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LITERATURE REVIEW Open Access

Strengthening Community Program toward Healthy Ageing: What to Consider?

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ABSTRACT

Background: The number of elderly populations is increasing each year. As the number of elderly populations increases, the risk of non-communicable diseases, such as hypertension, diabetes, stroke, will also increase. The main risk factors for this disease include unhealthy diet, inadequate physical activity, smoking, inadequate rest, frequent stress and etc., which are considered as individual's lifestyle. This lifestyle starts when the individual grows up. Therefore, health interventions must be carried out since the individual turns to adulthood in order to prepare themselves for healthy ageing.
Purpose: This study aimed to review the conceptual framework necessary to develop public health programs in preparation for healthy aging.
Discussion: In the preparation for healthy ageing, health interventions should be conducted by targeting the adult population. The health interventions should be based on the theory of behavior change, life-course approach, and ecological approach. In addition, with the advancement of technology, the health interventions can also be carried out by involving digital intervention. The contextual elements, such as social, cultural and psychological context are also important in implementing the program so that it can be accepted by the targeted community.
Conclusion: There is no intervention that fits all levels of society. Therefore, the interventions must be developed specifically for the population according to the local context.

Keywords: Health Intervention, Healthy Ageing, Community Program, Elderly

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INTRODUCTION

The global elderly population is rising each year. In 2015, there are 901 million people aged 60+ or about 12% of the total global population. It is expected that by 2050 the world's elderly population will increase nearly 2.1 billion.[1] In Indonesia, the number of elderly people in 2016 is 22.4 million or almost one-tenth of the nation population.[2] This number is expected to increase in the near future since the life expectancy continues to increase. In 2010, the average life expectancy at birth is 69.8 years, but in 2016 it is increased to 70.9 years.[3]

The increase of aging population coupled with the increase in life expectancy will result in higher burden of chronic illness among elderly population. The morbidity rate for the elderly population is 28.62%, meaning that about 28 of 100 older people experience illness.[4] The national survey reveals that non-communicable diseases (NCDs), such as hypertension, arthritis, stroke, chronic obstructive pulmonary disease, and diabetes mellitus are the most common diseases in the elderly. Moreover, a local study identifies poor quality of life among the older group, which is reflected by the lack of energy, reduced ability to perform daily activities, reduced satisfaction with work capacity, inability to concentrate, and etc.[5]

Factors which contribute to the poor health outcomes in the aging population are related to human behavior. NCDs cannot occur in a short period of time. The major risk factors for NCDs are unhealthy diet, physical inactivity, smoking, alcohol use, and air pollution.[6] These factors are usually formed as individual habits. Health interventions which focus on reducing the NCDs among the older population will be already too late. Thus, the World Health Organization proposes the life-course approach. Early intervention should begin before an individual enters older age. Indonesia has implemented the integrated guidance post or '*Pos Pembinaan Terpadu' (Posbindu*)/The Integrated Service Post for Older People in order to conduct early detection and monitoring of NCDs among the adults. The activities in Posbindu include screening blood glucose and blood pressure, providing health education, and promoting physical activities. Despite these activities, several studies have found that the current Posbindu programs are not effective in preventing and controlling NCDs related to the informants' understanding and awareness toward the targets of the program. Besides, it is also revealed that the communication and coordination between healthcare workers and cadres are not effective.[4,7] Therefore, in this study, we aim to review the potential interventions that can be implemented in the community program for the adults in preparing healthy ageing. The review will include the conceptual framework of community program, the

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use of digital intervention, and the standard measurement for community program.

DISCUSSION

Conceptual Framework of Community Program

Theoretical frameworks are developed to understand the complexity of certain health risk behaviors and multiple level of actions that are necessary to intervene the behavior. A single conceptual framework may not be sufficient to address all the risk factors of NCDs. However, having a conceptual framework is better to guide the planning and the implementation of community program. We will review several conceptual frameworks that can be used to develop community program for healthy ageing. Since NCDs is suffered by individual and the risk factors exist in several aspects at community level, the conceptual framework should cover both individual and community aspects. The theory of behavior change and the life-course approach will likely cover individual aspects, while the ecological approach and community context will likely cover community aspects.

Theory of Behavior Change

Many community programs are applied based on the theory or model of behavior change, such as Health Belief Model where personal's belief influence the health behavior recommendation; Theory of Reasoned Action where attitudes and subjective norms influence the individual's perception of reaching their aims; Transtheoretical Model where behavior changes happen continuously through a cyclical process inside an individual; and the Social Cognitive Theory where the individual concerns with the social environment to acquire and maintain behavior. The models of behavior are attempting to understand various factors that influence a specific behavior. Researchers believe that personal behavior contributes to the incidence of diseases, particularly chronic illness.[8,9] Poor behavior, such as smoking or unhealthy diet, can lead to the increased risk of NCDs. Therefore, interventions are developed to change these unhealthy habits to healthy behavior. However, changing behavior is a complex process and multifactorial.[10]

Using the example of smoking cessation intervention, the smokers should perceive the health risk from smoking, understand the consequences and realize the needs to quit smoking. This is considered as the first step in transtheoretical model or so called the precontemplation stage. The next step is contemplation stage. It is when individuals may obtain the benefits and risks of changing the behavior, they will try to experiment with small changes before taking the big leap. After taking the action, the individuals should maintain this new behavior over time.[11] Based on this example, we can argue that changing behavior is a long process, and single intervention is not sufficient to achieve the behavior change.

Life-Course Approach

The World Health Organization emphasizes the importance of a life-course concept in NCDs management. This approach acknowledges the risk in key stages of people's life, starting from preconception, pregnancy, infancy, childhood, adolescence, adulthood, and older people. Unhealthy behaviors in childhood or adolescence are associated with latter risk in adulthood or older people. For instance, excessive alcohol drinks or sedentary life in adolescence can increase the probability of having metabolic syndrome in the adulthood.[12]

The life-course approach provides a framework to develop comprehensive interventions in the early life. If we can make a good start at the beginning of life, the risk for developing NCDs will be reduced. Promoting healthy diet, maintaining regular physical activities, and building health awareness of an individual start even before the individual was born. The NCDs cannot be diminished if the available interventions are only targeting the older people or those who are already at risk. Therefore, far before the risk exists in the adulthood, health intervention should be conducted since at the stage of preconception.[13]

Ecological Psycho-Socio and Cultural Approach

Ecological framework provides a holistic approach beyond the view of patient and disease. The approach takes into account the community influence, working condition, health facilities, and psycho-sociocultural environment, while still place the whole individual as the center of attention. A common ecological model, i.e. Mandala model of health, a comprehensive and holistic representative model of health, puts various determinants of health of an individual, as comprised of body, mind, and spirit in the center of circle, layered by family as the closest to individual, followed by community, and the culture.[14] The environment of an individual consists of human-made and natural environment. The human-made environment includes the neighborhood, the workplace, and the medical care system. Meanwhile, the natural environment consists of sociocultural and political condition in which the individual resides.[14] All things mentioned are changing as the individual is getting older, and therefore need to be taken into consideration.

Family holds critical role in Indonesia since the family habits will influence an individual's behavior. Food consumed in family is typically similar across family members. Therefore, we can imagine children from parents with poor eating habits will also have similar pattern to their family. An intervention targeted to reduce NCDs in Sub-Saharan Africa involves the whole family in the NCDs management to encourage preventive behaviors.[15] Other studies also emphasize the need to do community-based intervention in combating NCDs.[16]

The Role of Community Context in Health Intervention

Considering the wide variety of ethnicity in Indonesia, along with social disparities, a single intervention will not fit for all. Rural and remote areas

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have different access to healthcare services, compared to those who live in urban areas. Additionally, people living in remote areas have difficulties in obtaining clean water, proper sanitation facilities, and access for better quality services. These factors will result in poorer health outcomes.[17,18]

Understanding the disparity in terms of facilities and differences in culture, health intervention for rural and urban areas should be contextualized. Digital intervention might be proper for urban areas and those with better access to internet. Moreover, in the urban cities, people commonly receive information from internet or mobile phone, and therefore health information will reach better to the population. On the other hand, face-to-face approach or community-based intervention will fit better in rural context as there is greater sense of kinship in the rural area. Moreover, the digital connectivity has already connected and also includes the rural adult population. Therefore, the improvement of quality is required in order to compensate the remoteness.[19]

The Use of Digital Intervention

In the era of digital technologies, the popularity of mobile-based health application is increasing. The World Health Organization has also recognized the use of digital health technologies as new opportunities to improve population health.[20] These interventions could include health promotion, screening, and online consultation. Additionally, mobile application can be used to set reminder for NCDs patients in order to increase compliance and monitor disease control. In India, digital interventions can facilitate patient-centered care for NCDs. A systematic review reports that patients who use digital intervention have improvement in self-management, medication adherence, and positive change in attitude to reduce the risk of NCDs.[21]

Apart from targeting NCDs patients or those who are at risk, the intervention should also consider those who are possible to be at risk, especially the adult population. Many technology companies have developed mobile application as screening tool for NCD risk. With the increasing number of populations using mobile phone, there is great potential for this digital intervention. In Indonesia, the mHealth application is increasingly popular. A study held in Jakarta reveals that reminder system through mHealth application is feasible in the context of urban area.[22] The use of mobile phones are also increasing in rural area. The Midwives with Mobile Phone Project that is implemented in Aceh Besar, Indonesia, indicates that the mobile phone is useful to facilitate communication between rural midwives and physicians, and also helps to disseminate health information to the patient community.[23] Despite these findings, the available evidences are still limited.

Standard Measurement for Community Program

The community program should be clearly constructed based on a model or framework. The framework is used as planning tool, as well as monitoring and evaluation tools. It will help the program manager to assess whether the program has achieved its intended outcomes based on the components in the framework. A routine monitoring should be carried out to ensure that the objectives of the project in each stage are achieved, and whether readjustment is necessary based on the real situation. Evaluation of community program can be done in several forms, such as process evaluation and outcome evaluation. Process evaluation examines whether the program has been carried out according to the plan. While outcome evaluation is used to measure the effectiveness of the interventions.[24,25]

To measure the success of the program, indicators related to the objectives of the program should be well listed. The performance indicators are determined by the type of evaluation, the study type, and available resources. Oftentimes, the evaluation is influenced by the requirement of the funding agency. Regardless of the funding agencies, the use of evaluation is important to learn the achievement or deviation from original concerns. Lessons learned taken from developed countries underline the needs for well-planned intervention that requires cross-sectoral collaboration.[26] An example of evaluation of community-based intervention on NCDs was conducted in Indonesia and India. The indicators included process and outcome of the intervention. Number of activities held, numbers of beneficiaries covered, numbers of volunteers trained were some indicators for process evaluation. While the outcome evaluation measured the health outcomes, such as proportion of currently smoking, proportion of physically inactivity, the percentage of raised blood pressure, and etc.[27] Indicators should be determined in the beginning of the intervention program.

CONCLUSION

Potential interventions for Indonesian adults as preparation for healthy ageing should regard the aspect of behavior change, life-course approach, and ecological approach. Early intervention that involves family and community will be necessary. Digital health technologies can be used as an option to offer public health interventions. Eventually, the program managers should consider the local context when implementing the interventions, as well as determine proper evaluation measurement for the program.

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