

## Housewives' Perception on Obesity Related Variables of Family According to Child Composition of Household

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### I. Introduction

Childhood overweight and obesity became more prevalent leading a growing health concern in recent years. Overweight in childhood is thought to advance to obesity in later stage of life (Dietz 1998; Power, Lake, and Cole 1997; Serdula et al. 1993). For managing childhood obesity, some studies demonstrated an efficacy of manipulative interventions of diet and exercise (Williams et al. 1998). But parental recognition on body weight and involvement in controlling healthy diet and physical

activity before a development of overweight may be desirable and successful (Elder, Zyzla, and Harris 1999; Golan et al. 1998).

Many studies reported the importance of parental influence in formulating eating behaviors and physical activity patterns of children and adolescents (Birch and Fisher 1998; Edmunds and Hill 1999; Field et al. 2005; Francis and Birch 2005; Klesges et al. 1990; Sallis et al. 1992; Satter 1996). Parents frequently involved in food selections and preparation, food context, and physical activity engagement of youngsters, which considered to be critical factors for growth

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and development without adverse health effects. But, prior to parent's involvement in controlling eating behavior and activity patterns, parents should be well aware of weight and health status of their children. Nevertheless, studies in diverse cultures and countries consistently provided evidences such that parents often do not accurately perceive weight status of their children, after all generally underestimated (Baughcum et al. 2000; Eckstein et al. 2006; Hirschler et al. 2006; Jeffery et al. 2005; Maynard et al. 2003; Ohzeki et al. 1996; Wake et al. 2002). It seems that parental accurate view about their child's body weight is the primary step for parental intervention and in developments of public health education programs (Jackson et al. 2005).

Sociocultural background may influence the parent's perception on child's body weight although some confounding factors may exist among studies. It has been reported that 25% of Australian, 21-32% of American, and 17.1% of United Kingdom mothers of overweight children recognized their child as overweight (Baughcum et al. 2000; Campbell et al. 2006; Carnell et al. 2005; Maynard et al. 2003). On the other hand, 76% of Argentinean mothers of overweight child rated their child as normal or thin, and Hispanic mothers demonstrated no congruence between their perception and actual size of their children (Hirschler et al.

2006; Reifsnider et al. 2006). Misperception of child's overweight status among samples of Hispanic and black parents has been reported (Ariza et al. 2004; Baughcum et al. 2000), but ethnicity did not significantly influence perception of the child weight status in other studies (Eckstein et al. 2006; Maynard et al. 2003). And the misperception is more likely common in mothers in less education and incomes, but not always (Baughcum et al. 2000; He and Evans 2007).

Although research data regarding mother's perception on their child's body weight have begun established recently, there are some shortage of information about mother's gender specific stereotypic belief on child's body weight. There are some indications that mothers perceived their son's body weight significantly less than the actual weight and the misperception was pronounced for the sons than daughters (He and Evans 2007; Ohzeki et al. 1996). This tendency was also shown at the Third National Health and Nutrition Examination Survey reporting that 14% of mothers of boys and 29% of mothers of girls at risk of overweight considered their children to be overweight (Maynard et al. 2003). However, this trend has not been supported in other study (Eckstein et al. 2006).

It can be predicted that the prototype of body weight and shape of child perceived by a mother is mainly relied on the sex of child,

and presumably the sex composition of children of the family. For example, parents are normally generous for the boys being musculature and big while expecting slim and thin for girls, and the perspective may be even strongly practiced in Asian society including Korea. Nevertheless, no studies have documented sex differences of maternal perception on their child's weight status according to the child sex composition of the family. And it is of interest to examine whether maternal perception for sons and daughters may be different. Therefore, this study was designed to explore how housewives recognize the body weight and obesity related parameters of their husbands and children and whether they perceive those parameters differently depending on the child sex composition of the family.

## II . Methods

### Participants

Middle aged housewives residing the Seoul Metropolitan Area in three separate communities, who originally participated in health promotion programs offered by local Community Health Centers were randomly and conveniently recruited. Potential participants were informed the nature of study and voluntarily agreed to participate. Those who had not fulfilled the study

requirements were excluded for the study and the final participants were 90.

### Questionnaire Construction

A questionnaires was developed by adapting items from a existing study (Baughcum et al. 2000). The questionnaire was constructed in 4 major areas: 1) family demographics, 2) participant's perception and attitudes about weight and health status of family, 3) eating behaviors of family members, and 4) participant's perception and practices about physical activity of family. The completion of questionnaire took about 3-5 min.

For demographics, age, sex, height, and weight of all family members were asked. The height and weight of participants were self-reported, but, if necessary, those of husband and children were measured by the participants.

The participants' perception of their husband's and children's weight and health status was asked "How do you think your husband's (child's) body weight?" And they responded to one of 11 point Likert scale ranged from -5 to +5, such as: "very underweight," "slightly underweight," "about average," "slightly overweight," or "very overweight." They responded to this question as many as the number of persons in her household. For example, they responded three times if she had a husband and two

children. They were also asked "How do you think your child's health status?" and responded to 11 point scale from -5 to +5; "very bad," "bad," "average," "good," or "very good."

The eating behavior of family members was assessed; "Do you think your husband (child) eat meals regularly?" with choices of "strongly disagree," "disagree," "not decidable or in between," "agree," or "strongly agree," and "How do you think your husband's (child's) daily caloric intake?" with choices of "too little," "little," "average," "much," or "too much."

The physical activity patterns were asked; "How do you think your child's activeness including exercise?" They responded to "very inactive," "inactive," "about average," "active," and "very active." They were also asked "Do you encourage your child to be active including exercise?" for responding to "strongly disagree," "disagree," "not decidable or in between," "agree," and "strongly agree." Related to watching TV and playing computers, they were asked "How many hours do they watch TV or play computers?" And they marked on appropriate number of hours.

#### **Questionnaire Administration**

Participants completed the questionnaire at each Community Health Center during the first week of ongoing health promotion

programs. The questionnaire was self-administered, but trained staffs were present on site, in case of assistance. When participants could not respond to any questions they were asked to come back to complete them at next visit. The distribution and collection of questionnaire were conducted between August and October, 2006.

#### **Anthropometric Measures**

In combination with completion of the questionnaire, waist and hip circumferences of all participants were measured on the day they visited the centers. All participants were given out a measuring tape and instructed techniques of measuring circumference of waist and hip. And they were asked to measure those circumferences of each individual in their families to report during the next visit.

#### **Data Analyses**

Body mass index (BMI) was calculated using reported value of height and weight in  $\text{kg}/\text{m}^2$ , and waist-hip ratio (WHR) was calculated. The acquired data by questionnaire were categorized and divided into three groups based on the child composition of the family; boys only (BO), girls only (GO), and boys and girls (BG) families. And BG was further divided into boys in BG and girls in BG.

Obtained data were expressed as mean and standard deviation. The group differences were compared using one-way analysis of variance. The interrelationships among housewife's perception and BMI and WHR were assessed by simple regression coefficients. Other relationships for children were evaluated using Pearson Correlation Coefficient. If necessary, the 11-point scale was reduced to a lesser number of category. Window SPSS package version 12.0 was utilized and the statistical significance were considered when  $p < .05$ .

### III. Results

The total number of housewives analyzed was 90. The BO, GO, and BG families were 37 (41.1%), 25 (27.8%), and 28 (31.1%), respectively. The boys in BO, girls in GO, boys in BG, and girls in BG were 47, 32, 21, and 25, respectively. Percentage of mothers by educational level was 14.5%, 31.1%, 52.2%, and 2.2%, in up to middle school (n=13), high school (n=28), college and above (n=47), and non-reported (n=2), respectively. The household average monthly income of <2,000 thousand, 2,000-4,000 thousand, and >4,000 thousand Korean Won was reported by 13 (14.4%), 34 (37.8%), and 27 (30%) housewives, respectively, and 16 (17.8%) did not report. The physical characteristics of the participants and family

Table 1. Age and Physical Characteristics of Housewives and Husbands

	Group	Age (yrs)	Height (cm)	Weight (kg)	BMI (kg/m <sup>2</sup> )	WHR	Waist Girth (cm)
Housewife	BO (37)	45.0± 8.6	158.3± 4.6	59.3± 8.6	23.7± 3.3	0.84± 0.07	78.8± 8.5
	GO (25)	42.0±10.1	156.0± 3.9	56.6± 8.1	23.2± 3.2	0.84± 0.07	77.8± 8.4
	BG (28)	39.0± 4.9 <sup>a</sup>	159.0± 4.3	57.3± 7.7	22.7± 3.2	0.84± 0.06	77.6± 8.3
	Total (90)	43.5± 8.1	157.9± 4.4	57.9± 8.2	23.2± 3.2	0.84± 0.07	78.2± 8.3
Husband	BO (37)	48.5± 9.4	171.0± 5.9	70.9± 7.2	24.2± 2.2	0.92± 0.06	87.9± 6.5
	GO (25)	49.9± 8.9	170.3± 4.9	69.0± 9.6	23.7± 2.6	0.89± 0.07	82.7± 8.1
	BG (28)	41.6± 5.3 <sup>a,b</sup>	171.9± 4.1	68.9± 7.4	23.3± 2.1	0.90± 0.04	85.2± 6.7
	Total (90)	46.7± 8.7	171.1± 5.1	69.8± 7.9	23.8± 2.3	0.91± 0.06	86.8± 6.7
Child	BO Boy (47)	16.9± 6.7	161.1±18.7 <sup>c</sup>	55.0±15.6 <sup>c</sup>	20.7± 3.0	0.86± 0.07 <sup>c</sup>	72.2±11.6
	GO Girl (32)	17.7± 7.3	152.4±15.1	46.8±13.4	19.6± 3.0	0.81± 0.08	68.2± 9.1
	BG Boy (21)	12.0± 4.6 <sup>a</sup>	147.5±20.5 <sup>a</sup>	40.4±14.8 <sup>a</sup>	17.9± 2.0 <sup>a</sup>	0.83± 0.05	63.8±10.1 <sup>a</sup>
	BG Girl (25)	11.8± 5.5 <sup>b</sup>	138.4±18.0 <sup>b</sup>	35.0±12.4 <sup>b</sup>	17.9± 2.5 <sup>b</sup>	0.83± 0.07	61.8± 8.1 <sup>b</sup>

Note. Values are presented as mean ± SD. BMI = body mass index; WHR = waist-to-hip ratio; BO = boys-only family; GO = girls-only family; BG = boys-&-girls family.

<sup>a,b</sup> Significantly different ( $p < .05$ ) from corresponding values of BO and GO, respectively.

<sup>c</sup> Significantly different ( $p < .05$ ) from corresponding values between boys and girls.

Table 2. Housewives' Perception on Body Weight and Health, Diet Behaviors, and Activeness of Family

Questionnaire item	Husband			Child			
	BO	GO	BG	BO (Boy)	GO (Girl)	BG (Boy)	BG (Girl)
Perception of body weight	1.31±1.45	0.13±2.45	0.00±2.40	0.25±1.87	0.44±2.15	-0.75±1.74 <sup>a</sup>	-0.13±2.21
Perception of activeness	0.50±2.23	1.25±3.02	0.67±2.44	1.33±2.01 <sup>c</sup>	-0.28±2.13	2.15±2.37	1.13±2.09
Encouragement for activity	1.91±2.23	0.88±1.96	1.88±2.52	1.86±2.51	1.97±1.84	1.21±2.53	1.44±2.52
Perception of regular meal	2.38±2.04	1.88±2.70	1.46±2.04	2.22±1.94 <sup>c</sup>	1.13±2.27	2.85±1.09	2.54±1.32 <sup>b</sup>
Perception of caloric intake	0.84±1.19	0.87±1.64	0.13±1.23	0.51±1.43	0.19±1.38	0.25±1.59	0.08±1.59
Hours of TV watching	2.34±1.50	2.25±1.15	2.17±2.06	2.63±2.24	2.61±1.80	1.97±1.01	1.77±0.88 <sup>b</sup>
Perception of health status	0.69±1.86	0.56±1.55	0.13±1.85	1.08±1.61	0.88±1.91	1.30±1.59	0.83±1.69

*Note.* Values are presented as mean ± SD. For legends, see Table 1. Body weight perception was scaled from -5: very underweight to 5: very overweight. Activeness perception was scaled from -5: very inactive to 5: very active. Encouragement for activity and perception of regular meal were scaled from -5: strongly disagree to 5: strongly agree. Caloric Intake was scaled from -5: too little to 5: too much. Perception of health status was scaled from -5: very had to 5: very good. TV watching and computing was marked as hours.

<sup>a,b</sup> Significantly different ( $p < .05$ ) from corresponding values of BO and GO, respectively.

<sup>c</sup> Significantly different ( $p < .05$ ) from corresponding values between boys and girls.

members were shown in Table 1. While no differences of physique were found between groups in both housewife and husband, their age in BG was significantly lower than BO and GO ( $p < .05$ ). Housewives and husbands whose BMI equal to and over 25.0 kg/m<sup>2</sup> were 25 (28%) and 33 (37%), respectively. The boys and girls in BG were significantly younger than the counterparts in BO and GO ( $p < .05$ ). Subsequently, the values of other morphological variables of boys and girls in BG were less than those in BO and GO ( $p < .05$ ), except WHR. When boys and girls were compared, boys in BO showed higher value of height, weight, and WHR than girls

in GO ( $p < .05$ ), while no differences were noticed in BMI and the waist girth between these two groups.

When housewives' perception on body weight and health, diet behaviors, and activeness were analyzed, no group differences were found in husbands (Table 2). Mothers of BO perceived boys were active (positive value) while mother of GO perceived girls were inactive (negative value), and these values were statistically different ( $p < .05$ ). Sex differences were also noticed in the meal regularity between boys in BO and girls in GO ( $p < .05$ ). Mothers of boy in BG perceived their son's body weight less than

Table 3. Relationships between Housewives' Perception on Body Weight and BMI, and WHR of Their Husbands

Group	Body Weight Perception vs. BMI				Body Weight Perception vs. WHR			
	<i>r</i>	<i>r</i> <sup>2</sup>	adjusted <i>r</i> <sup>2</sup>	standard error	<i>r</i>	<i>r</i> <sup>2</sup>	adjusted <i>r</i> <sup>2</sup>	standard error
BO (32)	.640**	.410	.390	1.714	.129	.017	-.018	.067
GO (16)	.715**	.511	.476	1.555	.467	.218	.158	.069
BG (24)	.700**	.489	.466	1.512	.462*	.214	.174	.041
Total (72)	.697**	.461	.453	1.600	.357**	.127	.114	.059

Note. Values are presented as Pearson Correlation Coefficients. For legends, see Table 1.

\*Significantly relationships ( $p < .05$ ), \*\*Significantly relationships ( $p < .005$ ).

the average while mothers of boy in BO did above the average ( $p < .05$ ). Meal regularity and TV watching hours were different between girls in BG and girls in GO ( $p < .05$ ).

The relationships between housewives' perception on body weight and BMI as well as WHR on their husbands were shown in Table 3. The higher the BMI was, the heavier they perceived. And positive relationships were found in all groups ( $p < .05$ ).

Housewives perception on weight was positively related to WHR when the groups were pooled, but it was only the case in BG when separated by groups ( $p < .05$ ).

When relationships between housewives' perception about body weight and morphological variables of their children was analyzed, the BMI was positively related with the perception in general ( $p < .05$ ), while less significances were found in WHR generally.

Table 4. Relationships between Housewives' Perception on Body Weight and Caloric Intake, and BMI, WHR, and Waist Girth of Their Boys and Girls

Group		Body Weight Perception			Caloric Intake Perception		
		BMI (kg/m <sup>2</sup> )	WHR	Waist Girth (cm)	BMI (kg/m <sup>2</sup> )	WHR	Waist Girth (cm)
BO	Boy (49)	.709**	.322*	.559**	-.022	.042	-.215
GO	Girl (32)	.791**	-.159	.610**	.293	-.073	.057
BG	Boy (20)	.297	-.088	.598**	.214	-.398	.264
	Girl (24)	.743**	-.148	.502*	.501*	-.095	.302

Note. Values are presented as Pearson Correlation Coefficients. For legends, see Table 1.

\*Significantly relationships ( $p < .05$ ), \*\*Significantly relationships ( $p < .005$ ).

Table 5. Relationships between Housewives BMI and Children' BMI

Group	BO	GO	BG	BG
	Boy (44)	Girl (32)	Boy (20)	Girl (23)
Pearson Correlation	0.393*	0.201	0.439	0.110

Note. Values are presented as Pearson Correlation Coefficients. For legends, see Table 1.

\*Significantly relationships ( $p < .05$ ).

In addition, the mother's perception about body weight and waist girth was positively related in all groups ( $p < .05$ ). No obvious relationships between mothers' caloric intake perception for their children and body weight variables were noticed (Table 4).

The relationships between mother's BMI and child's BMI were shown in Table 5. As mother's BMI increased, the boys' BMI in BO was also elevated ( $p < .05$ ). But no relationships between these two variables were noticed in other groups.

When mothers perceived their child toward overweight, their child's BMI and weight were higher than when they perceived them toward underweight ( $p < .05$ ) (Table 6). And this trend was consistent in all groups. However, this perception was not relied on WHR. The mother's encouragement for activeness did not depend on any physical characteristics except boys in BO (Table 7). And no morphological characteristics were accounted for mother's perception on caloric intake in all groups (Table 8).

Table 6. Age, Body Weight, BMI, and WHR According to Housewives' Perception on Body Weight

Group			Age (yrs)	Weight (kg)	BMI (kg/m <sup>2</sup> )	WHR
BO	Boy	underweight (13)	13.5 ± 6.7	40.2 ± 15.7*	17.0 ± 1.9**	0.84 ± 0.06
		overweight (14)	14.6 ± 7.1	55.9 ± 14.9	23.0 ± 2.5	0.89 ± 0.06
GO	Girl	underweight (8)	16.0 ± 7.7	39.9 ± 13.3**	17.4 ± 2.5**	0.84 ± 0.09
		overweight (11)	20.5 ± 7.2	56.6 ± 11.4	22.6 ± 2.3	0.83 ± 0.08
BG	Boy	underweight (8)	9.23 ± 1.7	30.4 ± 6.8*	16.5 ± 1.5	0.82 ± 0.05
		overweight (3)	14.7 ± 6.7	45.0 ± 14.1	17.6 ± 0.8	0.82 ± 0.00
	Girl	underweight (8)	9.9 ± 1.4	27.7 ± 6.7*	15.7 ± 1.0**	0.85 ± 0.05
		overweight (7)	11.1 ± 3.2	44.3 ± 13.5	20.5 ± 2.5	0.82 ± 0.08

Note. Values are presented as mean ± SD. Perception on body weight was asked as "How do you think your child's body weight?" Any mother's responses toward underweight was categorized as 'underweight' and so as 'overweight'. The response of 'about average' was not counted in this analyses.

\*Significantly relationships ( $p < .05$ ), \*\*Significantly relationships ( $p < .005$ ).



#### IV. Discussion

This study was designed to explore housewives' perception on obesity related parameters of their families and to examine if there were any perceptual differences according to sex of children as well as child composition of family. The important aspect of this study involves with the notion that parental recognition on body weight and health behaviors of family may be critical in promoting and managing health status of the family. One notable finding in the present study was the existence of gender dependent perceptual difference of housewife. Nevertheless, it did not appear that mothers respond to their perceptions correspondingly.

Major sex differences of mother's perception were found in activeness and meal regularity of their children. This was obvious between the boys-only family and the girls-only family, while not shown between boys and girls in the boys-and-girls family. In addition, mothers of girls-only family perceived their daughters were inactive as well as having meals less regularly. Nevertheless, mothers of girls did not encourage physical activity to their daughters and, in fact, the activity encouragement was similar to other groups. Also mother's activity encouragements were not based on the morphological characteristics of the child. This indicates that mothers either had a gender specific attitude or employed a malpractice according to their perception, or both.

Table 8 Age, Body Weight, BMI, and WHR According to Housewives' Perception on Caloric Intake

Group		Age (yrs)	Weight (kg)	BMI (kg/m <sup>2</sup> )	WHR	
BO	Boy	little (6)	21.5 ± 4.6*	59.2 ± 9.4	19.6 ± 3.3	0.82 ± 0.04
		much (17)	14.1 ± 7.0	49.6 ± 16.6	20.6 ± 2.9	0.86 ± 0.05
GO	Girl	little (6)	16.2 ± 8.4	40.2 ± 13.5	17.5 ± 2.8	0.81 ± 0.04
		much (8)	13.8 ± 7.8	41.5 ± 14.6	19.3 ± 2.9	0.82 ± 0.08
BG	Boy	little (3)	13.3 ± 7.5	41.7 ± 25.5	17.5 ± 3.9	0.84 ± 0.05
		much (5)	12.6 ± 5.2	46.6 ± 17.6	18.9 ± 2.2	0.80 ± 0.02
	Girl	little (4)	13.5 ± 7.1	28.5 ± 11.3	16.2 ± 1.9	0.85 ± 0.08
		much (5)	10.7 ± 3.4	38.0 ± 12.5	19.4 ± 2.8	0.84 ± 0.08

*Note.* Values are presented as mean ± SD. Perception on caloric intake was asked as "How do you think your child's daily caloric intake?" Any mother's responses toward little was categorized as 'little' and so as 'much'. The response of 'average' was not counted in this analyses.

\*Significantly relationships ( $p < .05$ ).

Gender differences in mother's perception were previously reported. After logistic regression analyses, mothers were nearly 3 times as likely to classify daughters overweight as compared with sons at-risk for overweight (Maynard et al. 2003). Two other studies have found a relationship between maternal concern for a child's current weight status and the child's sex, with mothers of overweight daughters much more likely to perceive them as overweight than mothers of overweight sons (Jeffery et al. 2005; Maynard et al. 2003). The perception may reflect social values as that mothers are more likely sensitive to weight and body image for girls while boys are expected to be larger for physical advantage. But no studies were available assessing perception and encouragement on activeness in children and adolescents.

Up to date, mother's counter response to her perception was not extensively investigated. With available data in this study, it is less clear to identify the causes of mother's perception and practices. But several possible interpretations can be postulated. First, mothers were less aware of importance of maintaining physical activity and body weight that could lead to better health status (Baughcum et al. 2000). Second, they were reluctant to enforce their children being active since, according to our findings, many parents perceived their

children as being within average range of weight, having relatively healthy diet, and being comparatively healthy. Thus, although mothers perceived activeness differently between sex, they may have not felt an urgency of implementing activity encouragement.

In this study, mothers' perception about their child's weight was positively and strongly related with the actual BMI and waist girth of child. However, WHR was not related to mother's weight perception. This trend was also clearly demonstrated in husband although no group differences were noticed. The determinants of mother's perception on weight and health status are not fully understood, and this study could not deliver reasons. One interesting findings of this study was the positive relationship between mother's BMI and child's BMI only in boys of boys-only family. This was not previously reported and no clear answers are evident at this point. We speculate that this might be also related to family environments, in which mothers are allowed to be big along with her children and husband. But this has to be verified.

The limitation of this study exists at several points. First, although the questionnaire was descriptive and was pilot studied for increasing reliability, its formal reliability was not tested. Second, the questionnaire did not sort out any confounding factors such as socioeconomic

background as well as educational background of the participants. The sample size is certainly another limitation, which precluded multivariable analyses. As the respondents of the survey were mothers, the results cannot be generalized to fathers. Overweight or obese housewives with poor health conditions may have not been included in this study, since health conscious housewives have been likely to participate in the health promotion programs. As indicated, our sample seemed a relatively healthy group of population. Thus, the results of study may be population sensitive suggesting we might had different observation with other populations regarding mother's perception and practices.

Despite this limitations, this is the first study to assess the relationships between parental perception on body weight and weight related variables for adolescents and to examine the perceptual differences according to child's sex. Since parents play roles in preventing and managing childhood overweight, they must first recognize weight status of their children and the health consequences of overweight. To warrant the intervention programs for children are successful, the parental support is essential. And the support is unlikely if mothers do not recognize their overweight children are overweight (Birch and Davison 2001). As health care professionals, they must

acknowledge that there might be potential differences of mother's perception on health status of her family, in particular, according to child sex composition of the family.

In conclusion, mother's perception on body weight status of their children may depend on BMI and waist girth. Mothers felt the physical activeness of boys and girls differently when they had child of one gender. However, perception on caloric intake and activity encouragement were not accounted for morphological characteristics of their children indicating that housewives did not apply appropriate health promotion practice as they perceived for her family. For health promotion programs designed for children and adolescents a maternal education program should also be included to provide information in recognizing a healthy weight status as well as appropriate practices for their children.

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## ABSTRACT

Housewives' perception on obesity related variables to their family members according to the composition of children in the family was explored. Ninety housewives responded to a questionnaire consisted of sociodemographic informations, body weight perception, eating behaviors perception, and physical activity level for herself as well as her family. They were categorized into three groups based on child composition of the family; boys only (BO), girls only (GO), and boys and girls (BG) families. Boys in BO showed higher value of height, weight, and WHR than girls in GO ( $p < .05$ ), while no differences were noticed in BMI and the waist girth between the groups. Mothers of BO perceived boys were active while mother of GO did girls were inactive ( $p < .05$ ). Girls in GO ate meals less regularly than boys in BO and girls in BG. In general, housewives' perception on body weight of family members was relied on BMI and waist girth. As mother's BMI increased, the boy's BMI in BO was also elevated ( $p < .05$ ), but not in others. Mothers' perception on caloric intake and activity encouragement were not accounted for morphological characteristics. Results suggest that housewives perceived obesity related variables differently based on the composition of children of the family.

**Key Words:** body mass index, overweight, waist-to-hip ratio, physical activity encouragement

〈국문초록〉

가족 내 자녀 구성에 따른 가정주부들의 가족에 대한 비만 관련 변인 인지

가족 내 아동 구성에 따라 가정주부들이 가족들의 비만 관련 변인을 어떻게 인지하는지 조사되었다. 90명의 가정주부가 자신과 가족들에 대한 사회인구 정보, 체중인지, 식습관행동 인지, 신체활동인지를 묻는 설문지에 응답하였다. 이들은 가족의 아동 구성에 근거하여 세 그룹; 아들만 있는 가정(BO), 딸만 있는 가정(GO), 아들 딸 모두 있는 가정(BG), 으로 편성되었다. BO의 아들들은 GO의 딸들에 비해 높은 수치의 신장, 체중, WHR을 보였으나( $p < .05$ ), 이 두 그룹 간에 BMI와 허리둘레는 차이가 없었다. BO의 엄마들은 아들들이 활동적이라고 인지한 반면 GO의 엄마들은 딸들이 비활동적이라고 인지하였다( $p < .05$ ). GO의 딸들은 BO의 아들들이나 BG의 딸들에 비해 덜 규칙적인 식사를 하였다. 일반적으로 가정주부들은 가족구성원의 체중을 BMI 및 허리둘레와 연관되어 인지하였다. 엄마의 BMI가 증가할수록 BO의 아들의 BMI는 동반 상승하였으나( $p < .05$ ), 다른 그룹에서는 나타나지 않았다. 칼로리 섭취와 신체활동 권장에 대한 엄마의 인지는 신체형태에 근거하지 않았다. 이 결과들은 가정주부들이 가족 내 아동 구성에 따라 비만 관련 변인을 다르게 인지함을 제시하고 있다.

**주제어:** 체질량지수, 과체중, 허리둘레, 신체활동 권장