

Body Image Dissatisfaction and Unhealthy Supplement Use Among Orthodontic Adolescent Patients Presenting with Oral Ulcers

Dissatisfaction
and Unhealthy
Supplement Use
Among
Orthodontic

Kiran Nayyar¹, Abdul Rashid², Muhammad Azeem³, Asmi Shaheen³, Hafiz Shakir Mehmood² and Sara Mehmood Malik³

ABSTRACT

Objective: To determine the association of body image dissatisfaction with supplement use among orthodontic adolescent patients with oral ulcers.

Study Design: cross-sectional study

Place and Duration of Study: This study was conducted at the de' Montmorency College of Dentistry, Lahore from January 2024 to June 2024.

Methods: An analytical cross-sectional study was carried out using consecutive nonprobability sampling and 314 adolescents presenting with either oral mucositis or aphthous ulcers or candidiasis were selected. We used a prevalidated self-administered questionnaire containing 9 silhouette diagrams for body image and questions regarding the use of supplements and source of information. We measured their dissatisfaction with their own body image by asking their own perception and their wish.

Results: Out of 314 adolescent boys, 35 (11.1%) boys were under-weight, 189 (60.2%) had normal weight, 53 (16.9%) were overweight, and 37 (11.8%) were obese. 218 (69.4%) adolescents were dissatisfied with their body image. 191 (60.8%) boys reported that if they had the chance to change their appearance, they will do. 66 (21%) actually currently using food supplements. 159 (50.6%) participants consider using supplements to change their body image. The most reported reasons of using supplements were enhancing athletic performance (47%), muscle building (22.7%), losing weight (21.2%), and increasing weight (9.1%).

Conclusion: It is concluded that body image dissatisfaction and supplement use is prevalent among orthodontic adolescent patients with oral ulcers. They use supplements to improve masculinity, appearance and modifying the weight.

Key Words: Body image, self-perception, satisfaction, body size, supplements, practice, attitude, oral ulcers

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INTRODUCTION

The adolescent boys are highly influenced by media regarding the male body image.⁽¹⁾ The male beauty ideals have been evolved in media images over the period of time in order to become synonymous with a muscular, lean, and youthful body type.⁽²⁻⁴⁾

¹. Department of Oral Pathology / Oral Maxillofacial Surgery² / Orthodontics³, de' Montmorency College of Dentistry, Lahore.

Correspondence: Dr. Kiran Nayyar, Demonstrator, Oral Pathology, de' Montmorency College of Dentistry, Lahore.
Contact No: 0342-5199868
Email: drkirannayyar@gmail.com

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Mass media has changed the assessment and attitude of adolescent boys towards their physical appearance. Supplement use is an unregulated market as the supplements may contain harmful and prescription steroids.^(5,6) Social media directly influences the attitudes of adolescent boys towards the male body image. The literature review suggested that the exposure of adolescent boys towards increased use of social media raises body image concerns in them. Thus, such boys get involved in supplement use.^(2,7,8) Another research on the idealized images of muscularity, media exposure, and anabolic steroid use found evidence regarding the fact that adolescent boys are exposed to the content on media that promotes muscularity. The boys who idealize such muscularity images and perceive them as motivators for attaining muscularity are more likely to be involved in supplement use such as anabolic-androgenic steroid use. The research suggested that handling this problem needs a proper approach, beyond the traditional awareness regarding

risk strategy. Although some adolescents are well-aware of the dangers of supplements, yet they continue to use it. Thus, it is necessary to overcome this problem through proper strategies and approaches.

In the era of social media and peer pressure adolescent boys have taken much concern about their body image. This dissatisfaction with their body image may lead to unhealthy supplement use causing the oral ulcers as their first presentation to healthcare providers. We carried out this study to determine the association of body image dissatisfaction with supplement use among adolescent boys presenting with oral ulcers. The current practices regarding the supplement use among Pakistani youth are still unknown. No local studies are available for the population in Punjab. The following study will help in planning and implementing general interventions to improve the attitudes of adolescent boys towards their health and physical appearance.

METHODS

An analytical cross-sectional study was carried out in different healthcare institutes of Lahore, Pakistan from January 2024 to June 2024. Ethical approval was taken from local committee for bioethics at de Montmorency College of Dentistry, Lahore. The study population included adolescent orthodontic patients presenting with oral mucositis or aphthous ulcers or candidiasis. Estimated sample size was 325 at 95% confidence interval 5% margin of error taking supplement use about 30%. We applied consecutive nonprobability sampling technique. After informed consent, height and weight was measured using stadiometer and weight scale.

We used a prevalidated self-administered questionnaire to measure the satisfaction with their self-perceived body image and supplement use. Their own perception about the body image was measured 9 silhouette diagrams. They were asked to select the diagram, how they wish to be. The difference in their perceived body image and wished body image was calculated and a difference of more than one was labelled as having dissatisfaction with body image. Different questions regarding the use of supplements and source of information were asked in plain language. The reason for supplement use was also elaborated with multi-option responses. Below are 9 silhouette diagrams for body image measurement.

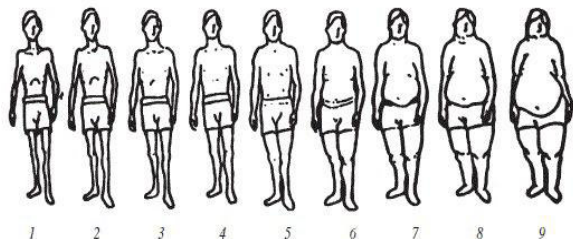


Figure No.1: 9 silhouette diagrams for body image perception.

Statistical analysis was performed using SPSS version 23.0. Qualitative variables, such as dissatisfaction, were expressed as percentages and frequencies, while continuous variables were reported as mean $\pm$ standard deviation. The body mass index (BMI) was calculated in kg/m^2 . The association between body image dissatisfaction and supplement use was assessed through cross-tabulation using the chi-square test. A p -value < 0.05 was considered statistically significant.

RESULTS

Regarding body mass index of 314 sampled boys, 35 (11.1%) boys were under-weight, 189 (60.2%) had normal weight, 53 (16.9%) were overweight, and 37 (11.8%) were obese. Body mass index ranged from 13.8 to 75.6 Kg/m^2 with mean value of $23.7 \pm 7.0 \text{ Kg/m}^2$. How the boys see their bodies on a scale of 10, 204 (65%) rated 1-4, while 105 (33.4%) rated 5-7 and only 5 (1.6%) rated 8-10 with an average rate of 3.8 ± 1.7 . Out of 314 sampled patients, 218 (69.4%) were dissatisfied regarding body image by visual silhouettes and 251 (79.9%) reported satisfaction with body image. Also, 191 (60.8%) boys reported that if they had the chance to change their appearance, they will do. 159 (50.6%) participants considered using supplements to change their body image and 66 (21%) were currently using food supplements.

The most reported reasons of using supplements were enhancing athletic performance (47%), muscle building (22.7%), losing weight (21.2%), and increasing weight (9.1%). About frequency of using supplements, it was used daily among 15 (22.7%) of the boys, weekly among 20 (30.3%), monthly among 3 (4.5%), but when needed among 11 (16.7%). As for site of buying supplements, 22 (33.3%) from pharmacy, 15 (22.7%) from nutritionists, and 14 (21.2%) from physicians. Considering source of information about supplements, the most reported source was internet (37.3%), followed by friends and family (17.2%), health care professionals (14.3%), books (2.5%) while 28.7% had other different sources. Table 1 depicts attitude towards supplements use among adolescent boys, 53.5% used supplements to improve their body image, 51.3% to increase muscle mass, 36.9% to improve health, and only 19.4% to improve athletic performance. On the other side, 31.2% think the intake of supplements has side effects or interactions.

Dissatisfaction regarding body image was reported by 86.8% of overweight boys and 73% of obese boys compared to 64% of those with normal weight with recorded statistical significance ($P=.016$). Also, 83.3% of boys who use supplements to improve their body image were dissatisfied compared to 65.7% of those who did not ($P=.006$). Desired change was reported among 77.4% of boys with overweight, 75.7% of obese compared to 58.2% of normal weight ($P=.001$). Using

supplement had no relation with desired change in boy's appearance.

Table No. 1: Attitude towards supplements use supplement use among orthodontic patients with oral ulcers (n=314)

Attitude towards supplements	Yes		No		I do not know	
	n	%	n	%	n	%
Do you think using supplements is helpful for your health?	116	36.9%	35	11.1%	163	51.9%
Do you think the use of supplements have improved your body image	168	53.5%	24	7.6%	122	38.9%
Do you think the intake of supplements has side effects or interactions?	98	31.2%	44	14.0%	172	54.8%
Do you think the intake of supplements can increase your muscle mass	161	51.3%	21	6.7%	132	42.0%
Do you think using supplements to improve athletic performance is wrong?	61	19.4%	127	40.4%	126	40.1%

Table No. 2: Cross tabulation between Body Mass Index and body image dissatisfaction among orthodontic patients with oral ulcers(n=314)

		Body Mass Index						
		Normal BMI		Underweight		Overweight		
Question		n	%	n	%	n	%	P value*
Dissatisfaction about body image by visual silhouettes	Yes	116	37.4%	25	8.1%	73	23.5%	0.01
	No	68	21.9%	11	3.5%	17	5.5%	
Reported satisfaction with body image	Yes	157	50.6%	33	10.6%	61	19.7%	<0.01
	No	27	8.7%	3	1.0%	29	9.4%	
If you had the chance to change your appearance, would you, do it?	Yes	106	34.2%	12	3.9%	69	22.3%	<0.01
	No	78	25.2%	24	7.7%	21	6.8%	
Would you consider using supplements to change your body image?	Yes	94	30.3%	16	5.2%	45	14.5%	0.767
	No	90	29.0%	20	6.5%	45	14.5%	
* Using chi square test								

* Using chi square test

Table No. 3: Cross tabulation between supplement use and body image dissatisfaction among orthodontic patients with oral ulcers (n=314)

		Are you currently using food supplements?				P Value*
		Yes		No		
		N	%	n	%	
Dissatisfaction about body image by visual silhouettes	Yes	55	17.5%	163	51.9%	<0.01
	No	11	3.5%	85	27.1%	
Reported satisfaction with body image	Yes	53	16.9%	198	63.1%	0.93
	No	13	4.1%	50	15.9%	
If you had the chance to change your appearance, would you, do it?	Yes	43	13.7%	148	47.1%	0.41
	No	23	7.3%	100	31.8%	
Would you consider using supplements to change your body image?	Yes	49	15.6%	110	35.0%	<0.01
	No	17	5.4%	138	43.9%	
* Using chi square test						

* Using chi square test

DISCUSSION

The current study was conducted to execute a measure of analysis which will provide an understanding of the adolescent boy's attitude towards body image. Self-perception of body image and their satisfaction is widely reported in the literature and most studies evaluate adolescents and adults.^(6,9) Austrian psychiatrist Paul Ferdinand Schilder (1886-1940) had the favour of the first idea for body image as a

psychological issue in 1935. He said that the mental images that people have of their own bodies clarify the way their bodies are introduced to them. Based on that, one's mental body image is built by senses, ideas and feelings that, most of the time, are unconscious. This representation is changeable all over life.⁽²⁾

Body image is a complex, multidimensional construct influenced by intrinsic biological and psychological factors, as well as external cultural and social determinants.^(5,10,11) Irrespective of variable study

mythologies but literature showed that the level of body image dissatisfaction ranged from 33% (China), 50% (Taiwan), 56% (Norway), 47.3% (Brazil), 34.9% (Australia), 47.3% (Brazil), 29.8% and 56.7% (Turkey), 73.3% (USA), and 69% (European Union). (2, 13-18) Cultural background, upbringing, professional status, and ethnicity are likely key determinants influencing higher body image satisfaction. Regarding the current study findings, about two thirds of the students were within average regarding their weights but one quarter were overweight or obese.¹²⁻¹⁶

The average body mass index was 23.7kg/m². For self-perception, two thirds of the sampled adults scored their image 1-4 out of 10 which is low rating. This was more confirmed by that more than two thirds were dissatisfied regarding their image. Lobo IL et al. showed similar results as 46.2% of male university students liked to change their body shapes, 53.8% preferred increase them. Among female students, 76.1% expressed a desire to reduce their body size, while 23.9% preferred an increase. The significant societal pressure and media-imposed standards play a crucial role in shaping body image dissatisfaction and negative self-perception, irrespective of gender.⁽¹⁷⁾ A higher dissatisfaction rates were detected by Jiménez et al.⁽¹⁹⁾ who stated that women and men presented 75% dissatisfaction with their body shape.⁽¹⁸⁾ Also Coelho et al. also reported a body image dissatisfaction rate of 85.9% among the participants, with no significant gender-based differences.⁽¹⁹⁾

Regarding supplements use and its role in changing body image, two thirds of the adults if they had the chance to change their appearance, they will do. On the same conclusion, half of the adults reported that they would consider using supplements to change your body image but only one of each five use supplements. The most reported causes of using supplements were for enhancing their athletic performance followed by muscle building which means their low self-perception for their body image may be subjective and not actually related to poor body image due to obesity or deformity. Use supplements for losing weight was reported by only one quarter of the participants which matches frequency of obese adults in the study sample. Ricciardelli and Williams showed the fact that adults use drugs and supplements to change their body appearance and image. The main idea and motive among adults is that they want to become more muscular, gain weight and body size, with enhancement of their body power. Therefore, they use anabolic-androgenic steroids as well as other food supplements like adrenal hormones, ephedrine, creatine, protein bars, and powders to enhance their body strength. They may also use liquids, stimulants, and pills for this purpose. Thus, it is necessary to create proper interventions for such boys and enhance awareness regarding the harms of such supplements.⁽²⁰⁾ During 2017 and 2018, 57.6%

of adults aged 20 years and older in the United States reported dietary supplement use within the past 30 days. The prevalence was higher among women (63.8%) compared to men (50.8%).⁽²¹⁾ In Pakistani population, the overall prevalence of dietary supplements use was 26.2% (which is similar to the current study finding), with higher utilization rate in females than males (33% vs. 17.9%). A higher proportion of female dietary supplement users exhibited a normal BMI compared to male users (84% vs. 56.5%). In contrast, a greater percentage of male supplement users engaged in vigorous physical activity compared to their female counterparts (58.2% vs. 43%).⁽⁸⁾

CONCLUSION

It is concluded that body image dissatisfaction and supplement use is prevalent among orthodontic adolescent patients with oral ulcers. In conclusion, the self-perception of their body image was low irrespective of their age. Students showed intention to use supplements to change their body shape and one quarter of them actually used supplements mainly for muscularity and body power but few percentages used supplements for weight modification.

Author's Contribution:

Concept & Design or acquisition of analysis or interpretation of data:	Kiran Nayyar, Abdul Rashid, Muhammad Azeem
Drafting or Revising Critically:	Asmi Shaheen, Hafiz Shakir Mehmood, Sara Mehmood Malik
Final Approval of version:	All the above authors
Agreement to accountable for all aspects of work:	All the above authors

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