

## Health-related behavior of the people who neglect the specific health guidance for metabolic syndrome control

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### ABSTRACT

In 2008, Japan introduced a metabolic syndrome screening and intervention program specifically targeting individuals aged 40 to 74 years of age. However, the consultation and follow-up rates for the intervention are still low. The present study aims to identify characteristics of health-related behavior of the people who neglect it. We conducted a group interview targeting public health nurses and qualified dietitians of “A” prefectural branch office of the Japan Health Insurance Association who were regularly involved in performing the intervention. Qualitative content analysis was used to analyze the data, and four themes were extracted: Self-taught practices, Defiance, Hesitation, and Resignation. Our results suggest that the public health advisors recognize the importance of modification of clients’ health-related misperception, improve their skills to develop a positive rapport with clients, and be involved in creating a supportive environment conducive to a healthy lifestyle.

**Keywords:** metabolic syndrome, health guidance, Health Belief Model, self-efficacy, health information source

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### INTRODUCTION

Metabolic syndrome is a cluster of conditions: increased blood pressure, high blood sugar, excess body fat around the waist, and abnormal cholesterol or triglyceride levels.<sup>1,2</sup> It is characterized by excess accumulation of visceral fat which is closely associated with the onset of hyperglycemia, dyslipidemia or hypertension.<sup>2</sup> Metabolic syndrome is predominantly linked to unhealthy lifestyle including lack of physical exercise, overeating, alcohol consumption and smoking.<sup>1,2</sup> Acknowledging the growing burden of lifestyle-related diseases, United Nations and World Health Organization recommended the development of a global strategy on diet, physical activity and health.<sup>3,4</sup>

In April of 2008, Japan introduced a metabolic syndrome screening and intervention program specifically targeting individuals aged 40 to 74 years of age.<sup>5,6</sup> The program is composed of a specific health checkup called “*Tokutei Kenshin*” and a specific health guidance or “*Tokutei*

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*Hoken Shido (THS)*” involving counseling by public health nurses or qualified dietitians. The public health insurance bodies are mandated to provide these services to the beneficiaries without additional charges. Fujii et al and Ryo et al reported that lifestyle intervention programs help reduce the risks related to metabolic syndrome in Japanese community settings.<sup>7,8</sup>

However, the consultation and follow-up rates for THS are still low.<sup>9</sup> The transtheoretical model<sup>10,11</sup> suggests that people in the *Precontemplation stage*, that is people who are not yet ready to change their health-related behavior, do not intend to take action in the foreseeable future, usually measured as the next six months. Being uninformed or under informed about the consequences of one’s behavior may cause a person to be in the *Precontemplation stage*. The Ministry of Health, Labor and Welfare and insurers such as municipalities or companies have launched a campaign to encourage people to seek health guidance.<sup>12</sup>

Nevertheless, the efforts deployed have not fully met the needs of the target group. The literature review reveals the specific individual-level barriers against seeking out the THS: overestimation of the value of complementary and alternative treatment,<sup>13,14</sup> internet use for health information seeking,<sup>15,16</sup> lack of time to start exercising regularly,<sup>17,18</sup> and lack of motivation to engage in health-related behaviors.<sup>19</sup> However, such evidence is still fragmented and far from satisfactory to provide THS and incentives for behavior change efficiently. The aim of the present study is to comprehensively identify characteristics of health-related behavior of the people who neglect the THS.

## METHOD

The study was conducted at “A” prefectural branch office of the Japan Health Insurance Association (JHIA), which is the largest public insurance body covering about 37 million small-business employees and their families. It carries out health promotion campaigns and provides education services to the insured and their employers. “A” prefecture includes a mega city with two million people, agricultural areas, and remote areas such as hilly areas and small islands. It also has a wide variety of industrial structures from agriculture, manufacturing industry, and services and retails.

In July 2017, we conducted a group interview targeting public health nurses and qualified dietitians who were regularly involved in performing the THS. Nineteen female participants attended the interview as a part of job-related training (Table 1). The interview was conducted using single open-ended question “What are distinct health behavior profiles of the people who neglect the THS?” to capture the study participants’ experiences of caring them, comprehensively and unintentionally. The interview was carried out in a quiet meeting room of JHIA prefectural branch office by the first author, a physician with ample qualitative research experience. The interview lasted about 60 minutes, was audio-recorded, and transcribed word for word.

Qualitative content analysis was used to systematically identify ideas and patterns emerging from the qualitative data.<sup>20</sup> The process began with several readings of all the transcriptions to familiarize the authors with the overall content of the data, which was finally arranged into meaning units in order to identify emerging topics. Subsequently, meaning units were clustered into common meaning groups in order to identify larger themes emerging from the data. The participants were contacted after data analysis in order to validate the transcriptions and analysis. All the participants recognized the transcriptions and made no further comments. At each stage of the process, the findings were discussed with the other authors and the participants to make sure they were interpreted accurately. In case of differing opinions, theme identification was decided by consensus.

**Table 1** Participant characteristics

Participant	Occupational Category	Age
Group 1		
1-A	Public health nurse	50's
1-B	Public health nurse	30's
1-C	Registered dietitian	40's
1-D	Registered dietitian	30's
Group 2		
2-A	Public health nurse	50's
2-B	Public health nurse	40's
2-C	Public health nurse	30's
2-D	Registered dietitian	50's
2-E	Registered dietitian	30's
Group 3		
3-A	Public health nurse	60's
3-B	Public health nurse	40's
3-C	Registered dietitian	50's
3-D	Registered dietitian	20's
Group 4		
4-A	Public health nurse	50's
4-B	Public health nurse	50's
4-C	Registered dietitian	30's
4-D	Registered dietitian	30's
Group 5		
5-A	Public health nurse	50's
5-B	Public health nurse	30's

This study was approved by the Bioethics Review Committee of the Nagoya University School of Medicine prior to the investigation (approval number 2016-0247).

## RESULTS

Four themes were extracted: Self-taught practices, Defiance, Hesitation, and Resignation (Table 2).

### *Self-taught practices*

Study participants reported that some of their clients relied on unique self-care practices that were in some cases bad for their health. These habits include poor diet methods involving the use of weight-loss supplements.

*“A client of mine says that she drinks weight loss shakes used by celebrities to lose weight,*

**Table 2** Content analysis group organization: themes, subthemes and meaning units

Theme	Subtheme	Meaning unit
Self-taught practices	Unusual health management method	A client drinks weight loss shakes promoted by celebrities to lose weight.
		Some clients who are into muscle training tend to follow their own nutritional regime.
	Dangerous weight-loss methods	Some clients consider taking diet pills.
		Some clients go on a crash diet to lose weight.
	Futile efforts	Some clients are committed to losing weight but ultimately don't make much progress.
Some clients find it difficult to stay motivated during weight loss.		
Defiance	Critical attitude	Some clients don't see the point to the guidance and wonder why they have to be subjected to it.
	Hospital aversion	Some clients refuse to go to the hospital for further testing despite poor test results.
Hesitation	Peer pressure	A client finds it difficult to quit smoking because his colleagues smoke around him.
	Parental worry	A client thinks that his parents would worry if he ate less and lost weight.
Resignation	Apathy	Some clients are complacent and lack the drive to diet or exercise.
		Some clients do not care at all about having abnormal clinical test values.
	External locus of control	Some clients claim they can't find the time to exercise.
		Some clients say that they have a genetic predisposition to obesity.

*but she recognizes that her efforts have been unsuccessful.” (1-A)*

*“Some people who practice muscle training tend to follow their own nutritional regime and do not wish to comply with our recommended diet.” (2-A)*

Study participants mentioned that a number of clients were eager to improve their lifestyle but failed to make any progress.

*“Some clients say that they are doing their very best, but ultimately they don't seem to be making any progress.” (4-B)*

### *Defiance*

Some clients expressed uncooperative or critical attitudes towards THS. Some even got angry with their counselors.

*“Some clients insisted that they simply did not want to go to the hospital in spite of their poor test results.” (2-C)*

*“Some clients could not see the point to this type of guidance and wondered why they had to be subjected to it.” (1-A)*

#### *Hesitation*

Study participants reported that some clients were worried about how people around them would react if they suddenly changed their lifestyle. They also indicated that some clients expressed no interest in adopting a healthy lifestyle.

*“A client says that he is not at will to eat less and lose weight because if he did, his parents would worry.” (2-E)*

*“A client says that he finds it very difficult to quit smoking because his colleagues smoke around him.” (5-A)*

#### *Resignation*

Some clients expressed feelings of hopelessness and despair toward THS. Some also appeared to think that there was no point in making any type of lifestyle change.

*“When I pointed out to my client that his clinical test values were abnormal, he said that he didn’t care one way or another.” (1-D)*

*“Some clients come up with excuses to avoid making changes, saying that it would be difficult for them to go on a diet due to excessive pressure at work or referring to their natural tendency to be overweight.” (2-D)*

## DISCUSSION

We focused on the difficulties of providing the THS to the people who are not receptive to the program, and found qualitative evidence of specific behavioral characteristics. We found that people who do not respond well to the health guidance do so either because of disbelief, self-abandonment, or self-consciousness.

Our results suggested that some of the people who neglect the THS were strongly convinced of the benefits of other types of programs to stay fit and healthy, promoted by mass media, that could be explained by perceived benefits to action in the Health Belief Model.<sup>11,21</sup> The model, which is one of the most widely applied theories of health behavior, posits that six constructs predict health behavior: risk susceptibility, risk severity, benefits to action, barriers to action, self-efficacy, and cues to action. These people were taken away from receiving proper care by their own health information sources that are neither trustworthy nor knowledgeable. A number of studies have underscored the fact that many lay people obtain health information from unreliable sources such as magazines, TV or Internet; in most cases, such information was not authored by medical professionals and possibly to be scientifically unsound.<sup>22</sup>

As shown in Defiance, we noticed that some clients had uncooperative or indifferent attitudes, thus, it is needed to set up training programs for assessing clients’ attitudes about their own health, developing a positive rapport with them, and providing customized counseling services in the THS. Developing a rapport with clients is regarded as a minimum requirement for all health care professionals including physicians, nurses, pharmacists and nutritionists; however, Yoshiura et al<sup>23</sup> suggested that more than half of the nutritionists did not know how to build a good rapport with clients. Counselors could help create an effective training program to improve the THS advisors’ counseling skills.

Although THS focuses on personal lifestyle changes related to metabolic syndrome, our results also underscore the need for awareness among the THS advisors for the importance of social support in the workplace. Hesitation and Resignation are explained by self-efficacy and cues to action in the Health Belief Model.<sup>11,21</sup> Numerous studies and literatures have described the close correlation between social support and both self-efficacy and cues to action.<sup>11,24,25</sup> The subtheme “Peer pressure” and “Parental worry” in Hesitation are also well explained by normative beliefs in the Theory of Planned Behavior.<sup>26,27</sup> The theory is one of the most widely applied theoretical models and has been found to be effective in predicting a range of health intentions and behaviors, including dietary behaviors, physical activity, and health screening behavior. According to the theory, beliefs about the normative expectations of others and motivation to comply with these expectations (normative beliefs) result in perceived peer pressure or subjective norm. The theory also states that attitude toward behavior, subjective norms, and perceived behavioral control, together shape an individual’s behavioral intentions and behaviors. Workplace environment such as peer pressure has an impact on health-related behavior of employees; thus, THS advisors, company medical advisors and industrial social workers should collaborate in creating a supportive environment conducive to a healthy lifestyle.

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#### CONFLICT OF INTEREST

The authors have no conflicts of interest directly relevant to the content of this article.

#### IMPLICATIONS FOR POLICY & PRACTICE

Some of the clients who neglect the health guidance were strongly convinced of the benefits of other types of programs to stay fit and healthy, promoted by mass media such as magazines, TV or Internet

It is needed to set up training programs for assessing clients’ attitudes about their own health, in order to develop a positive rapport with uncooperative or indifferent attitudes and to provide customized advisory services.

Workplace environment has an impact on health-related behavior of employees; thus, THS advisors, company medical advisors and industrial social workers should collaborate in creating a supportive environment conducive to a healthy lifestyle.

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