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Original Research Paper

Explicit Weight Stigma among Physiotherapy Students: A Cross-Sectional Study

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ABSTRACT

Obesity is one of the most pervasive phenomena in this world and it is now regarded as the main public health challenge. Obesity is highly stigmatized in our society. Weight stigma in health care professionals can lead to poor treatment outcome to obese patients. This study is aimed to determine the attitude of physiotherapy students towards weight. A cross-sectional study was conducted in Universiti Tunku Abdul Rahman, Malaysia. A total of 179 physiotherapy students participated in this survey. Anti-Fat Attitude Questionnaire was used as an outcome measure to determine explicit weight stigma. Questions on demographic data and experience of weight bias were also included in the questionnaire. Majority of the students score negative marks in Anti-Fat Attitude Questionnaire in which any value greater than 0 was considered as explicit weight stigma. The relationship between gender with dislike, fear and willpower subscales shows statistical significance. Clinical posting has also shown significant association with fear and willpower subscale. Body mass index has shown no statistical significance with dislike and willpower subscale though it shows statistical significance with fear subscales. Overall, physiotherapy students do not demonstrate explicit weight stigma.

Keywords: *Physiotherapy, explicit, weight stigma, students*

World Health Organization (2016) reports stated that 39% of adults aged 18 years and over were overweight and 13% were obese in 2014. They also state that 41 million children under the age of 5 were overweight or obese in 2014. Obesity is one of the most pervasive phenomena we can see in this world and it is a major public health issue for the health of people nowadays. The prevalence of obesity has reached epidemic levels in many developing countries, and Malaysia is of no exception (Chan, 2017).

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Despite the increasing rates of obese and overweight population, weight stigma, also known as weight bias is widely prevalent in our society (Diedrichs & Barlow, 2011) and increasingly prevalent over the past decade. Weight bias is referring to negative thought, negative attitude towards a person who is overweight or obese. This also can be called by weight stigma. These negative thoughts often stereotype obese individuals as lazy, undisciplined, and stupid or have poor willpower. (Chalker, 2014). Weight discrimination rate is as comparable to those of racial discrimination and sexism (Puhl, 2008).

Weight stigma is present in many fields; such as employment (Giel K, 2010), school (Caroli & Sagone, 2014) and health care professions (Budd et al, 2011). A study conducted in United States of America stated that higher BMI in younger population had a greater risk of getting negative perception regardless of their race, education and weight status. Women show three times higher of getting discriminated than men (Puhl et al, 2008). Puhl & Heuer (2009) stated that women experience higher level of discrimination than men, especially seen in those middle aged or lower level of education. Women also get discriminated even at lower level of weight status. For example, stigmatization in men is reported at BMI of 35 or higher while women experience this stigmatization at BMI as lower as 27. Besides that, a research has found out that slim persons were more likely to have negative attitude towards fat people and rate them as lazy and less motivated. In fact this study also found that obese people actually exhibit equally strong implicit stereotyping as non-obese people (Schwartz, 2006).

You et al. (2012) conducted a study that shows physiotherapists strongly agree that they have a role in management of obese person through exercise, mobility training and cardio respiratory program. Besides, Snodgrass et al. (2014) found that most of the physiotherapists will take weight management as scope of practice and provide advices on physical activities. As physiotherapists will be dealing with weight management, it is important that physiotherapists are required to have understanding of their own attitude towards overweight or obese people so that they do not hurt or harm a patient. This phenomenon not only exists among normal people but also among health care providers (Schwartz, 2003) which can lead to serious consequences. Health care professionals such as medical doctors (Sabin, Marini and Nosek, 2012), trainee doctors, dietitians, nurses and nutritionists (Swift, 2012) have been reported to have negative attitude towards weight. According to Setchell et al. (2015) some physiotherapists' understanding of weight might lead to negative interactions with patients who are overweight. Many patients may expect and perceive that physiotherapists demonstrate weight bias toward overweight patient might be one of the problems which lead to poor health outcome to the patient. The aim of this study is to determine explicit weight stigma among physiotherapy students.

METHODOLOGY

This cross-sectional study included of sample Physiotherapy students to determine explicit weight stigma among physiotherapy students. The participants of this study were students recruited from Universiti Tunku Abdul Rahman (UTAR), Malaysia. A total of 181 students participated in this survey. Both males and females were included. This study was approved

by the Scientific and Ethical Review Committee of UTAR. Participants were informed regarding the procedure and confidentiality was ensured. Informed consent was obtained from all participants. Data was collected using a questionnaire with three sections; demographic data, experience of weight bias and anti-fat attitude questionnaire. Demographic data was gathered using a self-designed questionnaire. The questionnaire included queries on gender, age, year of study, height in cm, weight in kg, have you been attended for clinical posting and have you been attended for any health talk on obesity. This questionnaire was presented with the combination of close ended and open ended questions.

Instruments

1. **Experience of Weight Bias:** This section of questionnaire consists of 5 questions. The questions include have you ever been unfairly discouraged or teased by a lecturer or advisor because of your weight, have you ever been making fun or bullied by your friends because of your weight, have you ever been unfairly prevented from moving into a neighborhood because the landlord or a realtor refused to sell or rent you a house or apartment, have you ever received service from someone such as customer service that was worse than what other people get and have your family member or friends being teased or treated unfairly.
2. **Anti-Fat Attitude Questionnaire:** This questionnaire is used to determine the attitude of a student towards body weight. This questionnaire consists of 3 sections on dislike, fear and willpower. The three scales represent different aspects of anti-fat attitudes; prejudice toward fat people, belief in the controllability of weight, and the individual's self-relevant concerns about fatness. Dislike part has 7 questions; fear part has 3 questions and willpower part with 3 questions that made up a total of 13 questions. Each question has 9 choices that is very strongly disagree, strongly disagree, disagree, disagree somewhat, unsure, agree, agree somewhat, agree, strongly agree and very strongly agree. The reliability and validity for this questionnaire was found high (Setchell, 2014).

Statistical Analysis

Data analysis was performed using Statistical Package for Social Sciences (SPSS)-version 22. Student t test, One Way Anova and Chi square test were used appropriately to reach the results.

RESULTS

A total of 181 students participated in this survey. The response rate was 82.65%. However, there were 2 survey forms with missing data so the 2 survey forms have been excluded and with the total of 179 data being used. Demographic data is shown in Table No.1. Among 179 respondents, 57 (31.8%) were from Year 1, 42 (23.5%) were from Year 2, 51 (28.5%) from Year 3 and 29 (16.2%) were from Year 4.104 (58.1%) of students have been to clinical posting before while 75 (41.9%) of students have never attended clinical posting. Besides, there were 54 (30.2%) students who had attended health talk about weight while 125 (69.8%) students have never attended any health talk on obesity. Furthermore, 35 (19.6%) participants

were categorized under underweight, 128 (71.5%) participants were categorized under normal and 16 (8.9%) were categorized under overweight.

Table No. 1: Demographic characteristics of the participants

Variables	Frequency	Percentile (%)
Gender		
Female	126	70.4
Male	53	29.6
Year of study		
1	57	31.8
2	42	23.5
3	51	28.5
4	29	16.2
Clinical Posting		
Yes	104	58.1
No	75	41.9
Health talk on obesity		
Yes	54	30.2
No	125	69.8
BMI		
Underweight	35	19.6
Normal	128	71.5
Overweight	16	8.9

There were 20 participants out of 179 with a percentage of 11.17% that have been unfairly discouraged or teased by lecturer or advisor because of their body weight. Besides, there were 66 participants (37.08%) that had been bullied by friends because of their weight. Furthermore, 47 (26.26%) participants received services that were worse than other people get. Four participants (2.23%) were unfairly prevented from moving into a neighborhood. Lastly, 51 (28.49%) participants experienced of family and friends being teased or treated unfairly due to their weight. Table No. 2 shows the data on experience of weight bias.32 participants demonstrated explicit weight stigma; 22 females and 10 males. Participants that attended clinical posting and health talk on obesity have not showed higher percentage of weight bias. Table No. 3 shows data on explicit weight stigma. Data on responses by participants on subscales of anti-fat attitude questionnaire is shown in Table No. 4.

Table No. 2: Data on experience of weight bias

Domains	Yes (percentage)	No (percentage)
Teased by lecturer	20(11.17%)	159(88.83%)
Bullied by peer	66(37.08%)	112(62.92%)
Neighborhood	4(2.23%)	175(99.77%)
Unfairly service received	47(26.26%)	132(73.74%)
Family and friends	51(28.49%)	128(71.51%)

Table No. 3: Percentage of participants who demonstrated explicit weight stigma against each factor

	Explicit weight stigma	
Overall	Yes	No
Number (%)	32 (17.9%)	147 (82.1%)
Gender		
Female	22 (17.5%)	104 (82.5%)
Male	10 (18.9%)	43 (81.1%)
Clinical Posting		
Yes	26 (25.0%)	78 (75.0%)
No	6 (8.0%)	69 (92%)
Health Talk attended		
Yes	13 (24.1%)	41 (75.9%)
No	19 (15.2%)	106 (84.8%)

Table No. 4: Data on responses by participants on subscales of anti-fat attitude questionnaire

	Number	**Percentage (%)**
Dislike		
Yes	7	3.9
No	172	96.1
Fear		
Yes	133	74.3
No	46	25.7
Will power		
Yes	104	58.1
No	75	41.9

DISCUSSION

The current study is aimed to determine the attitude of the physiotherapy students towards weight. Anti-fat attitude questionnaire was used to measure the explicit weight stigma. Our findings state that by and large Physiotherapy students do not demonstrate explicit weight stigma. Only 17.9 % of the students have negative attitude towards weight. This finding is important to Physiotherapy students as it indicates majority of the students possess positive attitude towards weight that is crucial; when managing obese patients. This finding is consistent with a study conducted in University of Catania, Italy among Psychology students that demonstrated low level of anti-fat attitude and dislike of fat people (Caroli and Sagone, 2012).

Our findings show that 27.9% of the participants dislike their friends to be overweight or obese. Innes (2014) reported that slimmer people tend to reject fat people when making friends with each other. This could be the reason why more participants dislike their friends to be overweight or obese as most of the respondents in this survey are under normal category BMI. Most of the participants agree that they are worrying of becoming fat and take this as one of the worst thing if they have gained 10 kgs. Ross (2013) reported in her article that Fat

phobia is rampant and actually contributes to the problem of obesity and mentioned that studies reported seeing fat people will produce a feeling of disgust and nausea. This is consistent with the finding that most of the participants feel disgusted if they have gained weight. A few research studies found that participants characterized obese people as lazy with lack of willpower (Berryman et al, 2006; Wang, 2004). In this study, majority of the respondents agree with that fat people have no willpower. This finding is in accord with another study that stated physiotherapists have higher score on willpower subscale and tend to blame people for body size (Setchell et al, 2014).

Male participants demonstrate weight bias compared to female. The gender difference is supported by research conducted by Lieberman, Tybur and Latner (2012) that stated men reported to have more obesity bias. From the result, male participants are getting more discrimination than female which is contradicting the findings of other studies that reported that female participants are getting more discrimination of weight then male (Puhl, Andreyeva & Brownell, 2008). This difference could be due to the cultural difference between foreign and Asian countries. Furthermore, the male and the female frequency were not even and that could be one of the factors that make this difference. There are 33.3% of females and 47.2% males who had experience of being bullied by friends because of their weight. This phenomenon is pervasive in society now as many research studies showed that obese people are the victim of bullying (Harding, 2010). Besides personal experience, 28.5% of participants have reported that their family or friends experienced this bias. Relationship between experience of weight bias and dislike of fat people has shown no statistical significance which indicates that people who experience weight bias appear to have having more positive attitude towards weight. This is supported by a study conducted by Puhl et al. 2015 which states that people without family and friends lacking this experience have strong negative attitude towards weight.

Overall, males tend to think that fat people have lower willpower to control weight. Females focus more on their physical appearance and body image. The most common consequences seen is that females suffer from anorexia nervosa to make sure that they did not fall into overweight and obese category (Malay online, 2010). This has proved that females have strong willpower when deal with weight management. However, in the individual question' It is people's own fault if they are overweight', female response was more negative result than male which indicate that although females have strong willpower in weight control they are not blaming people for body size. Although males have less percentage than females in this question, most of the males were showing negative result to this question too. As the study population was physiotherapy participants, all of the participants will have some kind of understanding towards weight such as the causes of becoming fat. Health conditions such as hypothyroidism can lead to fat too. Medicines such as corticosteroids and seizure medicine have the side effect that make a person become fat. It can be concluded that having knowledge about weight can reduce weight bias.

This study shows no significant association between BMI and dislike of fat people. This finding is consistent with a few previous studies that also show no relationship between BMI and weight bias (Wellborn, 2013). Participants were afraid of this kind of discrimination and developed the fear of getting fat. The subscale of willpower to control fat shows no statistically significant association with BMI. According to our findings, age has correlation with anti-fat attitude. The reason could be the age range of participants being 19-21.Year of study also showed no relationship between anti-fat attitudes. Psychology is a core subject in the curriculum for physiotherapy program. Based on findings of this study, 26 among the 32 participants who have explicit weight bias were participants that attended clinical posting. Among 54 participants who have attended to any health talk on obesity, 13 demonstrated explicit weight stigma. However, fear of getting fat exists among those who attended health talk. Though health talks on obesity mainly discuss on the risk, consequences of obesity and weight control measures; rarely do they discuss on fear of getting fat.

Our findings show that majority of the overweight participants were males. Several studies done by other researchers have shown that fat people are more likely to be bullied and discriminated by others (Guo, 2010; Janssen, 2004). This is one of the reasons that could explain that our findings have shown that more males have experience of weight bias than females. Although those who had experience of weight bias was expected to have lower explicit weight stigma, however, in our findings, males having higher percentages in demonstrating explicit weight stigma than females. This finding is consistent with the results of the study conducted by Lieberman et al (2012) which stated that men show more negative attitude towards obese people. Our findings show that females and participants in normal category BMI express the highest level of fear of fat. Females have a subconscious of fear of being fat (The Telegraph, 2010). In general the study found that explicit weight stigma is not shown by Physiotherapy students.

A small sample size was the main limitation of this study. Future studies are recommended involving larger population of students from other disciplines. Studies with in-depth exploration of factors that can affect explicit weight stigma such as race, religion and level of education of parents are warranted. We conclude that physiotherapy students demonstrate low level of explicit weight stigma. There were significant associations between gender and dislike of fat people, fear of being fat and willpower to control fat. Females showed less dislike to fat people while males expressed less fear of getting fat and tend to think that fat people have lower willpower in controlling body weight.

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REFERENCES

Berryman, D. E., Dubale, G. M., Manchester, D. S., &Mittelstaedt, R. (2006). Dietetics Students Possess Negative Attitudes toward Obesity Similar to Nondietetics Students. *Journal of the American Dietetic Association*, 106(10), Pages: 1678 to1682.

Budd, G. M., Mariotti, M., Graff, D., &Falkenstein, K. (2011). Health care professionals' attitudes about obesity: An integrative review. *Applied Nursing Research*, 24(3), Pages: 127 to 137.

Caroli, M. E., &Sagone, E. (2013).Anti-fat Prejudice and Stereotypes in Psychology University Students. *Procedia - Social and Behavioral Sciences*, 84, Pages: 1184 to 1189.

Caroli, M. E., &Sagone, E. (2015). Anti-fat Attitudes and Weight Stereotypes: A Comparison between Adolescents and their Teachers. *Procedia - Social and Behavioral Sciences*, 191, Pages: 280 to 285.

Chalker, A. E. (2014).*Weight Bias and Anti-Fat Attitudes: Sources, Impacts, and Prevention Methods.* Retrieved from [Oct 26 2017]http://www.inquiriesjournal.com/a?id=931

Chan, Y. Y., Lim, K. K., Lim, K. H., Teh, C. H., Kee, C. C., Cheong, S. M., Ahmad, N. A. (2017). Physical activity and overweight/obesity among Malaysian adults: findings from the 2015 National Health and morbidity survey (NHMS). *BMC Public Health*, 17, Pages: 733 to 740. http://doi.org/10.1186/s12889-017-4772-z

Diedrichs, P. C., & Barlow, F. K. (2011). How to lose weight bias fast! Evaluating a brief anti-weight bias intervention. *British Journal of Health Psychology*, 16, Pages: 846 to 861.

Giel, K. E., Thiel, A., Teufel, M., Mayer, J., &Zipfel, S. (2010). Weight Bias in Work Settings – a Qualitative Review. *Obesity Facts*, 3(1),Pages: 33 to 40. doi:10.1159/000276992

Guo, Q., Ma, W., Nie, S., Xu, Y., Xu, H., & Zhang, Y. (2010).Relationships between Weight Status and Bullying Victimization among School-aged Adolescents in Guangdong Province of China. *Biomedical and Environmental Sciences*, 23(2), Pages: 108- to 112.

Harding, A. (2010). *Obese kids more vulnerable to bullies.* Retrieved [Nov 02, 2017], from http://edition.cnn.com/2010/HEALTH/05/03/obesity.bullying/

Innes, E. (2014). *Fat people do have fewer friends: Study finds 'normal weight' people reject them.* Retrieved from[Oct 08, 2017], http://www.dailymail.co.uk/health/article-2630355/Fat-people-DO-fewer-friends-Study-finds-normal-weight-people-reject-them.html

Janssen, I., Craig, W. M., Boyce, W. F., & Pickett, W. (2004). Associations Between Overweight and Obesity With Bullying Behaviors in School-Aged Children. *Pediatrics*, 113(5), Pages: 1187 to 1194.

Lieberman, D. L., Tybur, J. M., &Latner, J. D. (2011). Disgust Sensitivity, Obesity Stigma, and Gender: Contamination Psychology Predicts Weight Bias for Women, Not Men. *Obesity*, 20(9), Pages: 1803 to 1814.

Malay Online (2016).*Nearly half Malaysia's population overweight or obese.*Retrieved from [Oct 25, 2017], http://www.themalaymailonline.com/malaysia/article/nearly-half-malaysias-population-overweight-or-obese-health-minister-says

Puhl, R. M., &Heuer, C. A. (2009). The stigma of obesity: A review and update. *Obesity*,17(5), Pages: 941 to 64.doi: 10.1038/oby.2008.636

Puhl, R. M., Andreyeva, T., & Brownell, K. D. (2008). Perceptions of weight discrimination: Prevalence and comparison to race and gender discrimination in America. *International Journal of Obesity*, 32(6), Pages: 992- to 1000.

Puhl, R. M., Latner, J. D., O'brien, K., Luedicke, J., Danielsdottir, S., &Forhan, M. (2015). A multinational examination of weight bias: Predictors of anti-fat attitudes across four countries. *International Journal of Obesity*, 39(7), Pages: 1166 to 1173.

Puhl, R. M., Moss-Racusin, C. A., Schwartz, M. B., & Brownell, K. D. (2008). Weight stigmatization and bias reduction: Perspectives of overweight and obese adults. *Health Education Research*, 23(2), Pages: 347 to 358.

Ross, C., C. (2013). *I See Fat People.*Retrieved from[Oct30 2017], https://www.psychologytoday.com/blog/real-healing/201308/i-see-fat-people

Sabin, J. A., Marini, M., &Nosek, B. A. (2012).Implicit and Explicit Anti-Fat Bias among a Large Sample of Medical Doctors by BMI, Race/Ethnicity and Gender. . PLoSONE7(11): e48448. https://doi.org/10.1371/journal.pone.0048448

Schwartz, M. B., Chambliss, H. O., Brownell, K. D., Blair, S. N., &Billington, C. (2003).Weight Bias among Health Professionals Specializing in Obesity. *Obesity Research*, 11(9), Pages: 1033 to 1039.

Schwartz, M. B., Vartanian, L. R., Nosek, B. A., & Brownell, K. D. (2006). The Influence of One's Own Body Weight on Implicit and Explicit Anti-fat Bias. *Obesity*, 14(3), Pages: 440 to 447.

Setchell, J., Watson, B. M., Gard, M., & Jones, L. (2015). Physical Therapists' Ways of Talking About Overweight and Obesity: Clinical Implications. *Physical Therapy*,96(6), Pages: 865 to 875.

Setchell, J., Watson, B., Jones, L., Gard, M., &Briffa, K. (2014). Physiotherapists demonstrate weight stigma: A cross-sectional survey of Australian physiotherapists. *Journal of Physiotherapy*, 60(3), Pages: 157 to 162.

Snodgrass, S. J., Carter, A. E., Guest, M., Collins, C. E., James, C., Kable, A. K., Plotnikoff, R. C. (2014). Weight management including dietary and physical activity advice provided by Australian physiotherapists: A pilot cross-sectional survey. *Physiotherapy Theory and Practice*, 30(6), Pages: 409 to 420.

Swift, J. A., Hanlon, S., El-Redy, L., Puhl, R. M., &Glazebrook, C. (2013).Weight bias among UK trainee dietitians, doctors, nurses and nutritionists. *Journal of Human Nutrition and Dietetics*, 26(4), Pages: 395 to 402.

The Telegraph (2010).*Women 'have inbuilt fear of being fat'*.Retrieved from [Oct 08, 2017], http://www.telegraph.co.uk/news/health/news/7589523/Women-have-inbuilt-fear-of-being-fat.html

Wang, S. S., Brownell, K. D., &Wadden, T. A. (2004).The influence of the stigma of obesity on overweight individuals. *International Journal of Obesity*, 28(10), Pages: 1333 to 1337.

Welborn, S., Lee, M., Cress, E., & Johnson, M. (2013). Comparison of Obesity Bias, Attitudes and Beliefs among Undergraduate Dietetic Students, Dietetic Interns and Practicing Registered Dietitians. *Journal of the Academy of Nutrition and Dietetics*, 113(9).Pages: 35-41.

World Health Organization (2017).*Fact sheet: obesity and overweight*. Retrieved from[Oct 10, 2017]http://www.who.int/mediacentre/factsheets/fs311/en/.

You, L., Sadler, G., Majumdar, S., Burnett, D., & Evans, C. (2012).Physiotherapists' Perceptions of Their Role in the Rehabilitation Management of Individuals with Obesity. *Physiotherapy Canada*, 64(2), Pages: 168 to 175.

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