

## The Effectivity of Nursing Intervention Implementation on Elderly Hypertension in Public Health Center of Mangasa, Makassar City

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### **Abstract**

South Sulawesi is one of eleven provinces in Indonesia with elderly population in more than 7%. Hypertension case in South Sulawesi is more than the average that is 27% and for Makassar city was in 34%. Based on the interview result with a person who had responsibility of public health care program in Public Health Center of Mangasa, Makassar, the average of visits was from hypertension patients who were more than 60 years old in last three months and the patients were 85 elders in a month. Based on report in Public Health Center of Mangasa, the total of hypertension case, which the patients visited to Public Health Center, was 1746 cases and they were the most third case. Therefore, it was needed a society devotion with the purpose of implementing health education, concerning hypertension and other diseases that concerned with hypertension, medical check, and hypertension exercise. The method used was health education, blood pressure checks, blood test (blood sugar, uric acid, cholesterol), and hypertension exercise. The result of society devotion was the increase of elders' knowledge based on pre and posttest mark, the decrease of their blood pressure after 10 times doing hypertension exercise, the decrease of blood sugar and uric acid after the exercise and after having health education, and the increase of the participants in hypertension exercise during 10 times exercises. Moreover, the suggestion from this society devotion that it was needed the activity of effective nursing intervention to solve health problem on elders.

**Keywords:** Elderly Hypertension, Nursing Intervention

### **I. INTRODUCTION**

Aging process will impact to various life aspects. According to WHO, elders in Indonesia in 2020 will reach 11.34% or 28.8 million people. South Sulawesi was one of eleven provinces in Indonesia which had elders in more than 7% (Indonesia Ministry of Health, 2013). The total of elders in South Sulawesi was 721.353 people or 9,19%; meanwhile, in Makassar was 79.581 people. According to Indonesia Ministry of Health (2013), based on *Riskesdas* (basic health research) data in 2013, hypertension case in 2011 was in 17,3%, it was in 17,5% in 2012, and it was in 21% in 2013, and most of the hypertension cases (63,2%) in society were not diagnosed. Hypertension case in South Sulawesi surpassed the average which was in 27% and in Makassar city, it was in 34%. Quite high hypertension prevalence caused various impacts and became public health problem. Based on the interview data with a person who had responsibility of public health care program in Public Health Center of Mangasa, Makassar, the average of visits was from hypertension patients who were more than 60 years old in last three months and the patients were 85 elders in a month and there were more hypertension cases in society that had not been diagnosed. In addition, based on the report in Public Health Center of Mangasa, the total of hypertension cases were 1746 cases and they were disease case which was the most third case (Public Health Center of Mangasa, 2015).

Total of elders who were in the area of Public Health Center of Mangasa was 545 people and the people who were noted to ever use elderly integrated service center (*posyandu*) were 456 elders, and the others had not ever visited it. Elders who underwent hypertension and ever had medical treatment in Public Health Center of Mangasa were noted as a high-risk group and they were suggested to join regularly the activity in program of elderly integrated service center (*posyandu lansia*) (Public Health Center of Mangasa, 2015). Based on the interview with a person who had responsibility of *posyandu* program, total of elderly integrated service center (*posyandu lansia*) or integrated development post (*pos pembinaan terpadu-posbindu*) which was in area of Public Health Center of Mangasa was 3 places. In addition, *posbindu* was done in every month, but it had not been maximal because elderly visits had not been regular or the elderly had not visited regularly the *Posbindu* because elderly had not known the use of *Posbindu* for their health.

Furthermore, the use of *Posbindu* is very important for elderly which individual who is more than 55 years old with normal blood pressure has risk of 90% to suffer hypertension. All of the people who suffer hypertension are only one-third of them who know their condition and from the one-third, only 61% of them who have medical treatment. It means that elderly who suffers hypertension tends to do not know his/her condition or do not know about hypertension and do not prevent or treat it. The target in this society devotion was elderly hypertension which was in the area of Public Health Center of Mangasa, Makassar city which was in high-risk group. The formed high-risk group had done the activity in every week or once in a week on every Saturdays. The activity that had been done was *tera* exercise or exercise for elderly. The group had been formed and the participants were 10 until 20 elders in every activity. The person who had responsibility of the program stated that the activity that was done was still in limit because the facility was still limit too because most of the fund was still prioritized for activity in Public Health Center building.

Besides, the common purpose of this activity was to implement nursing intervention on elderly who suffered hypertension in area of Public Health Center of Mangasa, Makassar city. The main purpose of this activity was to implement the activity of health education about hypertension and other diseases concerning with hypertension in elderly hypertension group, to implement medical check for hypertension elderly, and to implement hypertension exercise for elderly hypertension.

## II. METHOD

The target of society devotion was elderly who suffered hypertension in family which was categorized in high-risk group that became a development in Public Health Center of Mangasa, Makassar city. Moreover, high-risk group did the activity on every Saturdays. Total of registered member of high-risk group was 67 elders, but only 58 elders who were active.

The methods which were used in this devotion activity were:

1. Conducting the activity of health education in elderly hypertension group.
2. Making health education media which was leaflet about hypertension and other diseases concerning with hypertension and the way to care elderly hypertension group.
3. Conducting medical checks by blood pressure test and weighing the body weight for elderly hypertension group.
4. Conducting medical check by blood test (blood sugar, uric acid, cholesterol) for elderly hypertension group.
5. Hypertension exercising / anti-stroke exercising for elderly hypertension group.
6. Giving help to provide medical tools for elderly hypertension group.
7. This society devotion was conducted to high-risk group in area of Public Health Center of Mangasa, Makassar city from July 2016 to October 2016 (conducted on every Saturdays)

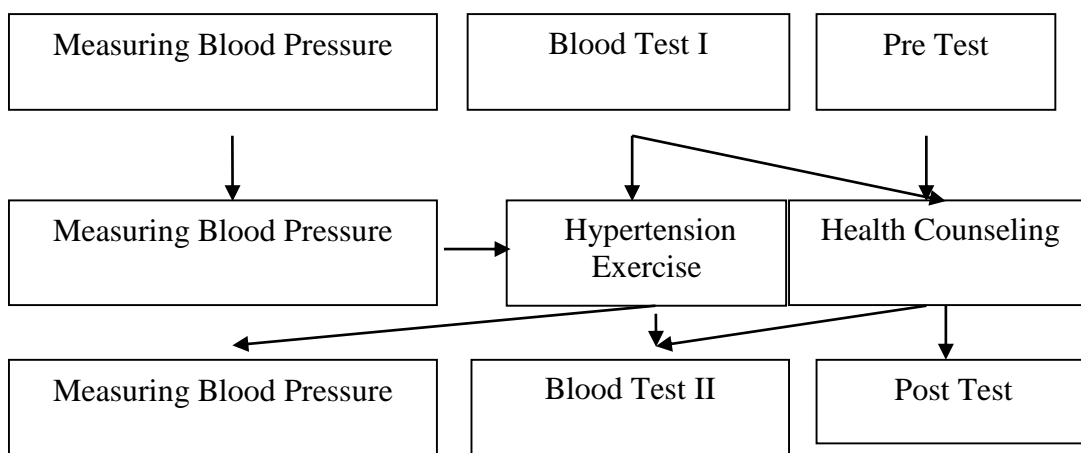


Illustration 1: The activity Flow

The activity flow of this society devotion could be seen in illustration 1. The society devotion was begun by taking first data (measuring blood pressure to the member of high-risk elderly group). After measuring the first blood pressure, it was conducted pre-test regarding hypertension and other diseases concerning hypertension. Afterwards, it was conducted the activity of blood test I, including blood sugar content test, uric acid content test, and cholesterol test. After the conducted test, it was conducted hypertension exercise or anti-stroke exercise in 10 times (once in a week). During the activity, it was conducted health counseling. After the exercise, it was conducted blood test II which was as similar as blood test I. Finally, it was conducted posttest toward the health counseling that had been conducted. Furthermore, evaluation toward the conducted activity was health education and health counseling measured the increase of participants' knowledge through pre and post health counseling, evaluated the total of leaflet that was made and distributed in area of Public Health Center of Mangasa, evaluated the measurement result of blood pressure in every activity, evaluated the result of medical checks / blood test that had been conducted, evaluated the total of participants in every exercise.

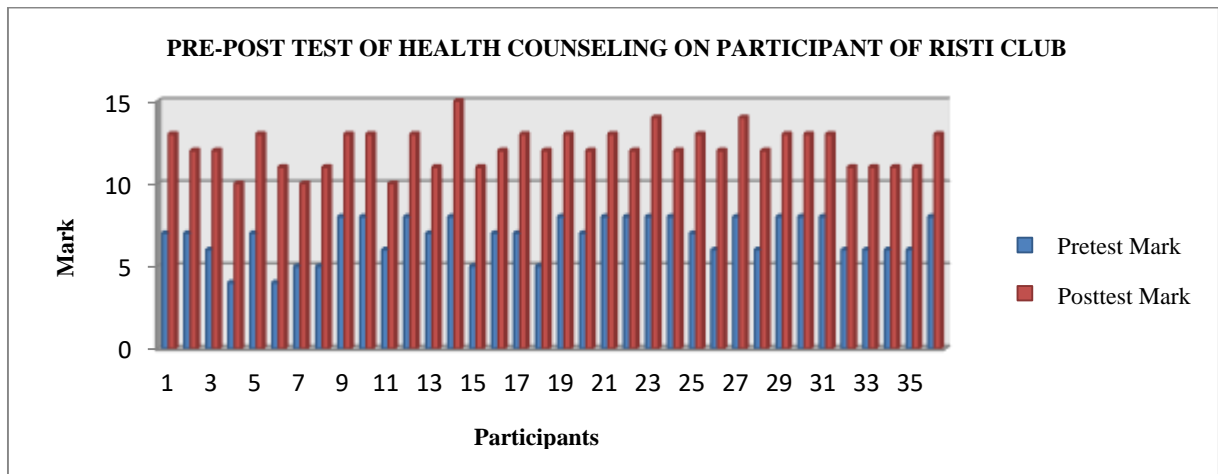
### **III. RESULT AND DISCUSSION**

#### ***A. Leaflet Production***

Leaflet was made regarding health counseling material. It was about hypertension, diet on hypertension, and diabetes mellitus. The total of leaflet that was distributed was 150 exemplars. By distributing the leaflet, it was expected that it could increase society's knowledge, particularly for elderly, thus, it could prevent the increase of blood pressure and could manage his/her diet well.

#### ***B. Implementation of Health Education***

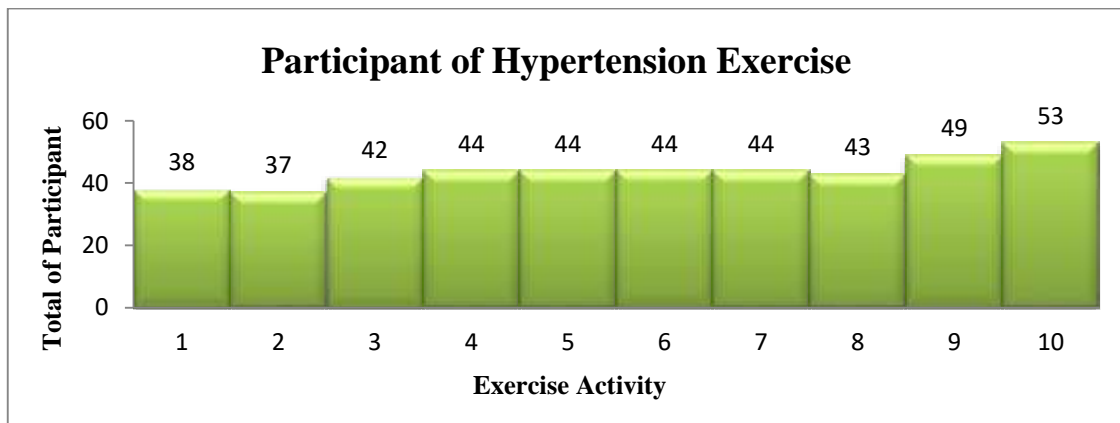
Health education was conducted in health counseling which the counseling was conducted in three times. Material of the counseling was involving hypertension, diet on hypertension, and diabetes mellitus. The counseling of hypertension was conducted on third meeting with elderly hypertension group that was on 20<sup>th</sup> August 2016. The total of the participants was 37 elders. Moreover, the health counseling was conducted after exercising. Meanwhile, counseling of diet on hypertension was conducted on third meeting with elderly hypertension group that was on 27<sup>th</sup> August 2016. The total of the participants was 42 elders. The counseling was also conducted after exercising. In addition, the counseling of diabetes mellitus was conducted on fifth meeting with the elderly hypertension group that was on 10<sup>th</sup> September 2016. The total of the participants was 44 elders. However, this health counseling was conducted based on the data that most of this elderly hypertension group underwent diabetes mellitus, hence, society devotion team conducted health counseling with the theme of diabetes mellitus. Furthermore, health counseling was conducted after exercising. Among 58 participants in high-risk group or elderly hypertension group who were active in joining the activities were 31 elders who suffered diabetes mellitus. Pretest about hypertension, other diseases concerning with hypertension, and the way to care it was conducted when it was in second meeting with elderly hypertension group that was on 13<sup>rd</sup> August 2016. In addition, the question total was 15 questions by utilizing true or false statement, including hypertension, diet on hypertension, and diabetes mellitus. Meanwhile, the posttest about hypertension, other diseases concerning with hypertension, and the way to care it was conducted when it was in final meeting with elderly hypertension group that was conducted on 22<sup>nd</sup> October 2016. The questions which were used in posttest were as similar as in pretest. The result of pre and posttest of health counseling about hypertension, diet on hypertension, and diabetes mellitus could be seen in chart below:



In chart above, we could see that it was occurred an increase from pretest result of health counseling to posttest result of health counseling. This described that there was increase of participants' knowledge about hypertension and other diseases concerning with hypertension and the way to care it. The increase of the knowledge could influence a decision to behave. The increase of the participants' knowledge was expected to be able to support elderly hypertension to prevent and care it so that it would not be occurred an increase of blood pressure, particularly in managing the diet on hypertension and diet on diabetes mellitus.

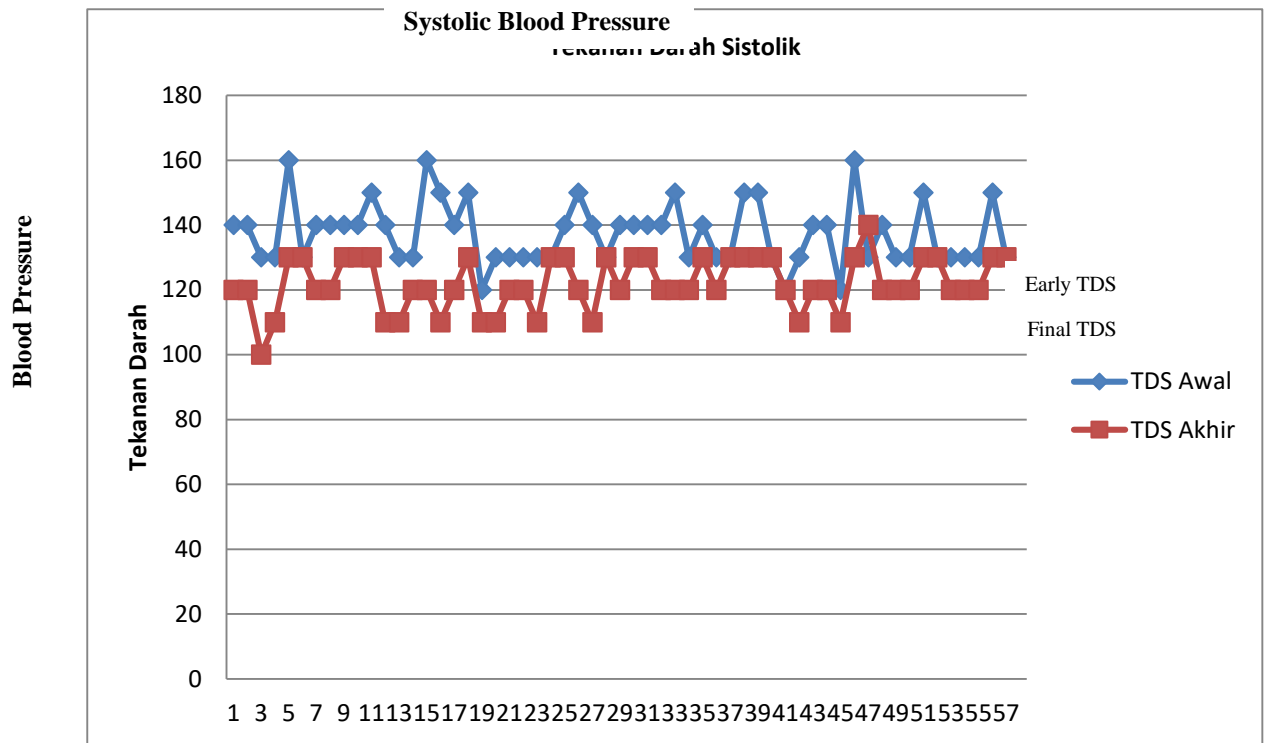
**C. Implementation of Hypertension Exercise**

Exercise was regular activity that was conducted by high-risk group. The group's exercise was added with hypertension exercise or anti-stroke exercise. This hypertension exercise became a beginning in every exercise. This exercise which was conducted on this society devotion was conducted in 10 times. However, it was occurred the increase of the total of participants who joined the exercise. Of course, this was also supported by the participants' statement that participants who joined the activity were more and more in every week.

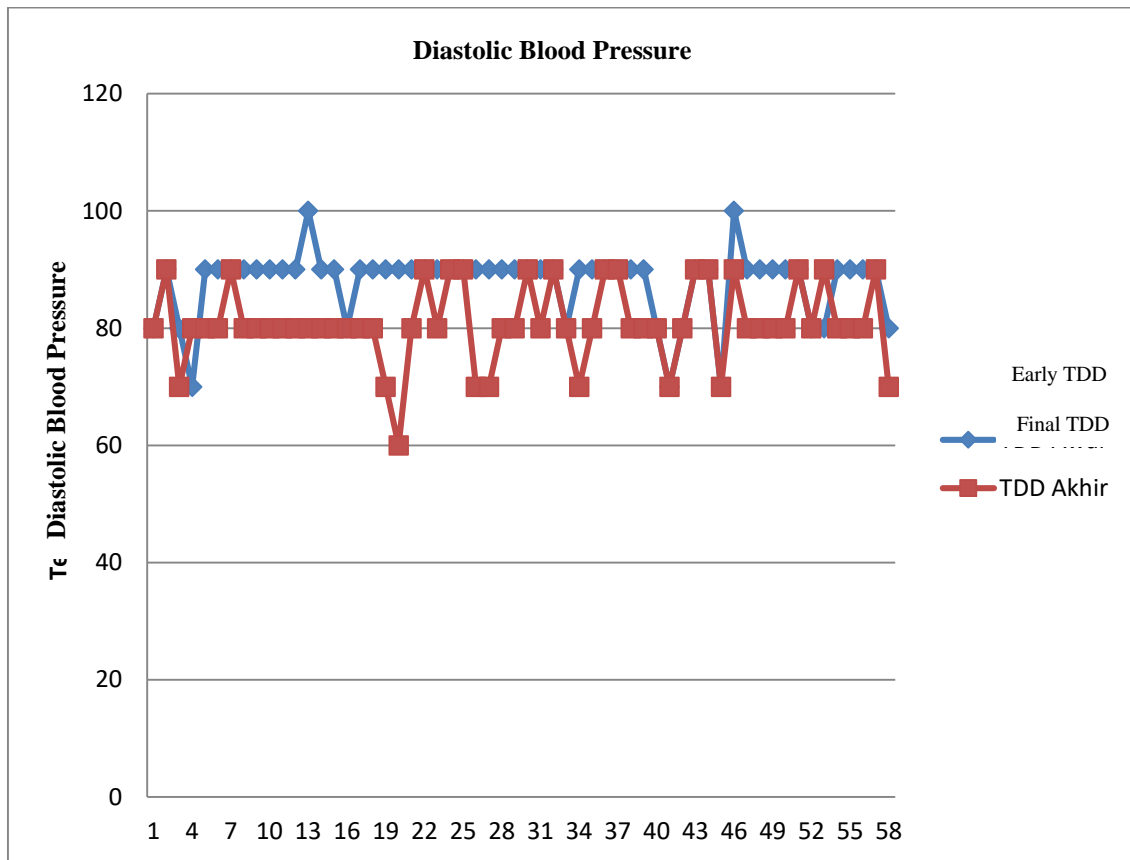


**D. Implementation of Blood Pressure Measurement**

Previous data of blood pressure or first blood pressure from the member of high-risk group was taken based on secondary data from Public Health Center of Mangasa, Makassar city. Afterwards, the measurement of blood pressure was conducted in every beginning activity of the group which was before doing the exercise or other activities. The activity that was conducted by this society devotion was in 10 times of blood pressure measurement. The result of blood pressure test could be seen in the appendix of the report. Illustration of systolic and diastolic chart of participants' blood pressure could be seen below:



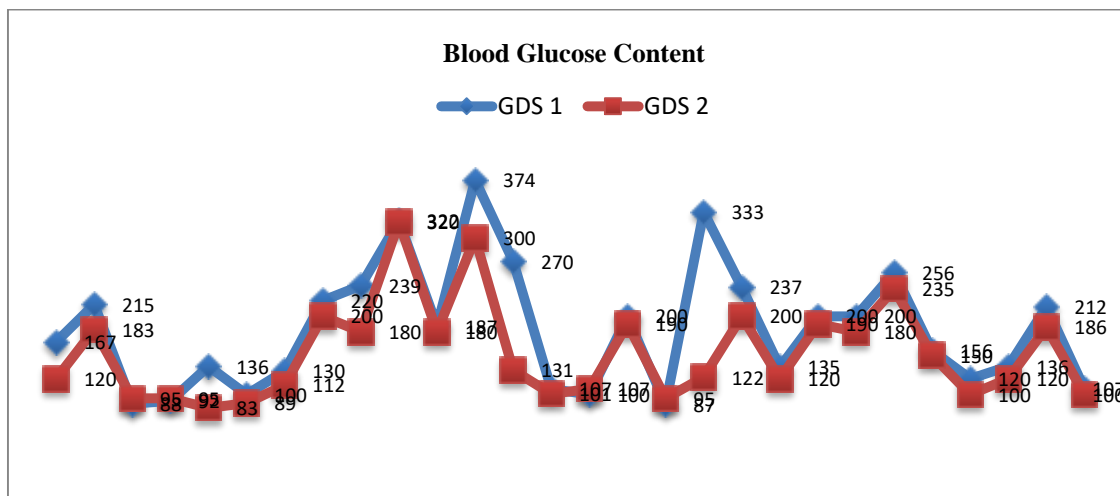
Based on the chart above, it described that there was a decrease of systolic pressure on elderly hypertension group after doing 10 activities of blood pressure measurement. This described that during 10 activities of measurement, it was occurred a decrease of systolic blood pressure after doing the exercise regularly in every week. Therefore, it could be concluded that regular activity that was conducted such as exercise, including hypertension exercise, could decrease systolic blood pressure on elderly hypertension group. Besides, another thing that supported the occurrence of the decrease of blood pressure was in time after the measurement of blood pressure and if it was obtained abnormal blood pressure, the committee would give health counseling individually to the participant. It was expected that the participant would ask actively and do all suggestions which were recommended by the committee.



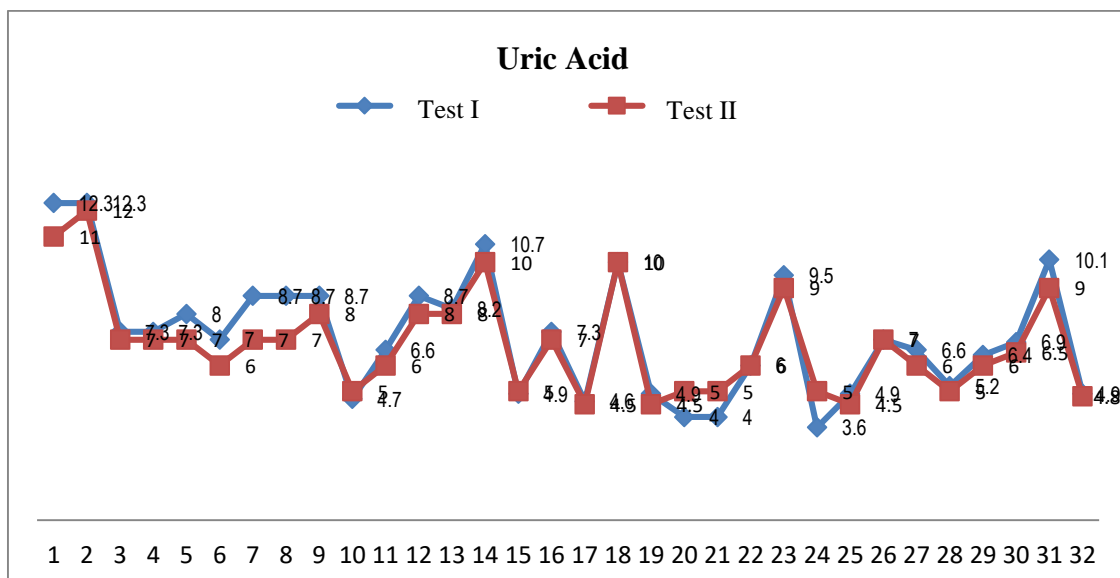
Based on the chart above, it described that there was a decrease of diastolic pressure on elderly hypertension group after doing 10 activities of blood pressure measurement. This described that during 10 activities of measurement, it was occurred a decrease of diastolic blood pressure after doing the exercise regularly in every week. Therefore, it could be concluded that regular activity which was conducted such as exercise, including hypertension exercise, could decrease diastolic blood pressure on elderly hypertension group. While implementing the measurement of blood pressure, if it was found a participant who had abnormal diastolic blood pressure, the committee would conduct health counseling, give suggestion, and advice to the participant to improve the diet and keep away from stress. However, in the implementation of this measurement of blood pressure, the participants were very enthusiastic if it was given an explanation of his/her condition, particularly for his/her condition of blood pressure.

**E. Implementation of Blood Test**

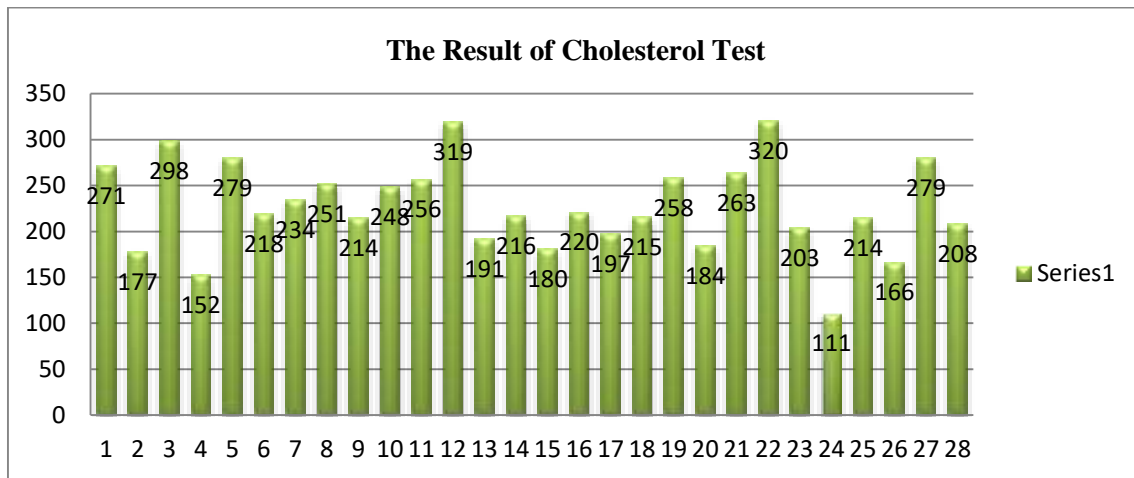
In this society devotion, it was conducted the activity of measurement of blood test which was blood sugar test, uric acid test, and cholesterol test. The blood sugar test was conducted twice. The activity of test I was conducted on 3<sup>rd</sup> September 2016 and the participants were 30 elders. Meanwhile, the activity of test II was conducted on 8<sup>th</sup> October 2016 and the participants were also 30 elders.



Based on the chart above, it showed that there was a decrease of blood sugar from test I to test II. This was supported by there was individual health counseling that was conducted by committee so that the result of participants' blood test was more than normal and it was also supported by there was a desire from the participants to change the diet while checking. Therefore, the result of their blood sugar was more than normal. The activity of uric acid test was conducted twice. The activity of test I was conducted on 17<sup>th</sup> September 2016 and the participants were 32 elders. Meanwhile, the activity of test II was conducted on 15<sup>th</sup> October 2016 and the participants were 31 elders. In uric acid test I, if it was obtained a participant who had abnormal check result, it would be conducted individual health counseling to manage the diet well by limiting food consumption that contained high purines. However, the participants were very enthusiastic to listen to committee's explanation. In chart below, it could be seen the result of uric acid test I and II.



Based on the chart above, it showed that there was a decrease mark of participants' uric acid content if we looked at the result of test I and test II. This could explain that there was a willingness from the participants to change the diet after obtaining the committee's explanation. Moreover, in chart below would describe the proportion of elderly hypertension group who joined cholesterol test. The activity of cholesterol test was conducted once. It was conducted on 24<sup>th</sup> September 2016 and the participants were 28 elders. The result of cholesterol test could be seen in the chart below:



Based on the chart above, among 28 participants who had been tested, most of them were more than normal which meant that their cholesterol content was more than 200. It showed that the elderly who was as long as his/her age tended to increase the cholesterol content. By this condition, the committee gave individual health counseling to solve the increase of cholesterol content. The participants stated that they would notice more the proper diet based on their disease and they would be pleasure to join the activity regularly. Furthermore, cholesterol test was only conducted once because the plan to implement test II was canceled due to error checking tools. However, this caused there was no evaluation toward the activity of test I for cholesterol test.

#### IV. CONCLUSION AND SUGGESTION

All in all, the conclusions based on the activity of society devotion were:

1. The increase of elderly hypertension group's knowledge regarding hypertension, other diseases concerning with the hypertension, and the way to care it after implementing health education in the activity of society devotion.
2. The decrease of elderly hypertension group's blood pressure after implementing the activity in ten activities in measuring blood pressure and doing hypertension exercise in society devotion.
3. The increase of total of participants who joined the exercise for ten activities of society devotion.
4. The decrease of blood test result (blood sugar, uric acid, and cholesterol) after doing the activity of society devotion.
5. Help for health tools were very important in supporting the implementation of the activity in society.

According to the result of activity of society devotion, it was suggested that:

1. It was needed continuous program that had been conducted by Public Health Center of Mangasa, Makassar city.
2. Health education on elderly hypertension should be conducted regularly with more varied material and method.
3. Implementation of utilizing the process method of group to the other diseases case.

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