



Body Mass Index And Weight Perception Among Adolescents In Eleme Local Government Area Of Rivers State

¹Delafrida, Nwannediuto Ukaga; ²Dr. Ndudim Oluchi; ³Dr. Emmanuel Nwakaji Etor

^{1,2,3}Department of Preventive and Social Medicine
University of Port Harcourt, Port Harcourt, Nigeria

¹Ukagadelafriada@gmail.com, ²mildredvet98@gmail.com, ³papaetor8@gmail.com

ABSTRACT

The study aimed to determine body mass index and weight perception among adolescents in Eleme Local Government Area of Rivers State. A self-administered questionnaire-based survey was used to collect data on anthropometric measurements, perceived body size from a sample of 400 adolescents aged 10-19 years old in Eleme Local Government area of Rivers State, Nigeria. Results were analyzed using the Chi-square Statistic and $p < 0.05$ level of significance. Based on BMI, 58.7% were underweight, 29.2% were normal weight, 12.1% were overweight. Using a stunkard figure rating scale, the results showed that 56.4% of adolescents would like to look like underweight body image, 29.0% would like to look like normal weight body image while 14.6% would like to look like overweight body image. Misperception of weight was found among 59.0% of adolescents while 41.0 of adolescents had no misperception about their weight. Based on the findings, the study concluded that a large percentage of adolescents often misperceive their weight against their measured body mass index. To address weight misperceptions among adolescents, a more tailored intervention program and more thorough investigations into different reasons why adolescents engage in unhealthy weight control behaviours need to be investigated.

Keywords: Body mass index, weight perception, adolescents

INTRODUCTION

Weight misperception is explained as the dissonance between a person's genuine weight status and the view of their weight (Duncan et al., 2011). Past research demonstrates that adolescents who are underweight or normal weight see themselves as overweight, thusly expanding their danger of dietary issues, unhealthy weight control behaviours and gloom (Tang et al., 2010). The World Health Organization characterizes adolescents as the time frame between the ages of 10 to 19 years (WHO, 2010). Various socio-segment and ecological variables influence weight misperception in adolescents like sexual orientation, body mass index (BMI), ethnicity, financial status, and media openness (Kim & So, 2014; Martin et al., 2010).

Body Mass Index (BMI) is a suitable guideline used to classify an individual as underweight, normal weight, overweight, or obesity reliant on tissue mass (muscle, fat, and bone) and stature. It is determined by dividing a person's mass or weight by their height squared (Mackay, 2010). The WHO Commonly established BMI ranges are underweight (under 18.5 kg/m²), normal weight (18.5 to 25), overweight (25 to 30), and obese (more than 30) (WHO, 2019).

Curiously, the dissimilarity between target proportions of body size (like BMI) and individual perception of current body size is troubling. The perceived body image perpetually decides how people feel about

their bodies. It identifies with the measure of fulfilment or disappointment one feels about one's shape, weight, and individual body parts (Coelho et al., 2015). For instance, few persons accept they will feel better thinking about themselves if they are more slender or muscular; and this later helps to decide the weight control practices (social self-perception) they take part in (NEDC, 2017).

Browne (2012) stated that there is an issue where adolescents face continuous stigmatization, discrimination, stereotyping, and peer exploitation. Indeed, overweight, obese, and underweight adolescents are bound to encounter bullying and teasing when contrasted with healthy-weight peers (Lumeng et al., 2010). These issues can lead to suicide. Additionally, these adolescents are bound to develop side effects identified with attention/deficit hyperactivity (ADHD) disorders when contrasted with healthy-weight people (Cortese et al., 2015).

In a customary setting like Eleme Local government, the adolescents have little knowledge of accurate weight perception and control behaviours. They often misperceive their weight; some consider being overweight to be an indication of affluence or sound living while some who see they are very overweight or underweight take part in harmful weight management that might be destructive to their body.

Although body mass index and weight perception studies are plentiful in developed nations and consist of important research groundwork for weight control behaviours and programs. In a developing country such as Nigeria, studies have been carried on to assess the perceptions focusing mostly on older adults, women, men, and urban settlers, few have been carried on adolescents in a customary setting like Eleme local government. Therefore, this research plans to explore body mass index and weight perception among adolescents in Eleme Local Government of Rivers State to make applicable recommendations and guarantee compliance for non-communicable prevention. The aim is to determine body mass index and weight perception among adolescents in the Eleme Local Government Area of Rivers State.

MATERIALS AND METHODS

The design of the study was a descriptive cross-sectional design among 400 adolescents between the ages of 10 to 19 years in Eleme Local Government Area of Rivers State in 2021. A multi-stage sampling technique was employed for the study. A standardized anonymous questionnaire adopted from sets of validated questions were used to elicit information on socio-demographics and weight control practices. Stunkard figure rating scale silhouette of body mass index was used to collect data on body weight perception and body image assessment. A detek 009 Digital LCD electronic weighing scale and a standard meter rule were used to check the height and weight of individuals. The data from the completed questionnaires were extracted and entered in an excel spreadsheet using Microsoft Excel and analysed using the Statistical Package for the Social Sciences (SPSS) version 21. Results were represented and analyzed using the range of values present in a data set, from frequency distribution table, frequencies including Chi-square test.

Ethical consideration

Permission was sought and obtained from the research and Ethics Review Committee of the University of Port Harcourt.

RESULTS

Table 1: Socio-demographic characteristics of respondents

Variables	Frequency (n=390)	Percentages	χ^2 P-value
Gender (n=390)			
Male	184	47.2	7.490
Female	206	52.8	0.043*
Age (in years) (n=390)			
10-15 years	276	70.8	81.625
16-20 years	114	29.2	0.000*
Ethnic group (n=390)			
Eleme	170	43.6	82.101
Hausa	4	1.0	0.000 ^α *
Yoruba	6	1.5	
Igbo	37	9.5	
Orhobo	52	13.3	
Efik	27	6.9	
Others	94	24.1	
Religion (n=390)			
Christianity	367	94.1	9.219
Islam	3	0.8	0.193
Traditional	0	0	
Others	20	5.1	
Who do you live with (n=390)			
Live alone	43	11.0	75.545
Siblings/relative	58	14.9	0.000*
Parent(s)/guardian(s)	280	71.8	
Others	9	2.3	

*Statistically significant (p<0.05); χ^2 =Chi-Square; α =Fishers Exact p (appropriate)

Table 4.1 shows the distribution of gender, ethnic group, religion and who adolescents live with. The result showed that 184(47.2%) of the respondents were male while 206(52.8%) of them were females, 276(70.8%) were within the ages of 10-15 years while 114(29.2%) were 16-20 years. Results of the ethnic group showed that 170(43.6%) of the respondents were from the Eleme ethnic group, 4(1.0) were Hausas, 6(1.5%) were Yorubas, 37(9.5%) were Igbos, 52(13.3%) were Orhobos, 27(6.9%) were Efiks while 94(24.1%) were from other ethnic groups. For religion, 369(94.1%) of the respondents were of the Christian religion, 3(0.8%) were Muslims while 20(5.1%) were of other religions. About 43(11.0%) of the respondents lived alone, 58(14.9%) lived with their siblings, 280(71.8%) lived with their parents/guardians, 9(2.3%) lived with other persons. The result also showed a statistically significant difference between gender (p=000), age (p=000), ethnic group (p=000) and who adolescents lived with (p=000)

Table 2: Body Mass Index of Adolescents

Variables	Frequency (n=390)	Percentages	χ^2 P-value
Underweight	229	58.7	91.897 0.000*
Normal weight	114	29.2	
Overweight	47	12.1	

*Statistically significant (p<0.05); χ^2 =Chi-Square; α =Fishers Exact p (appropriate for values <5)

Table 4.2 shows the body mass index of adolescents. The results showed that 229(58.7%) of adolescents were underweight, 114(29.2%) were normal weight while 47(12.1%) were overweight. The result also showed a statistically significant difference (p=000)

Table 3: Stunkard Figure Rating Scale Silhouette of Body Mass Index of Adolescents

Variables	Frequency (n=390)	Percentages
Underweight	220	56.4
Normal weight	113	29.0
Overweight	57	14.6

Table 4.3 shows the stunkard figure rating scale silhouette of body mass index. The results showed that 220(56.4%) of adolescents would like to look like underweight body image, 113(29.0%) would like to look like normal weight body image while 57(14.6%) would like to look like overweight body image.

Table 4: Body Weight Perception of Adolescents

Variables	Frequency (n=390)	Percentages
How do you describe your body weight (n=390)		
Underweight	139	35.6
Normal weight	236	60.5
Overweight	12	3.1
Obese	3	0.8
Are you terrified about being underweight, overweight or obese (n=390)		
Always	6	1.5
Usually	7	1.8
Often	210	53.8
One time	125	32.1
Rarely	15	3.8
Never	27	6.9
Which of these would you prefer to be (n=390)		
Underweight	138	35.4
Normal weight	246	63.1
Overweight	6	1.5

Table 4.4 shows the body weight perception of adolescents. The results revealed that 139(35.6%) of adolescents described their body as being underweight, 236(60.5%) described their body as normal weight, 12(3.1%) described their body as overweight while 3(0.8%) described their body as obese. 6(1.5%) of adolescents agreed that they were always terrified about being underweight, overweight or obese, 7(1.8%) agreed that they were usually terrified about being underweight, overweight or obese, 210(53.8%) agreed that they were often terrified about being underweight, overweight or obese, 125(32.1%) agreed that they were sometimes terrified about being underweight, overweight or obese, 15(3.8%) indicated that they were rarely terrified about being underweight, overweight or obese while 27(3.8%) indicated that they were never terrified about being underweight, overweight or obese. On preference of body mass index, 138(35.4%) indicated that they preferred to be underweight, 246(63.1%) preferred to be normal weight while 6(1.5%) preferred to be overweight.

Table 5: Overall Weight Perception of Adolescents

Variables	Without Misperception	With Misperception
	Freq %	Freq %
Underweight	85(53.1)	54(23.5)
Normal weight	60(37.5)	176(76.5)
Overweight	12(7.5)	0(0.0)
Obese	3(1.9)	0(0.0)
Total	160(41.0)	230(59.0)

Table 4.5 shows the overall weight perception of adolescents. The result showed that 160(41.0%) of adolescents had no misperception about their weight while 230(59.0%) had weight misperception.

DISCUSSION

The findings of the study showed that there is a tendency for adolescents to misperceive their body weight when compared to BMI. A similar trend was found among Mauritian teenagers. Marked differences were observed between BMI and weight perception. (Darshini and Rajesh, 2020) The BMI result indicated that over half of the adolescents were classified as underweight, less than half as normal weight and close to a quarter as overweight. This contrasts with self-perceptions of themselves with more than half of adolescents perceiving themselves to have an underweight body image, less than half perceived to have normal weight body image and close to a quarter desiring to look like overweight body image. This suggests that a substantial number of adolescents misperceived their body weight when compared to their measured body mass index. A similar trend was observed in the previous studies of Zainuddin et al (2014), Oyemole et al (2018), Yeng and Sedek (2012) and Houaida and El Wagoud (2016). The similarities observed across these studies may be attributed to various factors including the geographical location of study areas, cultural influences and especially the dietary habits of these adolescents which may have contributed to their underweight and normal weight classifications. However, the outbreak of COVID-19 likely had an impact on the BMI of these adolescents. Many persons and families faced financial hardship and food insecurity during the lockdown period leading to inadequate nutrition for many. This would have likely influenced their BMI levels negatively

This shows that adolescents have diverse perceptions about their own body image and these perceptions often lead them to prefer different body types. Consequently, it indicates the influence of body image perception in shaping body weight practices of adolescents, especially those who have experienced teasing or bullying due to their appearance. These varying perceptions can be attributed to various factors including influences from the media, comparison to images of celebrities, family, and cultural beliefs. Also, the prevailing body norms in their geographical regions, level of parental guidance and education as well as an adolescent's self-perception.

CONCLUSION

Based on the findings of the study, it was inferred that a large percentage of adolescents often misperceive their weight against their measured body mass index. By implication, these findings suggest that adolescents may only become aware of their actual weight when they participate in research and or when the need arises. Therefore, there is need for relevant health agencies to fill in the gap by developing strategies that would enable these adolescents to know their actual weight for proper body weight management and a healthy lifestyle.

Conflict of interest

The authors have no conflict of interest to declare for this study

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