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Integrating approaches for prompting childhood health to reduce childhood obesity

Background

In the last few decades, the nutritional status of children has been greatly influenced due to the lifestyle and dietary pattern changes in Malaysia. According to British medical journal, The Lancet, Malaysia is the most obese nation in South East Asia [1]. National Health and Morbidity survey 2015 reported that there was a prevalence of 11.9% obesity in children below 18 years [2], while in 2019, the prevalence has risen to 14.8% [3]. Studies have shown that childhood obesity will continue towards adolescence and adulthood obesity [4].

Childhood obesity is a major global public health problem and has been around for a long time, caused by many factors, and managing it is complex. Therefore, a comprehensive approach is essential.

Current situation

There are many relevant policies and countermeasures in order to tackle the issue (e.g. Global strategy on diet, physical activity and health 2004, Aerobic exercise programme), however, Southeast Asia still has seen the upward trend in childhood obesity. Therefore, it seemed to be a dilemma for policy makers that made a series of strategies which could not implement well. How to strengthen, implement the policies and unite the roles of communities, schools and families is worth thinking about by people and policy makers.

Recommended action

According to Sabramani and colleagues' research [5], there are several determinants related to childhood obesity: Ethnicity and gender, genes, socioeconomic (members from lower socioeconomic category are at high risk of overweight), emotion, environment and dietary trends, medical illness (e.g. endocrine and neurological problems).

Based on the determinants, numerous guidelines and coping strategies are utilized to manage obesity among children. Most of the strategies are

related to changes in eating habits, increased physical activity and energy expenditure, changes in activity patterns, and family involvement changes. Despite government agencies are taking the issue seriously, there are still existing shortages. The researchers had found that these strategies rarely overlap, which may cause unnecessary confusion among employees of different government agencies. There may also be staff shortages that affect the sustainability of these projects. However, it is not just down to the government agencies.

On the other hand, what is obvious that while there are policies in place, there is no long-term plan to monitor them. Naturally, the role of the school, comes to mind since children spent lots of their time staying at school. Sabramani and colleagues also mentioned that schools only conduct a physical examination for students twice a year, which makes it difficult to educate students about a healthy lifestyle since irregular monitoring and implementation can influence the expected results. It is recommended that a staff member who is well versed in health provide continuous monitoring of the implementation of policies related to the management of obesity in each school. For children, nurses and nutritionists in schools are the key and optimal persons.

Obesity as one of the common health problems of children, definitely can be managed through clinical guidance provided by school nurses in view of their unique roles as school-based clinical experts, care coordinators, and student advocates. As a result, monitoring is well suited to be a long-term plan for nurses in school since they shoulder the responsibility for care the school children. However, in Schroeder and colleagues' study [6], particular emphasis was placed on the impact of Social Determinants of Health (SDH) on children's health.

The social determinants of health (SDH) are the non-medical factors that influence health outcomes [7]. They are the conditions in which people are born, grow, work, live, and age, and the wider set of forces and systems shaping the conditions of daily life. These forces and systems include economic policies and systems, development agendas, social norms, social policies and political systems. For example, SDH includes income and social protection, education, unemployment, housing, food security, etc. The core reason to focus on SDH is that researches showed that there are complex social determinants of childhood obesity.

SDH has received a great deal of attention from researchers and policy makers, but it is likely that SDH has been ignored by traditional healthcare systems. School nurses are ideally positioned to address SDH, according to the National Association of School Nurses (2016) [8].

For children who may face barriers to traditional health care, these services are easy to access. In addition, since school nurses have a long relationship with children and families, they are often aware of family disorders associated with SDH. As a medical worker, professional knowledge is also the key to the obesity management. As a result, the school nurses are able to play a key role in addressing SDH that affects children's well-being. Besides, although many parents are aware of the importance of their children's exercise and eating habits, children spend most of their time at school, therefore, the role of school is very significant [9].

The school nurse can address SDH in a number of ways: **Provide care in a culturally competent manner:** a school nurse who cares for obese children can educate students and families about healthy diets that include traditional cultural foods since Malaysia is a multi-ethnic country and eating habits are influenced by culture; **Connect to resources:** the school nurses are able to provide resources for families who have difficulty accessing clinical obesity care (e.g., dietitian). Or the nurse can help poor families to apply for financial support to obtain the complement nutrition assistance. However, this may require policy support; **Upstream approaches and policy change:** one investigation mentioned that the upstream determinant of obesity should be the obesogenic environments [10]. School nurses can work with local or national professional organizations to advocate for policies that create a healthy environment for students; **Empowering school nurses to address the SDH:** If empowered, school nurses have great potential to address SDH issues in clinical practice and improve the health of the most vulnerable children. Although such efforts require a commitment that goes beyond direct clinical care, they are essential to promote upstream changes that support children's ability to engage in healthy behaviors.

At the community level, school nurses play an irreplaceable role in the continuous monitoring of childhood obesity. Simultaneously, they are the key persons role that address SDH in school-based intervention.

Communities have always been important units of research into upstream determinants of health outcomes like obesity [11]. Social interaction in communities may have impact on behaviors and health consequences. That is why we need to focus on communities. A systematic evaluation of the social and behavioral determinants of obesity reveals the complexity of childhood obesity and the need for comprehensive and innovative approaches to care management at the population or community level [12].

In Thomas's research, he conceived the idea of choosing the community health centers that offered an unique opportunity for longitudinal study of children where can provide useful/practical information, and ensure the continuity of care/obesity management activities. Based on the network community, disseminating knowledge about the best preventative practices in obesity management, evaluating and implementing evidence-based prevention measures, integrating personal and societal determinants of childhood obesity and proposes the implementation of population health programs for obesity. As mentioned above, we have a lot of coping strategies to tackle childhood obesity, can we get inspiration from this study?

Thomas had introduced an interdisciplinary approach to evaluate the effectiveness of preventive interventions/strategies based on knowledge, motivation, attitude, practice, and outcome (KMAP-O) model in his research. According to KMAP-O model, it is assumed that integrating comprehensive approach (physical activities, diet education, etc.) to childhood obesity prevention will directly affect children's health knowledge, motivation for change, attitude towards interventions, and practices adopted by health professionals and managers. It will affect participants' outcomes as well.

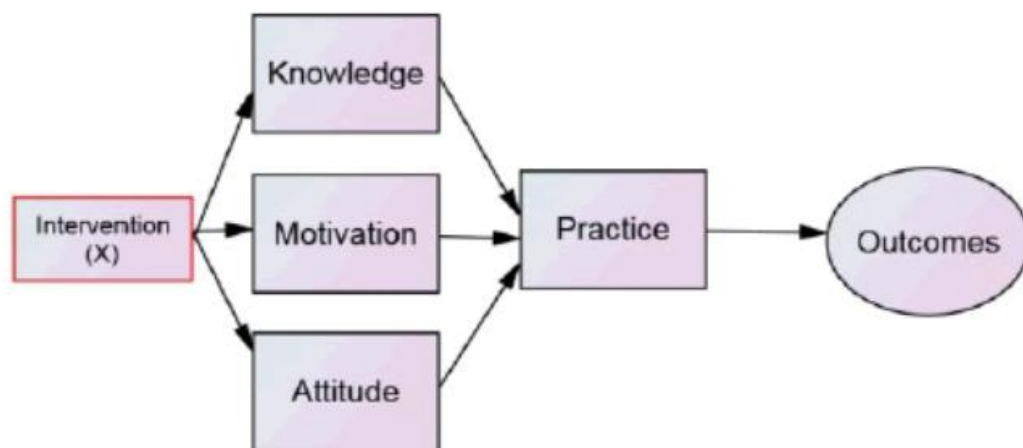


Fig.1 KMAP-O model (causal mechanisms of intervention effects on patient outcomes)

Based on KMAP-O model, researchers highlighted and recorded various interventions. Background, cultural, and environmental factors that may mediate or interfere with the relationship between KMA and P as well as between KMAP and O were also need to be considered. By integrating the individual and social determinants of childhood obesity, intervention plans can be systematically developed and implemented. This is called

the interdisciplinary approach to obesity.

The results suggest that the study has multiple benefits in understanding the promoters and barriers to participants. Innovative strategies can therefore be developed to strengthen adherence to and participation in health behaviour change and prevention practices. Ultimately, the research incorporates the resulting information into evidence-based practices for healthy community living.

This study provided us some thoughts about measures to tackle obesity. This theoretically informed view might be utilized to evaluate the effectiveness of existing coping strategies/programs, guided by a logical model, in a causal mechanism study of preventive interventions in a group of children who may be predisposed to obesity. Innovative strategies can be developed to enhance compliance and participation in health behaviour change and prevention measures ultimately.

Conclusion

We have long way to go when it comes to childhood obesity. The importance of community is well known. Prevention at community level from two perspectives were discussed here: The key persons (school nurses) in school based intervention and the KMAP-O model in community based intervention mentioned above should be considered to applied to deal with childhood obesity issue since both of them are essential components of establishing a healthy environment promoting childhood health to reduce obesity including address SDH and upstream factors. However, the solution does not stop there, more sophisticated approaches will emerge and more stakeholders will be involved to address the issue since there is no organization or system has a complete solution.

Moreover, with the development of society, there is a local whole systems approach responds to complexity through an ongoing, dynamic and flexible way of working. This more complex approach enables local stakeholders, including communities, to come together, share an understanding of the reality of actions and decide as a network how to work together in an integrated way to bring about sustainable, long term systems change [13].

Process for implementing whole systems approach is below:

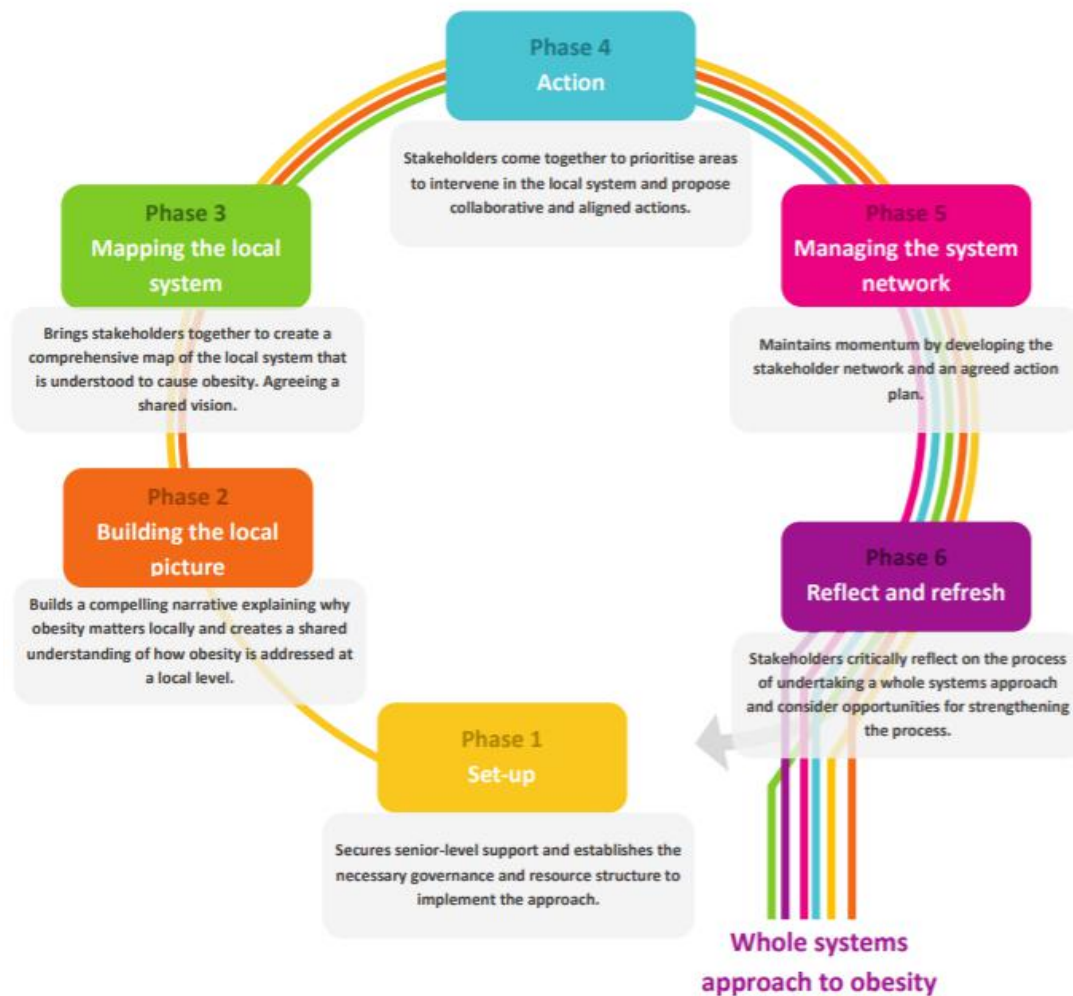


Fig.2 Process for implementing whole systems approach

The six-stage process described in the guidelines can be used flexibly by local authorities, taking into account existing structures, relationships and actions already in place to tackle obesity. It brings stakeholders together. Local authorities should review these stages to ensure that the approach is comprehensive and that content such as the narrative on obesity reflects current local conditions [14].

Obesity caused by complex factors must have complex systemic solutions. It is difficult to solve childhood obesity once the issue occurs, therefore, we need to find more schemes to the problem of childhood obesity. A large part of adult obesity is developed by childhood obesity, therefore, the prevention measures are very important. Overall, the health of children is vital to the future of the country, and it is urgent and essential to create a healthy environment for them.

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