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Awareness of Blood Pressure or Blood Sugar Level and Subjective Body Weight Perception Impacts the Likelihood of Weight Loss Attempts among Overweight and Obese Adults: A Secondary Data Analysis

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Purpose: This study investigated the associations of awareness of blood pressure or blood sugar levels and subjective body weight perception with weight loss attempts in overweight and obese adults. **Methods:** For this cross-sectional, descriptive, survey-based study, data were obtained from the 2021 Community Health Survey conducted by the Korea Disease Control and Prevention Agency. The participants (*N*=6,571) were adult residents (≥19 years old) of northern Gyeonggi Province in Korea with body mass indexes of 23 kg/m^2 or greater. **Results:** The average age of the participants was 53.11±16.56 years, with a range of 19 to 100 years. Among the participants, 73.2% responded that they had tried to maintain or lose weight in the past year. The prevalence of weight loss attempts was higher among participants with certain demographic characteristics-women (who comprised 39.2% of the study sample), younger individuals, and those with higher education levels-than among their counterparts. **Conclusion:** Participants who were aware of their blood pressure or blood sugar levels and those with a perception of normal or obese body weight were more likely to attempt weight control than participants without these characteristics. Therefore, encouraging individuals to become aware of their blood pressure or blood sugar levels and to maintain an accurate perception of body weight may motivate them to attempt weight management.

Key Words: Adult; Obesity; Weight control; Weight loss

INTRODUCTION

Obesity is characterized by an excess of body fat, and its prevalence has risen due to modernization in diet and lifestyle. The World Health Organization has reported that 39.0% of adults worldwide are overweight, while 13.0% are obese [1]. In Korea, between 31.3% and 34.4% of adults are considered obese, using a Body Mass Index (BMI) threshold of 25 kg/m^2 and data from 2019~2020 [2,3]. The prevalence of adult obesity in some cities within Korea's northern Gyeonggi Province was 37.0% in 2019 and 34.8% in 2020 [4]; this is slightly higher than the Korean average, indicating regional disparities. The increasing prevalence of obesity has become a serious societal issue. Obesity is associated with the exacerbation of diabetes, dyslipidemia, and cardiovascular and cerebrovascular diseases [5,6], as well as adverse impacts on the immune system and chronic inflammation [7]. This underscores the importance of weight management as a crucial health-promoting behavior. A reduction of 1 kg in body weight can decrease blood pressure by 1 mmHg [8] and the abdominal fat area by 10 cm^2 [9]. Moreover, weight loss is associated with lowered blood pressure or blood glucose levels [10,11], a reduced prevalence of cardiovascular disease [12], and, ultimately, a decrease in mortality [13].

As evidenced by these research findings, weight loss is a

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fundamental health-promoting behavior; however, regional health statistics data from the Korea Community Health Survey (KCHS), Korea's annual nationwide survey, reveal that the prevalence of obesity (BMI $\geq$25 kg/m^2) in Seoul has risen from 22.5% in 2011 to 29.2% in 2021. This increase is even more pronounced in Gyeonggi Province, where obesity rates climbed from 23.4% to 31.6% over the same period. Furthermore, the prevalence of weight loss attempts, defined as the percentage of individuals who have tried to lose or maintain weight in the past year, was 67.1% in Gyeonggi Province compared to 72.0% in Seoul. This rate in Gyeonggi Province is higher than in provincial areas (e.g., Gyeongsangnam Province or Chungcheongbuk Province) but lower than in metropolitan cities (e.g., Busan or Daegu) [14]. Some regions of northern Gyeonggi Province have no tertiary hospitals and only a limited number of public health centers. Given the recent population influx into northern Gyeonggi Province, it is essential to examine the health behaviors, obesity, and weight loss efforts among residents.

A weight loss attempt can be influenced by a variety of factors, including personal characteristics such as age, gender, and education level. One study indicated that weight loss behavior among Koreans varies depending on gender, education level, perceived health status, and BMI [15]; however, this finding has not garnered much attention in subsequent research. Weight loss attempts have also been reported to potentially be associated with perceived sensitivities, such as awareness of blood pressure or blood sugar levels, perception of self-body image or weight, and awareness of unhealthy nutrition [16-18]. The results of previous studies on the relationship between subjective weight perception and weight control behaviors have been inconsistent. In one study, researchers found that unawareness of weight excess can hinder weight loss attempts, and experiences or perceptions of memories can counteract the desire to lose weight [19]. However, another study found no evidence to suggest that accurate recognition of overweight status leads to a lower BMI [20]. Research on weight loss has examined various aspects of weight loss efforts, such as the relationship between self-regulation ability and self-efficacy [21], the effects of intermittent fasting on weight loss [22], and unhealthy weight loss behaviors [23].

The Korea Disease Control and Prevention Agency (KDCA) carries out a nationwide annual health survey at the community level, in collaboration with public health centers, with the aim of laying the groundwork for regional health promotion projects based on scientific evidence. To this end, raw data are obtained for each municipality and province and made available in the form of comprehensive national health statistics; this allows for regional comparative analysis and generalization of research findings. In this context, the present study utilized data from the KCHS to investigate the potential relationship between weight loss attempts and awareness of personal blood pressure or blood sugar levels, as well as subjective body weight perception, among overweight or obese adults in northern Gyeonggi Province. The findings of this study are anticipated to provide valuable information for the planning and implementation of weight loss or obesity intervention programs. This study aims 1) to examine the awareness rates of blood pressure and blood sugar, subjective body weight perception, and weight loss attempt rates among the study participants, and 2) to investigate the relationship between awareness of blood pressure and blood sugar, subjective body weight perception, and weight loss attempts.

METHODS

1. Study Design

This study is a descriptive, cross-sectional, correlational investigation involving a secondary analysis of data from the 2021 KCHS.

2. Research Participants

The participants in this study met all of the following selection criteria: 1) residents of 10 cities located in northern Gyeonggi Province, as included in the 2021 KCHS; 2) adults (aged 19 years or older); and 3) overweight or obese individuals (BMI of 23 kg/m^2 or higher) [24]. BMI was calculated using the participant's height and weight.

3. Definitions and Measurements of Research Variables

1) Independent variables

Five sociodemographic characteristics were analyzed: gender, age, education level, occupation, and residential area. Additionally, three health-related variables were considered: awareness of blood pressure, awareness of blood sugar level, and subjective body weight perception. Awareness of blood pressure or blood sugar level was determined by an affirmative response to the question, "Do you know your blood pressure or blood sugar level?" For subjective body weight perception, respondents were asked to select one of three options (thin, normal, or obese) in response to the question, "What do you think about your current body weight?".

2) Dependent variables

In this study, the dependent variable was attempted weight loss, defined as trying to lose or maintain weight in the past year [14]. Participants indicated their engagement in weight loss attempts by responding affirmatively to either "I have tried to lose weight over the past year" or "I have tried not to gain weight over the past year" when asked, "Have you tried to lose or not gain weight over the past year?"

4. Data Collection

This study utilized raw data from the 2021 KCHS. The KCHS is an annual nationwide sample survey conducted by the KDCA to assess the health status of local residents and generate statistical data for the development and evaluation of evidence-based health policies. The KCHS data were derived from community-level surveys, with average samples of 900 adults (aged 19 years and older) from each of the country's 254 cities, counties, and districts (public health centers). For raw data collection, trained researchers visited the sampled households, explained the purpose of the KCHS to the respondents, obtained their consent to participate in the survey, and conducted a computer-assisted personal interview using a laptop computer on a one-to-one basis [3]. The present study was based on the publicly available 2021 KCHS data, which the researcher downloaded from the CHS website (https://chs.cdc.go.kr/chs/index.do).

5. Data Analysis

The data analysis was conducted using SPSS/WIN 26.0 (IBM Corp., Armonk, NY, USA). Since the sample from the KCHS was obtained through a complex sampling design, calculations accounted for stratification variables, cluster variables, and weighting. The data were analyzed employing the complex sampling method module.

The participants' general and health-related characteristics, awareness of blood pressure or blood sugar levels, subjective body weight perception, and weight loss attempts were analyzed using means, standard deviations, frequencies, and percentages. The x^2 test was performed to evaluate the differences in weight loss attempts based on general and health-related characteristics, awareness of blood pressure or blood sugar levels, and subjective body weight perception. A multivariable logistic regression analysis was performed to determine the factors influencing weight loss attempts. All results were reported as odds ratios and corresponding 95% Confidence Intervals (95% CIs). The threshold for statistical significance was set at a two-sided p-value $<.050$.

6. Ethical Considerations

The data utilized in this study are publicly available, and prior permission was obtained from the KDCA. The study protocol underwent review and approval by the institutional review board of the author's affiliated organization (EUIRB2022-009). The data provided by the KDCA are subject to data security and information protection requirements, ensuring protection against disclosure. Following a 3-year retention period from the study's completion date, the analyzed data will be securely discarded.

RESULTS

1. General and Health-related Characteristics of Participants

Among the 6,571 participants, men outnumbered women (60.8% vs. 39.2%). The age distribution (in years) was as follows: 19~29 (12.9%), 30s (15.4%), 40s (20.2%), 50s (22.6%), 60s (15.4%), and 70+ (13.5%), with the highest percentage in their 50s. The mean age of the participants was 53.11 ±16.51 years, and the age range was 19 to 100 years. The most common education level, occupation, and residential area were college or higher (43.6%), other occupations (including unemployed, housewives, students, and soldiers; 34.3%), and urban areas (74.2%), respectively. Regarding health-related characteristics, the majority of participants were aware of their blood pressure or blood sugar levels (yes=67.9%, no=32.1%). Most participants perceived their weight as obese (63.8%), followed by normal (34.5%) and thin (1.7%) (Table 1).

2. Prevalence of Weight Loss Attempts among Participants

Of the participants, 73.2% responded "yes" to the question inquiring whether they had attempted to lose or maintain weight. In an analysis by BMI category, 67.3% of the overweight group and 77.8% of the obese group answered "yes" to the same question (Table 1).

3. Differences in the Prevalence of Weight Loss Attempts Based on General And Health-related Characteristics

Table 2 presents the results concerning the differences

Table 1. General and Health-related Characteristics of Participants (*N*=6,571)

Variables	Categories	Overweight (25 kg/m^2 > BMI ≥ 23 kg/m^2)	Obesity (BMI ≥ 25 kg/m^2)	Total
		n (%)	n (%)	n (%)
Total		2,897 (43.6)	3,674 (56.4)	6,571 (100.0)
Gender	Men	1,525 (55.3)	2,162 (65.0)	3,687 (60.8)
	Women	1,372 (44.7)	1,512 (35.0)	2,884 (39.2)
Age (year)	19~29	256 (11.6)	393 (13.9)	649 (12.9)
	30~39	295 (12.3)	545 (17.8)	840 (15.4)
	40~49	482 (18.3)	763 (21.7)	1,245 (20.2)
	50~59	650 (24.3)	712 (21.2)	1,362 (22.6)
	60~69	608 (17.8)	672 (13.6)	1,280 (15.4)
	≥70	606 (15.8)	589 (11.8)	1,195 (13.5)
	M±SD (range)	54.96±16.44 (19~97)	51.64±16.51 (19~100)	53.11±16.56 (19~100)
Education	≤Elementary school	438 (10.9)	535 (9.7)	973 (10.2)
	Middle school	350 (9.2)	339 (6.9)	689 (7.9)
	High school	1,072 (37.8)	1,423 (38.7)	2,495 (38.3)
	≥College	1,026 (42.1)	1,369 (44.8)	2,395 (43.6)
Occupation	Professional/administrative management	457 (18.5)	596 (19.7)	1,053 (19.2)
	Office work	259 (9.8)	345 (11.2)	604 (10.6)
	Sales/service	409 (14.0)	565 (15.5)	974 (14.8)
	Agriculture, forestry, and fisheries	100 (1.1)	112 (1.2)	212 (1.1)
	Labor	564 (19.7)	742 (20.2)	1,306 (20.0)
	Other	1,107 (37.0)	1,314 (32.2)	2,421 (34.3)
Residential area	Urban	1,835 (74.7)	2,283 (73.8)	4,118 (74.2)
	Rural	1,062 (25.3)	1,391 (26.2)	2,453 (25.8)
Blood pressure or blood sugar awareness	Yes	2,001 (67.0)	2,575 (68.6)	4,576 (67.9)
	No	896 (33.0)	1,099 (31.4)	1,995 (32.1)
Subjective body weight perception	Thin	109 (3.3)	25 (0.5)	134 (1.7)
	Ordinary	1,665 (57.2)	682 (16.9)	2,347 (34.5)
	Obese	1,123 (39.5)	2,967 (82.6)	4,090 (63.8)
Attempted weight loss	Yes	1,835† (67.3)‡	2,794† (77.8)‡	4,629† (73.2)‡
	No	1,062† (32.7)‡	880† (22.2)‡	1,942† (26.8)‡

BMI=body mass index; M=mean; SD=standard deviation; †Unweighted number; ‡Weighted percent.

in the prevalence of weight loss attempts based on general and health-related characteristics. A significantly higher proportion of women attempted to lose weight (79.0% vs. 69.4%) than men (x^2=73.82, p<.001). By age, the highest prevalence of weight loss attempts was observed in individuals in their 30s (81.6%), while the lowest prevalence was found in those aged 70 years and older (47.6%), constituting a statistically significant finding (x^2=391.53, p<.001). Regarding education, the lowest prevalence (52.9%) was seen in individuals with an elementary school education or lower, and it increased with higher education levels, peaking in those with a college education or higher (80.3%) with statistical significance (x^2=259.40, p<.001). Office workers exhibited the highest prevalence of attempted weight loss (83.4%), while those employed in agriculture, forestry, and fisheries had the lowest prevalence (58.1%), reflecting a statistically significant difference (x^2=127.87, p<.001). Residents in urban areas (dong [neighborhood] administrative units) demonstrated a significantly higher prevalence than those in rural areas (eup/myeon [town/township] administrative units) (74.4% vs. 69.8%, respectively) (x^2=13.64, p=.003).

In terms of health-related characteristics, individuals who were aware of their blood pressure or blood sugar levels had a significantly higher percentage of weight loss attempts (74.2% vs. 71.0%) than those who were not (x^2=7.68, p=.18). Additionally, those who perceived their body weight as "obese" demonstrated a significantly higher

Table 2. Differences in Attempted Weight Loss according to General and Health-related Characteristics (*N*=6,571)

Variables	Categories	Yes	No	x^2 (*p*)
		n† (%)‡	n† (%)‡	
Gender	Men	2,432 (69.4)	1,255 (30.6)	73.82 (<.001)
	Women	2,197 (79.0)	687 (21.0)	
Age (year)	19~29	514 (78.9)	135 (21.1)	391.53 (<.001)
	30~39	683 (81.6)	157 (18.4)	
	40~49	986 (80.4)	259 (19.6)	
	50~59	1,017 (75.5)	345 (24.5)	
	60~69	861 (69.7)	419 (30.3)	
	≥70	568 (47.6)	259 (52.4)	
Education	≤Elementary school	504 (52.9)	469 (47.1)	259.40 (<.001)
	Middle school	418 (60.0)	271 (40.0)	
	High school	1,805 (73.5)	690 (26.5)	
	≥College	1,893 (80.3)	502 (19.7)	
Occupation	Professional/administrative management	827 (79.3)	226 (20.7)	127.87 (<.001)
	Office	487 (83.4)	117 (16.6)	
	Sales/service	746 (77.9)	228 (22.1)	
	Agriculture, forestry, and fisheries	104 (58.1)	108 (41.9)	
	Labor	876 (68.7)	430 (31.3)	
	Other	1,589 (67.8)	832 (32.2)	
Residential area	Urban	3,021 (74.4)	1,097 (25.6)	13.64 (.003)
	Rural	1,608 (69.8)	845 (30.2)	
Blood pressure or blood sugar awareness	Yes	3,276 (74.2)	1,300 (25.8)	7.68 (.018)
	No	1,353 (71.0)	642 (29.0)	
Subjective body weight perception	Thin	48 (38.1)	86 (61.9)	412.04 (<.001)
	Ordinary	1,299 (60.0)	1,048 (40.0)	
	Obese	3,282 (81.3)	808 (18.7)	

† Unweighted number; ‡ Weighted percent.

prevalence of weight loss attempts compared with those who perceived their body as "thin" or "normal" (81.3% vs. 38.1% and 60.0%, respectively) (x^2=412.04, p<.001).

4. Effects of General and Health-related Characteristics on Participants' Weight Loss Attempts

In model I (examining the prevalence of weight loss attempts based on general characteristics), women were 2.61 times more likely (95% CI=2.25~3.02, p<.001) to attempt weight loss than men. Additionally, the participants aged 19~29 years and those in their 30s were 3.37 times more likely (95% CI=2.53~4.48, p<.001) and 3.34 times more likely (95% CI=2.45~4.54, p<.001), respectively, to attempt weight loss than the participants in their 70s. Moreover, individuals with a college or higher education level were 2.40 times more likely (95% CI=1.83~3.16, p<.001) to attempt weight loss compared to those with an elementary school education or lower. However, the differences in the prevalence of weight loss attempts based on occupation and residential area were not statistically significant.

In model II (model I + health-related characteristics), the prevalence of weight loss attempts showed statistically significant differences based on gender, age, education level, awareness of blood pressure or blood sugar levels, and subjective perception of body weight. Women were 2.18 times more likely to attempt weight loss than men (95% CI=1.88~2.54, p<.001). Compared to those aged 70 years or older, individuals 19~29 years old were 3.16 times more likely to attempt weight loss (95% CI=2.31~4.33, p<.001), those in their 30s were 2.82 times more likely (95% CI=2.04~3.88, p<.001), those in their 40s were 2.80 times more likely (95% CI=2.13~3.68, p<.001), those in their 50s were 2.24 times more likely (95% CI=1.73~2.90, p<.001), and those in their 60s were 2.11 times more likely (95% CI=1.70~2.62, p<.001). Compared to individuals with an elementary school education or lower, those with a high school education had a 1.68-fold higher prevalence of attempted weight loss (95% CI=1.31~2.16, p<.001), and those with a college education or higher had a 2.21-fold higher prevalence (95% CI=1.66~2.95, p<.001). Individuals who were aware of their blood pressure or

Table 3. Effects of General and Health-related Characteristics on Attempted Weight Loss (*N*=6,551)†

Variables	Categories	Model I‡		Model II§	
		OR (95% CI)	*p*	OR (95% CI)	*p*
Gender	Men	1		1	
	Women	2.61 (2.25~3.02)	<.001	2.18 (1.88~2.54)	<.001
Age (year)	≥70	1	<.001	1	<.001
	19~29	3.37 (2.53~4.48)	<.001	3.16 (2.31~4.33)	<.001
	30~39	3.34 (2.45~4.54)	<.001	2.82 (2.04~3.88)	<.001
	40~49	3.15 (2.42~4.10)	<.001	2.80 (2.13~3.68)	<.001
	50~59	2.49 (1.95~3.18)	<.001	2.24 (1.73~2.90)	<.001
	60~69	2.32 (1.87~2.87)	<.001	2.11 (1.70~2.62)	<.001
Education	≤Elementary school	1		1	
	Middle school	1.17 (0.88~1.56)	.283	1.14 (0.85~1.54)	.388
	High school	1.80 (1.41~2.28)	<.001	1.68 (1.31~2.16)	<.001
	≥College	2.40 (1.83~3.16)	<.001	2.21 (1.66~2.95)	<.001
Occupation	Agriculture, forestry, and fisheries	1		1	
	Professional/administrative management	1.40 (0.82~2.41)	.217	1.33 (0.79~2.25)	.280
	Office	1.69 (0.98~2.93)	.061	1.59 (0.93~2.71)	.091
	Sales/service	1.38 (0.82~2.33)	.229	1.36 (0.82~2.26)	.240
	Labor	1.17 (0.70~1.96)	.545	1.15 (0.70~1.88)	.585
	Other	1.10 (0.66~1.84)	.709	1.09 (0.66~1.79)	.728
Residential area	Rural	1		1	
	Urban	1.08 (0.91~1.27)	.372	1.06 (0.90~1.26)	.471
Blood pressure or blood sugar awareness	No			1	
	Yes			1.28 (1.10~1.50)	.002
Subjective body weight perception	Thin			1	
	Ordinary			1.72 (1.10~2.70)	.017
	Obese			3.85 (2.47~6.00)	<.001

CI=confidence interval; OR=odds ratio; †Missing values of n=20 were excluded from analysis; ‡Nagelkerke R^2=.131, Cox and Snell R^2=.090; §Nagelkerke R^2=.176, Cox and Snell R^2=.121.

blood sugar levels were 1.28 times more likely to attempt weight loss than those who were not (95% CI=1.10~1.50, *p*=.002). Those who perceived their body image as normal or obese were more likely to attempt weight loss than those who perceived themselves as thin, with rates 1.72-fold (95% CI=1.10~2.70, *p*=.017) and 3.85-fold (95% CI=2.47~6.00, *p*<.001) higher, respectively. Differences based on occupation and residential area were not statistically significant (Table 3).

DISCUSSION

An essential factor in preventing chronic diseases and maintaining health in adults is preventing obesity. In this regard, overweight or obese adults must become aware of the importance of losing weight and striving to control their weight. In this study, we analyzed data from residents in northern Gyeonggi Province because this region has a lower penetration of healthcare facilities and services than other cities, counties, and districts across Korea. In the results, the prevalence rates of obesity and overweight among participants were 43.6% (n=2,897) and 56.4% (n=3,674), respectively, with about half of the individuals needing to lose weight. However, 26.8% of them reported not attempting to lose or maintain their weight in the past year. Consequently, it is crucial to adequately convey the severe health risks of obesity and the urgent need to lose weight. Additionally, it is essential to comprehend the reasons that people do not attempt weight loss and the factors influencing those attempts. Public health centers across the country, including in Gyeonggi Province, offer ongoing programs for managing chronic diseases associated with obesity. These programs include early detection, patient registration and follow-up management, prevention education, and publicity campaigns, as well as practical obesity prevention programs such as physical examinations, exercise education, dietary regimes and nutrition counseling, walking adherence, and self-help group formation [25]. Despite the availability of these programs through public health centers, it is necessary to acknowledge the high prevalence of overweight and explore measures to effectively implement such programs. Although

several weight control programs have been implemented in the past, the prevalence of overweight and obesity continues to increase. Some suggestions for addressing this ongoing issue include identifying the at-risk group, designing programs that focus on influencing factors, and implementing them continuously.

Weight loss attempts among participants varied according to their general and health-related characteristics, such as gender, age, education level, occupation, residential area, blood pressure, blood sugar level, and subjective body weight perception. Although women surpassed men in weight loss attempts, weight loss is more crucial for men due to their higher prevalence of smoking and drinking [26], lower prevalence of health-promoting behaviors [3], and higher prevalence of obesity-related hypertension or cardiovascular disease [27]. Additionally, older age was associated with fewer weight loss attempts. This finding warrants special attention, considering that the incidence of chronic diseases such as cardiovascular disease, hypertension, and diabetes increases due to overweight and obesity among middle-aged and older adults [28,29]. Moreover, a higher education level was associated with a greater prevalence of weight loss attempts. Education is the most critical factor in determining health literacy [30], which can empower individuals and lead to health-promoting behaviors [31]. More specifically, health behaviors such as weight loss attempts are associated with health literacy-the ability to obtain, understand, and apply health-related information-or socioeconomic level, which is in turn linked to health inequality [32]. Thus, it is essential to recognize that individuals with lower education levels are at risk for health inequality and tend to attempt weight loss less frequently.

The prevalence of weight loss attempts was found to be related to individuals' awareness of their blood pressure or blood sugar levels. Specifically, nearly one-third (30.4%) of the respondents reported that they did not know their blood pressure or blood sugar levels, and these participants made fewer weight loss attempts than those who were aware of these levels. Consequently, increasing awareness of personal blood pressure and blood sugar levels may encourage individuals to make weight loss attempts. Currently, public health centers across Korea conduct annual programs to raise awareness of blood pressure and blood sugar levels in the general population, under the slogan "Blood pressure- Know your score!" Such programs must be actively promoted to continue this effort. Furthermore, since obesity is a risk factor for hypertension and diabetes, overweight or obese individuals should be provided with opportunities to engage more actively in weight loss attempts. This can be achieved by emphasizing that reducing body weight can lower blood pressure [33] and that the effect of blood pressure control becomes particularly evident with a weight loss of more than 10% [34].

The analysis concerning participants' subjective body weight perception revealed that only 63.8% of those classified as overweight or obese (≥ 23 kg/m^2) perceived themselves as obese, while the remainder viewed themselves as thin or normal. Regarding the prevalence of weight loss attempts based on body weight perception, a greater proportion of individuals who perceived themselves as normal or obese made weight loss attempts than those who perceived themselves as thin. This indicates that although the perception of obesity leads to weight loss attempts, these efforts may not be made due to a distorted self-body image among obese individuals. This discrepancy between objective and subjective weight or distorted self-image has also been reported previously [11]. In effect, subjective body weight perception and shape influence weight loss attempts. For instance, normal-weight individuals who perceive themselves as obese tend to reduce carbohydrate intake, increase weight loss attempts [12], and engage more actively in exercises that are efficient for weight loss, such as walking rather than stretching [11]. Similarly, those with an obese self-image attempt weight loss [13] and tend to engage in health behaviors more actively than those without such a self-image [14]. These findings highlight the importance of an accurate perception of body weight and shape among obese or overweight individuals in attempted weight loss. Analyzing distorted self-image perceptions by age and gender and their relation to weight loss attempts could be an intriguing topic for future research. Based on the results of this study, we recommend prioritizing men, individuals over 50 years of age, and those with a low education level when planning weight control intervention programs. Furthermore, when designing an intervention program, we advise focusing on accurately recognizing one's own blood pressure, blood sugar level, and degree of obesity.

A limitation of this study is that the model did not include some relevant covariates, as this was a secondary analysis using data from the KCHS. The analysis was restricted to the variables present in the original survey data collection.

CONCLUSION

In conclusion, older individuals, men, and those with lower education levels are less likely to attempt weight

loss, placing these population groups at higher risk for obesity-related health consequences. It is essential to provide education to these individuals to foster accurate awareness and perceptions of their blood pressure, blood sugar levels, and subjective body weight perception. By increasing their sensitivity to weight gain, they may be more naturally inclined to attempt weight loss.

CONFLICTS OF INTEREST

The authors declare no conflict of interest. The funder had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript; or in the decision to publish the results.

AUTHORSHIP

Study conception and design acquisition - KW, OH and JM; Data collection Not Applicable; Analysis and interpretation of the data - JM; Drafting and critical revision of the manuscript - KW, JA, PG, OH and JM.

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