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Contributors to Childhood Obesity in Bhutan: The Views of PHC Workers and School Staff

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Abstract

Objective: *To explore the factors influences on childhood obesity in Mongar, Bhutan to notify and alert future improvement of a childhood obesity interventions for children in Bhutan.*

Study design: *Qualitative study.*

Methods: *Interviews of a purposeful sample with primary health workers and school health coordinator in one district in Bhutan were arranged to explore their perceptions related to the factors contributing to childhood obesity. 11 Primary healthcare workers and two school health coordinators were included. All the discussions were transcribed verbatim in English and iterative thematic approach was used for data analysis.*

Results: *In general, the causes of childhood obesity were perceived to relate to macro-level policy influences, the school environment, sociocultural factors, and family and individual behavioral factors, acting in combination.*

Conclusion: *The findings suggest that primary healthcare workers and school health coordinators have their own views on the causes of childhood obesity which involved behavioral, structural and social causes. A prominent emerging theme was the need for interventions like health workers and public awareness and support for a healthy environment. Any local initiatives in Mongar Bhutan are unlikely to be successful without such support.*

Keywords: *Bhutan, primary health workers, school health coordinator, childhood obesity, exploratory.*

What is known on this subject?

Childhood obesity is a significant health and public policy challenge across developed countries and middle level income countries across nations, countries, continents and cultures. It is observed as one of the features of the nutrition transition in developing countries. Childhood obesity is associated with attitude, behaviour, environment in Bhutan.

What this study adds

This qualitative study explores the factors associated with childhood obesity in Bhutan. The socio environmental changes contribute to childhood obesity in school-aged children in Bhutan. Findings have provided the main contributing factor is consumption of junks foods which is due to unawareness of health workers and the public. This study has placed an important groundwork for the development of appropriate childhood obesity prevention interventions in Bhutan.

Introduction

Bhutan is at the early stage of the demographic transition. And, by 2025, the expected population 65 years and older will increase from 4.4% in 2000 to 7.3%. Therefore, the prevalence of NCDs increase with age and thus the burden of diseases (NCDs) will also increase [1] . NCDs have become the largest health challenge in Bhutan. NCDs account for 62% of the total disease burden while 38% is done to communicable disease, maternal, child health and others [2]. The major NCDs in Bhutan are CVDs, mental health, respiratory disease, cancer and diabetes [3].The cost of health care is increasing and the referral

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outside country due to NCDs has increased by 15% annually the last 3 years [4]. One of the risk factors for NCD is obesity. The country has also seen a recent increase in adult obesity [4]. The adult obesity in 2008; male 4.3% and female 6.4%, the prevalence of total adult obesity is 5.3% [5]. Childhood obesity is strongly correlated with obesity as an adult. The under (<5) overweight in 2008-2012 is 7.6% and 4.4% of pre-school children [6]. The 40% of children those age 15 and above are overweight or obese [1].

There are number of factors associated to childhood overweight and obesity [7]. The factors include individual, environmental and behavioural factors which directly or indirectly change the weight status of a child [8]. Moreover, the increased intake of foods that are high in energy and fat, decreased physical activity are also the major contributors to raise child obesity [7]. Childhood obesity has immediate and long term impacts on physical, social and emotional health. Obese children are more likely to develop non- communicable diseases at young age and stay obese in adulthood. An obese child has more risk of heart diseases, increased cholesterol level and increases the risk of having respiratory problems which causes the shortness of breath and sleep apnea [8]. The problem of childhood obesity is severe and it continues to affect in adulthood [9].

The purpose of this study is to explore the factors associated with childhood obesity, and would be able to lay the foundation for the development of appropriate childhood obesity prevention interventions in Bhutan.

Aim

The study aims to identify the contributing factors associated with the increase of childhood obesity in Bhutan.

Methods

A qualitative method using in-depth semi-structured interviews with the primary healthcare workers and school health coordinator to provide a deep understanding of the causes of childhood obesity and to provide an account that explores and captures their perceptions, feelings, and meaning [10].

The study was conducted in the Mongar District of Bhutan one of twenty Districts. It is the fastest developing district with a population of 37,150, has good highways and most of the regional offices are in this district. Health services in this region include the eastern regional referral hospital (ERRH), a Basic Health Unit (BHU) grade I, 22 BHUs grade II, 5 sub-posts, 5 indigenous units and 52 Outreach Clinics (ORC). The Mongar district has 2 District Health Officers, 2 Medical Doctors, 7 Nurses, 1 Clinical officer and 47 Health assistants [11].

The participants in this study included the District Health Officer, Head of the regional hospital and PHC Staff from Mother and Child Health unit (MCH), NCD focal person, a Medical officer (1) or BHU grade I in charge, and Health assistants (6) (BHU grade II) who works with PHC services and disease prevention. The BHU included larger medium BHUs and small BHUs; classified as per the area size and population. A further two participants included school health coordinators (primary and high school). The total number of participants in the purposive sample was thirteen.

The data was collected between January and March 2018, utilising semi-structured interviews. The 13 informants were interviewed at their places of work. The record of what was said and done during the interviews was audio recorded, and then transcribed prior to data analysis, using content analysis. Themes were finalized and illustrated with quotations from the original text to help communicate meaning. The data and emergent themes were confirmed with the advisor's guidance and included comparison of the coded concepts by other researchers.

Ethical considerations

Ethical approval for this study was granted by the Institutional Review Board at Naresuan University in Thailand (IRB No. 1088/60) and also, from the Royal government of Bhutan, research ethics board of health with ref.no REBH/PO/2017/101. Before proceeding with the study, participants were provided verbal and written information about the study and the researcher obtained written informed consent. Participants' rights to confidentiality and privacy, as well as their ability to withdraw from the study at any time, were protected throughout the study. The interviews were completed within 1-2 hours because of their busy schedule. This study involved only PHC managers who have a responsibility as head of the

organization, units or department and their role based on the principle of PHC. Codes as PHC 1, PHC 2... and PHC 11 were given in place of their identity to maintain their confidentiality and anonymity.

Table 1. Provides a summary of the demographic data from the key informants in this study. the information in a table includes age, gender, education levels, and years of experience in healthcare

Participants	Gender	Age (years)	Education	Work experience (years)
PHC Managers				
PHC 1	Male	43	MBBS, MPH	14
PHC 2	Male	54	Certificate in PHC	33
PHC 3	Male	32	MBBS	5
PHC 4	Male	38	Dip. in nursing and midwifery	14
PHC 5	Male	45	Certificate in PHC	22
PHC 6	Male	47	Certificate in PHC	22
PHC 7	Female	26	Certificate in PHC	4
PHC 8	Male	38	Certificate in PHC	11
PHC9	Female	40	Certificate in PHC	20
PHC10	Male	31	Certificate in PHC	10
PHC11	Male	30	Certificate in PHC	7
SHC 1	Female	32	Bachelor in Science	8
SHC 2	Female	38	Bachelor in Education	14

Results

The respondents described the factors contributing to childhood obesity are related to: i) individual factor, ii) Social Factor, iii). Environmental Factor and iv). Behavioural Factor

i. Individual factors

The individual factor like socioeconomic status is also one of the important determinants of health and wellbeing of child. Children with higher family income has found out more prevalence rate of overweight/obesity. Childhood obesity is caused by both genetic and non-genetic factors.

……I am not sure to say exactly what causes obesity in children. However, one would be a genetic factor. An obese child I shared to you earlier were having both the parents obese… (PHC 3).

***….** These days marketing has reached everywhere right after birth. Time has come that a child has everything to eat like cerlac and formula feeding. I feel obesity is due to giving cerlac (commercial product) at 1-2 months than Breast Feeding. Obesity is also due to family status like being well to do, so children are obese belonging to this family… (PHC 10).*

…. For some, in absence of mother extra feeding like lactogen is given. From this, we let them know if their child is obese that obesity is not good. I feel obesity in children is also due to this kind of situation happening nowadays… (PHC 5)

…...Obesity is mostly in the children whose parents are office goers not in community. Children eat junk foods only. They don't healthy food at home. They visit shops and keep on consuming junks… (PHC6).

…...Children with higher family income has found out more prevalence rate of obesity. The children born to families with high Socio-Economic Status are more likely to be obese as compared to lower Socio-Economic Status…. (PHC 2).

ii. Social factors

Social factors include when children look up to their friends and parents, and other factors to adapt their habits. It also includes an individual cultures and tradition which we usually take up.

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…Mainly like telecommunication facilities like TV, mobile say it one, another is sedentary lifestyles and children whose parents are habited in town are usually they have less time to involve in physical activity, another is they are more engaged in television, screen games, mobile, etc. I see changes in these areas. They are like, they eat more and work less... (PHC 1)

.... I think childhood obesity is also related to poor dietary habits of the mother… (PHC 4).

.... Culture plays an important role in changing the people's attitude towards body image, physical activity and food intake... (PHC 4).

.... Children look up to parents and peers in association with positive cognition about healthy foods and healthier intake…. (PHC 3).

.... Children living in high income neighbourhoods were more likely to be overweight and obese… (PHC 7).

iii. Environmental factors

It can be influenced by the place they live in, school where they spend more duration of time and the community, they live in. At home, the parents have a big role to influence the children food choices and promote healthy life style.

.... Community's lack of accessibility and affordability of healthy food can affect the nutritional status of children. If there are no fast foods outlets in the area, example be in area like school there won't be opportunity for the visits and hence no consumption. As children spend up to 6-8 hours at school…. (PHC 8)

.... School going children are found out to be taking lots of junk foods… with this, parents are having a tough time to bring changes as child asks money while going to school. From this, I have talked to teachers to restrict junk foods in schools…. (PHC 9).

…. We cannot say to stop junk food because we have canteen which sells junks inside the school. Children prefer fast food and convenient for them whenever they feel like eating. Some children do not bring packed lunch to school. Such habits spoil their regular eating habits…. (SHC 1).

iv. Behavioural factors

There are behavioural factors which influence the children's weight gain by eating calorie dense foods, low nutrient foods and beverages without adequate physical activity and get involved in sedentary life styles like television, computers and sleep routine.

.... Rural children are physically active and had less sedentary time than urban children and watching food advertisement was strongly associated to overweight in rural than urban… (PHC 7)

.... They take more of junk food and that particular parent was saying right after he reaches home, he sits in front of the TV and keep on taking junk food without regular meals. At this generation, it has become complacent as lack of exercise, more of technologies... (SHC 2)

.... Junk is available everywhere. I find food habits would be the main contributor. On the other side, he likes to stay indoor watching television and with junks was what shared by mother to me. So, I felt food habits plus physical activity must have caused it… (PHC 11).

Discussion

Summary of main findings

The main aim of this study was to explore and identify the factors contributing to childhood obesity in Bhutan. The perceptions of PHC managers is that Childhood obesity has become public health problem all over the world. It is increasing rapidly day by day. Childhood Obesity is associated with number of factors including genetic and non-genetic factors like environment and other behavioural factors. Prevention of childhood obesity needs to be given a priority considering it's drastic after effects. childhood obesity is a small problem, but the incidence of obesity is rising in Bhutan.

The risk of obesity can be passed from one generation to the next, as a result of behavioural and biological factors. The childhood obesity can have negative effect on health and wellbeing and result in lower levels of academic achievement. The factors associated to childhood obesity summarized its consequences like a child is exposed to risks of many diseases like cardiovascular disease, type 2 diabetes, dyslipidaemia, hypertension, psychological and social morbidity, asthma, orthopaedic,

breathing problems, fatty liver disease, cancers and others. [12].Therefore, the study highlighted the importance of problem of childhood obesity as a public health concern in developing countries, and the development of strategies and polices is necessary. Nevertheless, some of the interventions like taking leadership role and all for all stake holders to recognize the moral responsibility in acting on behalf of the child to reduce the risk of obesity [13].

Limitations

No relevant studies were done in some of the developing countries. The factors associated with childhood obesity from different countries from the studies carried out cannot be applicable to other countries because of the region, socioeconomic status, and the different life styles. It would differ from one region to another. Variation is the common draw back here and the study may be of use for a certain limited time as in future many things could change, relying on material that is likely to be out of date. The clear organizational structure and the need of strong design and excellent statistics would be much more helpful for the improvement of some studies.

Implications of the study

The growing issues of childhood obesity and overweight can be reduced if society focuses on the factors associated with it. It affects the child's physical health, social, and emotional wellbeing and self-esteem. A combined diet and physical activity intervention conducted in the community with the school component is more effective at preventing childhood obesity or overweight. The role of parents especially mother plays an important role in creating healthier environment at home so a child can adapt to the healthier life style. What children learn at home and school about eating healthy and importance of physical activity will have greater influence in their life. Likewise, there are other effective interventions and government policies for the prevention and management of childhood obesity. Hence, focusing on these factors may overtime decrease childhood obesity lead to healthier society as a whole.

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