

Use of Hybrid Methods in Improving Community Healthy Lifestyle Behavior during the COVID-19 Pandemic in Indonesia: Opportunities and Challenges

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Abstract

Background: The COVID 19 pandemic is a challenge for public health services in Indonesia because various priority health services for diabetes prevention in the community have not been implemented. Diabetes risk factors such as obesity, lack of physical exercise, and eating fewer vegetables and/or fruit also increased. The SESAMA (Segitiga Kerjasama/Triangle of cooperation) model is a Diabetes control model whose implementation is carried out directly in the community but during the COVID-19 pandemic, it could not be fully implemented so the hybrid method became a modification of the implemented strategy. This study aims to find out whether the SESAMA model can be implemented using the hybrid method.

Methods: The study was conducted by a survey to all people aged > 18 years in 4 target villages, who participated in fasting blood glucose screening and body weight measurements. The survey produced a number of respondents who met the criteria for obesity with or without prediabetes and were given the SESAMA model of intervention.

Results: There was a decrease in the number of people with prediabetes from 148 people to 105 people (29.05%). Prediabetes with obesity also experienced a reduction. From 108 people with prediabetes with grade 3 obesity, 14 people were reduced to 3 people (78.57%); for grade 2 as many as 12 people were reduced to 9 people (25%) and for grade 1 as many as 82 people increased to 83 people and normal weight increased from 40 people to 53 people.

Conclusions: Implementation of the SESAMA Model for people with Prediabetes during the COVID-19 Pandemic which was carried out using the hybrid method showed a decrease in the proportion of people with prediabetes. The proportion of obesity in people with prediabetes has also decreased. The SESAMA model during a pandemic can be implemented using the hybrid method, by maintaining the application of strict health protocols and optimizing cooperation with various stakeholders in the community.

Keywords: Community, health, behaviour, COVID-19, hybrid method

1. Introduction

Indonesia's National Health Development aims to increase public awareness, willingness, and ability to live a healthy life as an investment in developing socially and economically productive human resources (Kemenkes RI, 2020). Awareness, willingness, and capability to lead a healthy and clean lifestyle are important factors in the prevention and control of various community-related health problems (Kemenkes RI, 2016).

Diabetes is a rapidly growing global health issue (Saeedi et al., 2019). The World Health Organization predicts that diabetes will afflict more than 21 million Indonesians by 2030 (Kemenkes RI, 2017). Similarly, the 2018 Basic Health Research (Riskerdas) showed an increase in the prevalence of diabetes in Indonesia's adult population from 6.9% in 2013 to 8.5% in 2018. The proportion of diabetes risk factors such as obesity, lack of exercise, and lack of vegetable and fruit consumption also increased (Kemenkes RI, 2018).

The Cimahi City Health Office, as a health stakeholder in The Cimahi City area, holds the responsibility to create

a healthy community by developing a healthy lifestyle for the people. It has been implementing various intervention efforts to prevent the spread of non-contagious diseases like diabetes and hypertension through the chronic diseases control program and Integrated Development Post for Non-Contagious Diseases (Kemenkes RI, 2012; Kerrison et al., 2017).

The SESAMA model is a community empowerment model based on cross-sectoral cooperation (Rumahorbo, Sitorus, & Irawati, 2012). The collaboration between Cimahi City Health Office and Cimahi City Family Welfare Development. Organization promotes the success of programs to control diabetes in the city. Meanwhile, the Health Office and Bandung Health Polytechnic provide health workers who act as facilitators to train and mentor cadres. The SESAMA model aims to bring health science and technology closer to the community through trained cadres who will give health counselling to the community (Rumahorbo, 2014). The implementation of the model is in line with the health development goal set by Indonesia's Ministry of Health (Kemenkes RI, 2020)

COVID-19 first broke out in December 2019 in Wuhan, China, and has spread all over the globe, including to Indonesia (WHO, 2020); Ministry of Health of Republic Indonesia, 2020). The increase in COVID-19 cases in Indonesia requires healthcare services to focus more on handling them. Consequently, various disease control and prevention programs slow down. PSBB policy also presents particular challenges in implementing health programs in the community, to ensure that measured efforts can still be implemented while still reducing and controlling the risk of COVID-19 spread in the community (Kemenkes RI, 2015).

This study provides an overview of the results of implementing the SESAMA model in Cimahi City during the COVID-19 pandemic using a hybrid of online and offline methods.

2. Methodology

2.1 Disain

This study was conducted using a survey method to obtain a number of adult respondents aged >18 years in 4 village areas to obtain information on lifestyle, blood glucose levels and body mass index. The survey produced a number of respondents who met the criteria for obesity with or without prediabetes

2.2 Ethical Approval

This study was carried out after obtaining ethical approval from the Bandung Health Research Ethics Committee team with no: 20/KEPK/EC/IV/2020. Before the activities were carried out, all respondents received an explanation from the team for all activities and procedures carried out. All respondents gave their consent to follow all processes

2.3 Intervention of the SESAMA Model

The SESAMA model was implemented in a series of activities, following the guidance issued by the Ministry of Health regarding the Integrated Development Post for Non-Contagious Diseases (Posbindu PTM) program. The activities involved in this program were:

2.3.1 Training Cadres

The Training was given to 107 Dasawisma cadres from the four target villages. The training aimed to develop cadres' capability and competence in providing education and counselling to at-risk communities, particularly in regards to helping at-risk communities to develop the habits of balanced diet and regular exercise. The training took 30 hours and covered all materials, showed in Table 1. The training was conducted through lectures, demonstrations, simulations, practice, and role-play. The hybrid methods in the curriculum allowed for online and offline training. Online training, conducted in a classical way per village group, equipped the cadres with relevant concepts and theories. To ensure that the cadres understand the materials fully, they also underwent enrichment and in-depth discussions in small groups (8-10 people) via WhatsApp groups and Zoom meetings. Offline training, meanwhile, was conducted in a safe setting, following strict health protocols. Offline training was more focused on providing the cadres with real-life experiences of health screening and giving education and counselling to the people.

Table 1. Training Curriculum and Materials of SESAMA Model

Training Curriculum					
No	Topic	Method	Media	Time Allotted	Description
1	The concept of diabetes and risk factors	Lecture, discussion	Projector	3 hours	Online
2	Balanced diet	Lecture, discussion, practice	Projector, Foot Model	4 hours	Online
3	Regular physical exercise	Lecture, discussion, practice	Video	4 hours	Online
4	Calculating body calory needs	Demonstration, practice	Video	3 hours	Online and Offline
5	Change and healthy behavior motivation	Lecture, discussion	Projector	2 hours	Online
6	Measuring weight, height, and blood pressure	Demonstration, practice	Examination tools: sphygmomanometer, body weight scale and height rod; Video	3 hours	Online and Offline
7	Communication skills	Demonstration, role-play	Video	3 hours	Online and Offline
8	Skills in health counselling	Demonstration, role-play, practice	Video	5 hours	Online and Offline
9	Health Development	Lecture, discussion	Projector	1 hour	Online
10	COVID-19 pandemic and spread prevention	Discussion, simulation	Video	1 hour	Online
Training Materials					
1	Introduction to non-communicable diseases of hypertension, diabetes and obesity and the efforts to overcome them				
2	Balanced nutrition				
3	Health examination: blood pressure, height and weight				
4	Behaviour changes and health counselling				
5	Health examination and health counseling				
6	Evaluation of knowledge and skills				

2.3.2 Health Screening

Health screening was carried out to identify at-risk communities. All listed respondents from the four villages underwent a health screening, including measuring their heights, weights, body mass index (BMI), and fasting blood glucose levels.

2.3.3 Mentoring

Mentoring was carried out after health cadres had undergone the training. This activity aimed to provide opportunities for the cadres to experience and practice the knowledge and skills they had learned. In mentoring activities, facilitators accompanied, assisted, and mentored the cadres when they were giving education and counselling to at-risk communities by hybrid method.

3. Results

107 cadres were obtained to receive training and mentoring. In the training phase, cadres were evaluated. Comparing their pre-test and post-test scores, it was found that there was an increase in cadres understanding of the materials. The average score in the pre-test was 76.61 while in the post-test average was 86.81. Therefore, it can be concluded that the cadre's understanding improved by 20 points. Based on the risk criteria, 386 people were determined to be at-risk communities and participated in the education and counselling program administered by

trained cadres. The implementation of the SESAMA model showed that the number of respondents with pre-diabetes decreased from 148 people to 105 people (29.05%). The number of respondents with pre-diabetes and obesity also decreased. 78.57% decrease was found in the number of people with pre-diabetes and grade-3 obesity, from 14 people to 3 people. Meanwhile, the number of respondents with pre-diabetes and grade-2 obesity experienced a 25% decrease, from 12 people to 9 people. However, there was an increase of 1 person in the number of respondents with pre-diabetes and grade-1 obesity and an increase of 15 people in those with pre-diabetes and normal body weight.

4. Discussion

The COVID-19 pandemic that has hit the world is a challenge and at the same time an opportunity for health stakeholders to be able to continue running health service programs with the community in communities where the spread of COVID-19 infection must be controlled. Hybrid and or blended learning during the COVID-19 pandemic showed good results and became a solution in various programs that had to run 14,15. The implementation of the SESAMA model with the Hybrid method during the COVID-19 pandemic has shown an increase in people's ability to manage risk factors as indicated by weight loss in obese citizens; controlling blood glucose levels in prediabetes and controlling blood pressure in people with prehypertension. Hybrid and/or blended learning during the COVID-19 pandemic has shown good results and has become a solution in various programs (Maatuk et al., 2020; Lapitan LD, 2021); the hybrid method is effective in learning (Landes et al., 2020). The implementation of the SESAMA model using the Hybrid method during the COVID-19 pandemic demonstrated an increase in people's ability to manage risk factors obtained from the parameters set in the SESAMA model program such as weight loss in obese respondents; controlling blood glucose levels in prediabetes and controlling blood pressure in people with prehypertension.

5. Conclusion

However, the COVID-19 pandemic that is still happening all over the world presents particular challenges to such programs. On one hand, healthcare programs in communities must continue. On the other hand, the COVID-19 spread must be controlled, which means the implementation of a large-scale social restriction (PSBB) policy. A possible solution for this problem is implementing a hybrid or blended education/training, combining online and offline methods. Hybrid training during the COVID-19 pandemic has shown good results and is a feasible way to keep continuing healthcare and health education programs

5.1 The Implication of the Results

The results of this study provide a new preference for the use of hybrid methods, especially for public health policymakers who face limited conditions in direct health services in the community, this is necessary so that health services for the community can still be implemented.

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Competing Interests Statement

The authors declare that there are no competing or potential conflicts of interest.

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