A Qualitative Study of Perceptions about Eating Behaviours and Metabolic Syndrome in Thailand

Jariya Supruang, Aporn Deenan, Chintana Wacharasin*

Abstract: Metabolic syndrome leads to many chronic diseases and has increased significantly in Thailand where eating behaviors play an important role in the syndrome's development. This qualitative study aimed to describe the perception of people with metabolic syndrome related to the syndrome and their eating behaviors. Two focus group discussions (12 participants per group) were conducted at Tambon Health Promotion Hospitals. The data were obtained through an interview guideline, audio recordings, and notes. Based on Miles and Huberman's method, content analysis was performed on transcripts and notes of the participants' interaction and reflections.

Three themes emerged from analysis: In the first theme, *Perception of metabolic syndrome* there were with two subthemes: *It's only being fat and big belly* and *Obesity is a source of many diseases, but I still feel like a normal person.* The second theme, *Factors related to metabolic syndrome*, contained four sub-themes, *Emotions influence eating behavior*, *Thoughts related to eating behavior*, *Socio-environment facilitates eating behavior*, and *Culture interferes with eating behavior*. In the third theme, *Management of eating behavior*, the two subthemes were: *Success in changing eating behavior* and *Failure in changing eating behavior*. These findings help to provide better understanding about the perceptions of participants towards metabolic syndrome, the influential factors, and their efforts to manage eating behaviors. From the research findings, nurses and health care providers should evaluate and educate people about metabolic syndrome, its threats, and management. Screening for this syndrome could prevent and reduce its severity. Future nursing research should develop interventions to prevent and reduce it.

Pacific Rim Int J Nurs Res 2020; 24(2) 234-245

Keywords: eating behaviors, focus group discussion, metabolic syndrome, perception, qualitative research.

Received 29 May 2019; Revised 30 July 2019; Accepted 9 August 2019

***Jariya Supruang**, RN, PhD. (Candidate) Faculty of Nursing, Burapha University,Thailand. E-mail: supruang@gmail.com*

Correspondence to: Aporn Deenan RN, PhD (Nursing), Associate Professor, Faculty of Nursing, Burapha University, Thailand. E-mail: apornd@buu.ac.th*

***Chintana Wacharasin** RN, PhD (Nursing), Associate Professor, Faculty of Nursing, Burapha University, Thailand. E-mail: Chintana@buu.ac.th*

Introduction

The threat of metabolic syndrome (MetS) in the Thai context is relatively new, and many people seem to lack knowledge about its phenomenon, causes and effects, and management. Most people claim a prominent visceral fat of MetS as being overweight or obese, which is only about fat accumulation, but they overlook an unseen group of symptoms related to physiological effects such as mild hypertension, hyperglycemia, and blood lipid disorders. The prevalence

of MetS has been increasing among Thai people. A Thai public health survey found the prevalence of MetS among Thai people was 15-20% in people 15 years old and older.[1] The rate was higher in women (23%) than in men (18.1%). The higher prevalence was found in people 45-49 years old (30.4%) and 60-69 years old (38.6%).[2] The major risk of MetS is known to be associated with dietary intake, both amount and pattern, potentially important factor for the development of the syndrome.[3]

Metabolic syndrome manifests as a coexistence of large waist circumference (visceral fat), hypertension, hyperglycemia, elevated triglycerides, and low-levels of high-density lipoprotein.[4] People with MetS have low-levels of the serum adiponectin hormone, which is related to insulin resistance, high blood pressure, a low level of HDL or "good" cholesterol, high triglyceride levels, and high blood sugar levels.[5] These symptoms and conditions increase the risk of chronic diseases, namely hypertension, type 2 diabetes, and cardiovascular disease. These diseases are considered major problems worldwide, found in both developed and developing countries.[6]

Review of Literature

Eating behavior plays an essential role in development of MetS.[7] Since industrial development in the country and urbanization, Thai people lifestyles have been changed, especially eating behaviors. Thai people spent less time to cook than in the past. Convenient eating places can be found everywhere in Thailand influencing consumptions of main dishes, fast food, sweet beverages, alcoholic drinks, high-calorie snacks, and others.[8] There are many factors also fostering eating behaviors, for example, environment, social media, family, friends, social values, norms, traditions, culture, and media.[1,8]

Health behavior is influenced by cognitive, psychological and situational complex within an individual. The changing eating behavior in persons with metabolic syndrome relates to how well they can perform daily to change behaviors of an unhealthy life.[2,7,8] Eating behavior which tends to increase risk of MetS includes frequent consumption of sweetened beverages, fast food, high-calorie snacks, high dietary fat intake, eating before bedtime, and consuming more than three meals a day.[9] Studies found that MetS people regularly ate the same types of high caloric food which they preferred and used food as rewards. Emotional overeating and binge eating are also impulsive behaviours for MetS. The literature review indicates that perception, knowledge, and self-awareness is very important to make people with MetS agree to adjust to healthy eating behaviors.[10]

Understanding the phenomenon, it causes and effects, and management is important for people at risk of meeting the criteria for a diagnosis of MetS.[11,12] Management involves lifestyle modification, both eating habits, and regular exercise.[13] Although much evidence supports that diet, exercise, and pharmacologic interventions may reduce the risk of MetS, the effective interventions to reduce this are more likely to focus on intensive approaches of very low-energy diets or specific diets.[14] The result of the lifestyle change programs showed that these significantly reduced or delayed the onset of chronic diseases in these high-risk individuals.[15] However, the cost-effectiveness was considered too expensive for national health implementation. The recommendation to deal with MetS still focuses on self-management development related to dietary knowledge, perception of health and illness, and awareness and self-reflection related to behavior patterns.[13,14,15]

Therefore, the researchers were interested in perception of Thai people with MetS about the syndrome and their eating behaviors. The findings would assist health care providers to deeply understand about MetS and its key management among people in Thailand. Hence, appropriate and effective interventions should be further developed to prevent and manage MetS.

Aim

The aim of this study was to describe the perceptions of Thai people with MetS about the syndrome and their eating behaviors.

Theoretical framework

This study was guided by Social Cognitive Theory (SCT).[16] SCT focuses on the relationships among the individual, behavior, and environment. SCT indicates that personal factors such as cognitive, affective, and biological events influence individuals' behavior, so one can successfully execute behavior change requiring mastery experiences, modeling, verbal persuasion, and emotional arousal, and environment.[17] Environmental factors also influence behavior change including family, friends, peers, and people in the community.[18] Knowledge acquisition of each individual can be directly related to the observation of others, social interaction, activities, and outside media influences.[19] The literature shows that people with MetS are influenced by eating behavior and environment. Over consumption of food and drink choices are known to be associated with MetS.[18,19] Thus, the SCT could be guided to explain the association between individual, behavior, and environment; and provide explanation of individual experiences in the management of MetS and eating behavior.

Methods

Design

A qualitative descriptive design was used in this study.[20] Focus group discussion was used to obtain data from a purposive group of Thai people with MetS. Focus groups were used because this method is flexible and evolves to adapt to the data. This study was a part of a sequential mixed method study to develop an instrument for screening and management of eating behavior among people with MetS.

Participants and setting

Participants were purposively selected, a criterion-based sample of people who met the three of five criteria for MetS based on the National Cholesterol Education Program Adult Treatment Panel III (NCEP ATP III).[21] The NCEP ATP III indicates that people who are diagnosed with MetS have to gain at least 3 indicators of the following: 1) large waist circumference (> 90 cms in men, > 80 cms in women), 2) high blood pressure level (≥130/85 mmHg), 3) high fasting blood glucose level (≥100 mg/dL), 4) high triglyceride levels (>150 mg/dL), and 5) low high-density lipoprotein cholesterol levels (<40 mg/dL in men and <50 mg/dL in women). A total of 24 participants (13 females and 11 males) volunteered to participate in two focus group discussion sessions at the Tumbon Health Promoting Hospital in Muang District Chon Buri and Srakaeo Province, Thailand. Both settings were selected because they had a high prevalence of MetS in their health data report. These settings were located in urban areas of Muang Districts.

Ethical considerations

The research proposal was approved by the Institutional Review Board of Faculty of Nursing, Burapha University (IRB #09-02-2661), the Chon Buri Provincial Public Health Office (IRB #12-03-2661), and the Srakaeo Provincial Public Health Office (IRB #16-04-2661). All participants were given a detailed description of the study's purpose, methods, potential benefits of participation, and a privacy statement. Participants were informed that they could withdraw from the study at any time without penalty. They were asked to sign consent forms indicating their willingness to participate. Pseudonyms were used in the focus group discussions and all data records were protect with confidentiality. All participants were asked for permission to audio-record in focus group sessions. Audio-recordings and transcribed data were stored securely.

Instruments

The data collection instruments were a demographic data record, health record sheet, and a semi-structured

guideline. Demographic data asked about age, gender, marital status, education, and occupation. The health record sheet included waist circumference, blood sugar, lipid profile, and blood pressure. The semi-structured guideline for the focus group discussions was developed by the researcher asking about MetS, related factors, and how to manage it. Examples of questions were: *How do you feel about having metabolic syndrome?*, *What types of foods do you eat daily?*, *What do you think are the effects of foods and eating patterns on your having metabolic syndrome?*, and *What problems have you encountered when trying to change your lifestyle?* These questions had been reviewed by five experts in the field.

Data collection

Data collection was conducted between March-April 2018. The principal investigator (PI) asked permission from directors of the Tambon Health Promoting Hospitals, then obtained a potential participant list, viewed health records and recruited participants through phone calls. Volunteers were given an appointment to join a focus group at Tambon Health Promoting Hospitals. Two focus group discussions were carried out to explore and understand the experiences and perceptions of people with MetS and their perceptions eating behaviors. Each group consisted of 12 participants and discussions were held in meeting rooms, lasting around 120 minutes. The PI played the role of modulator of the groups and a research assistant facilitated the sessions and took notes. Using the guideline, the PI established rapport, then asked core questions and a series of question probes to encourage discussion. These probes began with the interrogatives *what, why, how*, and *for what reason* in order for participants to elaborate and confirm their ideas. Each session finished when data saturation occurred, that is when no new data emerged in the discussions and the participants reached consensus. At the end of the session, the PI closed the session with the statements to express appreciation for participants' sharing ideas and experiences. The discussion context was observed and notes taken, and recorded with a digital MP3 audio recorder by the research assistant.

Data analysis

Miles and Huberman's method was used to guide content analysis with a three-stage process of data reduction, data display, and drawing conclusions/verification.[22] The audio-recordings were transcribed and checked for accuracy by repetitive listening. Notes on participants' reflections and interactions were examined. Content analysis began with reading transcripts, initiating data line-by-line coding of phrases and concepts, and looking for potential concerning material. Then, codes were linked in order to create themes and sub-themes.

Trustworthiness

The criteria of credibility, confirmability, dependability, and transferability accumulatively contributed to establish the trustworthiness of the study.[23] Engagement in establishing rapport and spending time immersed in participant members' activities help to establish credibility. The researchers avoided using personal ideas and experiences to lead the participants to express their experiences and feelings. The reflexive data and committee members checked that the study methods were carefully applied to make the study progess with confirmability. Confirmability was also affirmed through complete interviews and discussions with research committee members. The findings of themes and categories were confirmed by two nursing experts in MetS and eating behaviors for the accuracy of interpretation. Dependability was gained through recounting the data collection process, revealing an audit trail of the complete raw data (transcripts) and analysis record. Dependability was also enhanced through debriefing data collection and analysis with the advisory committee members and sharing emerging ideas, codes, and interpretations. The reflective notes and narrative analysis were carefully applied not only to ensure that the study

process was transparent and consistent but also to verify key findings with supporting data. Data interpretation was double-checked by the participants to confirm validity and the thick description of participants' perspectives helped to assist validity of findings.

Findings

Participants' characteristics

The majority of participants were female (54.20%), ages ranging from 20 to 65 years, married or living with partners (50.00%), completed a bachelor degree (62.50%), and worked as government officers (33.00%). Their health records showed blood pressure ≥ 140/90 mmHg (35.50%), waist circumference men: >102 cm (or >40 in.) (35.50%), women: >88 cm (or >35 in.) (64.50%) and triglycerides > 150-199 mg/dl (41.00%). All participants met the criteria of a MetS diagnosis.

Findings

Three themes and eight sub-themes arose from data analysis, as shown in **Table 1** and discussed below.

Table 1 Themes and sub-themes

Themes	Sub-themes
Perception of metabolic syndrome	1.1 It's only being fat and big belly.
	1.2 Obesity is a source of many diseases, but I still feel like a normal person
Factors related to metabolic syndrome	2.1 Emotions influence eating behavior
	2.2 Thoughts related to eating behavior
	2.3 Socio-environment facilitates eating behavior
	2.4 Culture interferes with eating behavior.
Management of eating behavior	3.1 Success in changing eating behavior
	3.2 Failure in changing eating behavior

Theme 1: Perception of metabolic syndrome

Most participants mentioned that their perceptions strongly relied on their beliefs, feelings, and cognition. Their interpretations connected strongly with their senses, attitude, expectation, and knowledge. Therefore, their perceptions and understandings of MetS were influenced by individual learning processes, memories, expectations, and attention.

Sub-theme 1: It's only being fat and big belly

Most participants said their belief, awareness and understanding of MetS came from patient education presented by physicians and nurses. Participants would use their senses, attitudes, expectations, and personal knowledge to translate the received information. For example, some participants stated the following:

> *I think obesity means a very obese person, big waist area and belly.* (Female, 35 years)

> *I think, I am not obese person, but chubby, plump, and weight increasing. It is just waist and belly begin to expand from before, hard to find fit clothes to wear.* (Female, 45 years)

Sub-theme 2: Obesity is a source of many diseases, but I still feel like a normal person

Most participants learned from health professionals, such as physicians and nurses, that MetS could lead to complications and diseases. Although they could identify possible future health problems, their perceptions towards MetS showed no alarm or major concern because they felt normal. Examples of this are:

> *I've listened to many doctors and nurses many times and understood that it can be the beginning of illness. Anyway, I look healthy. I don't feel like a sick person. I have no abnormalities and still feel good.* (Male, 40 years)

The doctor said that I already had obesity. It may be the beginning of illnesses. But I think I am in normal condition. Although it can cause many diseases, such as diabetes, hypertension, cancer, heart disease, arteriosclerosis, I do not feel have any health problems, not any symptoms, and still live as a normal person. I am in good health and strong. I think it's not scary. (Female, 55 years)

Theme 2: Factors related to metabolic syndrome

Participants stated that many factors affected their perception of food consumption and MetS, and these included cognition, emotion, environment, intentional eating, social interaction, food selection, food amount, and frequency of food intake in daily meals. There were four sub-themes in this theme:

Sub-theme 1: Emotions influence eating behavior

Those with MetS acknowledged that the tastes, smells, and sounds of cooking of their favorite foods stimulated their emotions to eat or made them eat out of instinct or desire. They said that sometimes they were not hungry but just wanted to eat. Some said they snacked all day or ate continuously. They could not resist their favorite foods. Eating brought contentment and happiness. They yielded to the desires to eat until it led to being overweight, for example:

Eating is a big deal, a happy time for the family. We will eat on every special occasion, both at home or at restaurants. Eating makes everyone happy and releases suffering in life as if eating gives liberation. (Female, 44 years)

Sub-theme 2: Thoughts related to eating behavior

The thinking of participants about their eating behavior strongly relied on their attitude, attention, and a trend of Thai society at times. For example, the current trend of Thai society is to have a buffet meal. It is cheaper than eating in a restaurant. Many Thai families preferred eating a buffet daily if the price was right but they would eat until they felt uncomfortable in their stomachs. One participant explained:

When my family eats out at a pork pan place together, we skip breakfast and lunch, because we don't want to eat less and not get our money's worth paid to the restaurant. We eat meat and seafood first because they are expensive. We eat vegetables last. (Female, 38 years)

Sub-theme 3: Socio-environmental facilitates eating behavior

Many participants stated that one of values was showing off wealth or financial status through eating style and behavior. Rich people would eat in luxurious restaurants with air-conditioners and music serving expensive food choices and drinks. Nowadays, people can find something to eat at any time. It is very easy access to various foods, fruits, bakery, desserts, snacks, and drinks. There are many places to get foods such as department stores, fresh markets, flea markets, convenience stores, dessert booths, and fast-food restaurants. Moreover, there are significant influences over people's poor eating behaviors for example, the fruit season, food advertisements, and media. One stated:

There is an evening market close to our house. I can buy everything I want to eat. There are all kinds of foods, sweet, seasonal fruits (durian, rambutan....) *I like. Vendors also offer a variety of foods, I do not have to cook by myself. Buying food is easier than cooking at home. Further, we can easily order 24-hour delivery services of ..*(fast food name)*..restaurants for foods or drinks if we want or when they offer a promotion.* (Female, 35 years)

Sub-theme 4: Culture interferes with eating behavior

Most participants mentioned that it was through traditions and culture that Thais showed happiness and celebrated life's successes by eating, for example when passing an exam and getting a job promotion. Thai religious rituals and making merit involved people meeting and eating together, such as at a house warming party, an ordination ceremony for a Buddhist monk,

or a wedding party. Festivals, such as Songkran, and the New Year festival were also times for social gathering and eating. There would be meals among family members, relatives, and friends that made food and drink even more attractive and fun. There are plenty of foods served in the parties. These have a tradition of serving high fat foods and sweet dessert following main dishes. An example is:

> *During festivals or special occasions, everyone in our family will join parties in the village community. It is our community's tradition to have Chinese or Thai style eating together. We spend a lot of money to buy food and cook plenty of our favorite foods. Everyone will sit and eat together from the first dish until the last dish before returning home with tight stomachs.* (Male, 28 years)

Theme 3: Management of eating behavior

Several participants started to realize that they needed to change their eating behaviors when they were given information about how their harmful eating practices could lead to MetS. The resultant sub-themes about this follow:

Sub-theme 1: Success in changing eating behavior

Some participants succeeded in changing eating behaviors and reducing their visceral fat, and there were two things about this: 1) an awareness that visceral fat was a source of many diseases; and 2) the recognition that visceral fat could be the result of unhealthy eating and lifestyle practices, such as not eating on time, consuming large quantities of fried foods, fast food, excessive sweet and salty foods, foods containing MSG and preservatives, and drinking sugar and alcoholic beverages. They were aware of their health problems and recognized the importance of healthy eating from information given by doctors and nurses. They wanted to take better care of themselves. Therefore, they set up a strong intention to care for themselves every day by cutting out fried foods, stir-fried foods, coconut milk curry, and desserts. They also reduced their drinking of sweetened beverages and the eating of seasonal sweet fruits like durian, rambutan, and ripe mangos. They had better health outcomes within three weeks and this re-reinforced them to continue with their self-care. The better outcomes were reflected in a narrower waist circumference, more normal blood sugar levels, a lowering of cholesterol, and blood pressure. One participant expressed her experiences as follows:

> *I feel better and active after I changed my eating habit. My patients also noticed the visceral fat reduction. Before I change my eating habit, many patients say that I am fat. I'm so embarrassed and lack self-confidence. After setting a strong intention to care of myself, I reduced eating fried foods, stir-fried foods, coconut milk curry, desserts, and sweetened beverages as well as seasonal sweet fruits, such as durian, rambutan, and ripe mangos. I have done this for 4 months now.* (Female, 42 years)

Sub-theme 2: Failure in changing eating behavior

Some participants failed to change their eating habits because they were unaware of how harmful visceral fat is. They failed to recognize that health problems, lack of motivation or an intention to change their eating behaviors was important. They could not confront their emotions and thoughts when with family and friends in a convivial environment. They reflected about continuously increasing weight, enlarged waist circumference, high blood sugar levels, high cholesterol, and high blood pressure, such as:

> *I eat according to my mood. I may not be hungry, I just eat out of my desire to eat. I think eating is a life award. I feel happy every time I eat with my family and friends. I can not control my weight and have to change my clothes frequently.* (Female, 25 years)

In sum, with no obvious abnormalities or physical impairment, people with MetS viewed themselves to

be normal. Most participants were not concerned about the threat of MetS and thought their condition was apparently normal and recognized their prominent visceral fat as benign. They were not aware of the severity of MetS and used negotiated reasons for eating food. Information of MetS, causes and effects, and management was given by physicians and nurses: however, this was not a strong motivator for them to change eating behaviors. The awareness of MetS, strong intention, and motivation may be the keys to manage MetS successfully.

Discussion

The results from the focus group discussions revealed that people who met the MetS criteria might not be concerned about the dangers of MetS. Participants thought their health was apparently normal. This finding might be explained as in the same condition of people with type 2 diabetes mellitus.[24] Without obvious physical impairment, Al-Kayyis and Perwitasari found participants perceived diabetes as a normal condition because they perceived that nothing was overtly wrong with them, even though clearly given a medical description of diabetes and its severity.[25,26] The findings of this study might similar to above study that people who gained the MetS criteria perceived they were normal, only that fat accumulated to become a larger waist circumference, and they would not have known other health issues as abnormalities; almost all diagnosis criteria of MetS are found by medical technology. Further, they might have perceived that visceral fat was the same as being overweight or obese which seems a non-violent problem.[27]

The social environment of friends and family, and culture, play a role in over-consumption of food in MetS persons in Thailand. Mental processes were also used to negotiate about food consumption that might go beyond the normal scope and not be appropriate. Although participants knew about unhealthy eating behavior influencing MetS, they convinced themselves with 'good reasons' for over-consumption of food.[28] Participants discussed that their eating behaviors were influenced by social, cultural, and environmental factors.[29] Foods were easy to acess anywhere in their communities and prepared meals were cheaper than home made cooking, as well food was available outside the home for 24 hours. Further, parties with friends and families were common in many special occasions and holidays, traditional festivals, and religious events, which happen almost every month throughout the year.[30] Eating together and being surrounded with families or friends is of social importance in Thai society, and food and drink has strong prominence in such gatherings. Special meals are prepared to served in the parties, hence the potential to over-indulge in eating is high.[31] Moreover, paricipants shared a belief that they would rather spend special time eating with families and friends, and then might try to lose weight later.[31,32] As a collectivist society in Thailand, frequently spending time together with families and friends is important. In some ways this may be different from some Western cultures because Thai social structure is based more on the extended family rather than the nuclear family.[33] This might be a contributing cultural phenomenon that made the participants unaware of controlling food consumption and developing MetS. This finding is supported in previous studies in Thailand which found that social, cultural, and environmental factors were a strong predictor of eating behavior among persons with MetS.

Participants shared their experiences of success and failure related to managing MetS. Those who had success expressed that changing their eating behavior was influenced by an awareness that visceral fat was a source of many diseases and a recognition that it could result from unhealthy eating lifestyle.[34] The awareness of their health problems came from attending meetings and seminars given by physicians and nurses. They started to alter their eating habits and finally achieved success in taking better care of themselves.[33,34] This is a similar finding to that of Zhu & Hollis who found that

the success in changing eating behaviors in obese persons related to how well they could change their behavior daily to keep a healthy life.[35] They could change their eating behavior based on individual responsibility and capability toward daily goals to achieve their healthy behavior. They determined the positive outcomes which led to quality of life.[36]

On the other hand, people who did not succeed in managing MetS, often failed to adjust their eating habits because they were not aware of their health condition and did not realize that visceral fat could become the source of many diseases.[35,36] They also lacked control and motivation. They might not overcome obstacles that related to their emotions, families, and friends, and environmental conditions. This could lead to an accumulation of visceral fat which increased the occurrence of MetS. Similar findings are supported by previous studies of obese people with diabetes who had difficulty controlling their eating behaviors and choosing foods wisely, and restraining themselves from overeating.[34,35,36] Therefore, these findings might bring a better understanding of people with MetS related to their eating behaviors and how they tried to manage their eating behaviors and the metabolic syndrome.

Limitation

This study was conducted among the community members in urban areas in the eastern region of Thailand. Thus, the findings might not reflect the perspectives of people with MetS from other regions of Thailand. Furthermore, the majority of the participants in this study were highly educated; therefore, the findings might not represent all groups of Thai people with metabolic syndrome. Additionally, another limitation might be large number of participants in each focus group discussion. There were 12 people in each session in this study. Some participants could not share their ideas and the contributions with the time allocation. It was suggested that 6-8 participants would be the best for a focus group discussion to give equal opportunity to participants to speak out and had enough time to tell their stories.[37].

Conclusion and Implications for Nursing Practice

The findings of this study provided additional knowledge and better understandings of participants about their perceptions towards MetS, influencing factors, and their effort to manage their eating behaviors. The study showed that perception, culture, and environment influenced the development of MetS and its management. People with MetS who understood about the syndrome, were more aware and managed their health condition more successfully than those who did not understand. The threat of MetS, seeking information about it, and strong intention to care for themselves by changing eating habits were the cores of MetS management.[38] From the finding, health care providers should evaluate people about MetS and give detail information about it, including the dangers of MetS, and its management. The findings could be of benefit to nurses who work in communities to screen people at risk of MetS and help them to manage their eating behavior as well as montoring the severity of MetS. Health care providers should educate people to understand about the difference between MetS and being overweight or obese which are diferent in criteria and effects. Future research should close the gap of the limitations of this study as well as develop interventions to prevent and reduce MetS.

Acknowledgment

The study was financially supported by Burapha University, Thailand. We deeply appreciate the efforts of the participants of this study.

References

1. Aekplakorn, W., Satheannoppakao, W., Putwatana, P., Taneepanichskul, S., Kessomboon, P., Chongsuvivatwong, V., & Chariyalertsak, S. Dietary pattern and metabolic syndrome in Thai adults. Journal of Nutrition and Metabolism 2015: 1-10. doi:10.1155/2015/468759

2. Aekplakorn, W., Chariyalertsak, S., Kessomboon, P., Assanangkornchai, S., Taneepanichskul, S., & Putwatana, P. Prevalence of Diabetes and Relationship with Socioeconomic Status in the Thai Population: National Health Examination Survey, 2004–2014. Journal of Diabetes Research 2018: 1-8. doi:10.1155/2018/1654530
3. Kataria I, Chadha R, Pathak R. Dietary and lifestyle modification in metabolic syndrome: a review of randomized control trials in different population groups. Journal of Health Research 2016;4(4):209-30. doi:10.7175/rhc.v4i4.667
4. Ranasinghe, P., Mathangasinghe, Y., Jayawardena, R., Hills, A. P., & Misra, A. (2017). Prevalence and trends of metabolic syndrome among adults in the Asia-Pacific region: a systematic review. BioMed Public Health 2017;17(1): 1-9. doi:10. 1186/s12889-017-4041-1
5. Khan S, Ning H, Wilkins J, et al. Association of body mass index with lifetime risk of cardiovascular disease and compression of morbidity. JAMA Cardiology 2018; 3(4): 280-7. doi:10.1001/jamacardio.2018.0022
6. Mokhayeri, Y., Riahi, S. M., Rahimzadeh, S., Pourhoseingholi, M. A., & Hashemi-Nazari, S. S. Metabolic syndrome prevalence in the Iranian adult's general population and its trend: A systematic review and meta-analysis of observational studies. Diabetes & Metabolic Syndrome: Clinical Research & Reviews 2018;12(3):441-53. doi:10.1016/j.dsx. 2017. 12.023
7. Wali, M., & Ram, C. V. Metabolic syndrome in South Asians. Metabolic Syndrome. 2015:1-14. doi:10.1007/978-3-319-12125-3_7-1
8. Teerawattananon, Y., Luz, A. Obesity in Thailand and its economic cost estimation. Tokyo: Asian Development Bank Institute. Available: https://www.adb.org/publications/obesity-thailand-and-its-economic-cost-estimation/. Accessed May 10 2019.
9. Chupanit, P., Muktabhant, B., & Schelp, F. P. Dietary patterns and their association with the components of metabolic syndrome: a cross-sectional study of adults from northeast Thailand. F1000Research 2018;7: 905-10. doi: 10.12688/ f1000research.15075.1
10. Papier, K. O., Jordan, S., D'Este, C., Banwell, C., Yiengprugsawan, V., Seubsman, S., & Sleigh. A. Social demography of transitional dietary patterns in Thailand: prospective evidence from the Thai Cohort Study. Nutrients 2017;9(11):1173-76.doi:10.3390/nu 9111173
11. Yamaoka K, Tango T. Effects of lifestyle modification on metabolic syndrome: a systematic review and meta-analysis. BioMed Medicine 2017;10(1):138-47.doi:10.1186/1741-7015-10-138
12. Lin Y, Chang H, Tseng Y, Lin M, Chen Y, Yang H, et al. Characteristics and health behavior of newly developed metabolic syndrome among community-dwelling elderly in Taiwan. International Journal of Gerontology 2016; 7(2):90-6. doi:10.1097/md.00000000000 08838
13. Vareesh, V.G. Study to Assess the knowledge regarding lifestyle modification among clients with metabolic syndrome. International Journal of Nursing Didactics 2016; 6(2): 1-10. doi:10.15520/ijnd.2016.vol6. iss2.137.30-32.
14. Young Hong, M. The effect of social cognitive theory-based interventions on dietary behavior within children. Journal of Nutritional Health & Food Science 2016;4(5):1-9. doi:10.15226/jnhfs.2016.001 79
15. Oyibo, K., Adaji, I., & Vassileva, J. Social cognitive determinants of exercise behavior in the context of behavior modeling: a mixed method approach. Digital Health 2018;4:1-10. doi:10.1177/2055207618811555
16. Higgs S. Social norms and their influence on eating behaviours. Appetite 2017;86:38-44. doi:10.1016/j.appet.2014.10.021
17. Lycett, K., Miller, A., Knox, A., Dunn, S., Kerr, J. A., Sung, V., & Wake, M. 'Nudge' interventions for improving children's dietary behaviors in the home: a systematic review. Obesity Medicine 2017;7:21-33. doi:10.1016/j.obmed.2017.06.001
18. Tucunduva Philippi, S., Guerra, P. H., & Barco Leme, A. C. Health behavioral theories used to explain dietary behaviors in adolescents: a systematic review. Nutrire 2016;41(1). doi:10.1186/s41110-016-0023-9
19. Cox, V., Mann, L., Blotnicky ,K., Rossiter, M. University students' eating behaviors: implications for the social cognitive theory. International Journal of Health Sciences 2017;5(4):25-37. doi: 10.15640/ijhs.v5n4a3
20. Sandelowski, M. A matter of taste: evaluating the quality of qualitative research. Nursing Inquiry 2015;22(2):86-94. doi: 10.111/nin.12080.
21. Editor, T. Blood Cholesterol Treatment: The National Cholesterol Education Program (NCEP) Adult Treatment Panel (ATP) Guideline. BIRDEM Medical Journal 2016;5(2):68-72. doi:10.3329/birdem.v5i2.28382

22. Miles, M. B., Huberman, A. M., & Saldana, J. Qualitative data analysis: a methods sourcebook. Thousand Oaks, CA: SAGE Publications 2018.
23. Lincoln YS, Guba EG. Naturalistic inquiry SAGE Publishing; 1985 [cited 2019 January 11]. Available from: https://uk.sagepub.com/en-gb/asi/naturalistic-inquiry/book842#preview.
24. Al-Kayyis H, Perwitasari D. Illness perception and quality of life in type 2 diabetes mellitus patients in Lampung, Indonesia. Global Journal of Health Science 2018; 10(7): 136-40. doi:10.1155/2018/1654530
25. Kugbey N, Oppong Asante K, Adulai K. Illness perception, diabetes knowledge and self-care practices among type-2 diabetes patients: a cross-sectional study. BioMed Research Notes 2017;10(1):20-30. doi:10.1186/s13104-017-2707-5
26. Ezenwaka C, Okoye O, Esonwune C, Onuoha P, Dioka C, Osuji C, et al. High prevalence of abdominal obesity increases the risk of the metabolic syndrome in nigerian type 2 diabetes patients: Using the International Diabetes Federation Worldwide 3 definition. Metabolic Syndrome and Related Disorders 2016;12(5):277-82. doi:10.1089/met.2013.0139
27. Lowe, J. B. Thefuture of health behavior research. Health Behavior Research 2017;1(1).35-39. doi:10.4148/2572-1836.1008
28. Boonsatean, W. The influences of income and education on the illness perception and self-management of Thai adults with type 2 diabetes. Diabetes & Metabolic Disorders 2016;3(2):1-8. doi:10.24966/dmd-201x/100017
29. Nasir, K. M. Youth resistance through cultural consumption. Globalized Muslim Youth in the Asia Pacific. 2016:151-189.
30. Polivy, J. What's that you're eating? Social comparison and eating behavior. Journal of Eating Disorders 2017;5(1):1-5. doi:10.1186/s40337-017-0148-0
31. Shi, Z., Papier, K., Yiengprugsawan, V., Kelly, M., Seubsman, S., & Sleigh, A. Dietary patterns associated with hypertension risk among adults in Thailand: eight-year findings from the Thai Cohort Study. Proceedings of the Nutrition Society 2018;22(2):307-13. doi:10.1017/s0029665118001994
32. Chupanit, P., Muktabhant, B., & Schelp, F. P. Dietary patterns and their association with the components of metabolic syndrome: A cross-sectional study of adults from northeast Thailand. F1000Research 2019;7:905-10. doi:10.12688/f1000 research.15075.1
33. Puddephatt, J., Keenan, G., Fielden, A., Reaves, D., Halford, J., & Hardman, C. 'Eating to survive': A qualitative analysis of factors influencing food choice and eating behaviour in a food-insecure population 2019. doi:10.31234/osf.io/m74ge
34. Sturgiss, E., Madigan, C. D., Klein, D., Elmitt, N., & Douglas, K. Metabolic syndrome and weight management programs in primary care: a comparison of three international healthcare systems. Australian Journal of Primary Health 2018;24(5):372-80. doi:10.1071/py18021
35. Zhu, Y., & Hollis, J. H. Associations between eating frequency and energy intake, energy density, diet quality and body weight status in adults from the USA. British Journal of Nutrition 2016; 115(12):2138-44.doi:10.1017s0007114516001112
36. Dietary Patterns in Metabolic Syndrome. Nutritional Intervention in Metabolic Syndrome 2015:403-4. doi:10.1201/b19099-31
37. Guest, G., Namey, E., & McKenna, K. How many focus groups are enough? Building an evidence base for nonprobability sample sizes. Field Methods. 2016 29(1): 3-22. doi:10.1177/1525822x16639015
38. Blackford K, Jancey J, Lee A, James A, Howat P, Hills A, et al. A randomised controlled trial of a physical activity and nutrition program targeting middle-aged adults at risk of metabolic syndrome in a disadvantaged rural community. BioMed Public Health 2015;15:284-10. doi:10.1186/s12889-015-1613-9

การศึกษาเชิงคุณภาพของการรับรู้เกี่ยวกับพฤติกรรมการรับประทานอาหารและภาวะเมตาบอลิกซินโดรมในประเทศไทย

จริยา ทรัพย์เรือง อาภรณ์ ดีนาน จินตนา วัชรสินธุ์*

บทคัดย่อ: ภาวะเมตาบอลิกซินโดรมนำไปสู่โรคเรื้อรังหลายชนิด และมีอัตราการเกิดเพิ่มขึ้นสูงในประเทศไทย พฤติกรรมการรับประทานอาหารมีบทบาทสำคัญในพัฒนาการของภาวะเมตาบอลิกซินโดรม การวิจัยเชิงคุณภาพครั้งนี้ มีเป้าหมายเพื่ออธิบายการรับรู้ของผู้ที่มีภาวะเมตาบอลิกซินโดรมเกี่ยวกับภาวะเมตาบอลิกซินโดรมและพฤติกรรมการรับประทานอาหาร กลุ่มตัวอย่าง ได้แก่ ผู้ที่เข้าเกณฑ์ของภาวะเมตาบอลิกซินโดรม (NCEP ATP III) ผู้วิจัยจัดกลุ่มสนทนา ณ โรงพยาบาลส่งเสริมสุขภาพตำบล จำนวน 2 ครั้ง (ผู้เข้าร่วมวิจัย 12 คนต่อกลุ่ม) เครื่องมือที่ใช้ ได้แก่ ข้อมูลทั่วไป แนวคำถามกึ่งโครงสร้าง เครื่องบันทึกเสียง กระดาษบันทึกการสนทนา วิเคราะห์ข้อมูลโดยการวิเคราะห์เนื้อหาตามวิธีการของ Miles and Huberman ผลการวิเคราะห์ข้อมูล พบข้อค้นพบสามประเด็น: ประเด็นแรกการรับรู้เกี่ยวกับกลุ่มอาการของโรคเมตาบอลิซึม แบ่งเป็นสองข้อย่อย คือ มันเป็นเพียงไขมัน หน้าท้องใหญ่ และความอ้วนเป็นแหล่งที่มาของโรคต่างๆ แต่ฉันก็ยังรู้สึกเหมือนคนทั่วไป ประเด็นสองปัจจัยที่เกี่ยวข้องกับพฤติกรรมการกินของผู้ที่มีภาวะเมตาบอลิกซินโดรม แบ่งเป็นสี่ข้อย่อย คือ อารมณ์ความรู้สึกที่มีอิทธิพลต่อพฤติกรรมการกิน ความคิดที่เกี่ยวข้องกับพฤติกรรมการกิน สังคม-สิ่งแวดล้อมกระตุ้นพฤติกรรมการกิน และวัฒนธรรมส่งผลต่อพฤติกรรมการกิน ประเด็นที่สามการจัดการพฤติกรรมการกิน แบ่งเป็นสองข้อย่อย คือ ความสำเร็จในการเปลี่ยนพฤติกรรมการกิน และความล้มเหลวในการเปลี่ยนพฤติกรรมการกิน ข้อค้นพบครั้งนี้ทำให้เข้าใจเพิ่มขึ้นเกี่ยวกับการรับรู้ของผู้ที่มีภาวะเมตาบอลิกซินโดรมเกี่ยวข้องกับภาวะเมตาบอลิกซินโดรมและพฤติกรรมการรับประทานอาหาร รวมทั้งความพยายามในการจัดการพฤติกรรมการรับประทานอาหาร ข้อเสนอแนะจากการศึกษาครั้งนี้ ได้แก่ บุคลากรด้านสุขภาพควรประเมินและให้ความรู้แก่ประชาชนเกี่ยวกับภาวะเมตาบอลิกซินโดรม ผลกระทบ และการจัดการ ควรทำการคัดกรองผู้ที่มีความเสี่ยงเพื่อป้องกันและลดความรุนแรงของภาวะเมตาบอลิกซินโดรม และควรศึกษาวิจัยเพิ่มเติมเกี่ยวกับวิธีในการป้องกันและลดภาวะเมตาบอลิกซินโดรม

Pacific Rim Int J Nurs Res 2020; 24(2) 234-245

คำสำคัญ: การรับรู้, ภาวะเมตาบอลิกซินโดรม, พฤติกรรมการรับประทานอาหาร, การสนทนากลุ่ม

จริยา ทรัพย์เรือง *นิสิตหลักสูตรปรัชญาดุษฎีบัณฑิต สาขาการพยาบาล (หลักสูตรนานาชาติ) คณะพยาบาลศาสตร์ มหาวิทยาลัยบูรพา*
E-mail: supruang@gmail.com
ติดต่อที่: อาภรณ์ ดีนาน *รองศาสตราจารย์คณะพยาบาลศาสตร์ มหาวิทยาลัยบูรพา*
E-mail: aporn d@buu.ac.th
จินตนา วัชรสินธุ์ *รองศาสตราจารย์ คณะพยาบาลศาสตร์ มหาวิทยาลัยบูรพา*
E-mail: Chintana@buu.ac.th