Original Article

Predictive factors for accuracy of perception of parents regarding their overweight or obese children in Taiwan

Cheng-Jung Chung PhD[1], Yueh-Guey Huang PhD[2]

[1]*Department of Graduate Institute of Sports Training, University of Taipei, Taiwan*
[2]*Department of Recreation and Sport Management, University of Taipei, Taiwan*

Background and Objectives: Predictive factors for parental accuracy in perception of their children's weight and state of health have been unknown in Taiwan. **Methods and Study Design:** Data were obtained on children aged 3-12 years from the 2005 Taiwan National Health Interview Survey (NHIS). The comparison of measured BMI and parents' perception of their children's weight operationalized "weight perception". A structured questionnaire ascertained demographic characteristics, and logistic regression determined demographic variables associated with a weight misperception. **Results:** The prevalence of parental misperception of children who were overweight or obese was 50%; the ratio was higher in younger parents, parents with younger children, and those with overweight or obese children. In fact, only 1.7% of children whose parents misperceived overweight or obesity were engaged in weight management. **Conclusions:** Most parents viewed excessive weight in their children as better health than normal weight. Parental age, children's age, and weight loss management may be predictive factors in parents' perceptive accuracy regarding children who are overweight or obese.

Key Words: childhood obesity, health status, perception, weight management, Taiwan

INTRODUCTION

In 2010, over 200 million school-age children globally were estimated to be overweight or obese. Indeed, childhood obesity has become one of the most serious public health challenges worldwide in the 21st century. In recent decades, the prevalence of excessive weight has dramatically increased in Taiwan. According to Nutrition and Health Surveys in Taiwan (NAHSIT) from 1993 to 1996 and from 2000 to 2001, the prevalence of childhood obesity among elementary school children (age, 7-12 years) has tripled (from 4.9% to 14.7%) for boys and increased markedly (6.9% to 9.1%) for girls.[1] Mounting evidence has proven that childhood obesity is related to health-related morbidities, including cardiovascular diseases, type 2 diabetes, high blood pressure, hypertension, metabolic syndrome, poor quality of life, low self-esteem, depression, and emotional trauma.[2,3] Some longitudinal studies have suggested that childhood obesity not only leads to adult obesity[4,5] but also shortens lifespan expectancy by 5-20 years. This situation is of particular concern in Asia because research has suggested that Asians suffer more severe manifestations of metabolic syndrome than the US population with the same degree of BMI elevation.[6]

Parental involvement is a critical factor in addressing the prevention and treatment of children's excessive weight.[7,8] As parents become involved in the issue of children's excessive weight, they can modify children's eating habits, daily-life activities, food preferences, and amount of physical activity.[9-13] To optimize parents' involvement with their overweight or obese children, parents must recognize and understand that the negative impact on children's short- and long-term health is their first priority.[14] However, a considerable number of parents do not report their children's body weight accurately, regardless of the verbal descriptions or image scales used.[3,11,15-17] Some researchers have found that demographic characteristics may predict parental misperception; parents with lower socioeconomic status (particularly those with lower levels of education and household income) with overweight children, boys, younger children, or who are themselves overweight were more likely to misperceive their children who were overweight or obese as having normal weight or even as being underweight. However, the results of previous studies have not been consistent. This may be attributed to the study populations or methodologies used;[18] however, this was unclear in the children population of Taiwan. Nevertheless, clarifying predictors of parental misperception is helpful in developing strategies for reducing the dramatic prevalence of children with excessive weight. Therefore, the study's aims were twofold; first, to explore relationships among demographic characteristics, weight management for overweight or obese children, children's health status,

Corresponding Author: Dr Cheng-Jung Chung, Department of Graduate Institute of Sports Training, University of Taipei, No. 101, Sec. 2, Zhongcheng Rd., Shilin Dist., Taipei City 111, Taiwan.
Tel: +886-2-2670-1461 ext. 239; Fax: +886-2-2679-6091
Email: pizonchung@gmail.com
Manuscript received 05 May 2015. Initial review completed 25 May 2015. Revision accepted 15 June 2015.
doi: 10.6133/apjcn.092015.18

and parental perception of their children's weight; second, to investigate influential factors associated with parental misperception among those parents whose children are overweight or obese.

METHODS

Data for this population-based study were obtained from the Taiwan National Health Interview Survey (NHIS), a national representative survey conducted by the National Health Research Institutes and Bureau of Health Promotion in 2005. The target population comprised all Taiwan residents identified from the National Registry Data in 2004.

Subjects were selected using a multistage-stratified, systematic sampling design. In Taiwan, 358 townships/districts were divided into seven strata according to geographical location and degree of urbanization. Townships or districts in each stratum were chosen with a selection probability proportional to size (PPS). The smallest administrative units, *Lins*, were selected with PPS in each selected township/district. Residents were selected with PPS in each *Lin*. Well-trained interviewers conducted standardized face-to-face interviews using a structured questionnaire. Extensive details of the study design and sampling methods have been published previously.[19]

Respondents to the survey included 30,680 residents, and the response rate was 80.6%. We used the resulting children's data. For the current analysis, subjects were <12 years old (n=3,900), and the questionnaire response rate was 90.2%. For this questionnaire survey, interviewers were asked to interview children's primary caregivers. Subjects aged <3 years old (n=650) and those with extreme measures of BMI (>50 kg/m^2) were excluded. To reduce bias from different respondents, we excluded subjects whose questionnaire respondent was not the mother. The number of eligible samples for statistical analysis was 2,062 mother–child dyads.

Demographic features

Demographic data (children's gender, children's age, parental age, parental education level, parental race/ethnicity, and average monthly household income) were collected using the structured questionnaire. Children's ages were divided into young and old according to ages 3-7 and 8-11 years, respectively. Parental age was also classified as young (<35 years) and old (≥35 years). Parental education level was classified as low (less than college education) or high (more than or equal to college education). Self-reported parental race/ethnicity was recorded as Min-nan, Hakka, Chinese mainlander, Aboriginal, and Foreigner. Children's BMI was calculated according to self-reported height and weight and classified as underweight, normal weight, overweight, or obese. Cut-off points for these four groups were established according to reference data for age- and gender-specific BMI from the New Growth Charts for Taiwanese Children and Adults.[20]

Average monthly household income was classified into lower and higher according to the survey of family income and expenditure conducted in Taiwan in 2005. The average current earnings per household in 2005 were 1,133,642 New Taiwan Dollar (NTD) and approximately 94,470 NTD per month (≈2,952 USD). Respondents answered the following question: "In the past year, what was your average monthly household income?" Respondents reporting an average monthly household income of <100,000 NTD were classified as lower (average monthly household) income, and those reporting an average monthly household income of ≥100,000 NTD were classified as higher (average monthly household) income.

Perception of children's weight

Parental perceptions of their children's weight were assessed using responses to the following question: "Do you think your child's current weight is appropriate or that he/she is overweight or underweight?" Response options were Over, Just Right, and Under. When parents' responses were consistent with their children's BMI, parental perception was classified as accurate and otherwise as misperception.

State of health and weight management among overweight or obese children

Based on scores on a 5-point Likert scale, parents responded to the following two items evaluating the state of their children's health: 1: Currently, the state of your child's health is Very poor, Poor, General, Good, or Very good and 2: Compared with your child's peers, the state of your child's health is Much worse, Worse, Same, Better, or Much better. The mean score was calculated by adding the scores of these two items for each child. Children were classified into groups of Poor (mean score of <3), General (mean score=3), and Good (mean score of >3). As for the weight management of overweight or obese children, we asked their parents the following question: "Currently, is your child Losing weight, Gaining weight, Maintaining weight, or Doing nothing?" To understand whether overweight or obese children were losing weight or not, we grouped them as Correct (reported as Losing weight), Incorrect (reported as Gaining weight or Maintaining weight), and Doing nothing.

Statistical analysis

All statistical analyses were performed using the Statistical Software Package for Social Sciences version 17.0 (SPSS; SPSS Inc., Chicago, IL, USA). Descriptive statistical tests were used to calculate the characteristics of the subjects. Chi-square tests were performed to analyze differences in demographic data and variables. ANOVA was used to compare the states of health between children with excessive and normal weights. A logistic regression analysis was used to identify predictors of parental misperception of children who were overweight or obese. $p<0.05$ was considered statistically significant.

RESULTS

Table 1 shows the demographic variables for the accurate perception and misperception groups. Prevalence of overweight or obese children was 22.4% in Taiwan in 2005, and the prevalence of parents with misperceptions was 40.3%. No significant differences ($p>0.05$) between accurate perception and misperception were found for children and parental age, gender, parental race/ethnicity, or household income. Comparisons between accurate

perception and misperception groups on parental age, children's age, BMI, and parental education level revealed statistically significant differences. The prevalence for older parents was up to 8.2% higher in the accurate perception group than the misperception group (p<0.01). The prevalence for younger children was up to 16.8% higher in the misperception group than the accurate perception group (p<0.01). In the accurate perception group, the percentage for normal weight was up to 20% greater than that for the misperception group (p<0.01). In the accurate perception group, the percentage of parents with more than or equal to college education level was up to 4.6% greater than that in the misperception group (p<0.01).

Table 2 displays statistically significant differences when comparing children engaging in weight management between accurate perception and misperception groups. In the accurate perception group, children engaging in correct weight management were up to 28.3% greater than those in the misperception group (p<0.01). There was no statistically significant difference when comparing children's health status between accurate perception and misperception groups (p>0.05).

Unadjusted and adjusted logistic regression models were used for analysis, and the parental misperception predictors among overweight or obese children are presented in Table 3. In the unadjusted model, older parents, those with older children, and those with overweight or obese children were less likely to have an inaccurate perception of their children's weight. Engaging in incorrect weight management or doing nothing for or weight management was related to misperception. After adjustment, younger children and parents, Chinese mainlanders, and engaging in either incorrect weight management or doing nothing for weight management predicted parental misperception.

As shown in Figure 1, when compared with the health of children with normal weight, the state of health of overweight or obese children reveals statistically significant higher scores (p<0.01).

Table 1. Characteristics of parents and children

Characteristics	Overall, n (%)	Accurate, n (%)	Misperception, n (%)	p value
Number of subjects	2062	1227 (59.7)	829 (40.3)	
Age				
Parent	36.2±5.2	36.6±5.2	35.6±5.1	
Child	7.8±2.5	8.1±2.4	7.5±2.7	
Old parent*	1296 (62.9)	813 (66.3)	482 (58.1)	<0.01
Young children*	885 (42.9)	442 (36.0)	438 (52.8)	<0.01
Child gender				0.69
Boy	1100 (53.5)	652 (53.1)	448 (54.0)	
BMI*				<0.01
Underweight	396 (19.2)	182 (14.8)	213 (25.7)	
Normal weight	1204 (58.4)	815 (66.4)	385 (46.4)	
Overweight	241 (11.7)	90 (7.3)	151 (18.2)	
Obese	221 (10.7)	140 (11.4)	80 (9.7)	
Education level*				0.02
High	606 (29.5)	383 (31.4)	222 (26.8)	
Race/ethnicity†				0.77
Min-nan	1492 (72.5)	897 (73.3)	589 (71.2)	
Hakka	216 (10.5)	127 (10.4)	89 (10.8)	
Chinese mainlander	244 (11.9)	143 (11.7)	101 (12.2)	
Aboriginal	64 (3.1)	34 (2.8)	30 (3.6)	
Foreigner	41 (2.0)	23 (1.9)	18 (2.2)	
Household monthly income				0.25
Lower	1768 (86.8)	1046 (86.1)	722 (87.8)	
Higher	269 (13.2)	169 (13.9)	100 (12.2)	

†The offshore islands Kinmen county and Matsu county (n=5) were excluded in Race/Ethnicity analysis. Parent age and child age were expressed as mean±SD.
A 'young parent' was aged <35 years and an 'old parent' was aged ≥35 years.
*p<0.05 was statistically significant.

Table 2. Health status and weight management behavior among children with excessive weight

	Excessive weight children	Accurate	Misperception	p value
Health status				0.95
Poor	21 (4.6)	11 (4.8)	10 (4.3)	
General	53 (11.5)	27 (11.8)	26 (11.3)	
Good	386 (83.9)	191 (83.4)	195 (84.4)	
Engaging in weight management*				<0.01
Correctly	73 (15.8)	69 (30.0)	4 (1.7)	
Incorrectly	81 (17.6)	53 (23.0)	28 (12.1)	
Do nothing	307 (66.6)	108 (47.0)	199 (86.1)	

*p<0.05 was statistically significant.

Table 3. Odds ratios and 95% confidence intervals (CI) for predictors of parental misperception among children with excessive weight

Variables	Crude odds ratio (95% CI)	*p* value	Adjusted odds ratio (95% CI)†	*p* value
Gender		0.54		0.19
Boys (ref)	1		1	
Girls	1.1 (0.8, 1.6)		1.4 (0.9, 2.3)	
Children's age*		<0.01		<0.01
Young (ref)	1		1	
Old	0.1 (0.1, 0.1)		0.1 (0.1, 0.2)	
Maternal age*		<0.01		0.04
Young (ref)	1		1	
Old	0.4 (0.3, 0.6)		0.6 (0.3, 1.0)	
Maternal education		0.54		0.13
Low (ref)	1		1	
High	0.9 (0.6, 1.3)		0.6 (0.4, 1.1)	
Maternal ethnicity		0.43		0.31
Min-nan (ref)	1		1	
Hakka	1.3 (0.8, 2.3)	0.43	1.2 (0.5, 2.8)	0.63
Chinese mainlander	1.4 (0.8, 2.5)	0.25	2.1 (1.0, 4.6)	0.05
Aborigine	1.1 (0.5, 2.6)	0.85	0.6 (0.2, 1.9)	0.42
Foreigner	2.9 (0.8, 11.1)	0.12	0.7 (0.1, 3.8)	0.70
Income		0.47		0.47
Lower (ref)	1		1	
Higher	1.3 (0.7, 2.3)		1.4 (0.6, 3.2)	
Health status		0.95		0.74
Poor (ref)	1		1	
General	1.1 (0.4, 2.9)	0.91	1.5 (0.4, 5.5)	0.55
Good	1.1 (0.5-2.7)	0.80	1.6 (0.5, 4.7)	0.44
Weight management*		<0.01		<0.01
Correct (ref)	1		1	
Incorrect	9.1 (3.0, 27.6)	<0.01	6.0 (1.8, 19.9)	<0.01
Do nothing	31.8 (11.3, 89.5)	<0.01	19.5 (6.4, 59.2)	<0.01

†Based on a model including gender, children's age, maternal age, maternal education, maternal ethnicity, income, health status, and weight management.
*Odds ratio was statistically significant (p<0.05).

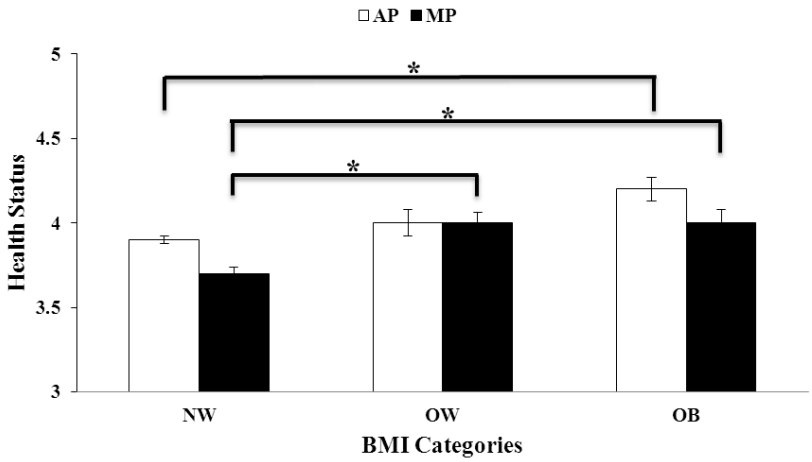

Figure 1. Parent's perception of their children's health status. The health status of parent perceived their children. AP: parent with accurate perception; MP: parent with misperception; NW: normal weight; OW: overweight; OB: obesity; *p<0.05 was statistically significant.

DISCUSSION

In our nationally representative sample, 22.4% of the children aged 3-11 years in Taiwan were overweight in 2005. The prevalence of overweight or obese children was higher in Taiwan than in any other Asian country, for example, China (16.7% in 2011),[21] Japan (15.3% in 2007),[22] and South Korea (13.1% in 2003).[23] Among these overweight or obese children, 50% of parents were likely to misperceive their children's weight as being normal or underweight. Most do nothing regarding their excessive weight, and the children are perceived as 'Good' by their parents.

Parents were likely to underestimate their children's level of excessive weight or obesity (50% in our study). Several researchers consider that improving accuracy of parental perception is the first step in treating overweight or obese children.[24,25] Relationships between demographic characteristics and parental misperception have been discussed in previous work,[7-9,13-15] suggesting that a health education program is needed for vulnerable sub-

groups of parents and children. In the Taiwan-based study, we found that younger parents, parents with younger children, or parents whose children were overweight were likely to misperceive their children's weight. Additionally, parents of overweight or obese children have a higher ratio of misperception, a higher evaluated level of the state of health, and a higher percentage of choosing to do nothing regarding weight management. Once the parents acknowledge that their children's weight is abnormal, they can take appropriate action to improve the children's environment and behaviours.[26,27] Our study indicates that parents whose perceptions are accurate are more likely to have their children who are overweight or obese engage in weight management.

In a previous study, parents with younger children were likely to misperceive their children's excessive weight.[28] In this study, parents with older children were more likely to accurately perceive their children's excessive weight. We suggest that their better perception is related to warning notices from school nurses or pediatricians. In Taiwan, children aged ≥6 years must have a physical examination at school at least once a year, after which abnormal conditions will be traced and parents will be notified. In our study, the health condition of older children (8-11 years) had a greater chance of being diagnosed and of their parents being warned to pay attention. In these types of cases, most parents with older children who are overweight or obese accurately report their children's excessive weight.

In this study, evaluated health status may represent parents' comprehensive evaluation of their children's current state of health. We found that most parents evaluated their children as Good, regardless of whether the parents had an accurate perception or misperception of particularly overweight or obese children. In other words, parents were likely to consider overweight or obese children as having better health than children with normal weight. We suggest that most parents considered adequate nutrition a necessity for children's growth and development, and the child's larger body shape became the obvious basis for parental evaluation. Therefore, being overweight or obese may actually cause parents to raise their evaluations of their children's health.

Weight management is necessary for overweight or obese children, but in this study, most were not adopting any ameliorative measures, regardless of whether their parents had an accurate perception or misperception (56.8% and 89.6%, respectively). However, parents' accurate perception still offered some benefit because overweight or obese children then had a higher ratio of losing weight (30.3% vs 2.9%). As mentioned, perhaps parents with accurate perceptions did not engage in helping their children to reduce weight because they preferred their children's existing body shape. In fact, qualitative study results have revealed that parents viewed their overweight or obese children as strong rather than fat.[29]

Our study had several limitations. First, a cross-sectional study design makes it difficult to establish a causal relationship between misperception and the three demographic predictors, such as parental age, children's age, and weight loss management. Second, this study did not record levels of physical activity, and clarification of the relationship between misperception and levels of physical activity is difficult. Finally, with regard to misperception, it would be useful to investigate parents' weight, height, and family history.

In summary, 40.3% of parents could not identify their children's excessive weight. Regardless of accurate perception or misperception, parents were likely to view their children with more than normal weight as Good. This indicates the need for effective methods to improve parents' ability to identify their children's excessive weight and to improve their understanding of how excessive weight during childhood negatively impacts short- and long-term health. Furthermore, this is particularly important for younger parents and for parents with younger children who are overweight or obese.

Conclusion

Our study showed a higher prevalence of overweight or obese children in Taiwan than that in other Asian countries. Parents were more likely to underestimate the weight of overweight or obese children, particularly younger parents and parents with younger children. The majority of overweight or obese children were considered as having a state of health regarded as Good. An education program is needed for these subgroups, and acknowledging the negative impact that excessive weight has on children is necessary to combat the excessive weight and obesity epidemic in Taiwan.

ACKNOWLEDGEMENTS

We acknowledge Tai-Ger Hsu, PhD; Li-Ching Lee, PhD; Shiao-Chi Wu, PhD; and Gwo-Liang Yeh, PhD for their suggestions in this research. We would like to thank Enago (www.enago.tw) for the English language review.

AUTHOR DISCLOSURES

No competing interests are reported.

REFERENCES

1. Pan WH, Lee MS, Chuang SY, Lin YC, Fu ML. Obesity pandemic, correlated factors and guidelines to define, screen and manage obesity in Taiwan. Obes Rev. 2008;9(Suppl 1): 22-31. doi: 10.1111/j.1467-789X.2007.00434.x.
2. Din-Dzietham R, Liu Y, Bielo MV, Shamsa F. High blood pressure trends in children and adolescents in national surveys, 1963 to 2002. Circulation. 2007;116:1488-96. doi: 10.1161/circulationaha.106.683243.
3. Kroke A, Strathmann S, Gunther AL. Maternal perceptions of her child's body weight in infancy and early childhood and their relation to body weight status at age 7. Eur J Pediatr. 2006;165:875-83. doi: 10.1007/s00431-006-0191-3.
4. Freedman DS, Mei Z, Srinivasan SR, Berenson GS, Dietz WH. Cardiovascular risk factors and excess adiposity among overweight children and adolescents: the Bogalusa Heart Study. J Pediatr. 2007;150:12-7.e2. doi: 10.1016/j.jpeds. 2006.08.042.
5. Singh AS, Mulder C, Twisk JW, van Mechelen W, Chinapaw MJ. Tracking of childhood overweight into adulthood: a systematic review of the literature. Obes Rev. 2008;9:474-88. doi: 10.1111/j.1467-789X.2008.00475.x.
6. Pan WH, Flegal KM, Chang HY, Yeh WT, Yeh CJ, Lee WC. Body mass index and obesity-related metabolic disorders in Taiwanese and US whites and blacks: implications for definitions of overweight and obesity for Asians. Am J Clin Nutr. 2004;79:31-9.

7. Doolen J, Alpert PT, Miller SK. Parental disconnect between perceived and actual weight status of children: a metasynthesis of the current research. J Am Acad Nurse Pract. 2009;21:160-6. doi: 10.1111/j.1745-7599.2008.00382.x.
8. Maynard LM, Galuska DA, Blanck HM, Serdula MK. Maternal perceptions of weight status of children. Pediatrics. 2003;111:1226-31.
9. Warschburger P, Kroller K. Maternal perception of weight status and health risks associated with obesity in children. Pediatrics. 2009;124:e60-8. doi: 10.1542/peds.2008-1845.
10. Golan M. Parents as agents of change in childhood obesity--from research to practice. Int J Pediatr Obes. 2006;1:66-76. doi: 10.1080/17477160600644272.
11. Jeffery AN, Voss LD, Metcalf BS, Alba S, Wilkin TJ. Parents' awareness of overweight in themselves and their children: cross sectional study within a cohort (Early Bird 21). BMJ. 2005;330:23-4. doi: 10.1136/bmj.38315.451539.F7.
12. Soto C, White JH. School Health Initiatives and Childhood Obesity: BMI screening and reporting. Policy Polit Nurs Pract. 2010;11:108-14. doi: 10.1177/1527154410374218.
13. Moore LC, Harris CV, Bradlyn AS. Exploring the relationship between parental concern and the management of childhood obesity. Matern Child Health J. 2012;16:902-8. doi: 10.1007/s10995-011-0813-x.
14. Baughcum AE, Chamberlin LA, Deeks CM, Powers SW, Whitaker RC. Maternal perceptions of overweight preschool children. Pediatrics. 2000;106:1380-6. doi: 10.1542/peds.106.6.1380.
15. Rietmeijer-Mentink M, Paulis WD, van Middelkoop M, Bindels PJ, van der Wouden JC. Difference between parental perception and actual weight status of children: a systematic review. Matern Child Nutr. 2013;9:3-22. doi: 10.1111/j.1740-8709.2012.00462.x.
16. Eckstein KC, Mikhail LM, Ariza AJ, Thomson JS, Millard SC, Binns HJ. Parents' perceptions of their child's weight and health. Pediatrics. 2006;117:681-90. doi: 10.1542/peds.2005-0910.
17. Etelson D, Brand DA, Patrick PA, Shirali A. Childhood obesity: do parents recognize this health risk? Obes Res. 2003;11:1362-8. doi: 10.1038/oby.2003.184.
18. De La OA, Jordan KC, Ortiz K, Moyer-Mileur LJ, Stoddard G, Friedrichs M et al. Do parents accurately perceive their child's weight status? J Pediatr Health Care. 2009;23:216-21. doi: 10.1016/j.pedhc.2007.12.014.
19. National health interview survey; 2006/6/30 [cited 2015/01/29]. Available from: http://www.hpa.gov.tw/English/ClassShow.aspx?No=200803270010.
20. Chen W, Chang M. New growth charts for Taiwanese children and adolescents based on World Health Organization standards and health-related physical fitness. Pediatr Neonatol. 2010;51:69-79. doi: 10.1016/S1875-9572(10)60014-9.
21. Chen S, Binns CW, Maycock B, Zhao Y, Liu Y. Chinese mothers' perceptions of their child's weight and obesity status. Asia Pac J Clin Nutr. 2014;23:452-8. doi: 10.6133/apjcn.2014.23.3.14.
22. Matsushita Y, Yoshiike N, Kaneda F, Yoshita K, Takimoto H. Trends in childhood obesity in Japan over the last 25 years from the national nutrition survey. Obes Res. 2004;12:205-14. doi: 10.1038/oby.2004.27.
23. Lee K, Lee S, Kim SY, Kim SJ, Kim YJ. Percent body fat cutoff values for classifying overweight and obesity recommended by the International Obesity Task Force (IOTF) in Korean children. Asia Pac J Clin Nutr. 2007;16:649-55. doi: 10.6133/apjcn.2007.16.4.09.
24. Wofford LG. Systematic review of childhood obesity prevention. J Pediatr Nurs. 2008;23:5-19. doi: 10.1016/j.pedn.2007.07.006.
25. Young PC, DeBry S, Jackson WD, Metos J, Joy E, Templeman M, Norlin C. Improving the prevention, early recognition, and treatment of pediatric obesity by primary care physicians. Clin Pediatr (Phila). 2010;49:964-9. doi: 10.1177/0009922810370056.
26. Towns N, D'Auria J. Parental perceptions of their child's overweight: an integrative review of the literature. J Pediatr Nurs. 2009;24:115-30. doi: 10.1016/j.pedn.2008.02.032.
27. Rhee KE, De Lago CW, Arscott-Mills T, Mehta SD, Davis RK. Factors associated with parental readiness to make changes for overweight children. Pediatrics. 2005;116:e94-101. doi: 10.1542/peds.2004-2479.
28. West DS, Raczynski JM, Phillips MM, Bursac Z, Heath Gauss C, Montgomery BE. Parental recognition of overweight in school-age children. Obesity (Silver Spring). 2008;16:630-6. doi: 10.1038/oby.2007.108.
29. Jain A, Sherman SN, Chamberlin LA, Carter Y, Powers SW, Whitaker RC. Why don't low-income mothers worry about their preschoolers being overweight? Pediatrics. 2001;107:1138-46. doi: 10.1542/peds.107.5.1138.

Original Article

Predictive factors for accuracy of perception of parents regarding their overweight or obese children in Taiwan

Cheng-Jung Chung PhD[1], Yueh-Guey Huang PhD[2]

[1]*Department of Graduate Institute of Sports Training, University of Taipei, Taiwan*
[2]*Department of Recreation and Sport Management, University of Taipei, Taiwan*

台灣家長對體重過重或肥胖兒童體重感知準確性的預測因數

背景與目的：在台灣，有關家長對於兒童體重及健康狀態的感知準確性的預測因數目前仍不清楚。**方法與研究設計：**本研究以國家衛生研究院 2005 年國民健康訪問暨藥物濫用調查資料庫之 3-12 歲兒童為研究資料。本研究的體重感知定義為兒童身體質量指數與家長對兒童體重的感知狀態兩者間的相互對照，另以問卷方式調查個案的背景變項，並以logistic迴歸方式檢驗家長的背景變項與體重感知錯誤間的關聯性。**結果：**研究結果發現，在體重過重或肥胖兒童中有一半的家長皆有體重感知錯誤的現象，其中年紀較輕的家長、年齡較小的兒童或過重與肥胖的兒童方面皆有較高的體重感知錯誤比例。事實上，在體重感知錯誤的對象中，只有 1.7%體重過重或肥胖的兒童有進行體重控制與管理的行為。**結論：**大部分的家長認為體重過重的兒童健康狀態較體重正常兒童者為佳。家長年齡、兒童年齡以及是否進行體重控制與管理等因素可能可以作為家長是否能正確感知兒童體重過重或肥胖的預測因數。

關鍵詞：兒童肥胖、健康狀態、感知、體重管理、台灣