

THE USE OF FACEBOOK AS CHANNEL OF COMMUNICATION IN THE IMPLEMENTATION OF HEALTH EDUCATION PROGRAM IN PREVENTING OBESITY AMONG CHILDREN

Maziah Ahmad Marzuki^{1*}, Tengku Elmi Azlina Tengku Muda²

¹Department of Nursing, Faculty of Medicine, National University of Malaysia (UKM) Kuala Lumpur Campus, Jalan Yaacob Latiff, Bandar Tun Razak, 56000 Cheras, Kuala Lumpur, Malaysia.

² National Gifted Centre, National University of Malaysia (UKM), 43000 Bangi, Selangor, Malaysia.

*For correspondence; Tel. + (60) 0136159355, E-mail: mzie@ppukm.ukm.edu.my/ drmaziah2015@gmail.com

ABSTRACT: This paper explicates the roles of Facebook as a channel of communication to increase parental participation in the learning progress of the participants through a health education program designed to prevent childhood obesity. An educational program was developed and implemented within the duration of 8 months with the involvement of 40 participants between the ages of 3 and 6 years old together with the participation of respective parents through Facebook as a channel to communicate the participants' progress at home. A Facebook account under the handle Maziah's MyObes was created to be used as a platform of communication throughout the implementation of the program to record required data on the progress of the participants at home and to identify the contribution of such network to the learning progress of the participants. The outcomes of this study identified Facebook as a convenient channel of communication and it positively impacted the learning progress of the participants for it was used for exchange information, convey support, and to increase the attentiveness and participation of the parents in the progress of the participants throughout the implementation of the program. Hence, communication through social media network such as Facebook as implemented in this study has proven to be a useful approach to encourage mindfulness and active involvement of the parents in the learning process and progress of the participants and was able to capture the progress of the participants in following through the health practices in their daily activities.

Keywords: health education program, Facebook, health practices, learning process, prevent obesity children.

1. INTRODUCTION

More and more people are paying less attention to importance of practicing healthy lifestyle nowadays for numerous excuses and reasons. Hence it may have influenced the increase of obesity and related health issues in the society. Moreover, many of us are prioritizing our appetite and satiety with less consideration on the impact that it may have to our health. Alarmingly, fast food has become one of the top options for every meal and children are found to be more excited to have fast food for their meals and they enjoy it more than the healthier options [1]. Thus this has led to the escalation of childhood obesity across the globe.

Additionally, there are more and more commercials for the less healthy options of food appearing in all media including television, radio, and online platforms that are catchy and interesting to draw the attention from children and adults alike. Such influence will trigger their inquisitive desire to consume unhealthy food filled with sugar, fat and high in calorie which will later lead to childhood obesity [2]. Statistically, there is an increase of 4% in childhood obesity to 13.7% in 2007 as compared to the data collected in 2001. Talarico & Janssen[3], in their study indicated that it is crucial for the children between 3 and 6 years old to be exposed to healthy practices of healthy lifestyle and it should be a priority in ensuring such lifestyle is embedded in their daily routine in prevent obesity and obesity related issues in the future for it is always better and cheaper to prevent than to cure.

Yet, such exposure to the children should not only be practiced at school and it has to be continuous in order to form healthy habits as part of their lifestyle even at home thus indicating that parents and immediate guardians are also recommended to get themselves exposed with the knowledge and practical skills of healthy practices in order to encourage continuous healthy habits among the children. Niemeier et al. [4], in their research stated that parental participation and

mindfulness on the importance of health and obesity prevention may positively contribute in encouraging children in becoming more aware and willing to practice healthy lifestyle more effectively.

Commitment seems to be the main barrier for parental involvement since most of them are working or engaged in other daily activities thus limiting the time that they may have to spend with family and to monitor the healthy habits practiced by others in the family. This may also indirectly cause the parents to be less aware and concern in the learning process and style of their children. Since time is limited to be spent with the family due to other priority or engagement, the parents may have to opt for outside meal and fast food which might be less healthy than home-cooked meal [5, 6]. With this issue in mind, the researchers in this study had to take the efforts and make choices by considering fast and accurate way for exchanging information without taking more time from the parents in order to get their continuous support and participation in the health education program designed and implemented to their children in developing healthy lifestyle and preventing obesity.

This signifies that the use of telecommunication advancement and internet technology are highly needed and recommended in order to ensure effectiveness of the two-way communication between the instructors and parents. Effective communication between instructor and parents is necessary in ensuring continuous progress in the learning and awareness of the children at home and in the same time may further deepen the understanding and awareness of the parents in health information and healthy practices which may prevent their children from obesity and its complications [7]. The findings by Sharma, Doherty & Dong [7], indicated that internet is a very useful tool for communication and it can be used well for the educational development of the society including for students and children. While the study conducted Weiss *et al.* [8], found that internet can be used to

convey information on health more effectively than any other communication channels. DeHoff *et al.* [9] in their research suggested the educators in the current era to be more competent in using internet network as one of communication channel with parents as it is easy, quick and precise. The use of such innovation in the field of education may also narrow the gap between school and parents thus providing a better, more flexible and accessible ways of communication that will benefit all regardless of the differences and distance [10].

Ozcinar & Ekizoglu conducted a study by implementing Blog-based Parent Involvement Approach (BPIA) in order to gain the parents' perception on the learning progress of the students with the involvement of strong communication and connection between school and parents. Data were obtained through observation form filled by the parents and interview sessions. The findings illustrated that the use of such approach was effective in getting parental participation, establishing hassle-free two-way communication process thus providing a platform for the parents to give their pointers, remarks and views as well as to observe the learning process and progress of their children without having to be physically present at the school. It was also expressed in the outcome of their study for the approach used to be used widely in order to strengthen the communication and connection between school and parents [11].

Additionally, the findings of the study conducted by Hwang & Chang [12], indicated that the development of wireless communication technology has opened more opportunity for learning through online platforms which are widely and easily accessible with little to none temporal and spatial restrictions hence supporting and making learning more interesting to increase the performance of the students. Budiman [13]. In his research in using Skype as a tool in the teaching and learning process supported the idea of long-distance learning and wireless learning approaches. The outcome of the study stated that the technology and information era is creating more and more computer literate students who are able to use various gadgets and applications to get access to educational contents at any time of the day and from any corner of the earth. A qualitative study conducted by Gikas & Grant [14] explored the impact of wireless gadget and the use of social media networks as tools for teaching and learning in higher education context. The findings of the said study stated that such approach provided an easier, faster and more effective communication tools which synonym well with the students of this era hence providing a better opportunity of interaction, communication and cooperation for the students to be dynamically involved in the teaching and learning process. The findings from the same study also indicated the use of social media networks and web 2.0 has a big contribution to the school-home communication process.

Numerous sources of literature emphasize that internet communication has become an essential tool to ease and strengthen the communication and connection between schools and parents thus providing equal opportunity for working parents to be actively involved in the teaching and learning process of their children including their progress in understanding and practicing healthy lifestyle to prevent obesity and the complications it may hold. Internet has indeed

become an essential tool for communication globally used in the education system to exchange information, hold discussion and used for various other reasons including setting and sending reminders to the students on the tasks to be completed and to obtain cooperation from the parents to observe the completion process of the tasks provided [13] ..

There are more and more interactive and creative communication platforms in the internet such as social network sites and blogging sites that can be used to convey information and knowledge interactively, easily and effectively without much effort and energy to be spent [7, 15]. Hence this paper aims to discuss the findings of the study conducted which focuses on the use of Facebook as an effective communication tool between instructor and parents in facilitating the learning process of the children while they are at home. The researchers in this study were expecting that the content provided through Facebook were informative and comprehensive in assisting the parents to observe and guide the participants in practicing healthy habits even without the monitoring from the instructors at home.

2. MATERIALS & METHODS

This study was conducted to assess the effectiveness of a health education program specifically designed to develop awareness and to provide lessons related to health and obesity prevention to kindergarten children in Selangor, Malaysia with the use of Facebook as the communication tool between the researchers and parents. The study was conducted to 40 children between 3 and 6 years old with the participation of 40 parents. The participation of the children was voluntary with the consent from their parents. An approval from PPUKM Ethic Committee has been obtained prior to the study with project code number of GGPM-2016-083.

A health education program to prevent obesity among the children of said age range was developed for this study. The program consisted of two main components focusing on physical activities and dietary element. It was implemented for 32 weeks with the content being accessible through Maziah's MyObes Facebook handle. The researchers used Facebook as the platform of interaction and communication to gain the support, cooperation and feedback from the parents throughout the program. The exact copy of teaching and learning materials and content used in the program were uploaded onto the account and made accessible by the parents including the copy of the tasks to be completed and the diary to be filled by the parents to report the progress of the participants at home. The parents were expected to report on the dietary intake and physical activities done by the participants on daily basis throughout the duration and the report can be returned to the researchers either through physical copy of through Facebook inbox.

Parents of participants of this study were equipped with a copy of 24H Diet and 24H Activity Diary to record the dietary intake and physical activities of the participants throughout the study period. Parents' feedback, message and picture sent and uploaded through Maziah's MyObes Facebook account, and the chatting conversation between parents and the researchers were used as data for this study. The data collected were then analyzed to find the answer to the research questions and in the same time to

explore on the benefits of using Facebook as a platform for communication and its impact in the learning progress and health behavior of the participants at home. Data obtained were processed according to the need of research questions. All data were recorded and read to gather the main points and later coded through ATLAS.ti Ver. 7.0. Analyses were conducted through detailed codes and themes with the inclusion of text type, and visual evidences followed by the computation of the theme of the themes identified.

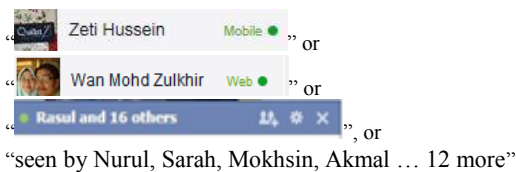
3. RESULTS

The outcomes were processed based on the parents' participation through Facebook. Required data for the research questions were obtained to explore the benefits of using Facebook as a communication channel to communicate with the parents of the participants. The feedback received include photos of the meal taken and activities done by the participants while at home sent by the parents through chatting session and direct messaging to Maziah's MyObes Facebook account. Data collected were focused on the parents' feedback sent through Facebook throughout the implementation of the study. Findings from the analyses conducted divided the benefits into two main categories which were general benefits of Facebook and specific benefits of Facebook to the learning process of the participants throughout the implementation of the obesity prevention health education program.

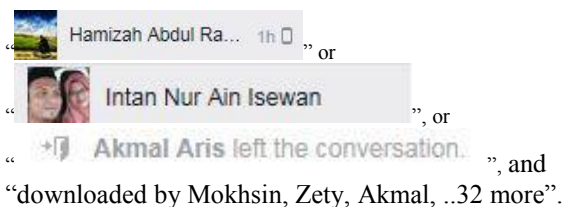
A. General Benefits of Facebook

The general benefits of Facebook identified through this study correlated directly to the features of Facebook. This includes a) connection and online status of the parents, and b) exact time of the feedback sent.

- Connection and online status
The use of Facebook allowed the researchers to capture who, when and how the parents logged in the application as shown below:



In addition, the researchers were also able to identify the parents who were not connected and the last time they were connected. The researchers were also able to capture the record of download made by the parents on the materials uploaded as shown below:



- Exact time of feedback sent
Through this feature, the researchers were able to note the exact time the feedback were sent hence indicating the length

of time taken for the parents to send their responses as shown below:



Among other responses received with time records are as follows:

- “Terima kasih” 6/20, 3.34 pm
- “Kerja rumah done.
- Anak-anak saya makan sebiji buah habis” 6/20, 3.40 pm
- “Anak saya tiba-tiba minta sayur, terkejut saya siap kenal nama sayur lagi” 6/20, 3.41 pm
- “noted” 6/20, 3.44 pm
- “anak saya 5 tahun, diari sudah ambil pada guru kelas” 6/20, 4.00 pm
- “terima kasih 😊” 6/20, 9.30 pm
- Translation:**
- “Thank you” 6/20, 3.34 pm
- “Homework done. My children ate one whole fruit” 6/20, 3.40 pm
- “My kid suddenly requested for vegetable, I was shocked, he/she can even name the vegetable requested” 6/20, 3.41 pm
- “Noted” 6/20, 3.44 pm
- “My kid is 5 years old, the diary has been taken from classroom teacher” 6/20, 4.00 pm
- “Thank you 😊” 6/20, 9.30 pm

Thus these features enabled the researchers to gather the information needed on the participation of the parents. Accordingly indicating that communication with the parents can be achieved faster through Facebook as it was easy to be used, precise in capturing the exact time materials were downloaded and feedback sent, accessible flexibly anytime anywhere without taking much time and without requiring the parents to be physically available and present at school to be updated with progress of their children.

B. Specific Benefits of Facebook to the Learning Process

The found benefits of using Facebook as a communication tool during the implementation of the health education in preventing childhood obesity were closely related to its main features and uses including as a platform to exchange information, gather feedback and express views. The specific benefits of Facebook to the learning process of the participants include a) Facebook as a platform to transfer information, b) a platform to support the learning development of the participants, and c) a platform to obtain participation from the parents.

A platform to transfer information.

Through this study, the researchers identified that Facebook is a great to be used as a two-way platform to transfer information and it was used to upload information and materials used in the health education program to be downloaded by the parents and to obtain the feedback provided by the parents including report and photos of the healthy habits practiced by the participants at home. Additionally, it was also used for both researchers and

parents to share opinion and feedback as well as to be used as a platform to hold discussion on the matter effectively with lesser hassle. Following are some of the clippings of the communication between the parents and instructors in using Facebook as a platform to transfer information:

“Terima kasih.. adakah nota yang dilampirkan makluman untuk ibu bapa berkenaan aktiviti yang dijalankan ke”

“👍”

“👍👍”

“ok akan hantar asap (as soon as possible)”

“insyaallah akan hantar on time. tq”

“😊😊😊”

“kerja rumah done. Anak saya habis makan buah...ini gambar anak saya makan buah”

“tengok adik abis makan buah.. Sedap mama (gambar anak makan buah disertakan)”

“Salam .., Anak saya ... (6 thn), masih belum menerima tugas untuk yg ke dua ni...isnin, cuti (jerebu), tp semalam dah dtg (tidak pula menerima tugas tu dari teacher dia. Harap maklum. Tqvm”.

Translation:

“Thank you... is the note attached for the information of the parents on the activities conducted?”

“👍”

“👍👍”

“Ok, will be submitted ASAP (as soon as possible)”

“With God’s will, I will submit it on time. Thank you”

“😊😊😊”

“Homework done. My child has finished the fruit. This is the picture of the child eating the fruit”

“Look at me, I ate the fruit... It’s tasty, mama (picture of child eating fruit included)”

“Hi, my child (6yo) has not received the second task. Was on leave on Monday due to haze, but was present yesterday but did not receive the task from the teacher. Kindly be notified. Tqvm”.

A platform to support learning development.

The parents of the participants involved in this showed their concern and support to the learning process of the participants from time to time through Facebook. Through it, the parents were able share their feedback, thoughts and ideas on the participation health behaviors practiced by the participants. Additionally, the parents also shared the encouragement that they gave to the participants in order to motivate them in practicing healthy habits at home such as by complimenting, set reminders for the activities to be done, and ensuring their needs were met in order for them to the required activities. Specifically, this platform was used to be connected with the parents for them to monitor the participants and to report the needed information to the researchers, hence they also use Facebook to share the healthy and balanced meals that they have prepared for the participants and photos of the activities done by the participants as ways to support and encourage the participants in practicing healthy behaviors at home. Following are some of the clippings that link the use of Facebook to the learning progress of the participants:

“cikgu, anak saya jadikan skrin tv untuk mengajar.. saya tanya dia, ajar apa tu? dan dia jawab ajar makan.. ini cikgu ... (sambil tunjuk diri dia konon2 pegang watak cikgu...) alhamdulillah terkesan sungguh pembelajaran cara santai yang cikgu ajar pada anak saya..bila makan dia tanya apa dalam pinggan ibu..saya jawab ikan, sayur dan nasi. Dia kata bukan... dalam pinggan makan tu ada protein, vitamin dan karbohidrat.. pandainya dia... seronoknya saya dengan perubahan yang ditunjukkan...”

“main bola dalam air bersama sepupu.. seronok mereka berendam dan beriadah di petang yang panas nie.. katanya nanti bagi cikgu tengok gambar main air ya mama”.

“yup..anak saya pun makan buah. Habis sebiji..kadang-kadang je tak abis sebiji. Buah kegemaran epal + tembikai...terangkan juga serba sedikit kenapa baiknya makan buah...dia jawab balik nanti kulit kita cantik...hehhehe terima kasih cikgu...”

“anak saya jika lama duduk dalam rumah mesti minta izin untuk keluar bermain di taman atau main bola..katanya adik nak badan berpeluh, nanti kita lebih sihat dan kuat. Saya jawab, betul tu ..pegi lah bermain sayang supaya kekal sihat & bertenaga.. Wah... cara cikgu mengajar, budak-budak faham dan dapat beza kan mana aktiviti sihat dan mana aktiviti yang tak sihat..tqvm”.

Translation:

“Teacher, my child used television monitor to pretend teaching. I asked him/her where was he/she teaching. And he/she said ‘teach about eating’ and calling himself/herself as teacher (while pointing to himself/herself as though that he/she is carrying the character of a teacher). Alhamdulillah, your easy-going teaching method is effective to my child. When we were eating, he/she asked what’s in my plate... I answered fish, vegetable and rice. He/she said ‘No, in that plate contains protein, vitamin and carbohydrate.’ He/she is so smart... I am very happy with the changes shown.”

“Playing ball with cousins, they were excited to be in water and have a recreational activity during this warm evening... he/she said ‘let the teacher see of me playing in water, mama”.

“Yup... my child also ate fruit. One whole, there were only several times when he/she couldn’t finish the whole fruit. His/her favorite fruits are apple + watermelon... I also explained on the benefits of eating fruits... he/she replied ‘to have beautiful skin’... hehehe, thank you, teacher”.

“My child after sitting in the house for a while will ask our permission to play outside either at the playground or to play with ball. He/she said ‘I want my body to sweat, so that we can be healthy and strong’. I replied ‘that’s true. Go out and play, dear, so that you’ll remain healthy and energetic’. Wow, your teaching methods can make the children understand and differentiate which activities are healthy and which are not... tqvm”.

A platform to obtain participation from parents.

Facebook, as found through this study, were used as a channel for the parents to express their views and to talk about the continuous progress of the participants in practicing healthy behaviors as taught in school back at home. The responses obtained from the parents include the recent health

practice of the participants, changes in the behavior and practice of the participants throughout the implementation of the health education program while they were at home, and the needs requested by the participants in practicing healthy behaviors at home. Additionally, the parents were also using this platform to convey the inquiries that they may have related to the program and the progress shown by and expected from the participants. Thus indicating that Facebook can also be used as a platform to equip the parents with the required information in becoming more aware and obtaining their active participation in the program designed specifically to prevent childhood obesity. Some of the responses are as follows:

“The learning note for this week has been received and I understand the health topics learned by my child. I can see that my child start to like drinking water. He/she asked ‘mama, take a picture of me drinking water and show to the teacher’”.

“I asked my child to eat vegetable. He/she refused at first. Then, I asked him/her ‘what did the teacher say? What have you learned in school?’ He/she answered ‘teacher asked to eat vegetable, to be healthy, strong... and no blood from my behind’. After that, he/she took the vegetable and ate it even a little bit. I am happy, teacher. Tqvm”.

“Tqvm... I guess there is a positive impact from the program. My child has started to like drinking water/mineral water... he/she said ‘teacher said that I will be healthy and strong’... he/she added ‘dad, show teacher the picture of me drinking water’”.

“So far, Alhamdulillah... he/she did mention on the activities and what you have taught... he/she said ‘we have to eat vegetable, fruits and drink water every day... starting from today, I like to eat vegetable, fruits and drink water... show my picture eating fruits and drinking water, will you, dad’”.

“I asked my child to have our meal at KFC... he/she refused... he/she said that we can’t have it frequently, once in a while is ok... My child is smart. Alhamdulillah, I am happy with the knowledge that he/she has”.

“Ma’am, how do I respond to my child... on the activities conducted?”.

Based on the responses of the parents as recorded thus indicate that Facebook is indeed a useful tool that can be used as a channel of communication which may have indirect influence to the learning progress of the participants involved in the implementation of childhood prevention health education program. The general uses of Facebook as a tool for communication were found to be useful and supporting the participation of the parents in observing the learning progress of the participants based on the information provided by the instructor. Moreover, the responses from the parents may indicate that they were becoming more aware and attentive to the knowledge and practical aspect of health that can be applied to prevent childhood obesity and its complications. Information on the implementation and the feedback can be exchanged effectively by using Facebook as it eliminated the distance and time barriers for the parents to obtain the information needed and to report the progress of the participants. The information conveyed hence implying that the use of Facebook played a role in facilitating active participation from the parents to observe and assist the

learning progress of the participants in preventing obesity through the health education program specifically designed for this study.

4. DISCUSSION

Facebook was used as an exclusive channel of communication as part of the implementation of childhood obesity prevention health education program conducted to children between 3-6 years old has proven to be effective in facilitating the data transfer and the monitoring process. Two sides of benefits to using this application were identified which include 1) the general benefits of Facebook with correlate with the features of the application in facilitating and recording the connection and commitment shown by the parents, and 2) the specific benefits of Facebook to the learning process of the participants in being a useful platform to exchange information, support the learning progress of the participants and to obtain parental participation throughout the implementation of the health education program.

Many sources are developed thanks to the advancement of digital information technology and can be used as excellent tools of communication and applicable for educational purposes, however this research put a specific focus on the use of Facebook as a channel of communication in the implementation of the health education program designed to prevent childhood obesity and its further complications. Facebook is found to be a flexible tool that can be accessible anywhere and at any time. Digital communication technology is here to make communication easier, effective and providing limitless opportunity. This notion has been repeatedly emphasized in previous literature such as in the studies conducted by Nicolai *et al.* [10] and Arago *et al.* [15], conceded that such technology enables multi-way communication bound to no time, space and location boundaries. Furthermore, the use of Facebook as a communication channel in education setting is not a new idea and has been emphasized in previous literature including in the statement made by Weiss *et al.* [8] and Sharma, Doherty & Dong that digital communication technology and social network site such as Facebook can be used in education setting as a platform of delivering contents and exchanging information and feedback more effectively and faster to the students as well as to the community. In the same time, it may strengthen the communication bond between school or educational institution and home.

It is a known situation that most parents are working nowadays either to fulfill the economic needs of the family or on other personal reasons thus limiting their free time to spend with the family and to get connected to the school or educational institution in order to follow-up with the learning progress of their children all the time [5, 6]. The demanding need of the economic no longer guarantee the parents to have absolutely free time in the weekends to be at the school to discuss matters pertaining to extra activities that their children are participating. Most would prefer to spend their free time, limited as it may be as quality time with the family rather than to spend it on work and school. Such situation led the researchers of this study to consider other ways to get connected with the parents hence decided to use Facebook as the platform to communicate with them in order to obtain

their participation in observing the progress of the participants in continuing healthy practices while at home. Facebook, in this study was used as a tool to deliver content, gather feedback and to lay the reminders to the parents on the tasks to be done by the participants for the implementation of health education program in preventing childhood obesity. This, indirectly, may increase the awareness of the parents on the matter thus encouraging them to support the progress of the participants in implementing healthy lifestyle more effectively [4] which in result will motivate and facilitate continuous efforts from the participants to live healthily and to prevent obesity and its complications.

The situation might be difficult for the participants to practice healthy habits at home continuously without the participation and awareness of the parents. This is due to the facts that the participants were still at the age of total reliance on the adults to make decision and provide meals for them [4] thus explaining the importance of parental involvement in the health education program laid by the researchers. Based on the findings, the parents were found to be more attentive to the changes and the needs of the participants in practicing healthy lifestyle when they were aware of the importance of such program and how it may affect the health of their children. The outcomes of this study demonstrated the use of Facebook as a tool to facilitate the learning process of the participants through the communication established between the researchers and the parents. The parents involved were able to access all needed information and materials on dietary and physical activities components used in the program easily and accurately through Facebook. The researchers also identified that Facebook can be used as an effective channel of communication between school and home to benefit the students and their learning progress. Hwang & Chang [12] in their study mentioned that the development of digital communication technology via wireless and mobile connection plays a significant role to facilitate and encourage limitless learning effectively and can be used to heighten their performance in their learning process.

In addition of becoming more aware on the alarming issue of childhood obesity, through their participation in the program, parents may also reinforce the participants' comprehension by reviewing the lesson that they had at school while they were at home. This notion is supported with the outcomes of this study as it was found that the use of Facebook as a channel of communication has helped the instructors to obtain the cooperation from the parents to set reminders to the participants on the tasks to be completed while they were at home and to ensure that the tasks were completed successfully [13]. Thus, this led the participants to be more alert and willing to complete the tasks provided and may indirectly lead them to develop healthy habits based on the knowledge that they learned at school. Gikas & Grant [14] in their study identified that social media network and web 2.0 may impact greatly in strengthening school-home communication bond as well as to capture the students' interest to show active participation in interactive and cooperative learning by using digital information technology. On the other hand, Facebook can also be used to convey

guidance and support to the parents in their effort to encourage continuous practice of healthy lifestyle by their children to prevent childhood obesity and its complications. Since most of the parents spend most of their waking time with work or other engagements, it might be somewhat challenging for the children to practice healthy lifestyle habits without the participation of their parents at home [5]. Hence, through Facebook, not only can it be accessed by the parents to obtain the needed information on the implementation of the program, it can also lead them to be actively involved in monitoring the learning progress of their children based on the lesson taught at school. This statement is parallel with the outcome of a study conducted by Sharma, Doherty & Dong [7] which elaborated that effective communication established between school and home has an indirect affect in deepening the awareness of the parents on the lesson learned at school, health for example, hence providing a better opportunity for the parents to assist and facilitate the learning progress of their children and for the lesson learned to be continuously meaningful even when they are not in school.

This study was conducted through the implementation of a health education program with Facebook as channel of communication has proven that the application is a reliable, quick and effective tool accessible at any time and place which may benefit the parents in taking part in the learning process of their children at home. Moreover, the outcomes of this study are in line with the outcomes of previous literature [7, 11, 13,14], on the importance of internet in the teaching and learning setting. These researchers conceded that the use of internet or digital communication technology has a significant impact in establishing and retaining effective multi-way school-home communication which positively affect self-learning, lifelong learning, and long-distance learning. It may also provide more opportunities for better interaction, cooperation and involvement for the students to be responsible for their learning process.

5. CONCLUSIONS

This study identified that the use of Facebook as channel of communication in the implementation of childhood obesity prevention health education program positively influenced parents' involvement in monitoring and assisting the learning process of their children in applying the knowledge that learned at school to form healthy habits at home. This step is essential as it encourages as it helps to refine the children's understanding and commitment in practicing healthy lifestyle habits. Hence, through its findings this study proposes the use of Facebook as a tool for learning and communication that facilitates and simplifies teaching and learning process especially in this digital information technology era to promote self-lifelong-learning on health education to the society.

6. ACKNOWLEDGEMENT

This study was conducted with the support from Ministry of Education, Malaysia and National University of Malaysia (Grant No.: GGPM-2016-083).

7. REFERENCES

- [1] Malaysian Health Promotion Board. 2013. *Statistik Obesiti di Malaysia*. Kuala Lumpur: Kementerian Kesihatan Malaysia.
- [2] Johnson, L., Toumpakari, Z. & Papadaki, A “Social gradients and physical activity trends in an obesogenic dietary pattern: cross-sectional analysis of the UK National diet and nutritional survey 2008 – 2014” *Nutrients*, **10** (4): 1 – 13 (2018).
- [3] Talarico, R. & Janssen, I “Compositional associations of time spent in sleep, sedentary behavior and physical activity with obesity measures in children” *International Journal of Obesity* In press. Doi.10.1038/s41366-018-0053-x (2018).
- [4] Niemeier, B.S., Duan, Y.P., Shang, B.R. & Yang, J “Parental influences on weight-related health behaviors in western and eastern cultures” *Child Care Health Development*, **43** (2): 259 – 266 (2017).
- [5] Zhang, T., Cai, L., Jing, J. & Ma, L “Parental perception of child weight and its association with weight-related parenting behaviours and child behaviours: a Chinese national study” *Public Health Nutrition*, **3** (2018): 1 – 10 (2018).
- [6] Ordway, M.R., Sadler, L.S., Holland, M.L., Slade, A., Close, N. & Mayes, L.C “A home visiting parenting program and child obesity: a randomized trial” *Pediatrics*, **141** (2): 1 – 9 (2018).
- [7] Sharma, N., Doherty, I. & Dong, C “Adaptive learning in medical education: The final piece of technology enhanced learning?” *Ulster Med. J.*, **86** (3): 198 – 20 (2017).
- [8] Weiss, J., M. Mouttapa, L. Nacpil, D. Rubin, and A. Gedissman “Addressing obesity among Latino youth in a pediatrician’s office: Preliminary findings of an obesity prevention program” *Journal of Behavioral Health*, **1**(2): 86-92 (2012).
- [9] DeHoff, B.A., Staten, L.K., Rodgers, R.C. & Denne, S.C “The role of online social support in supporting and educating parents of young children with special health care needs in the United States: a scoping review” *Journal of Medical Internet Research*, **18** (12): 1 – 18 (2016).
- [10] Nicolai, L., Schmidbauer, M., Gradel, M., Ferch, S., Anton, S., Hoppe, B., Pander, T., Von Der Borch, P., Pinilla, S., Fischer, M. & Dimitriadis, K “Facebook groups as a powerful and dynamic tool in medical education: mixed method study” *Journal of Medical Internet Research*, **19** (12): 1 – 23 (2017).
- [11] Ozcinar, Z., and N. Ekizoglu “Evaluation of a blog based parent involvement approach by parents” *Computers & Education*, **66**: 1-10 (2013).
- [12] Hwang, G.J., and H.F. Chang “A formative assessment-based mobile learning approach to improving the learning attitudes and achievements of students” *Computers & Education*, **56**(4): 1023-1031 (2011).
- [13] Budiman, R “Utilizing Skype for Providing Learning Support for Indonesian Distance Learning Students: A Lesson Learnt” *Procedia - Social and Behavioral Sciences*, **83**: 5-10 (2013).
- [14] Gikas, J., and M.M., Grant “Mobile computing devices in higher education: Student perspectives on learning with cellphones, smartphones, & social media” *Internet and Higher Education*, **9**: 18 – 26 (2013).
- [15] Aragao, J.M.N., Gubert, F.D.A., Torres, R.A.M., Silva, A.S.R.D. & Vieira, N.F.C “The use of Facebook in health education: perceptions of adolescent students” *Rev. Bras Enferm*, **71** (2): 265 – 271 (2018).

*For correspondence; Tel. + (60) 0136159355, E-mail: mzie@ppukm.ukm.edu.my/ drmaziah2015@gmail.com