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Strengthening community empowerment for elderly healthcare in the new normal with Pol-Sadar (The Online-Integrated Healthcare Post for Elderly)



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ABSTRACT

Introduction: Before the pandemic, older people actively participated in an integrated health service post named POSYANDU. This high participation is due to community health workers who understand their role in realizing basic health services. During the pandemic, POSYANDU must be held with attention to developments in the COVID-19 case.

Methods: We implemented the online-based service of integrated health posts to provide online health services for older people. This paper explains the participation of elders, family, and community health workers in the revitalization strategies of integrated health service activities for older people during the pandemic. The activities included health assessments via telemedicine (video call), drive-thru services for vital signs assessment and simple lab checks, home visits, and education via WhatsApp as needed. The implementation began in June 2020 and in May 2021 with 184 older people in some places in Central Java, including Semarang City, District of Semarang, and District of Batang. We also worked with teaching volunteers consisting of five community health workers and 19 nursing students in the community.

Results: The results of these activities were the findings of health problems experienced by the elderly during the pandemic (depression, hypertension, and joint stiffness), increased knowledge, and physical activity of the elderly group. The 100 older people participated in online exercise activities accompanied by their families. They felt a decrease in complaints of joint stiffness, and 84 older adults participated in health education and exercise activities in open areas by implementing strict health protocols. Most participants said they were satisfied with Pol-Sadar activities as a health service strategy for older people during the pandemic.

Conclusion: In conclusion, the online program was effective as a strategy of health services for the elderly, especially during the new normal era, and increased the participation of family and community health workers, but it needs adequate devices to participate.

Keywords: Empowerment; Pol-Sadar; Health Services For Elderly.

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The health of older adults today cannot be ignored because Indonesia is going through an aging population phase with a decline in fertility rates followed by an increase in life expectancy.¹ In 2019, the number of older people in Indonesia was 9.60% or around 25.64 million. Central Java's population is 34.49 million, with 4.49 million older people.² With a global aging population, every part of the community plays an active role in achieving a world where older adults can live well.³

The government has launched services for older adults through several levels as a tangible manifestation of social and health services, including integrated health services for older adults or Pos Pelayanan Terpadu (POSYANDU), health centers, and hospitals. POSYANDU for older adults is a service forum for older people in the community that focuses on health services on promotive and preventive efforts. However, since the Covid-19 pandemic, the activities of POSYANDU have been hampered by various policies to prevent COVID-19 transmission.^{4,5}

During the pandemic, older adults are vulnerable to high morbidity and mortality.⁵ Therefore, the social contact of older adults is reduced during the pandemic.⁶ Meanwhile, older adults are the population who need access to health services because most of them have chronic/degenerative diseases.7 Various innovations in intervention strategies are necessary to monitor older adults' health. The application of mobile health plays a role in maintaining the health of older adults by maintaining the safety of older adults and health service providers, accelerating the provision of health services, reducing the cost of providing services, and reducing the risk of morbidity and mortality during the COVID-19 outbreak. One of them is virtual reality (VR)-integrated exercise, which has been observed to improve the physical health of older adults. The impact

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INTRODUCTION

of this VR includes improving motor skills, reducing obesity, cognition, and psychological outcomes. VR interventions such as immersive memory training and three-dimensional kayak training programs significantly improved shortterm and long-term memory in older adults. Another study looked at a 6-week VR intervention to improve elderly health significantly. Of course, The successful use of mobile health tools for older people in health programs depends on support for older adults.^{8,9}

An initial survey was conducted by distributing online questionnaires for older people in Semarang showed that 96.6% of older people were at home during the pandemic. The pandemic also disrupted the activities of older people (97.4%) and increased the risk of health problems in older people. For this reason, prevention of transmission through promotive and preventive efforts against COVID-19 for older adults is a priority, including at the community level. Efforts to maintain health and welfare for older adults must continue to pay attention to health protocols during the pandemic era. The necessity drives us to create health service innovations for older people through the online-integrated healthcare post for older adults named Posyandu LansiaSecarA DARing or POLSADAR.

Digital technologies, such as online healthcare portals, enable older people to live independently at home for longer. The intention to use online healthcare portals depends on whether older people expect to enhance their independent capabilities by using them.¹⁰ The purpose of these programs was to increase community participation in efforts to maintain the health of older adults, especially during the pandemic, by identifying the problems and health needs of older adults, increasing the knowledge of older adults in maintaining health during the pandemic and training the abilities of older people and their families in improving their health.

METHOD

The online-based integrated health service for older people named POLSADAR was developing a health service program in the community for older people. We also advocated for some Public Health Centers in Central Java in collaboration with community health nursing education to implement POSYANDU. We invited two nurses from Public Health Center, five community health workers, and 19 nursing students in the community to hold the service.

These community service events were held on June 2020 in the Public Health Centers of Semarang City and the district of Semarang. The program also started in May 2021 in Public Health Centers at Bandarharjo and Batang. There were 184 older people enrolled in the program. Activities carried out in POLSADAR for five weeks used standard technology in the community and a fast service system that made it easier for older adults to access quality health services.

The activities in POLSADAR empower the community social workers with nurses and nursing students in an online assessment, drive-thru examination, online education, and home visit if needed. This innovation optimizes the development of digital technology.

The social health workers were prepared to educate the community by being given refreshments on the function and role of cadres in public health. They were empowered to participate actively in preparing activities while in the community.

The program implemented the nursing process in the community. We provided informed consent to participants before starting this program. We conduct POLSADAR promotion directly through Public Health Centers and online through social media to enroll participants. POLSADAR implied the coordination among public health centers and community health workers and the health assessment in the community through telemedicine (video calls), drive-thru services for vital signs assessment and simple lab checks as home visits during the pandemic, and education via WhatsApp as needed. We also used online forms, including the most common disease suffered by older adults, the most common complaints in the last month, history of blood pressure test results. As a pre-test for this program, we assessed the respondents' knowledge, attitudes, and behavior.

We used a windshield survey form to observe the society in a structured manner, including settlement type, living environment, socio-cultural characteristics, and general environmental appearance such as water sources, air health, lighting, etc. In addition, we interviewed relevant stakeholders in the region to explore their potential to solve health problems in the community.

Eighty-four respondents participated in activities with strict health protocols (using masks, social distancing, and washing hands). Activities carried out online and simultaneously are ROM exercises for older adults who complained of stiffness during the pandemic. We made ROM exercise videos and uploaded them on YouTube. In addition, we educated respondents by empowering our community health workers through the WhatsApp group. At the beginning of each week for 5 weeks, we provide materials related to hypertension and trigger them to maintain their health behavior. Community health workers enhance the support system for older adults through these groups. Then, at the weekend, we made a post-test to evaluate the knowledge, attitudes, and behavior related to hypertension.

Activities carried out in the field with strict protocols are health education, recreation, and exercise that are packaged in a program named GELAS ESKRIM - GERAKAN LANSIA SEHAT dengan EDUKASI, REKREASI DAN SENAM (Healthy Elderly Program SEHAT through Health Education, Recreation And Exercise). This activity was carried out once in the third week during the program in the morning for 2 hours, including gymnastics for older adults, and we delivered education related to health monitoring during a pandemic (Figure 1). The older people and social health workers were then interviewed in an unstructured manner to explore the perceived benefits of the activity. Data on activities carried out by respondents were seen before and after the activity (Figure 2).

RESULT

Community characteristics

This program was implemented in several areas in Semarang and Batang. The distribution of respondents is shown in Table 1.



Figure 1. The implementation of "GELAS ESKRIM".



Figure 2. The coordination and training for community health workers.

Table 1.	The distribution of respondents
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Area of districts	Total respondents
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Tembalang	15
Rowosari	15
Kedungmundu	13
Kramas	12
Semarang	8
Ungaran	9
Gunungpati	5
Sambiroto	9
Tandang	5
Bulusan	4
Banyumanik	5
Bandarharjo	42
Batang	42
Total	184

Hypertension was the most common disease suffered by respondents (44,4%) shown in Figure 3, with a distribution of hypertension levels from pre-hypertension to grade II hypertension (Figure 4).

The most common complaints in the last month during the pandemic were joint stiffness (78%), followed by sleep disturbances (40.5%), emotional problems (16%), and no complaints (1%).

Environmental characteristics and public health activities

Environmental characteristics are assessed using a windshield survey combining data literacy and visualization.¹¹ Observations show that most residents' housing is permanent buildings with the distance between houses not too close together. The average house ventilation is sufficient so that sunlight enters >10%.

Before the Pandemic, Posyandu activities for older adults were held once a month. However, this activity did not run during the pandemic, so some older people who were recorded as having hypertension did not undergo a proper treatment program.

Community empowerment

The activities of community empowerment were scheduled for five weeks. There were 187 older people involved in the program, with 31% participating in activities online. Two nurses from primary health care involved in the program identified problems in the community and mapped the program for the community. The nurse conveys that community assessment is needed to determine intervention strategies in the community. The assessment results with nurses identified the community's ineffective health management problem.

Refreshing for community health workers resulted in an increase in knowledge regarding the Posyandu for older people, which was carried out online, and cadres appeared to be able to carry out basic health checks, namely blood pressure with digital blood pressure and simple blood tests (blood sugar, uric acid, cholesterol).

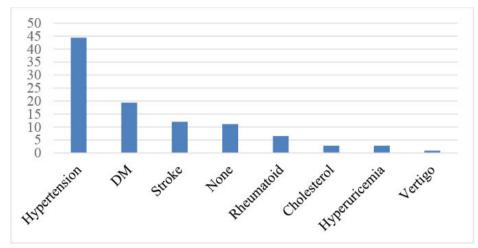
Health education and exercise in the GELAS ESKRIM program package seek to increase people's physical activity to overcome joint problems in older adults, which many complained about during the pandemic. Respondents then practiced ROM exercises independently after health education about ROM exercises to overcome joint stiffness. Evaluation of the implementation of ROM exercise independently by older people showed that 50% of them did it 1 time a day, while those who did it 2x a day were 46% in the morning and evening. As many as 4% did not do it routinely. Evaluation of the ability of older people to participate in ROM exercise activities can be seen in Figure 5.

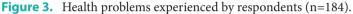
After doing ROM exercises, 52% of the elderly did not feel any complaints of joint stiffness, 39% felt a little pain, 6% felt that it interfered with activities as much. In comparison, 3% of the elderly still felt that joint stiffness interfered with their activities (Figure 6).

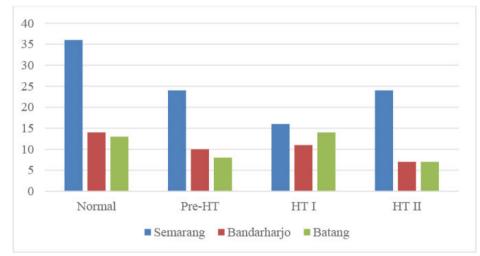
The pre-post test was also conducted to see changes in hypertension-related knowledge during the program. The following are the scores of the pre-test and post-test and analysis of increasing the knowledge of older people about hypertension. The average knowledge score increased from 92 to 166 (Figure 7).

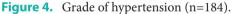
DISCUSSION

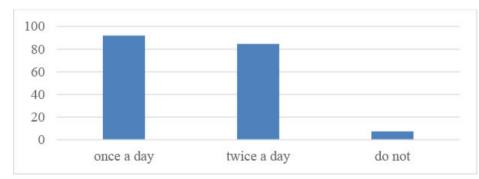
Aging is a part of the process of growth and development that develops from children and adults who eventually become old. Aging is not a disease but an advanced stage of the life process marked by decreased body ability.¹² Older people are a group that is more susceptible to being infected with Covid-19, which means it is even more important for older













people to practice social distancing. For social distancing, the number of activities outside the house and people visiting the house must be very limited. Complete isolation indoors can reduce the mobility of older adults and people who belong to vulnerable groups.¹³ Besides being able to affect their physical health, this can also affect their mental health.^{14,15}

POSYANDU is carried out online as

a community-based health service for older adults, which can be an alternative in maintaining the health of the elderly during a pandemic. However, the characteristics of program participants need to be considered, such as age, gender, and ability to use supporting devices.¹⁶ In this program, community health workers and families are involved in various activities, including health education, health consultations. and simple examinations for the elderly. Home visits with the elderly are also possible in this program if needed. The drive-thru health assessment is carried out for the elderly at high risk so that supporting examinations are carried out based on the assessment results through an online form. The drive-thrue health assesment dilakukan pada lansia yang berisiko tinggi sehingga pemeriksaan penunjang dilakukan berdasarkan hasil pengkajian melalui online form. This program emphasizes strengthening communities that include the elderly, elderly families, and community health workers in achieving goals. The quality of collaboration in this partnership positively impacts health promotion.^{5,17} In addition, programs that strengthen community empowerment will likely bring more systematic and meaningful results if monitored as process and outcome evaluations.¹⁸ Older people and their families feel more confident and safe to check their health status and report their results online. Families also receive visits for further examinations or interventions.19

During a pandemic, innovation in health services is needed that pays attention to health protocols to prevent disease transmission. The use of online media in an era where the development of information technology is increasingly affecting human life provides convenience in participating, sharing, and creating positive relationships. However, online media has limitations in reaching passive participants, allowing inaccurate information, lack of interaction with participants, and the limited ability of health professionals to use social media so that it does not guarantee the program's sustainability. Health professionals must design a social media-based health promotion model by integrating social media with health promotion and communication strategies.^{20,21}

During the COVID-19 pandemic, people are prohibited from holding activities that gather large numbers of people. Based on the activities that have been carried out, it can be concluded that there is an increase in the average knowledge about hypertension. This can be seen from the increased number of

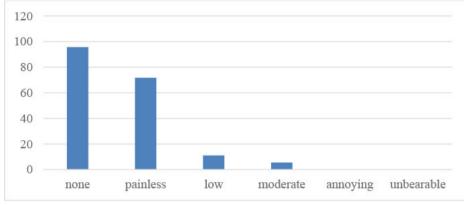


Figure 6. The effect of ROM exercise on joint pain complaints.

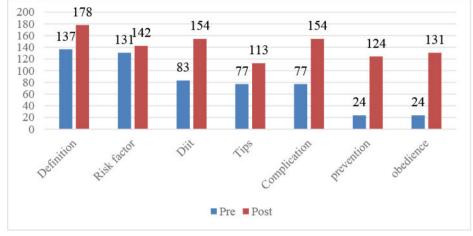


Figure 7. Changes in the level of knowledge of the elderly about hypertension (n=184).

respondents who answered correctly on hypertension-related knowledge items and an increase in the average knowledge score. This increase in knowledge is expected to be the starting point for improving health attitudes and behaviors in the elderly.²² The technology developed to promote health education for the elderly is very diverse and has proven effective for community interventions. Thus, the development of technology to promote health education is very useful in supporting the rapid growth of the elderly population. It was also added that telephone follow-up is a nursing intervention defined by the Nursing Interventions Classifications (NIC). Thus, because of these nursing interventions and their effectiveness in contributing to health care, the use of technology in health education for the elderly should be recommended.23

The use of technology in interventions for older adults faces challenges related to the characteristics of older people who tend to have difficulty learning new things. Therefore, family assistance is needed to support health services provided online. Online health services require technical assistance or compatible devices. The telemedicine concept will continue to play a role in post-pandemic health access.^{24,25}

One of the health problems that the elderly most often complain about is joint pain. This joint pain includes signs and symptoms of a decrease in the musculoskeletal system, often called osteoarthritis. Joint pain caused from mild to severe scale can interfere with the activities of the elderly. The elderly cannot carry out activities comfortably, thereby reducing the quality of life of the elderly. The elderly become easily tired and limit their range of motion, so the joints become stiff and can cause disability.26 Prevention efforts are carried out with health promotion strategies through joint pain health education.

One of the physical activities that the elderly can do at home is active range of motion (ROM) exercises. ROM is the maximum movement a joint can perform in any of the three body parts: sagittal, transverse, and frontal. Range of motion (ROM) exercises are performed to maintain or improve the perfection of the ability to move joints normally and completely to increase muscle mass and tone. ROM is divided into two types, namely active ROM and passive ROM. In active ROM and Pasir the movements are almost the same, but differently, if active ROM can be done independently, on the contrary, with passive ROM is done with the help of other people/nurses.27 ROM significantly decreases the level of joint pain scale in the elderly with osteoarthritis. Active ROM also affects lower extremity muscle strength in the elderly with osteoarthritis.28,29

CONCLUSION

Health services for older adults are necessary, especially during a pandemic, to maintain the health of older adults. POSYANDU, through an online platform, should be an alternative to provide safe community-based health services. Health education during the pandemic changes the behavior of the elderly community by continuing to carry out activities at home. However, in its implementation, the online-integrated healthcare post for older adults requires the participation of community health workers and families to assist older people in health maintenance. In addition, adequate tools are needed to participate in online activities, such as smartphones and internet networks. In the future, the importance of health systems needs to focus on technology to promote equitable access to care for all patients.

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CONFLICT OF INTERESTS

The authors do not have any conflicts of interest to disclose.

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