

ORIGINAL ARTICLE

The facilitators and barriers to reduce sugar sweetened beverages intake among overweight females

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Abstract:

Excessive energy intake and high consumption of sugar sweetened beverages (SSB) was associated with the incidence of obesity. The prevalence was higher among female as compared to male. The aim of this study was to explore the facilitators and barriers to stop consuming SSB and increase the intake of plain water. A qualitative study with semi-structured interviews were conducted twice, at baseline and after 8 weeks of intervention. The intervention regime consists of avoiding SSB intake and substitute it with plain water intake, among overweight, females, undergraduates' students. Data is also collected through self-reflected diary. The interview was audio recorded, transcribed, and analyzed using thematic content analysis approach. A total of five subjects involved in the interview. Subjects felt that desire to be healthy, other's perception and support as the facilitators for them to sustain with the intervention regimen. On the other hand, environment pressure and availability of beverages were their main barriers. Subjects also claimed they felt happy during the intervention program. In conclusion, the challenges of adherence to a healthy eating can be overcome by a strong will to be healthy. Overweight females need supports from surrounding to change their lifestyle habits.

Keywords: sugar sweetened beverages, obesity, overweight, females, students

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1. INTRODUCTIONS

Obesity is one of the most uprising problems worldwide. The prevalence has kept increasing, and in Malaysia it was reported 13.1% of Malaysian was obese, and the prevalence was higher in females [1]. There are many factors contribute to obesity including genes, lifestyle and also behavior. Excessive energy intake, together with lack of physical activity was the most prominent cause for this problem [2]. Excessive energy intake is associated with high consumption of sugar sweetened beverages (SSB) [3]. Excessive fructose consumption plays a role in the epidemics of insulin resistance, obesity, hypertension, dyslipidemia, and type 2 diabetes mellitus [4]. Besides contributing to the addition of calorie in diets, SSB leads to weight gain due to low satiety of liquid carbohydrates which and incomplete compensation of energy at subsequent meals.

Replacing SSB with plain water can help to reduce the total energy intake. [5]. Increased plain water consumption is used as a key message in many weight reduction programs [6], including in Malaysian Dietary Guidelines [7]. Studies have reported that substituting SSB with plain water plays a significant role in reducing energy intake, thus can aid in weight management [6] and diabetes prevention [8]. However, to change a diet requires a strong motivation and commitments. Therefore, this study aimed to determine the facilitators and barriers of replacing SSB with plain water among overweight females.

2. MATERIALS AND METHODS

This is a descriptive and qualitative study. The subjects were among participants in the intervention group of an intervention study, as described previously [9]. In this study, the intervention group needs to adhere with intervention regimen to completely avoid SSB intake for a period of two months. In addition, participants were encouraged to increase their plain water consumption.

The number of subjects for this qualitative study was determine until we achieved data saturation (n=5). In depth interviewed were performed twice; at baseline and after 2 months. The interview guide was developed from the review of literature and was reviewed by several expertise in nutrition and dietetics. The interview was conducted in layman and dual-language; Malay and English. It was recorded with audio tape, and transcribed verbatim. We used four stages of Interpretative Phenomenological Analysis (IPA) [10], as this approach aligned with our aims to explore a deeper understanding on facilitators and barriers of healthy eating. It undergoes back to back translation (Malay to English to Malay language) to ensure its reliability.

Further, a self-administered diary was provided to the participants to serve as additional and supporting information. Participants recorded their feelings, emotions, and opinions in the diary. Data were managed using ATLAS ti software, version 7.0. This study was approved by Research Ethic Committee of the Universiti Teknologi MARA.

3. RESULTS

A total of five participants involved. All were Malays, female and overweight. The mean age of participants is 22.2 ± 2.4 years old. All participants were among the undergraduates students in Faculty of Health Sciences, Universiti Teknologi MARA.

There were two superordinate themes; facilitators and barriers. Each of the themes was further divided into sub themes (Table 1).

Table 1: Superordinate and sub themes

| Superordinate theme | Sub themes |
|---------------------|---|
| Facilitators | Want to be healthy Perceptions from Others Support from Surrounding |
| Barrier | Pressures from Surrounding Availability and Accessibility of Beverages |

3.1 Facilitators

Want to be healthy: This was the main motivation for participants. As recorded at baseline from Subject 1:

“When we are obese, we can get hypertension, diabetes mellitus, heart attack and other critical diseases. I don’t want to get those”.

Subject 3 also said that:

“My daily activity is limited. Other people can enjoy their activity without problem. I had certain problems when I want to be active. Effects of obesity towards health also. I got underlying diseases. My doctor suggests me to lose weight if I don’t want complications.”

Subject 5 was also advice by doctor to reduce her weight and practice healthy lifestyle:

“I have knee pain actually. My body is heavy, not suitable with size of my feet. When I meet doctor, she advised me to lose weight. She asked me to exercise but the more I exercise the more the pain. So, I want to lose weight through diet.”

At week 8, all of the participants revealed that this factor still motivate them to keep engage in the intervention.

“When I avoid sugary drinks, I must finish at least 1.7 liter per day. Otherwise, I felt dehydrated and dry. I felt tired. When I practice this kind of diet, I feel healthier” said Subject 2.

Another subject claimed that this intervention helps her in the class room as she feels healthier:

“At first, yes I want to be thin. But now when I personally feel benefits of health, I do feel I want to be healthy. Besides, I now can fight sleepiness in lecture as I got mineral water. I could just drink it when I’m about to feel sleepy. That’s why I want to keep dieting” said Subject 4.

Others perception: Participants also revealed that they care about the perceptions from other people. All of our participants are currently undergraduate students in Faculty of Health Sciences. Therefore, they already did or will do their internship with real patients and community. As

revealed by Subject 1:

“I am a physiotherapy student. When I faced patients, I will prescribe exercise routine to them. But when they look that I’m fat and not healthy, that can decrease their adherence. There was this one patient, my friend who also overweight give him advised to lose weight, but the patient look not determined because the one who advises him is overweight too”

Subject 2, a dietetic student also revealed the same thing:

“My roommate is also dieting. So, if anything she will ask me about diet. She always observes what I eat. So, I need to show efforts to her that I also want to lose weight. Besides, as a Dietetic student I think my clients will be more respectful. They will follow my advices. I can tell them my experience. If we are fat but we give them advices, it’s difficult for them to believe...to follow”

Two of our participants feel that other people discriminate those with weight problem. Subject 4 said:

“I think that people with body weight problem got discriminated. Supposedly, this is not happen. I’m a health science student. Other’s perception is that we are those who take care of our health. We advise people, but we ourselves don’t implement it.”

In addition, Subject 5 also said that:

“I do feel I’m fat. In class, only few are fat. I feel like the way they look at us is different”

Supportive environment: Other important factor that can motivate the participants is having a strong support system, either from friends or families. A supportive environment can motivate them to continue the intervention even after this program end. Subject 3 said:

“I told my family that I will be joining this kind of diet program. They support me. They told me it’s good. They want me to be healthy”. Further, at week 8 this subject also added that “My mother advised me to continue this diet instead of just two months”

As revealed by Subject 4, both friends and family support her during this program:

“I joined this program because my friends invited me. So when we are together in this, I feel more motivated. If we go eating at café, it’s quite difficult as others will start to drink sugary drinks. But gratefully, I have a friend who is dieting like me. So we keep reminding and motivating each other... When I told my father, I manage to lose weight through this diet program, he complement me and ask me to continue it.”

Subject 5 also mentioned that positive environment is needed to prevent the failure of determination:

“My friend supports me. Certain of my classmates know I’m joining and the asked a lot and then give motivational words. Surely they need to know I’m joining because I’m worried they’ll buy me sugary drinks”

3.2 Barrier

Pressures from Surrounding: This is the barrier as reported by all of our participants, before and at the end of the intervention. Subject 1 said:

“If I go eating out with friends, I’m afraid they will offer me sugary drinks. It’s quite rude to reject offers like that.”

Subject 2 also revealed the same:

“During lunch, most of the people will buy sugary drinks. Only few bring their own plain water. Even those who bring it, they still buy the sugary drinks.” At week 8, this subject added that: I feel quite down and not firm. If we go out, we will follow the majority in order to choose what to eat. It’s quite awkward when I’m alone eat and drink something different. I feel like left behind”

Our participants also felt pressure because certain people do not understand their situation and making fun of them. Subject 5 said:

“A little bit worried that my friends might make fun of me”

Availability and Accessibility of Beverages: Another barrier to keep adhering with plain water intake is the availability and accessibility of the beverage. It is either there were limited plain water supply or easier supply of SSB. As mentioned by Subject 4:

“For me, actually the accommodation to get plain water isn’t enough. I remembered at my school, there’s water filter at every block. However, in this university, there isn’t.” She also added “Actually at my parents’ house, it’s quite hard to control. Sugary drinks must be there during breakfast, lunch and dinner.”

Subject 5 also mentioned that the facility in the college does not supportive:

“Facility provided at college isn’t enough. I need to go to other block because not all block got the water machine.

Subject 2 and 3 revealed that high availability of SSB as the barrier:

“In campus, there are always food truck that sell that shake drinks. It will be tiring to resist those.” Said Subject 2. Subject 3 also mentioned: “When I walk at café, I can see lot of sugary drinks. I always had I mind how grateful if I can drink those”

4. DISCUSSION

The participants for this study are students from the Faculty Health Sciences; therefore they have knowledge and awareness about healthy lifestyle. However, they also faced the issues of being overweight and unable to apply their knowledge [11]. It is crucial for the future healthcare practitioners to have good body image as a role model to community. Hence, we target this intervention of avoiding SSBs and increasing plain water intake to overweight and obese students to help them managed their body weight and practice healthier lifestyle.

Motivation can be defined as the reason for a person to change and adapt a behavior [12], while barrier is a

circumstance or obstacle that keeps people or things apart or prevents progress [13]. Barriers can lower or suppress motivations; therefore they should be identified together. We also explore the feelings of participants during the intervention program to better reflect their emotion in following such a non-habitual practice.

It was shown that the desire to be healthy is the reason that motivates our subjects to participate and adhere to the intervention regimen. This is in agreement with previous studies which also revealed that concern about health, followed by physical appearance as the main reasons for losing weight [14, 15]. Further, the reason also aligns with their role as future healthcare practitioner who should be aware about the consequences of obesity. Some of the subjects are already under the supervision of medical doctor about knee pain and weight problem, therefore this intervention at the university level may assist them. Although, interventions at university populations for young adults are necessary, it was reported that few interventions have been conducted and have not been very successful [16, 17]. In this present study, we found that all the subjects agree that supportive environment, especially from friends and families are important for them to keep engage with healthy habits. As most of their time are spend with friends in the college, a program that involve peer supports may benefit them [18].

For a woman, desire to look attractive is another main reason to lose weight [14]. Women tend to compare their body with desired body image, and care about the perceptions of others toward them [19]. As mentioned by our subject, her confident level will increase if she gets her ideal body image. This will increase her self-esteem, which eventually improve the way she thinks, feels, and values herself [20]. The other subjects also claimed that they care about others perceptions because they have to prove that they belong to the healthcare communities. According to Oberg and Frank, (2011) [21] physicians need to practice healthy habits as it helps their patients to also practice healthy lifestyles in order to prevent chronic diseases as they not just giving treatments, but they also need to give counseling and advices.

As for barriers, all of the participants claimed that pressures from people around them as barriers to adhere to healthy eating. According to Hains et al. [22], negative reactions from friends or peers including classmates or housemates will makes a challenge towards adherence to a new habit. Besides, having a different meal as compared to the rest of family and friends while eating out will also makes things difficult [23]. The high availability of SSB, especially in the campus was among the barrier to limit and avoid the intake. The high availability of beverage vending machines and kiosk that sell SSB were reported to be significantly associated with the high consumption of SSB [24, 25].

5. CONCLUSION

In conclusion, a strong will and motivation is needed to keep adhere to a healthy eating habits. However, as barriers can lower the adherence, an initiative is needed to be designed to evade the surrounding pressures from diminish the motivation. The identification of facilitators and barriers in

this study can be used for the development of action to aid in reducing SSB intake.

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