high (20.0%). Only 17.5% at low chategory. This description can be compared with the subjective question (Q1 dan Q2 WHOQoL-Bref) about elderly's perception to their own quality of life and their satisfaction to the heath condition.

Table 4 showed that elderly's perception about their quality of life now is the same with Table 3. There are 68.3% assess that they are good/satisfied and very good/very satisfied. There are 30% elderly who asses their quality of life neither good/bad and 1.7% asses they have bad/dissatisfaction quality of life. So is the satisfaction of health condition now in good/ satisfied and very good/very satisfied cathegory (58.4%). Only 26.7% asses neither good/bad and 15.0% asses bad/dissatisfaction.

The description of this elderly's quality of life on Table 3 and 4 are accumulation from physical domain, psychological domain, social relationship domain and environmental domain. To make it clear about elderly's quality of life, will be explained the description of each domain more detail in Table 5.

Table 5 explained that 10.8-26.7% respondents have bad quality of life on each domain. The most dominant bad quality of life on psychological aspect, that is 26.7 %, then physical domain 14.2%, environmental domain 15% dan social relationship 10.8%. There are 50-70% respondents which their quality of life on every domain has neither good or bad chategory.

3.3. Analysis Individual Determinants with Elderly Quality of Life

Correlation analysis between characteristic determinants in every individual elderly's with their quality of life's perception will be explained more detail in Table 6. From the analitycal test result obtained, there are correlation between age (p=0.006), education lavel (p=0.001), health condition (p=0.035), and finance condition (p=0.005) with quality of life of elderly in this community. But there is no correlation between gender, ethnicity, workload, marital status and living arrangement with quality of life.

Table 5. Description of each domain from quality of life.

Domain of WHOQoL-Bref	Category Quality of Life Assessment Each Domain		
	Good n (%)	Neither Good/Bad n (%)	Bad n (%)
Physical domain	19 (15.8)	84 (70)	17 (14.2)
Psychological domain	27 (22.5)	61 (50.8)	32 (26.7)
Social relations domain	24 (20)	83 (69.2)	13 (10,8)
Environmental domain	27 (22.5)	75 (62.5)	18 (15)

Sources: primary data.

Table 6. Test analysis between individual determinants with quality of life.

Elderly Individual Determinants	Correlation Test Method	p value
Gender	One Way Onova	0.376
Age	Kendalls Tau	0.006
Ethnicity	Kruskal Wallis	0.108
Health condition	Kendalls Tau	0.035
Education level	Kendalls Tau	0.001
Finance condition	Kendalls Tau	0.005
Workload	One Way Onova	0.319
Marrital status	One Way Onova	0.218
Living arrangement	Kendalls Tau	0.720

Sources: primary data.

4. DISCUSSION

4.1. Un-Modified Individual Determinants of Elderly

The unmodified factor is a condition that since birth has existed and continues to exist during the aging process. According to this research findings, the number of female elderly participants who joined in the community is bigger (74.2%) than males (25.8%), with the ratio being 3:1. This can be caused by the number of female elderly in Indonesia which indeed is bigger than the male population and the fact that the female's life expectancy is higher than the male's. A similar comparisonis shown in Yuliastuti's research (2017):[8] she stated that the female elderliestend to have more interest in socializing and adapting with their community compared to the males who prefer to just observe the progress of the world through the news.

Community is a platformin which individuals who havecommonality gather (Melina, 2014).[9] In this research, that similarity are the participants' age (≥60 years old) and the region where they come from (adjacent neighborhood). Most of the member who joined in the Bapa Abraham community are from outsider tribe 58.3%. This percentage is high compared to the natives (39.2%). This data can indicate that Surabaya city is inhabited more by the outsider tribe than the natives.

The number of elderly who joined in this community tend to increase as they are getting older: 60-64 years old (22.5%), 65-70 years old (38.3%), and >70 years old (39.2%). This may have been due to the purpose of the community itself as a solidarity platformfor the elderly to socialize, exchange idea, share experience, care for and give attention to each other to develop a loving communal life. As they are getting old, the needs to be cared are getting increased as an impact of psychosocial change from the aging proces.[3]

4.2. Modified Individual Determinants of Elderly

The modified factors are conditions obtained or experienced by the elderly during the aging process so that it's considered a changeable determinant. In this study, it is known that 3 out of 4 elderlies (83.3%) are aware of theirown health problem. There are 50.8% who are in 'not good' category and 32.5% who are in 'bad' category. If we look on the detail for each of the underlying causes, there are 60.0% elderlies suffering from physical limitation due to the decreased musculoskeletal ability and sensory system, 44.2% elderlies admit that they have chronic pain sensation and as many as 40.8% have chronic disease/diseases.

In line with the aging process, one's health condition will naturally deprave. This is partially due to the decline of elderly's physical activity as an impact of the limitation on their normal biological function.[9] This degradation is indeed expected in a normal life cycle (physiological). A physiological degradation could also fall into pathological condition when any disease is present. This fact is supported by one of the findings in autoimmune field which reveals that the number of autoimmune diseases on elderly has been increasing. One suggestible effort inpreventing this is by increasing the elderly's physical activity as optimal as possible.[3]

The degradation from the aging process is believed to have a strong correlation with disturbance in elderly's work activity. This correlation can be seen in the 83.3% of elderly who can not work any job anymore, which consequently hinder them to earn income for living; while 16.7% of them are still working. Of those who are still working, 75.0% said they love their job and 25% feel unhappy about their job because it is a burden with their not-so-accomodating physical conditionor because they do not like the situation at the workplace (psychosocial reason).

Regardless of their working status, almost half of the elderly (48.4%) said that they have 'good' and 'very good' financial condition. On the contrary, with almost the same percentage (51.6%), the participants said that they have either 'not good' or 'bad' financial condition. This finding is in line with the survey data from the Ministry of Social Affairs, Indonesia. They stated that the economic uncertainty is a part of individual change when they reach elderly's stage of their life. Therefore, the role of the government could be an appropriate solution as they are the ones who set rules regarding the pension plan as an economic certainty to the elderly in their pension time.[1]

The elderly who has bad financial condition stated that it is mainly due to the uncertainty of their monthly income (36.7%). The absence of financial support neither from the family, society, nor government is the second most rated reason (35.0%), and for those who still earn money, they feel that their income is not enough to fulfil their daily needs (23.3%). The elderly's needs are in fact quite many, as they have nursing needs more than teenager (e.g. when they get sick), the needs for equipment to help their physical inability, the burden for goods' instalment, and so forth.

Surabaya citizen nowadays seem to have a good awareness of education, which can be seen from the description of the elderly's education level who joined Bapa Abraham: 80.9% already finished senior high school. In a more detailed elaboration, there are 50.8% elderlies who have senior high school certificate, 24.2% have bachelor degree certificate, 3.4% have master degree certificate, and 2.5% have doctoral programme certificate. This number will estimatedly increase among the elderly population in 2030, when those who are now teenager will already have finished their senior high school degree.

Alas, a higher level of education supposedly makes people perceive high quality of life as something that is not easy to reach, because their life expectations getting upscaled, their health understanding getting advanced, and their psychological management getting better. This is in line with the theory of individual's need by Maslow and the development of life's demand theory.[3]

Marital status is considered as an important factor in determining the elderly's quality of life.[10] Yuliati argued that marital status can be associated psycho-social well-being since in a marriage, problems are bound to happen. Therefore, those who have spouse will allegedly be better able to cope with their stress, manage their fear, anxiety and avoid depression if they have someone to share their burden, their story, and their concerns and their love with. Most of

participants are married (53.4%), and the rest of them are not married or widowed (46.6%). This means that changes in marital status, for example from married to being widow, can affect an elderly's life in terms of them becoming lonelier and gloomier as they lost their loved ones. Furthermore, Yuliati argued that elderly who is left alone by their deceased spouse are oftenly live with their child and in laws – a condition which can lead into conflicts if they canot adapt well.

In this study, the elderly's perception towards their living arrangement is mostly assessedsed as 'uncomfortable' or 'not conducive' (63.3%), while the rest 27.5% assessedsed their living arrangement as 'bad' for them. In a more detailed analysis about the causes of this dissatisfaction, the participants stated their reasons such as no longer living with their couple (50.8%), having to take care of their children or grandchildren (38.3%), feeling lonely (33.3%), living in a house that is not their own (20.8%), and disharmony within the home (12.5%).

4.3. Description Quality of Life of Elderly

This study showed that only 20.0% elderly in the community have reached a high quality of life. This means only 1 out of 5 from the elderly's population in Surabaya has reached 'satisfied' category in living their elderhood. On the other hand, the elderly who scored low in their quality of life category are almost the same number with the high ones, which is 17.5%. This data is equivalent with the response from subjective question on WHOQoL-Bref instrument, which showed that 31.7% of the elderly assesseded their quality of life as bad and ordinary category. From that data, we cannot conclude the cause of that perception, because the WHO-QoL instrument is an accumulation from four domains, that is physical, psychological, social and environmental.[11]

As many as 26.7% elderly assesseded their psychology domain as 'bad' category. Compared with other domains, the dissatisfaction percentage for the psychology domain is bigger as 14.7% elderly assessed they felt 'bad' on physical domain, 10.8% elderly assessed they are 'bad' at social relationship domain, and 15.0% elderly assessed they are 'bad' at environmental domain. From this data, psychology domain is found to be the scattered initiator that must be considered in improving the elderly's quality of life. Psychological domain that needs to be considered such as encouraging positive feeling in living the elderhood, the ability to think positive, the ability to learn something new, memory and concentration sharpening, self-esteem improvement, reinforcing positive interest to the appereance and physical image, control over negative feeling, and trust.[12]

The most rated category for each domain is the intermediate category, yielding 70.0% for physical domain, 50.8% for psychological domain, 69.2% for social relations domain, and 62.5% for environmental domain. This can be interpreted that the elderly who belongs to the intermediate category of quality of life or "neutral" or 'neither good or bad' category will have tendency shift towards either to the higher or lower quality of life as they are getting older. Therefore, interventions need to be given immediately to support the change towards the good one – the high quality of life.

4.4. Analysis Between Individual Determinants with Quality of Life of Elderly

4.4.1. Gender and quality of life

Using One-way Anova test, this study found no correlation between gender and the elderly's quality of life (p=0.376). Female and male elderly have the sama probability to have a high quality of life. This may have been due to the difference in women's and men's psychological nature: women's preference in achieving a high quality of life is by having a positive social relationship, while men prefer to achieve that by having good control for their environment and state of mind.

A contrasting finding is stated by Melina (2014)[9] who said that men tend to look for their good quality of life by having a good social relationship and women, on the other hand, prefer to strive for psychological and environmental well-being. Melina said that there was no significant difference between women's and men's quality of life, regardless of its domain– being it physical, psychological, social relation or even environment. Unlike Melina's finding, Kurniasari (2013) proved that men's quality of life is higher than women's.[13] In another study, Noftri (2009) found that it is the other way around: women have higher quality of life than men.[14]

4.4.2. Age and Quality of Life

The result from Kendalls Tau test showed that p=0.0006, it can be concluded there is a correlation between age and elderly's quality of life. With correlation coefficient r=0.197, there is firm correlation at 99% level of confidence (p=0.01). This means that elderly's quality of life will be decreased with the increasing age, and vice versa. It can be seen from the low number of the elderly who ratedtheir quality of life as 'low' among those who aged 60-64 years old (11.1%), while it is 17.4% for elderly who aged 65-70 years old, and the percentage is getting higher for elderly who has aged >71 years old (21.3%).

Noftri (2009) supported this by stating that there is a difference between elderly's age in several important aspects of life.[14] Skevington (1997)[11] similarly argued that there is a correlation between the increasing age

with the physical limitation that happen when they have to do daily activity. Hence, physical domain became the main factor which is believed to cause the decrease of elderly's quality of life as one grows older. Furthermore, Darmojo (2014) add that with the adding age, the psychologic factors such as loosing the loved ones, living arrangement changes, the emergence of various conflicts, and economic uncertainty can contribute an impact to the elderly's low quality of life.[15]

4.4.3. Ethnicity and quality of life

The result from Kruskal Wallist test showed that p=0.108, so it can be concluded that there is no correlation between ethnicity with the elderly's quality of life. This study showed that outsider tribes and natives have the same possibility to have high quality of life.

Cultures that have been planted from birth by each race rooted in everyday life as their life philosophy starting from the child staged up to the terminals age is estimated to have a share in the perception of one's life satisfaction (quality of life), but no specific research on this subject was found. According to the solidarity theory, the outsider tribe have stronger bond at psychology, environmental and social relationship domain having to share the same feeling from the same origin and now that they are in the same area which is far away from home, make them more caring, sharing and helping each other.[16]

The analysis from the causes showed no correlation in this study. This may have been due to the modern society which tend to have an open mind to embrace the development of knowledge, technology and the new culture, and so there is a culture acculturation as the impact of demography interaction into a new culture which adopted by modern society with better way of thinking.[17] Furthermore, this kind of acculturation reinforces care for the individualhealth aspect and society, individual and family psychology, social relation with each other, and care to the situation of residential environment.

4.4.4. Health condition and quality of life

The result of Kendalls Tau test showed that p=0.035, so it can be concluded that there is a correlation between health condition and elderly's quality of life. Correlation coefficient value r=0.153 means that there is firm correlation at 99% level of confidence (α=0.05). The quality of life is decreasing when there is a decrease in the health condition, and vice versa. It can be seen from the number of elderly who has low quality of life who assessed themselves as "good/healthy" (10.0%), "not good/not healthy" (14.8), and bad (25.6%).

Physical condition has a firm correlation with the physical domain from WHOQoL and is the biggest factor that affects the quality of life. That someone have any physical limitation nor the sickness they suffer like prolonged pain, disturbance of the sense on the body, physical immobility, and so forth can arise feeling of anxiety, depression, and causes discomfort because the need someone's else help (dependency), which in the end leads to dissatisfaction and unhappiness as they go trough their life.

There is no different result showed by the Schoor's study (2005)[18] and the study by Canbaz (2002)[19] in Amsterdam, who argued that an elderly can have more than one disease. As the acute and chronic diseases are getting more experienced by the elderly, there is a decrease in their quality of life.

4.4.5. Education level and quality of life

The results for Kendalls Tau correlation analysis showed that there is a correlation between the level of education of the elderly with their quality of life (p=0.001). The significance and strength of the correlation were also demonstrated by the value of r=0.225. The findings of this study regarding the quality of life of the elderly based on their latest degree of education are as follows: 50.0% master degree, 41.1% bachelor degree, 13.1% senior high school, and 12.5% junior high school. These results indicated that the quality of life of the elderly increases among those who have higher level of education, and the other way around.

A previous study done by Butar (2012) revealed a similar result:[20] patients with a higher level of education demonstrated a better knowledge in terms of healthcare. He elaborated his findings by stating that patients with a higher education level cope better with their problems, have a greater self-confidence, comply and understand the advices given by their healthcare provider more easily, and have a better control over their anxiety – a capability by which they can make a clearer judgment for making a decision. Rather conversely, Tajvar's (2008) study found that there was not much positive impact of educational level on an individual's subjective perception about his/her quality of life.[21]

There is an underpinning theory to the results of this study proposed by Notoatmodjo (2003)[22] who stated that knowledge are of important domains in shaping an individual's actions, as behaviours which are built on knowledge tend to last longer than those which are not. Indeed, education is inconvtrovertibly believed as a way to gain knowledge. Moreover, education as an integrated part of a country's development is directed for the purpose of reinforcing a better quality of human resources including what is called 'the dependent group II' – the elderly citizen.

4.4.6. Financial condition and quality of life

The Kendalls Tau's test revealed that there is a

correlation between the erderly's financial condition and their quality of life (p=0.005). The results also showed that the correlation is strong between those two variables (r=0.197). This means that when the participants consider themselves as having a better financial condition, their quality of life is also increasing. Consistently, those who consider themselves as having inferior financial condition also demonstrated worse quality of life. The following data display each of the the financial condition category followed by the percentage of its corresponding respondents who rated themselves as having low quality of life, respectively: 'very good' (8.7%), 'good' (14.8%), 'bad' (22.5%), and 'very bad' (27.3%).

According to Sunaryo (2004),[23] individuals with good financial state are allegedly capable to provide every of their needs. On the other hand, individuals with lower economic status are likely to have difficulties in fulfilling those needs which, consequently, can cause a discontentment in one's life. Correspondingly, Baxter and Dalkey found that a demografic factor such as sosio-economic status (measured by the amount of one's salary) does have an impact on how an individual perceives his/her quality of life.[14]

4.4.7. Workload and quality of life

One-way Anova test was employed to find whether there is a correlation between workload and the elderly's quality of life. However, no correlation was found (p=0.319). The results from cross-tabulation showed that participants who are still working rated themshelves as having a better quality of life (30.0%) than those who are not (18%). Nevertheless, among those who rated themselves as having inferior quality of life, the dominance also came from the participants who are still working (20.0%) rather than those who are not working anymore (17.0%).

Workload can be defined as the efforts one must accomplish in order to fulfil his/her 'wishes'. In this study, workload is described to the participants as any activity which is aimed for fulfilling everyday's needs and for self-indulgence. The measurement for workload can at least observed by looking at three aspects: physical, mental, and time allocation. For the elderly, these three aspects are closely related with their quality of life achievement as well as with their hope for a relaxed, working-free elderhood due to the decline of their physical function which inevitably will make them prone to many psychologic disorders (e.g. anxiety, distress, panic, and depression).[24]

Sixteen point seven percent of the respondents in this study are still actively working, yielding as many as 83.3% respondents who are already achieved their elderhood wish: enjoying their elderly life instead of working. Of the 16.7% who are still working, 75.0% of them considered working as a joyful activity instead of a burden they have to bear. Insight gained from hese data may suggest one of the reason why this study found no correlation between workload and the quality of life among elderly.

4.4.8. Marital status and quality of life

Using one-way Anova test, this study found no correlation between marital status and the elderly's quality of life (p=0.218). The results from cross-tabulation indicated that while as many as 30.0% out of all participants who are married rated themselves as having high quality of life, only 16.7% of the widows/widowers and 0.0% of all the singles rated themselves as having high quality of life. However, when it came to rate the 'low quality of life' option, the widows/widowers dominated the 'low quality of life' domain (28.6%). This number is quite high compared to the married raters (12.5%) and the single raters (7.7%).

The absence of the correlation between marital status and quality of life may have been due to the nature of marriage itself: a set of activities done together by a couple-two different individuals-with one or more particular mutual purposes (Hidayah, 2013).[25] Hidayah further argued that in working out their way to reach for their purposes, it is only fathomable that conflict arises. While giving love and support for each other are what a couple do, the likelihood for them to be drown in a chronic conflict or argument is pretty highas well. Thus, Hidayah stated that unfinished conflict may in turn cause the relatively bad quality of life for the couple.

A contradict finding are stated by Luttik (2006)[26] who recruited patients suffering from heart failure as her participants. She stated that patients with chronic diseases such as heart failure are depends their quality of life on their couple as the couple will allegedly give constant support, care, and companion. Luttik's view is underpinned by Tamara's (2014)[27] findings which advocated that diabetes mellitus patients are in a great need for their family's support in order to increase their quality of life.

4.4.9. Living Arrangement and Quality of Life

The Kendalls Tau's test showed that there is no correlation between the erderly's living arrangement and their quality of life (p=0.720). Cross-tabulation analysis indicated that the number of participants who rated themselves as having high quality of life are almost the same regardless of their perception of their living arrangement. There are 21.2% of those who see their living arrangement as 'not conducive' have a high quality of life, while participapnts who perceive their living arrangement as 'less conducive' and 'conducive' yielded a percentage of 19.7% and 18.2%, respectively.

The absence of correlation may have been due to other living situations that the participants stated as the source of burdens or distress such as no longer living with their couple (50.8%), having to take care of their children or grandchildren (38.3%), feeling lonely (33.3%), living in a house that is not their own (20.8%), and disharmony withih the home (12.5%). Reasonable enough, these factors can harm an elderly's physical and mental health, kin as well as social relationship.

Sutikno (2011)[6] found that there is a strong, positive, and significant relationship between a functioning family and the elderly's quality of life. Similarly, Sampe (2017)[5] concluded that when an elderly has a better social interaction, his/her quality of life in getting better as well.

5. CONCLUSIONS

According to all the analysis results and the discussion in this study, it is concluded that one-fifth of the elderly in Surabaya have achieved satisfactory in terms of living their elderhood life. However, there is also one-fifth of the elderly population who belong to the unsatisfactory domain. The rest three-fifths are within the category of 'neither good or bad", which is considered to have the tendency to shift towards one of either high or low quality of life as they go older.

In an orderly manner (with the first being the the biggest), percentage of unsatisfactory as rated by the elderly in Surabaya, Indonesia towards the domains of the quality of life (WHOQoL-Bref) are as follows: psychologic, environment, physical, and social.

There is a correlation between age, education level, health condition, financial condition among the elderly with their quality of life. However, gender, ethnicity, workload, marital status, and living arrangement were not proved as the determining factors upon the elderly's quality of life.

Several individual determinants of the elderly which need to be considered as the focus in the government's programme to increase the quality of life are those who aged more than 71 years, are not graduated from at least senior high school, are having a physical health problem (disease) that needs someone else's care, those who do not have any source of pension, which is one of conditions that forces them to do a job/jobs with such heavy workload they would not have the capability to endure.

CONFLICTS OF INTEREST

All authors have no conflicts of interest to declare.

Acknowledgements

Many thanks and gratitude are due to Lembaga Penelitian dan Pengabdiaan Masyarakat (LPPM) Widya Mandala Catholic University Surabaya as the sponsor who gives funding for this study to have been undertaken and finished.

REFERENCES

1. Departemen Sosial RI. Pedoman Rencana Aksi Nasional untuk Kesejahteraan Lanjut Usia. 2003; Jakarta: Departemen Sosial Republik Indonesia.
2. Sincihu Y, Dewi BDN. Peningkatan Kemandirian Lansia Berdasarkan Perbedaan Activities Daily Living: Perawatan Lansia di Rumah dan di Panti Werda. *Proceedings Conference Unsiyah University.* 2015;**1**:190-211.
3. Maryam, RS dkk. Mengenal Usia Lanjut dan Perawatannya. 2008; Jakarta: Salemba Medika.
4. Yuzefo MA, Sabrian F, Novayelinda R. Hubungan Status Spiritual dengan Kualitas Hidup pada Lansia. *Jurnal Online Mahasiswa Program Studi Ilmu Keperawatan.* 2015;**2**(2):1266-74.
5. Sampe LF, Kandau GD, Sekeon SAS. Hubungan Dukungan Sosial Dengan Kualitas Hidup Pada Penduduk Di Kelurahan Kinilow Kecamatan Tomohon Utara Kota Tomohon. *Jurnal Kesmas.* 2017;**6**(3):1-7.
6. Sutikno E. Hubungan Fungsi Keluarga dengan Kualitas Hidup Lansia. *Jurnal Kedokteran Indonesia.* 2011;**2**(1):73-9.
7. Wangsaraharja K, Darmawan OV, Kasim E. Hubungan Antara Status Kesehatan Mulut dan Kualitas Hidup pada Lanjut Usia. *Jurnal Universa Medicina.* 2007;**26**(4):186-94.
8. Yuliastuti C, dan Anggoro SD. The Overview of The Elderly Lifestyle Profile in Surabaya. *Jurnal Kemas.* 2017;**12**(2):98-108.
9. Melina. Hubungan mobilitas Fungsional dengan kualitas Hidup Lansia di Paguyuban Lansia Bapa Abraham Paroki Gembala Yang Baik Surabaya. 2014; Skripsi. Widya Mandala Catholic University Surabaya.
10. Yuliati A, Boroya N, Ririanty M. Perbedaan Kualitas Hidup Lansia yang Tinggal di Komunitas dengan di Pelayanan Sosial Lanjut Usia (The Different of Quality of Life Among The Elderly Who Living at Community and Social Services). *E-Journal Pustaka Kesehatan.* 2014;**2**(1):87-94.
11. Skevington SM, Arthur MP, Somerset M. Developing Items for the WHOQOL: An Investigation of Contemporary Beliefs About Quality of Life Related to Health in Britain. *Br J Health Psychol.* 1997;**2**:55-72.
12. Rohmah AIN, Purwaningsih, Bariyah K. Quality Of Life of Elderly. *Jurnal Keperawatan.* 2012;**3**(2):120-32.
13. Kurniasari K, Lionardi T. Kualitas Perempuan Lanjut usia yang Melajang. *Jurnal Psikologi Pendidikandan Perkembangan. 2013;***2**(3):152-9.
14. Nofitri. Gambaran Kualitas Hidup Orang Dewasa pada Lima Wilayah di Depok. Skripsi. 2009; Jakarta: Fakultas Psikologi Universitas Indonesia.
15. Darmojo RB. Buku Ajar Geriatri. Edisi 6. 2014; Jakarta: Balai Penerbit FKUI.
16. Kurnia N, Bahari Y, Fatmawati. Ikatan Solidaritas Sosial Berdasarkan Latar Belakang Pendidikan Pekerja di PT Sari Bumi Kusuma. *Jurnal Pendidikan dan Pembelajaran.* 2014;**3**(7):1-16.
17. Liliweri A. Prasangka dan Konflik: Komunikasi Lintas Budaya Masyarakat Multikultur. 2005; Yogyakarta: Penerbit LKiS.
18. Schoor NMV, Smit JH, Twisk JWR, Lips P. Impact of Vertebral Deformities, Osteoarthritis, and Other Chronic Diseases on Quality of Life: A Population-based Study. *Osteoporosis International Journal.* 2005;**16**:749-56.

19. Canbaz S, Sunter AT, Dabak S, Peksen Y. The Prevalence of Chronic Disease and Quality of Life in Eldery People in Samsun. *Turk Journal Medicine Science*. 2002;**33**:335-40.

20. Butar AB. Karakteristik Pasien dan Kualitas Hidup Pasien Gagal Ginjal Kronik yang Menjalani Terapi Hemodialisa. *Jurnal Keperawan Klinis*. 2012;**4**(1):1-6.

21. Tajvar M, Arab M, Montazeri A. Determinants of Health-Related Quality of Life in Elderly in Tehran, Iran. *Journal of BMC Public Health*. 2008;**8**:323.

22. Notoatmodjo, S. Pendidikan dan Perilaku Kesehatan. 2003; Jakarta: Rineka Cipta.

23. Sunaryo. Psikologi untuk Keperawatan. 2004; Jakarta: EGC.

24. Pradono J, Hapsari D, Sari P. Kualitas Hidup Penduduk Indonesia Menurut International Classification of Functioning, Disability and Health (ICF) dan Faktor-faktor yang Mempengaruhinya (Analisis Lanjut Data Riskesdas 2007). *Buletin Penelitian Kesehatan*. 2009;**0**(Supplement):40-9.

25. Nurhidayah S, Agustini, R. Kebahagiaan Lansia Ditinjau dari Dukungan Sosial dan Spiritualitas. *SOUL: Jurnal Ilmiah Psikologi*. 2012;**5**(2):15-32.

26. Luttik ML, Jaarsma T, Veeger N, van Veldhuisen DJ. Marital status, quality of iife, and clinical outcome in patients with heart failure. *Heart Lung*. 2006;**35**(1):3-8.

27. Tamara E, Bayhakki., Nauli, FA. Hubungan Antara Dukungan Keluarga dan Kualitas Hidup Pasien Diabetes Mellitus Tipe II di RSUD Arifin Achmad Provinsi Riau. *Jurnal Online Mahasiswa Program Studi Ilmu Keperawatan*. 2014;**1**(2):1-7.