

Health promotion and screening in elderly congregate of PCM (Pimpinan Cabang Muhammadiyah) north Banguntapan to improve quality of life

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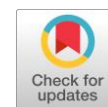
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ABSTRACT

Common non-communicable disease such as hypertension or diabetes mellitus is often found in elderly. Irregular medical check-up and uncontrolled medicine could lead into complications such as stroke and kidney failure. Elderly is also considered vulnerable and fragile, thus memory disturbance also sometimes occurs. Although these problems are inevitable due to ageing process, many strategies can be applied to prevent to complications. For example, by giving regular check-ups and knowledge transfer through health promotion, as well as early screenings. Thus, the aims for the community service are increasing the elderly's understanding, forming proactive elderly and providing laboratory screenings. The method used is interactive presentation about non-communicable disease, medical check-ups for blood glucose, uric acid and total cholesterol level, and memory to quality of life assessment for elderly. The target of this service is elderly congregate of Jihad (Pengajian Ahad) Pagi of PCM (Pimpinan Cabang Muhammadiyah) North Banguntapan, Bantul Regency, DIY (Daerah Istimewa Yogyakarta). The result of the implementation of the service activity is increasing knowledge and awareness in regards of non-communicable and mental disease in elderly, as well as medical screenings data for next service project.



KEYWORDS

Elderly
Health
Quality of life



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1. Introduction

Elderly is part of society who is considered vulnerable especially in medical aspect. Also, growing older is inevitable for everyone. The global projection for elderly worldwide will increase significantly and that trend has been shown ever since the beginning of early 21st century. Indonesia, especially, as part of Southeast Asia country will likely to have about 63,31 million of elderly over total 318,7 million population in 2045. The approximate increasing number could reach 275% if it is compared to 2015 trend [1], [2] However, this overgrown population of elderly should be considered either blessing or burden. With assumption that health technology has reached its peak era, more elderly could get the benefits, thus global cost spent to treat their medical conditions could decrease significantly. Better early screenings can be done and the calibre of prevention will likely to be wider. Yet, in reality, not many developed countries are ready to greet the storm facts regarding the magnitude of ageing population [3], [4].

Fragile physiology state in elderly is common to find since the fitness level usually decreases due to many factors especially natural ageing process [5], [6]. Ageing affects many layers of aspects in life. In body, foremost, the heart and lungs, as well as blood vessel. The decrease durability and integrity of blood vessel will continue to impact its ability to control the blood flow. Thus, the risk of more cardiovascular disease elevates quickly. It occurs in most elderly and the first signs appear is increasing level of blood pressure (>130/80 mmHg according to 2018 ACC/AHA or >140/90 mmHg according to ESC/ESH). Although hypertension doesn't give significant symptoms at early stage, if it's untreated or unscreened, it can go further into worst state, such as emergency hypertension. The complications vary from mild to

chronic headache and even it could develop into stroke. Higher mortality rate due to hypertension always rises every year, as reported by WHO. And, in elderly, to be specified, global prevalence of hypertension in older people aged from 30-79 years in 2019 has reached 1,27 billion people [4], [7], [8] Not only hypertension, other non-communicable diseases such as diabetes mellitus type 2, joint disease and kidney failure are usually suffered by elderly. It is undeniable that most non-communicable disease are chronic and often needs long term treatment. Furthermore, it is important for elderly to manage and keep doing routine check-up at least once per six months to monitor either their blood glucose, cholesterol and uric acid level regularly [9].

In reality, it is impossible to rule out mental health in terms of giving holistic treatment in geriatric patients. Cognitive disturbance is part of detrimental issue in elderly since it will affect all of efforts in completing the treatment regimen if they suffer from complex physical illness. Eventually, elderly with cognitive impairment, as well as mental disturbance, requires help from family members or special caretakers. In the end, their quality of life will also be affected [10], [11] To prevent further complications, screening is necessary and recommended for at least to get early evaluation. Centres for Disease Control and Prevention (CDC) reported in 2021, burden cost to treat memory loss disease such as Alzheimer's Disease and other dementia-like diseases nearly reaches \$355 billion. Therefore, CDC recommends and supports healthcare providers to increase the frequency of health promotion since not many people recognizes such disease during early stage [12].

As part of Amal Usaha Muhammadiyah (AUM), partnership with PCM (Pimpinan Cabang Muhammadiyah) is prioritize especially in health aspect. Thus, by giving example to other cadre, wider activities can be done for the next projects. The main purpose of community service is to find what the partners need, specifically in health issues. Based on information gathered after discussion with Health Majlis of PCM North Banguntapan, the main health related problem with the elderly is non-communicable disease especially hypertension. Although it's informed that most of the elderly has already done check-ups regularly in health primary care, it sometimes still carries misunderstood in regards of information about the disease. Meanwhile, repeated knowledge transfer is required to form basic understanding of certain things. Therefore, a community service then is conducted to give service for the elderly about non-communicable disease to mental health awareness in elderly. In addition, free medical check-up and consultation, also mini cognitive test and quality of life (QoL) assessment is conducted. The participants are basically the followers of Sunday morning sermon in PCM North Banguntapan, Bantul, DIY. With that activities, hopefully, elderly will have better knowledge and understanding about non-communicable disease and mental problems in older people. Also, it will improve their awareness and create proactive elderly in regards of health issues.

2. Method

The community service was conducted by applying two distinct methods which are counselling and free medical check-up session. Each activity was held in different day and month. The counselling session mainly focused on giving interactive presentation to the elderly participants about mental issue awareness and non-communicable disease in older people. This session was divided into two different parts by two different speakers. The closing activity was to deliver free consultation and simple laboratory examination for the participants (Table 1).

The overall schedule was set up according to PCM North Banguntapan's weekly routine sermon as the participants are eligible to follow the community service agenda. To elaborate the whole activities process, the initial communication between the team leader and head of health majlis of PCM North Banguntapan was conducted to gain basic information about mainly health problems with the elderly lived under the PCM's authority range. Participants' recruitment was assessed by team-working between team and Aisiyah PCM North Banguntapan. The purpose of next meeting was to manage the resources and task distributions between team and PCM. The last step was to determine the date and time of each fixed agenda.

The medical check-up session examined weight, height, body mass index (BMI), simple blood laboratory examination, mental and memory status, and quality of life measurement. To gain the BMI value, the participants needed to measure their weight using regular digital weight scale and stadiometer was used to measure their body height. BMI calculation was obtained by dividing between weight (kg) with height² (m²). Laboratory check-ups include blood sugar, total cholesterol and uric acid levels by

using blood stick method. Quality of life measurement was assessed with Indonesian language version of WHOQOL-BREF questionnaire. Team also did the mental state screening for the participants by using Mini Mental State Examination (MMSE) form. All collected data then was reported digitally on Microsoft Excel.

Table 1. Planned agenda for the held community service

Method	Activities	Place	Date and Time	Target
Health counselling : first part	Interactive presentation about mental health in regards signs and symptoms of dementia and depression in elderly	Urban village office of Banguntapan	November, 27 th 2023 07.00 – 07.45 a.m	Elderly participants of Morning Jihad's (Pengajian Ahad) PCM Banguntapan Utara congregations
	Health counselling : second part			
Medical check-up	Vital sign examination, nutrition status examination, laboratory examinations, cognitive state examination, and quality of life assessment	Muhammadiyah Junior High School of Banguntapan	December, 10 th 2023 07.30 – 10.00	Elderly participants of Morning Jihad's (Pengajian Ahad) PCM Banguntapan Utara congregations

3. Results and Discussion

Banguntapan is one of the subdistrict in Bantul Regency, Yogyakarta and located in the northeast of the capital of Bantul Regency at latitude 7°49'29" and longitude 110°24'12". Based on 2015 statistical data, the area of Banguntapan District is 28.48 km² wide with population density level 4,771 people/km². The administrative area of Banguntapan sub-district includes 8 villages: Banguntapan, Baturetno, Singosaren, Jagalan, Tamanan, Wirokerten, Potorono and Jambidan. Banguntapan village is the widest of among all villages across Banguntapan subdistrict. Geographically, Banguntapan regency has direct borders with Depok subdistrict, Sleman at the north part, Piyungan subdistrict at the east part, Pleret subdistrict at the south part and Sewon subdistrict at the west part. According to national central bureau of statistics, the estimate population of Banguntapan subdistrict is counted over 135.000 residents with male to female ratio is almost 1:1. Among all the regencies in Yogyakarta, Bantul regency counts as the second highest in number of elder people with more than 980.000 elder residents after Sleman regency. In addition, it is notably reported that Yogyakarta has currently entered the ageing population era with the increasing trend of lived population above 60 years old in each year. In 2020, approximately 15,75% of the population in Yogyakarta is inhabited by elder people compared to ten years prior when it's still around 13,08% [13], [14].

The increasing number of reside elderly in Bantul regency, especially in Banguntapan has become one of the concerns in many health issues. The high number of ageing populations should be considered seriously. By any means, it could increase the burden cost of health expenditure especially if the quality of the elder's health state is having downfall [15]. The increasing trend of Indonesian elderly suffered from non-communicable diseases such as cardiovascular diseases to diabetes would also likely to increase the

possibility of bigger dependency to long term care. Thus, it will affect the national health system [4]. Better approach to manage the problems and prevent the worst complications are needed in constant cycle.

Therefore, it's important to implement the gained theory and medical practice. Then, a community service focused on elder people health was conducted in Banguntapan village with joined collaborative works between medical faculty of Ahmad Dahlan University and PCM North Banguntapan.

The implementation of the community service was divided into two distinct activities that held in two different date and time, November 27th and December, 10th 2023. All scheduled activities were carried out after elderly's Sunday morning sermon. The first activity was in the form of presentation about mental health and non-communicable diseases. The purpose of the first activity was to provide and enrich the elderly's knowledge regarding to physical and mental illness and how to increase the awareness. About 40 participants attend the presentation session until the end of the whole sessions. The first material talked about dementia and depression in elder people and how to cope with the situation if family member suffered from the illness. The participants looked excited with the presentation since it's conducted in interactive method. Two participants asked question related to mental issue and how to interpret the sign and symptoms easily. The first session was closed by redacting take home messages and self-awareness about dementia and depression, followed by giving souvenirs for each participant who's able to answer the question from the speaker (Fig. 1).

Another presentation was given about non-communicable disease. It mostly discussed about various relatable non-communicable diseases that usually attacked elderly, such as hypertension, diabetes mellitus, gout, hypercholesterolemia, and some relate complications. During the presentation, the speaker asked if any of the participants has had any of said diseases and almost half of them suffered either from diabetes mellitus or hypertension or both. However, not many of the participants understand how regular medical check-up is required to assess several health conditions. Through the material presentation, the second speaker informed how to prevent the diseases with simple slogan to remember: CERDIK (check, avoid smoking, do physical activity, diet, take enough bedrest, stress management) and PATUH (check, seek medical expertise, balanced nutrition intake, do proper physical activities, avoid cigarette, alcohol and carcinogenic agents).



Fig. 1. Counselling session of mental health awareness and non-communicable diseases for elderly

Health promotion is necessary to optimize each person's perception regarding certain point of views. To delay worst manifestation of diseases, knowledge transfer could be used to deliver true information and eliminate the spread misinformation. Elderly empowerment is one of the strategies to reach out elder people community to have correct perception about health. Therefore, as their knowledge increase, hopefully, their judgement and mindset would alter in good and better shape [16].

To help the elder community in understanding and memorizing the true concept of diseases, how to prevent and be aware of the signs and symptoms, team also provided media in form of flyers about the given presentations (Fig. 2).



Fig. 2. Flyers about mental and non-communicable diseases awareness

At the day two of community service agenda, medical check-up was conducted by lectures and medical students from the team at December, 10th 2023. Total participants involved for the medical check-up session was 50 people. All 50 participants were up to 50 years old and considered elderly. Prior examinations, participants basic data were taken and filled in the medical record. After that, each participants' body weight and height were measured and written down on the medical record, as well as other vital sign examination data such as blood pressure and pulse (Fig. 3).



Fig. 3. Vital sign examination

Then, they continue to get the blood test at the laboratory examination table. There were three main blood test taken: blood sugar, uric acid and total cholesterol level (Fig. 4).



Fig. 4. Medical check up examination

The waiting queue was long and participants had to wait for 10-15 minutes before reached the blood examination area. To minimize the long queue, two different lines were opened, each for blood test and mental assessment table. In mental assessment, MMSE form was used to obtain level of cognitive and memory state.

As part of the community service's main goal, assessing participants' QoL was done at the end of the whole session by using WHOLQHOL-BREF questionnaire (Fig. 5). The WHOLQHOL-BREF questionnaire contains total 26 questions with four different domains, namely physical health, psychological, social relationship and environment. Each domain has its own equations assessment according to WHO recommendation. In the physical health domain, layers of life aspect are measured especially in terms of ability to execute various daily activities if there are any physical-associated difficulties involved. Psychological domain likely to assess participant's mindset regarding how they reflect their internal and external appearance toward the environment or people. Social relationship domain talks mostly about each participant's personal relationship with partners, family, neighbours and other colleagues, as well as their social activity involvement. The last domain, environment, projects participant's surroundings, for example financial ability, security and self-freedom, neighbourhood atmosphere and general environment conditions. The importance of assessing QoL in elderly is to obtain the relative degree of self-reliance and resilience toward reality [17], [18].



Fig. 5. MMSE and QoL assessment

Elder people tend to fall into despair state due to many possibilities. Complex physical and psychological issues may affect their cognitive state. Senile dementia usually occurs in geriatric patients compared to young adults. Although it's considered unavoidable, many strategies can be done to prevent them. The major first step is to do the screenings with simple examination, such as MMSE. With MMSE, elder people's awareness to check their mental status will increase. Thus, it will slowly decrease the higher

chance of many cognitive disturbances' complications [19]. According to one study conducted in India at 2021, the widowed elderly had lower scores in QoL compared to elderly who still live together with their marital partners. Elderly who also suffered from various degree of comorbid diseases were lower in scores of QoL compared those who're not suffered from such diseases [20]. The result of QoL assessment eventually will be benefited to formulate better health policy especially in elderly [10].

The many layers and spectrum of elder people's health problem are part of major issue that requires solutions. With greater ratio of lived ageing people in Indonesia, as well as globally, strategy to engage the elderly in various activities especially about physical and mental awareness is necessary. Practitioners, educators and religious community advisors should work together in creating and providing a better atmosphere to develop such idea.

4. Conclusion

The purpose of this community service was to provide medical counselling for elderly and the service activity consisted of two different parts, started from November 27th 2023 with presentation giving about non-communicable disease and common mental disorder in elderly, and closed with free medical check-up such as body mass index assessment, vital sign examination, laboratory examination (blood glucose, uric acid, total cholesterol level) and cognitive screening with MMSE, as well as QoL assessment with WHOLQHOL-BREF questionnaire at December 10th 2023. All activities involved both main team from faculty of medicine UAD, PCM and Aisyiyah North Banguntapan. The result of the whole service activity is levelling up of knowledge regarding non-communicable disease and mental health issue in elderly.

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Declarations

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