

Unhealthy weight control practice and related factors among female public college students in Harari Regional State, Ethiopia, 2019

Arif Hussien Jamie^{a,1,*}, Abdusemed Mohammed Ahmed^{b,1}

^a Department of Nursing, Harar Health Science College, Harar, Ethiopia

^b Department of Midwifery, Harar Health Science College, Harar, Ethiopia

¹ arifhussen.ah@gmail.com*; ² zjaalaa@gmail.com

* corresponding author

ABSTRACT

The aim of this study was to determine the magnitude of unhealthy weight control practice and related factors among female college adolescents in Harari region. A school based cross-sectional study was conducted among 290 female college adolescents who were randomly selected from two government colleges. A pre- tested self-administered questionnaire was used. Measurement was taken to calculate Body Mass Index. Data was entered, cleaned and analyzed using SPSS version 20. Anthropometric. In this study, the odds of getting engaged in unhealthy weight control practice was 7.21 times higher among those within perceived overweight group than adolescents in perceived normal weight group, [AOR =7.2; 95% CI =1.2-27.9]. Furthermore, female adolescents within dissatisfied group for middle torso had 1.43 times higher odds of getting engaged in unhealthy weight control practice than those within satisfied group, [AOR=1.4; 95% CI=1.1-1.9]. The findings of this study gave insight on the prevalence of unhealthy weight control practice among female college adolescents in Harari regional state. The study also have got significant association between perceived overweight, middle torso dissatisfaction and engagement in unhealthy weight control practice within the last 30 days among female college adolescents in Harari regional state.

This is an open access article under the [CC-BY-SA](https://creativecommons.org/licenses/by-sa/4.0/) license.



Article history

Received 18-02-2023

Revised 21-03-2023

Accepted 27-03-2023

Keywords

Unhealthy Weight Control

Adolescent

College Girls

1. Introduction

This Adolescence is a period of transition from dependence to independence and autonomy, with significant growth in physical (Sawyer et al., 2018), cognitive, identity, family, peers, and sexuality, in order to achieve emancipation, self-formation, and functional role assumption (Pisetsky et al., 2020). People's perceptions of themselves were linked to their body image (Crone & Achterberg, 2022). Although one's perception does not necessarily reflect reality (Lamore et al., 2019), understanding and anticipating weight-control behavior is inextricably linked to how teenagers appear to feel about their bodies (Lamore et al., 2019). Fasting, missing meals, using weight-loss medicines without a doctor's authorization (Andersen, 2006), and sticking to a one-food diet are common practices among those who believe they are overweight (Abbay, 2010).

Females are at a higher risk of malnutrition because they are more self-conscious about their eating habits in order to maintain physical beauty (Abbas, 2017). Anorexia nervosa and bulimia nervosa were found in underweight teenagers who had weight-conscious behavior (Ma, 2016), ate to distract themselves from their anxieties (Urbatsch, 2018), and used induced vomiting to maintain their body weight (Hilhorst, 2002).

Despite the fact that university and college life is an essential transition phase during which students acquire lifelong habits and encourage healthy lifestyle practices, this is a truth (Esayas et al., 2020). Only a few researches have been conducted on this subject (Hussen, 2021). So the purpose of this study was to determine the magnitude of unhealthy weight control practice and related factors among female college adolescents in Harari region (Fufa et al., 2020).

2. Theoretical Framework

Unhealthy weight control practice – Engagement in one or more strategies within the last 30 days, aimed at controlling weight (Selvarajan et al., 2021). Those weight control methods, which include taking laxatives and diuretics (Beech et al., 2021), self-induced vomiting, taking diet pills, skipping meals, fasting and excessive training/doing vigorous exercise (Kim & Seo, 2021), eating less amount of food than the usual, taking other food substitutes, eating only one type of diet (Weinheimer et al., 2020). Engagement in at least one of the above methods (Kontele & Vassilakou, 2021).

Perceived body weight: - self-evaluation of one's weight as "underweight," "normal weight" or "overweight" irrespective of its formal classification by body mass index (BMI) (Tran et al., 2019). Normal body weight: - body mass index (BMI) which is 18.5 to 24.9. Overweight: - body mass index (BMI) which is 25 to 29.9. Obese: - body mass index (BMI) which is 30 and higher inaccurate perception: - self-evaluation as normal where BMI shows the opposite or self-evaluation as abnormal where BMI indicates the normal (Tuffa et al., 2020).

3. Method

From February to July 2019, a cross-sectional institutional-based study was conducted. The research was carried out in Harar's public colleges (Najberg et al., 2021). Harar city is situated at 525 km and from Addis Ababa in the far-east of Ethiopia. The sample size was calculated using a single population proportion formula by taking "P" 30.8 percent 5, unhealthy weight control from a study conducted in Addis Ababa, Ethiopia, and adding a 10% non-response rate, the final sample size was 290 (Olvera et al., 2016). The Harar health science college ethical committee gave their approval (Pistella et al., 2019). Consent was obtained from the administrative bodies of the colleges as well as the participant (Ethical clearance number, HHSC-219/09). Data collection, Quality Control & Data Processing and Analysis : Self-administered structured and pre-tested questionnaires were used to collect data (Simone et al., 2019). Following data collection, the questionnaire was double-checked for accuracy and coded in Epi-info version 3.5.3 before being exported to SPSS version 20. The connection of independent variables was determined using descriptive analysis first, and then bivariate analysis. Finally, a variable with a p-value of less than 0.05 in multiple logistic regressions was judged statistically significant (Neumark Sztainer et al., 1995).

4. Results and Discussion

4.1. Socio Demographic Characteristic

A total of 290 female students were sampled, and 290 of them responded, resulting in a 100% response rate. The most common age group among students was 20 years old (119 percent), followed by 18 years old (114 percent) (39.3 percent). The average age of the study participants was 19.02 (S.D.0.9) years, and only 46 (15.9%) of the students lived in rural areas. In terms of year of study, 128 (44.1%) were in their second year. (See Table 1).

Table 1. Characteristics of participants

Variables	Category	Frequency	Percent
Age (in years)	18	114	39.3%
	19	57	19.7%

	20	119	41.0%
Year of study	First year	93	32.1%
	Second year	128	44.1%
	Third year	69	23.8%
Residence	Urban	244	84.1%
	Rural	46	15.9%
Family size	1	31	10.7%
	2	87	30.0%
	3	69	23.8%
	4-6	63	21.7%
	≥7	40	13.8%

Perceive and perception towards their body weight. Perceived overweight and perceived normal were both frequent among the participants in this study, with prevalence rates of 58.6% and 35.9% of female college teenagers, respectively. Furthermore, 5.5 percent of female college students considered their bodies to be fat. Satisfaction towards their overall body posture. Among 290 study participants, 211 (81.8%) were satisfied with their overall body posture while. Trying to lose weight, avoiding gaining weight or maintaining their body weight (See Table 2).

Table 2. Satisfaction level of study participants

Variables	Extremely Dissatisfied n (%)	Dissatisfied n (%)	Neutral n (%)	Satisfied n (%)	Extremely satisfied n (%)
Face	0 (0.0%)	0 (0.0%)	62 (21.4%)	108(37.2%)	120(41.4%)
Upper torso	0 (0.0%)	11 (3.8%)	62 (21.4%)	173(59.7%)	44 (15.2%)
Mid-torso	0 (0.0%)	56 (19.3%)	73 (25.2%)	120(41.4%)	41 (14.1%)
Lower torso	10 (3.4%)	0 (0.0%)	12 (4.1%)	251(86.6%)	17 (5.9%)
Muscle tone	17 (5.9%)	29 (10.0%)	86 (29.7%)	158(54.5%)	0 (0.0%)
Height	0 (0.0%)	134(46.2%)	12 (4.1%)	132(45.5%)	12 (4.1%)
Weight	17 (5.9%)	70 (24.1%)	95 (32.8%)	108(37.2%)	0 (0.0%)
Overall appearance	10 (3.4%)	11 (3.8%)	58 (20.0%)	198(68.3%)	13 (4.5%)

All of the participants 290(100%) of them said that they have tried to control their weight using different methods and ways. In this study the affirmative responses to the nine weights control practices among female adolescents who are engaged within the past 30 days.

The result indicated that the responses for the items ranged from 0-91.4%.in this study the highest positive reply given was for the item “skipping meal” 265(91.4%) followed by the item “eating one type of food 202 (69.7%)” and “taking slimming tea”117(40.3%) which are non-purging behaviors. On the other hand there is no single respondents who respond used the items like “taking laxatives, diuretics and diet pill”, which is purging behavior. (See Table 3).

Table 3. Overall characteristics of weight control methods being practiced within the last 30days

Weight control method	Yes		NO	
	n	%	n	%
laxative /diuretics	0	0%	290	100%
Self-Induced vomiting	0	0%	290	100%

Non-purging behaviour	Doing		
Vigorous exercise	53	18.2%	237 81.7%
Skipping meal	265	91.3%	25 8.6%
Long hour fasting	13	4.48%	277 95.5%
Eat less amount of food than usual	105	36.2%	185 63.8%
Eat one type diet only	202	69.6%	88 30.3%
Take slimming tea	117	40.3%	173 59.7%
Eat food substitute/powders	0	0%	290 100%

Sources of information to get engaged in weight control practice: In this study peer, social media and Family 290(100 %), 182(62.8%) &108 (37.2%) were referred as the communal sources of information for commitment in weight control practice. (See figure 1)

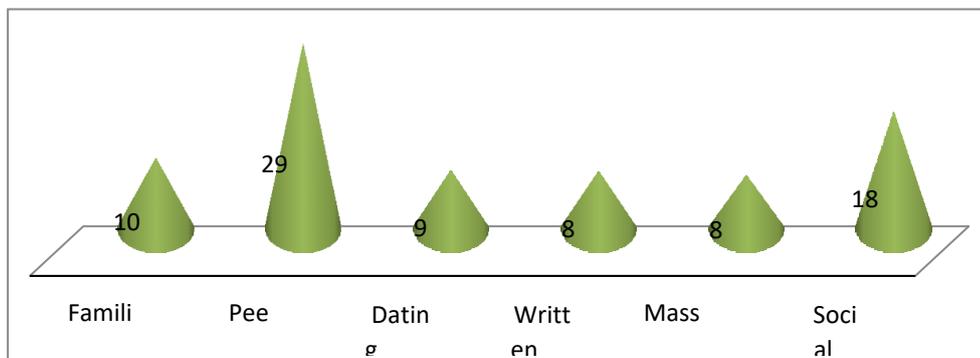
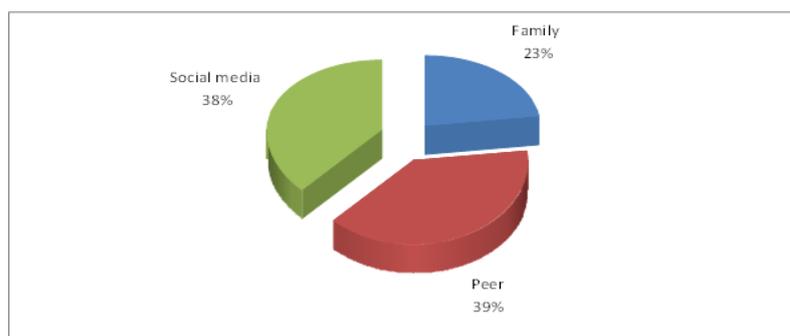


Fig. 1. Sources of information that are used to get engaged in weight control practice

Influenced to get engaged in weight control practice In this study peer, social media and family were referred as the most common one which influence female college adolescent girls to get engaged in weight control practice. (See figure 2)



Factors associated with unhealthy weight control practice In bivariate logistic regression analysis, age, year of study, perceived weight, upper torso satisfaction, lower torso satisfaction, weight satisfaction, and overall appearance satisfaction showed association with unhealthy weight control practice.

In order to see the independent effect of each potential determinant while controlling for possible confounders, variables with a p-value 0.05 in the bivariate analysis were entered into a multivariate logistic regression model. With a p-value of 0.05, the multivariate logistic regression analysis revealed a statistically significant link between perceived overweight, middle torso body part

dissatisfaction, and poor weight control practice after adjusting for the effect of other predictor factors.

In this study, adolescents in the perceived overweight group were 7.21 times more likely than those in the perceived normal weight group to engage in unhealthy weight control practices [AOR =7.2; 95 percent CI =1.2-27.9]. Furthermore, female adolescents in the dissatisfied middle torso group were 1.4 times more likely than those in the satisfied group to engage in unhealthy weight control practices [AOR=1.4; 95 percent CI=1.1-1.9].

Weight loss attempts were common among female college adolescents in this study, which was similar with findings from other developing nations. 6–9, this indicates that female teenagers are concerned about their body image and want to shed or maintain their weight. The most widely employed weight control measures in the current study were skipping meals, consuming less food than normal, and engaging in strenuous activity. In other studies, a similar trend of employing weight-control measures such as consuming less food than usual, skipping meals, fasting for long periods of time, and food restriction was noted. 10 The approaches listed above are considered simple and quick ways to lose weight in a short amount of time.

Female adolescents were found to have erroneous perceptions of being normal weight, overweight, and obese in the current investigation. However, erroneous perceptions of being overweight were more common than erroneous perceptions of being normal. The notion of being overweight was found to have a strong link to engaging in undesirable weight-loss behaviors. Various research conducted in both established and developing nations revealed a wide range of teenagers' perceived body weight and BMI-for-age, as well as a much higher weight loss effort among those who believed themselves to be overweight. 11-14 .This might be due to a desire to be small and a lack of understanding of the differences between normal weight, overweight, and obesity. Another probable cause is attempting to copy the appearance of others, such as a model or a movie star, and comparing oneself to socially accepted body pictures. Another notable conclusion in this study is that body part dissatisfaction, particularly middle torso dissatisfaction, was 44.5 percent and had a strong relationship with poor weight control in the previous 30 days. In a similar study of Iranian teenagers, researchers discovered a greater percentage of body weight dissatisfaction (around 75.0 percent) and a strong association between BMI-for-age, body image perception, and body dissatisfaction. 15 Our finding is less, possible explanation for the slight difference could be due to the, life style differences, study area, study design or sample size.

5. Conclusion

The purpose of this study was to raise awareness about the prevalence of unhealthy weight-loss practices among female college girls in the Harari regional state. The study also found a link between perceived overweight, middle torso dissatisfaction, and engaging in unhealthy weight-control practices in the previous 30 days among female college adolescents in Harari. Clubs at school. Female adolescent girls should be given special attention and informed about proper weight management strategies through various school clubs, such as the girls' club and school mini-medias.

For the benefit of the media and the general public Because mass media and social media, in addition to family and peers, are common sources of information, special attention should be paid to advertisements and information transmitted, as this may lead to a distorted body image among female adolescents. For researchers, Community based longitudinal study will be useful.

References

- Abbas, S. (2017). Golden ratio: A measure of physical beauty. *Resonance*, 22(1). <https://doi.org/10.1007/s12045-017-0432-y>
- Abbay, A. (2010). Nationalism in historic Ethiopia. *Nationalism and Ethnic Politics*, 16(3). <https://doi.org/10.1080/13537113.2010.526837>
- Andersen, K. V. (2006). Reengineering Public Sector Organisations Using Information Technology. In *Research in Public Policy Analysis and Management* (Vol. 15). [https://doi.org/10.1016/S0732-1317\(06\)15027-7](https://doi.org/10.1016/S0732-1317(06)15027-7)

Beech, B. M., Bruce, M. A., Cohen-Winans, S., Harris, K., Jones, R., Tyrone, R. S., & Thorpe, R. J. (2021). Weight misperception among African American adolescents: The Jackson Heart Kids pilot study. *Ethnicity and Disease, 31*(3). <https://doi.org/10.18865/ed.31.3.461>

Crone, E. A., & Achterberg, M. (2022). Prosocial development in adolescence. In *Current Opinion in Psychology* (Vol. 44). <https://doi.org/10.1016/j.copsyc.2021.09.020>

Esayas, E., Deribe, K., Massebo, F., Yared, S., Tufa, A., Dillu, D., & Bogale, E. A. (2020). Trends in Malaria Cases and Stratification of Malaria Incidence in the Malaria Elimination Setting, Harari Region, Eastern Ethiopia. *Infectious Diseases of Poverty*.

Fufa, D. D., Abhram, A., Teshome, A., Teji, K., Abera, F., Tefera, M., Yeshitila, M., Mengistu, M., Gezahegn, M., Gure, T., Worku, T., Alemayehu, T., & Egata, G. (2020). Hygienic practice of complementary food preparation and associated factors among mothers with children aged from 6 to 24 months in rural kebeles of Harari region, Ethiopia. *Food Science and Technology (United States), 8*(2). <https://doi.org/10.13189/fst.2020.080203>

Hilhorst, M. T. (2002). Physical beauty: only skin deep? *Medicine, Health Care, and Philosophy, 5*(1). <https://doi.org/10.1023/A:1014217922801>

Hussen, A. (2021). Knowledge and Practice of Nurses towards Oxygen Therapy in the Public Hospitals of Harari Region, Ethiopia. *Journal of Research Development in Nursing and Midwifery, 18*(2).

Kim, J. S., & Seo, Y. (2021). Associations Between Weight Perception, Unhealthy Weight Control Behavior, and Suicidal Ideation and Planning Among Korean Adolescents: A National Cross-Sectional Secondary Analysis. *Journal of Pediatric Nursing, 56*. <https://doi.org/10.1016/j.pedn.2020.07.019>

Kontele, I., & Vassilakou, T. (2021). Nutritional risks among adolescent athletes with disordered eating. In *Children* (Vol. 8, Issue 8). <https://doi.org/10.3390/children8080715>

Lamore, K., Dubois, T., Rothe, U., Leonardi, M., Girard, I., Manuwald, U., Nazarov, S., Silvaggi, F., Guastafierro, E., Scaratti, C., Breton, T., & Foucaud, J. (2019). Return to work interventions for cancer survivors: A systematic review and a methodological critique. In *International Journal of Environmental Research and Public Health* (Vol. 16, Issue 8). <https://doi.org/10.3390/ijerph16081343>

Ma, C. (2016). The Physical Beauty in Shakespeare's Sonnets. *English Language and Literature Studies, 6*(2). <https://doi.org/10.5539/ells.v6n2p110>

Najberg, H., Rigamonti, M., Mouthon, M., & Spierer, L. (2021). Modifying food items valuation and weight with gamified executive control training. *Royal Society Open Science, 8*(5). <https://doi.org/10.1098/rsos.191288>

Neumark Sztainer, D., Story, M., Resnick, M. D., Garwick, A., & Blum, R. W. (1995). Body Dissatisfaction and Unhealthy Weight-Control Practices Among Adolescents with and Without Chronic Illness: A Population-Based Study. *Archives of Pediatrics & Adolescent Medicine, 149*(12). <https://doi.org/10.1001/archpedi.1995.02170250036005>

Olvera, N., Matthews-Ewald, M. R., McCarley, K., Scherer, R., & Posada, A. (2016). Hispanic maternal influences on daughters' unhealthy weight control behaviors: The role of maternal acculturation, adiposity, and body image disturbances. *Body Image, 19*. <https://doi.org/10.1016/j.bodyim.2016.10.003>

Pisetsky, I. B., Deutsch, B., Levinson, N. A., Holtzman, D., & Moran, M. G. (2020). Adolescence. In *Female Psychology: An Annotated Psychoanalytic Bibliography*. <https://doi.org/10.4324/9781003070306-11>

Pistella, J., Ioverno, S., & Russell, S. T. (2019). The role of peer victimization, sexual identity, and gender on unhealthy weight control behaviors in a representative sample of Texas youth. *International Journal of Eating Disorders, 52*(5). <https://doi.org/10.1002/eat.23055>

Sawyer, S. M., Azzopardi, P. S., Wickremarathne, D., & Patton, G. C. (2018). The age of adolescence. In *The Lancet Child and Adolescent Health* (Vol. 2, Issue 3). [https://doi.org/10.1016/S2352-4642\(18\)30022-1](https://doi.org/10.1016/S2352-4642(18)30022-1)

Selvarajan, R., Jaganmohan, B., & Vijayaraghavan, R. (2021). An Observational Study on Glycemic Outcomes, Lifestyle and Psychosocial Health of Patients With Diabetes During Covid-19 Lockdown From Bangalore. *Journal of the Endocrine Society, 5*(Supplement_1). <https://doi.org/10.1210/jendso/bvab048.684>

Simone, M., Hooper, L., Eisenberg, M. E., & Neumark-Sztainer, D. (2019). Unhealthy weight control behaviors and substance use among adolescent girls: The harms of weight stigma. *Social Science and Medicine*, 233. <https://doi.org/10.1016/j.socscimed.2019.05.047>

Tran, A., Suharlim, C., Mattie, H., Davison, K., Agénor, M., & Austin, S. B. (2019). Dating app use and unhealthy weight control behaviors among a sample of U.S. adults: A cross-sectional study. *Journal of Eating Disorders*, 7(1). <https://doi.org/10.1186/s40337-019-0244-4>

Tuffa, T. A., Gebreyesus, S. H., Endris, B. S., Getnet, Y., & Abebe, D. S. (2020). Unhealthy weight control behaviors among Ethiopian female adolescents. *International Journal of Eating Disorders*, 53(4). <https://doi.org/10.1002/eat.23227>

Urbatsch, R. (2018). Things are looking up: Physical beauty, social mobility, and optimistic dispositions. *Social Science Research*, 71. <https://doi.org/10.1016/j.ssresearch.2018.01.006>

Weinheimer, E. A., Chang, A., Neubert, S. W., Wildes, J. E., & Graham, A. K. (2020). Past, current, and future willingness to engage with treatment targets: Applying user-centered design to inform the design of a mobile behavioral intervention. *International Journal of Eating Disorders*, 53(4). <https://doi.org/10.1002/eat.23252>