



Childhood obesity: Health communication perspectives of Malaysian parents during COVID-19

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ABSTRACT

Childhood obesity and its associated risks in Malaysia remains a major health concern where at least one in five of children are affected. Media engagement with the public on the outbreak of Covid-19 had since overshadowed these health issues. Measures for social distancing and containment through the Movement Control Order (MCO) presented challenges for parents in making healthy food choices and dealing with unforeseen sedentary lifestyles. The study examined perceptions of parents towards health communication, how parents ensure their children abide by healthy eating habits, and how they seek information on childhood obesity intervention during this period. The positive deviance (PD) approach argues that champions of innovative ideas on maintaining good health are found within the communities rather than a change agency's prescription. The study obtained input from parents in the Klang Valley through semi-structured interviews. Thematic analysis findings show that parents from M40 and B40 communities have insufficient information on nutrition for childhood development and prioritize convenience over long-term effects due to their hectic routines and household income. Positive deviant (PD) T20 groups are found to be more efficient in managing and applying knowledge due to their higher health literacy and communication within their social groups. This outlines the gap on effective communication strategies to improve health literacy of the public.

Keywords: **Childhood obesity, positive deviance, health communication, health literacy, non-communicable diseases**

INTRODUCTION

At present, young children and adolescents are fast contributing to obesity statistics. In 2018, Malaysian children were recorded obese from the age of 5-18 years old, where affected children are predicted to live their lives as obese adults ((OECD/WHO, 2020). Malaysian health agencies laid out strategies to prevent and rehabilitate children with stunting problems, targeting children in their first 1000 days of life from their birth up to the age of three years old (National Health and Morbidity Survey 2019, 2020). This effectively excludes growing children and adolescent groups at preschool, primary and secondary school levels who are most significant to the Malaysian childhood obesity conundrum.

Adding on to the challenges in eradicating childhood obesity was the outbreak of COVID-19 in 2020. The global emergency saw increased frequency and clutter of information on the disease to alert the Malaysian public. To control the rate of infections, the government announced a Movement Control Order (MCO) that stipulated the closure of many social and economic centres such as schools, colleges, universities, shopping malls and even places of worship whilst enforcing preventive behaviours such as wearing a mask, maintaining social distance, and staying at home (“COVID-19 chronology”, 2020). The daily routines and activities of children gradually become sedentary, reducing opportunities for physical activity particularly in urban areas that dwell in small housing units (Rundle, Park, Herbstman, Kinsey, & Wang, 2020). Restriction of children from the need for routine and socialization in school would aggravate their health risk factors and weight gain due to the lax in the monitoring of children’s diets (Pietrobelli et al., 2020). Moreover, to appease the physical and emotional period of adjustments, parents and caretakers who are the main decision-makers in the household turn to processed and calorie-dense foods as opportunities to purchase healthier choices were limited. Henceforth, the prevalence of childhood obesity during the rise of the global pandemic is expected to be proportional to the timing and severity of the outbreak (An, 2020).

The role of media is its communicative action of engaging with communities to educate parents and young children on practicing healthy lifestyles that include information on planning meals and physical activities essential to curb unprecedented obesity waves for future generations (Abarca-Gómez et al., 2017). The objectives of the study are to ascertain perspectives of parents on health communication strategies surrounding childhood obesity in the media, and to examine how parents inculcate good eating habits in their children during these challenging times. In doing so, the study poses the following research questions:

- 1) What are parent’s perceptions on health communication that focuses on childhood obesity?
- 2) How do parents ensure their children abide by healthy practices to prevent childhood obesity?
- 3) Where do parents obtain ideas to deal with childhood obesity?

LITERATURE REVIEW

Factors influencing perceptions on childhood obesity

Health communication, particularly on obesity, plays an important role in inculcating positive behaviours towards change of norms and beliefs. This supports Andrews, Silk, and Eneli’s (2010) earlier findings that social determinants like socioeconomic status, social integration, race and ethnicity, place, or location where one resides, and social policies including dietary habits have an impact on individual health behaviours.

Nor, Ariffien, and Abidin (2020) found that Malaysian parents generally misunderstand the Body Mass Index (BMI) of their children as compared to the more astute parents in Europe. In Asian culture, an overweight child could reflect good parental care, while one who is the opposite is a sign of neglect, especially in Malaysia where childhood obesity is not considered a nagging problem (Peña, Dixon, & Taveras, 2012; Hossain et al., 2019). The dining culture of varying ethnicities in Malaysia encourages recipes with excessive sugar and other unhealthy ingredients. To counter this, the Ministry of Health conceptualised the '*Pinggan Sihat*' or *Healthy Plate* to advise meal portions and emphasise on vegetables and healthy fibres on mainstream and social media (Chin & Durai, 2020). According to Khairulnissa, Krisnan, Kaundan, and Abdul Aziz (2021), healthcare agencies in Malaysia have also increased the use of social media to communicate to the public to facilitate dialogues, ease communication, and disseminate information. Meanwhile, routines of sedentary lives also play a part in contributing to obesity among children as resorting to computer games and staying indoors had superseded the necessity for healthier outdoor activities due to limited time and space (Vazquez & Cubbin, 2020).

At the time of the 10th Malaysia Plan rollout, one of the Key Results Areas (KRAs) identified was to enhance health literacy among individuals and communities for knowledge and self-care. In doing so, the Malaysian Ministry of Health frequently deployed campaigns in the mass media, such as healthy eating, physical activity, and stress management (Ministry of Health Malaysia, 2010). Over the last few years, the government had deployed the internet to push forward ideas on public health (Institute of Public Health, 2016). Even so, Malaysians are less apathetic and often disregard public mass health messages due to message fatigue attributed by the oversharing that are not necessarily obesity related (Kim & So, 2018). The resistance and inattention render the communication for childhood obesity intervention from the relevant authorities irrelevant and ineffective. Recent literature found that that health information and the advocacy of lifestyle change is determined by the acceptance and socio-economic status of Malaysians (Noman, Khoo, Tee, & Krishnan, 2019). Their discursive access to information and the digital gap between these different groups may affect their understanding of proper nutrition in abating issues of childhood obesity. Further, Rahim, Ibrahim, Salim, and Ariffin (2019) argued that there is a strong relationship between health education posts and risk communication in visuals posted on social media. It was observed by the study that health agencies fail to gain traction among audiences as these digital messages appear to be centred on the thrust of their organisation rather than serving the needs of the public interest.

The role of media and positive deviance among parents

Herington and van de Fliert (2018) posited that mass audiences dismiss health communication because positive deviance has been employed frequently by appointing individuals or groups that would unconventionally persist in finding solutions for issues related to health, known as community "champions". Positive deviance acts as a tool to include greater community empowerment by inculcating a sense of accountability through problem solving (Singhal 2010). Rudolph and Hilbert (2017) further confirmed that messages articulated on weight bias have different effects on people who interpret them, henceforth validating that health messages would contribute to positive behaviours towards health. In related studies, it was found that stress can motivate parents to act upon programmes and health communication that could aid obesity intervention as well as the improvement of parent-child relationships (Shonkoff et al. 2020). What is most essential for parents is to illustrate best practices that are evidence-based and variations that would provide significant changes in the outcomes of health issues presented (Singhal & Svenkerud, 2018).

Information-seeking on childhood obesity

The most critical period in developing lifelong eating habits that would consequently affect health, both in the short-term and in the long run, is during one's childhood (Cristina Lindsay, Sitthisongkram, Greaney, Wallington, & Ruengdej, 2017). Parents greatly impact their nutrition through their involvement and support and subsequently, increase the likelihood of childhood obesity prevention (Hong, Peltzer, & Jalayondeja, 2019). There have been limited studies on the habit of finding good health information that leads to change of attitudes and behaviours towards health status and the understanding of health risks for their dependents (Hamzah, Mohammad, Abdullah, & Hadi Ayub, 2015). These studies had argued that Malaysian parents generally have misconceptions of the ideal weight and what constitutes health eating; nor do they have awareness on the adverse risks of not providing the right nutrients for their children as their initiatives to seek information on this matter is relatively scarce. In addition, lower income or lower levels of parental education are associated with higher consumption of unhealthy foods, despite increased efforts by the Malaysian Ministry of Health on updating its nutritional guideline, as well as its venture into multiple platforms of communication in both traditional and social media to advocate these dietary recommendations (Nor et al., 2020; Manyanga et al., 2017). The priority of those in the urban poor households are three main meals per day regardless of nutrients, as long as their children are happy and satiated. Other factors such as access to quality food consumption and disparities among lower income or minority families as well as the lack of facilities to accommodate recreational and physical exercise also contribute to the growing issue. Therefore, there is a dire need to encourage the importance of healthy eating and regular exercise for children through health communication. Such initiative needs to have the support of environmental and public policy to be relevant (Lee, Shapiro, & Niederdeppe, 2014).

METHODOLOGY

For this study, the researchers recruited and conducted in-depth, semi-structured interviews with 10 parents and caretakers of children in the Klang Valley using purposive sampling to gather new information or insights regarding knowledge of nutrition and behaviour towards obesity intervention at home. According to qualitative scholars, rich information relevant to the objectives of the study is prioritised over sample size that would increase with breadth and conclusions aimed for the study until saturation is reached (Schreier, 2018; Patton, 2015; Yin, 2014). This present study is focused on the urban population and in line with the position of Guest, Bunce, and Johnson (2006) as well as Francis et al. (2010) who suggested an initial sample size of $n = 10$ in which generally, the degree of saturation is reached and is sufficient for interviews.

Respondents from different income groups were selected to compare their narratives and patterns of information gathered from their experiences in caring for their children, particularly on nutrition. Findings of the *Household Income and Basic Amenities Survey 2019* highlighted that the B40 group earned an average RM4,849, the M40 between RM4,850 to RM10,959. and T20 group with an income of more than RM10,960. The T20 had superseded the other groups at 46.8% in 2016. the M40 group at 37.2%, while the B40 only covered 16% (Department of Statistics Malaysia, 2020).

Due to COVID-19 restrictions and periods of MCO that were enforced between April 2020 to April 2021, several interviews were conducted at the location preferred by the respondents, and the remainder of the interviews were conducted via ZOOM video conferencing software lasting an average of 30 to 45 minutes. Based on the list of

respondents pooled for this study, saturation was reached from the summary statements from each interview that helped shed light on various themes.

Table 1. List and details of respondents

Respondent ID	Category	Employment	No of people in household	Children aged 0-17
IPTM401	Parent (M40)	Fully employed	3	1
IPTM402	Parent (M40)	Fully employed	4	2
IPTM403	Parent (M40)	Fully employed	4	1
IPTM404	Parent & Grandparent (M40)	Retired	3	2
IPPT205	Parent (T20)	Stay-at-home mom	3	2
IPPT206	Parent (T20)	Fully employed	2	2
IPPT207	Parent (T20)	Fully employed	3	3
IPTB408	Parent (B40)	Part-time employment	5	3
IPTB409	Parent (B40)	Fully employed	6	2
IPTB4010	Parent (B40)	Fully employed	7	1

The researchers recorded and transcribed the interviews, as well as included field notes that emerged during the process. Malay language interviews were transcribed and translated to English for ease of coding and analysis. While the transcription was verbatim, some of the statements were rephrased for cohesiveness. The interview transcripts underwent selective coding using the Atlas.ti9 software. Subsequently, the themes were categorised using selective coding.

FINDINGS AND ANALYSIS

Based on the themes identified from the literature and research questions, the following framework was derived, namely, to explore perceptions on health communication in childhood obesity, followed by the practice of nutrition by the households and the pursuit of information through available media.

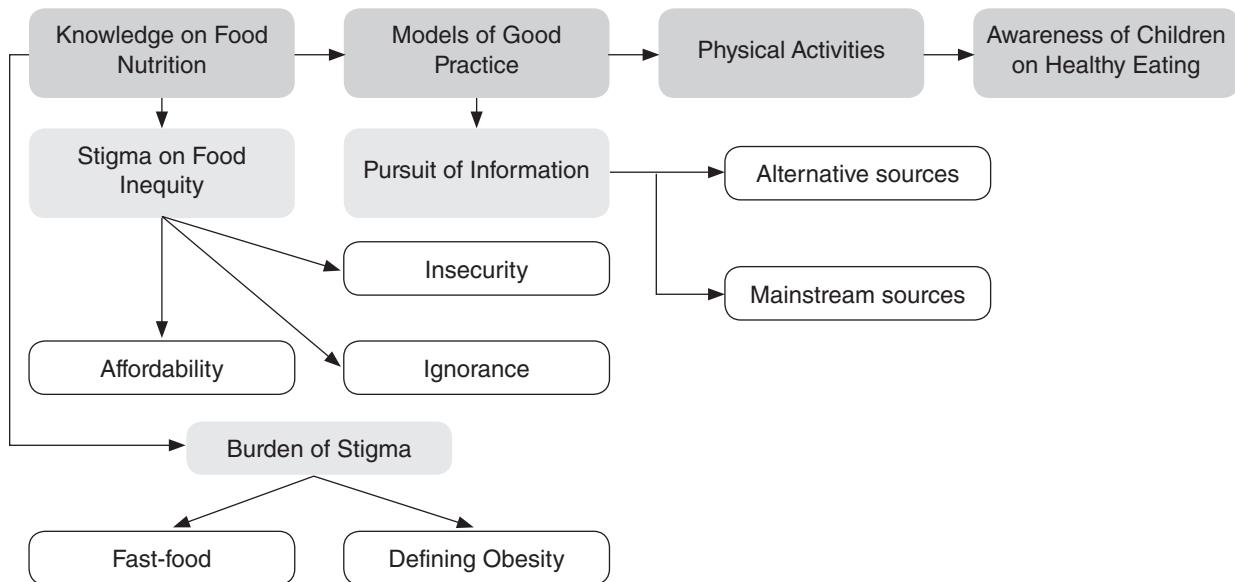


Figure 1. Themes on parents' perception of childhood obesity

Knowledge on food nutrition

Stigma on food inequity – affordability

From the findings, it is evident that many respondents with higher income and social strata are aware of the nutritional pyramid and understand its impact on the development of their children. This was especially the case for T20 parent IPTT205, a housewife who deliberated the specifics of each nutrition function as it felt important to her role as the decision maker of meal preparations at home. “*Yes. What I know is 4 levels; the one at the base which is the broadest level is carbohydrates which give us energy. The second level would be fruits and vegetables, that one is more for fibre. Level 3 is milk and dairy product for protein and level 4 at the highest at the tip which is supposed to be taken the least is fats, oils, sugar and salt*”. The knowledge of the food tiers is quintessential to this parent group who have accessibility to varieties of food to provide the desired effect upon their children. This demographic pays attention to what is purchased and monitor their children’s daily food intake regularly. Quality of produce is also at the top of the mind of the respondents even though mobility and frequency to obtain them was limited during the pandemic.

“Ok I try to buy as fresh as possible for protein, either I buy it on the day when I am going to cook it, or I buy those that are vacuumed packed to keep the freshness. Yea... and then for vegetables because I don’t want to go to the market or the grocery store every day, so for vegetables I buy once every three days and then buy from organic shops or shops that sell higher quality foods”.

(IPTM405)

Respondents also recognised the crucial role nutrition from a very early age where intervention of childhood obesity can take place. Respondent IPTM406 said: “*[...] so I tend to give my children a lot of milk and they drink fresh cow’s milk because I don’t believe in formula. So, no formula, I was a fully breast-feeding mom so that is very important to me. So erm... they eat a lot of cheese but those are non-processed cheese, so I buy the block cheese and I cut it and put it into their diet. Because I believe that the cheese bought in store, the ones that have been sliced are usually waxed so I don’t agree with that. [...]*”.

Stigma on food inequity – insecurity

While respondents from the B40 group claimed that most of their daily meals are prepared at home, their choice demonstrated a polarity in food selection in contrast to the proactive stance of the T20 who are consistently in the know and can readily provide quality meals. The access to resources for a positive food environment at home determines B40 parents’ behaviour towards consumption, where this group relatively undermines the healthier aspects of food preparation due to several insufficiencies. The respondents in general have relatively low awareness on the nutritional pyramid and the meals are mostly prepared for convenience through a “one size fits all approach” for the entire family. For example, a respondent posited that she was aware that her child is obese and needed special attention to remedy the situation, but the respondent had to take account of everyone in the household hence the effort was dismissed.

“Okay, like us? We are not specific in cooking dishes. Even though my son is overweight, I don’t cook a separate dish for him because we cook for the whole family. What I do is remind him not to eat a lot, and that is enough”

(IPTB409)

Another respondent agreed that home cooked food means convenient, generic recipes for everyone in the household due to limited resources and to manage the household more efficiently. At most, the measures taken was to ensure that the meals were relatively balanced. IPTB408 said, "*I would vary the menu every day, for example, today rice tomorrow pasta. Maybe we have roast chicken and then maybe the next day sandwich. I don't eat the same thing every day [...] So today rice lunch rice dinner it's okay, tomorrow pasta lunch and pasta dinner [...] I offset with more vegetables, more rice.*". Such mediating mechanisms have resulted in food insecurities and can impact the diet quality of the children where the anticipated stigma causes parents to live within their means and turn to low-cost solutions rather than a healthy spread of options that are not necessarily repetitive or expensive.

Stigma on food inequity – ignorance

It is a recurring theme that convenience is key for most B40 parents, however for the M40 group, swift decisions are made due to busy working schedules. Some respondents depend on caregivers to help prepare meals for their children. The respondents are somewhat aware of the nutritional pyramid and its correlation to obtaining a balanced diet, but some are unable determine the criteria of well-portioned meals for the children's daily consumption. This is especially the case for parents who work full-time particularly during the home quarantine and resorted to quick fix meals. Additionally, respondents IPTM401 and IPTM402 agreed that their understanding is fragmented from many sources and is not their main concern.

"I did see this from internet before, it's actually almost same as our adult food consumption with proteins, with different kinds of nutrition's with a pyramid to make sure they have enough energy and proteins and also water consumption and everything". (IPTM402)

For caregivers such as grandparents who take over the responsibilities of parents, they play an equally important role in the timely development of young children into adolescent. The interview revealed while they have had prior practice of parenting their own children, they may not have evolved in terms of new knowledge in eating habits and are constrained to their previous experiences from the previous decades of child rearing. Respondent IPTM404 noted: "*Not exactly [...] So we just give them what they want to eat as long as it's convenient*". Another respondent had also demonstrated that the facts of the nutritional pyramid were not intact in his mindset as the decisions are made mostly by caregivers of his children: "*[...] What is it called? I forgot the nuts name but there are a few. What I know, they can have more veges and fruits. They can go for eggs but when it comes to like meats, they must reduce the portion of the meats. [...]*" (IPTM403). Nevertheless, parents and caretakers explained that even when parents did not recognise the more important concepts of the food pyramid, they are open to initiate conversations about the topic.

Burden of stigma – fast food

Another theme that branched out from the discussions was the extent of fast food and processed food consumption that became resolute in the diets of young children from the B40 and M40 parent groups. As their food environments are constrained to limited resources and preparation time, the abundance of retail food providers in the marketplace and the stigma of experience that manifestations of food insecurities contribute to their preference for affordable fast food. Moreover, the offerings given by fast food and processed

food brands are considered an irresistible reward which parents continue to offer their young children. For example, M40 parent IPTM401 finds that his children gladly oblige to fast food due to their gratification from having previously consumed it and see it as a well-deserved treat. *"To be honest my child won't ask for fast food. Just only when we don't know what to eat then we will offer McDonald's. Then she would say yes".*

Another respondent from the group, IPTM403 had revealed: *"[...] Maybe one time is fast food for McDonald's every week, but we also eat out at Chinese restaurant every week as well"*. As eating out is considered limited during the COVID-19 quarantine periods, the offering of delivery options became a preference among busy parents. According to IPTM404, such brands are readily available through many channels and were ordered frequently throughout the week because of promotions and availability. *"[...] fast food I usually buy twice a month. But say this time I buy KFC, maybe the next time I'll buy McD or something like that. So, another time I'll buy other food like fast food burger... something like that."* To an extent, children who are readily tech savvy and adept to the use of social media that include marketing and advertising of the food brands are most susceptible to fast food marketing. Commenting on this effect and the overconsumption of fast food, IPTM402 said that this is a normal occurrence in the household: *"Yes...fast food is a staple almost every day"*.

Reiterating the home food environment, processed food and fast foods are now cultivated to become fun and friendly constructs of one's childhood that could lead to future morbidities. For the B40 group, IPTB4010 found some fast-food brands are value-added as they are not only inexpensive but offer desirable incentives to children and parents who visit: *"McDonald's always... the most sensible option (laugh). Actually, she's really ok with McDonalds or KFC. When would I ask her, she would choose McDonald's because of the free toys"*. Aside from fast food, respondent 1PTB409 had shared that junk food are easily found in the aisles of grocery stores that compel parents to purchase them due to being reasonably priced.

"Snacks are a must. A definite snack is ice-cream, I will buy one big pack of ice-cream, cheese, nuggets, sausages, burger, bread, cone ice cream and french fries [...] Now there are so much frozen food sold like roti canai, poori, curry puff, there's a lot of types. I always buy these frozen products because it's convenient to keep and fried when needed".

While fast food and junk food are considered regular meals among B40 and M40 children, T20 parents try to keep the indulgence few and far between. However, IPTT205 shared that even so, the stigma of experiencing "childhood happiness" through fast food and junk food do sometimes compel her to allow her children to consume them due to the fear of missing out.

Burden of stigma – defining obesity

Apart from food experiences, the existing perceptions of parents also contribute to their attitudes towards obesity in children. Respondents noted that they may have different interpretations of excess weight and its consequences which could affect potential intervention. Several respondents of the M40 group reported that they would most likely attend to childhood obesity if it was severe. Nevertheless, the respondents once again were not able to pinpoint the criteria of an obese child and what constitutes its red flags. According to IPTM402, eating or binging on food is considered normal regardless the size of the child, *"I think most of them [children] will consume too much sugar, high oily too heavy foods; the fast food and junk food anyway [laugh]"*.

Another respondent said:

"From what I know is something like Michelin baby. Overweight, very bulky ... the size the does not match with the age." (IPTM401)

This theme captures the various perceptions on childhood obesity and food practices in the family, alongside their agreement that obesity is only considered noteworthy when they are already burdened with ailments instead of as a form of intervention. According to IPTM403, "*Obesity means a child is overweight and they can't manage a lot of activities like a normal child. Because even if they want to walk, they couldn't walk normally and if they walk really fast then they will have breathing problems*".

T20 parents are assured that despite the pandemic, their children are normal in height and weight considering that they were more sensitive to their children's access to good nutritional food. A lawyer, IPTT207 is confident that her children are at their optimum growth based on her understanding of good food practices and ensures that her children's eating habit is sustainable for the next milestones of their lives. "*I would think they are normal sized, because in terms of weight they could be heavier, but they are taller than most of their peers*". This sentiment was echoed by all other respondents in this category. The movement restrictions during COVID-19 and maintaining immunities were mentioned as drivers for the parents to seek healthier lifestyles by optimising the nutritional pyramid for optimal health.

Models of good practice

Pursuit of information – mainstream sources

Print media and online media were mentioned as drivers to seek knowledge on nutritional care and obesity intervention, predominantly among T20 parents. However, social media sources or unverified sources were dismissed as the respondents avoid false, unreliable, and unverified information. As one respondent described: "*I normally get them from print media and also online; I never get it from support groups because you never know who is dishing out the information - they might not be experts*" (IPPT205). Among this demographic, health physicians and print media are still the most trusted sources of information. IPTT207 said this about her concerns on her daughter's weight: "*Yes she has the height. I mean we have taken her to doctors for consultation on this, but the doctors are saying she's okay, she is not obese.*"

Pursuit of information – alternative sources

Respondents in the M40 group indicated that they turn to alternative information such as the internet and social media as they find these mediums more engaging and interactive. Secondly because their use of media is multimodal, and they are constantly on the go, henceforth these platforms are very beneficial to their style of information consumption. According to IPTM402, even qualified medical personnel have dedicated social media accounts to answer questions about nutrition and obesity intervention:

"[...] doctors or sometimes social media do have websites or the Facebook page, they actually guide us on the healthy living [...] I can't remember, some are professional they open up the Facebook page to share some of the knowledge. YouTube sometimes if we feel uncomfortable about the sickness then we will find from the YouTube what the signs, what is the cause and solutions for that". (IPTM402)

Meanwhile, IPTM03 found online resources very helpful and there are various websites that helped him/her to cope after learning that someone close had died from childhood obesity. “*From there I start to search from online (Google) what is underweight, what is the normal size and what is obesity*”. IPTM404 who belongs to an older generation, found that reading gives a lot more insight to the epidemic. If the medium chosen provided enough resources, the platform will be used consistently for future reference. “[...] through reading and I love watching documentaries on TV on Astro so it’s not something I look at, but when it is a programme, I find interesting so happen, I get information from there”. Conventional media such as this is also popular among the B40 group who frequently use television and radio. IPTB409 said that popular educational programmes are very useful to reach out to the masses who are comfortable with the broadcast platform. “*There is the Majalah 3 programme. They had once done a documentary on obesity.*”

Even so, dependence on social and electronic media was more evident among B40 parents as compared to other groups. It did not only influence their food choices but also for some, influenced their lifestyles to a certain extent. IPTB409 admitted that she uses social media with daily frequency. Another respondent, IPTB4010 indicated that social media featured predominantly in their decisions and daily influence, “*Instagram in particular because while there is a lot of social media I follow, Instagram has the most information on healthy eating*”.

“*On social media I follow healthy diet dieticians you know because they are doctors. I don’t really follow influencers; I tend to follow if he or she had a health programme [...] I can’t remember his name, but he is a trainer who shares on healthy eating and such. Sometimes ads on Facebook pop up and I try to look for that information. But I don’t always go and search for that. For me to consciously do so? Maybe three times a week. I cannot give numbers for social media because it pops up often on my Instagram.*”. (IPTB408)

Physical activities

It was revealed that the T20 group was more in tune with their children’s physical activities as compared to the M40 and B40 groups. This could be due to firstly, the abundance of space and time as compared to the other groups that may need to find time during their busy schedules and a space to conduct the activities. For the T20, they experience a variety of opportunities and activities that are not repetitive. These physical activities range from weekly swimming classes to daily outdoor activities such as cycling, running, or just playing in their own yards. With most parents being able to work from home, they also monitor the screen time of their children to ensure that they do not become sedentary especially during lockdowns due to the COVID-19 pandemic. Respondent IPTT206 introduced her children to the outdoor world at a very young age due to their mobility and access to perform those activities.

“*I don’t really like them playing outdoors right now because of the whole Covid situation. We have a garden in our home, we also own a four-wheel drive where we use to go to the nearby forests. In the forests we let them run free and play in the river. I prefer going out to the forest, zoo, going for a real crazy walk or you know like a bird park. Stuff like that something that is educational rather than going to a swimming pool. I think forests are very educational. Yea... they like going there, so it’s a good thing*”. (IPTT206)

With the pandemic is still raging, IPTT205 mentioned that her daughter's favourite activities such as ballet is limited due to social distancing practices.

"Previously my daughter gets her cardio from ballet and swimming but now since there is no school, they don't have that sort of training, so I make (all my children) cycle for 30 minutes before dinner. Then in between when they are bored or tired, they can go out to the garden and play with the pets like the dog or the hens, go and look for their eggs or just go play with the pets. What they want to do with the pets I don't care {laugh} feed the pets, chase the pets, something like that. So that's how I make sure they exercise".

Awareness of children on healthy eating

Similarly, the offspring of the T20 group are also more attuned to healthy eating when compared to other groups and respondents. It is safe to assume that when parents pay a lot of attention to the importance of healthy eating, this sentiment tends to be passed on to their children. While not many of the children could break down the nutritional pyramid and the portions of each group needed daily, they have been conditioned well to understand the foods that are both good and bad for them.

According to respondent IPTT206, as a medical practitioner, she does not enforce the information to her children, but they already have an idea of what constitutes good nutrition and identified it from their meal routines. *"They do not know about carbonated drinks; they do not know about Milo even gummies and stuff like that. They don't know a lot of processed sugar as much because I don't introduce, and I noticed that they don't like it because they have never tried it. When they do, they will immediately recognize that it's not good for them. Like sugar, they will understand that taking a lot will affect their teeth".*

Respondent IPTT205's older children have already been practicing these ideas in school and their science and nutrition education. *"They told me they learnt from school; from the text books that's as far as I know. I used to buy a lot of Young Scientist magazine that would have scientific information about food and healthy meals"*. It can be concluded that when parents set good examples, the children will instinctively follow in their foot steps and continue eating healthy.

DISCUSSION AND CONCLUSION

Findings from the analyses describe general perspectives on childhood obesity among the three main socioeconomic groups of Malaysian parents during the pandemic. The first research question sought to understand the perceptions of parents on health communication that focus on childhood obesity. Parents from lower income groups prioritise on what they can provide for their children due to their hectic schedules that limits their understanding and obtaining quality food for their family; as well as depending on caregivers to make the decisions for their children's nutrition. The M40 parents share similar traits with the B40 group who are more diligent in preparing home cooked meals for the family and spend less on groceries. This is congruent with a study by Ghee (2016) where household affordances result in limited nutritional food selection as well as the insufficient knowledge of nutrition itself. During the pandemic, home-cooked meals are not necessarily healthy as they tend to use lower quality produce and rely on fast food to provide instant gratification for their children and to make up for time that they are not able to spend with them.

The second research question aimed to examine the healthy practices among parents to ensure their children abide by healthy practices. The positive deviance model posited that

members of the community practice uncommon behaviours with a focus on measures that are successful, regardless of big or small (Herington & van de Fliert, 2018). In this study, parents with higher income have access to abundant food choices and help their children achieve fitness goals through physical activity, using knowledge from convenient and selective access points. However, promoting the habits to others including monitoring progress are not part of their daily routine. According to Somasundaram and Kalupahana (2016), children not only inherit genetics from their parents but also positive or negative eating habits from their parents (Conroy, Smith, & Frethey-Bentham, 2018). Foster, Fu, Bendiks, Gaspard, and Sharifi (2018) further argued that the level of self-confidence and self-efficacy of parents have been observed to encourage behaviour change among their children, particularly on the matters of healthy eating.

The final research question attempted to analyse how parents obtain ideas to deal with childhood obesity. Unfortunately, the role of media in childhood obesity proves to be an afterthought for all groups, which contributes to a significant gap of health communication in the Malaysian media. Subsequently, these themes underscore the different ways that parents and caretakers perceive healthy eating from the experiences and the use of media in terms of innovating healthier eating habits. The lower income groups do not have specific benchmarks on optimising their children's health, considering the fragmented media use that is mostly concentrated on social media. As for the higher income group or the T20, their trust on health experts or medical personnel precedes their media use. All this clearly underlines the missed opportunities in communicating the importance of obesity prevention and its various ramifications as a rising issue in Asian countries (Mazidi et al., 2018).

During the pandemic movement restrictions, more parents who are media literate dismiss health information and find ways to cope with an increased sedentary lifestyle. Moreover, initiatives of Ministry of Health healthy lifestyle campaigns under the Eleventh Malaysia Plan (2016-2020) does not include the care for childhood obesity. However, health education materials are consistently updated and highlighted on government-run social media accounts to empower individuals so that they can reclaim their health (Ministry of Health Malaysia, 2016). Henceforth, it is important for the media to become the agency in providing guidelines to adequate and sustainable diets for children and the catalyst to policies on food nutrition. There should be an encouraging and interactive element to guide parents to become more involved and aware about healthy eating during the pandemic, given that lower-income parents are more inclined to use online and social media.

The role of parents as the key driver to increase the efficacy of childhood obesity intervention efforts are severely undermined, presupposing the general perception that is unaware of the obesity epidemic and the need for its mitigation (Mata & Hertwig, 2018). Immediate intervention is sought to raise awareness among Asian caretakers and their children pertaining to future obesity complications such as diabetes and impending cardiovascular disease due to being overweight and subsequently falling into the obesity category. According to Singhal & Bjurström (2015), individuals that are less likely to provide solutions are the key to overcoming social issues, henceforth; the role of parents in the intervention of childhood obesity holds significant potential to become proponents of change.

The findings have shown that the intrinsic motivation and parental control on obesity in the Malaysian context, both emotionally and physically, would further intensify the intervention on childhood obesity if given more emphasis on the right media placements. The use of media to invigorate positive deviant parents and their innovations on their children's healthy eating would provide a positive food environment. Considering

the media fragments consumed by parents are presently not focused on communicating the consequences of the phenomenon, future research directions should examine childhood obesity from the media perspective in representing the framework of health by trusted medical experts and key opinion leaders. Given the influence on behaviour change efforts among positive deviant parents that are keen to pursue intervention measures, future studies also should focus on targeting the lower income parents and appealing to their media use habits.

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