

PROFILE OF GYM-GOERS FROM A MUNICIPALITY OF RIO GRANDE DO SUL

Perfil dos frequentadores das academias de ginástica de um município do Rio Grande do Sul

Perfil de los frecuentadores de los gimnasios de un municipio de Rio Grande de Sul

Original Article

ABSTRACT

Objective: To determine the profile of gym-goers from the city of Canguçu, RS. **Methods:** Descriptive cross-sectional study conducted with 177 gym-goers in different modalities. We used a structured questionnaire containing 76 questions to measure sociodemographic, anthropometric, nutritional and behavioral variables, as well as information related to the activities at the gym. We conducted a descriptive analysis of data with estimation of means \pm standard deviations for continuous variables and estimation of proportions for categorical variables. **Results:** 177 gym-goers from the city of Canguçu, RS, participated in the study (30 ± 12.5 years; 70.0 ± 12.8 kg; 1.69 ± 0.1 m). Regarding behavioral variables, most participants never smoked (71.8%), did not drink excessively (89.9%) and were active during leisure time (87%). As to nutritional variables, 66.7% had normal body mass index and the majority did not meet the recommendations for daily consumption of fruit and vegetables and did not use dietary supplements (69.5%). Regarding the variables related to the gym, most respondents have attended the gym for more than 12 months (56.5%), four or more times a week (52%), at night (52.5%) and reported that the main reason for going to the gym was to be healthy (78%). Respondents reported being satisfied with the goals achieved (60%) and practiced weight training (97.2%). **Conclusion:** Most gym-goers were young, males, active during leisure time, practiced weight training, and were satisfied with the results achieved at the gyms. Nevertheless, behavioral change strategies regarding the consumption of fruit and vegetables are necessary.

Descriptors: Diet; Gyms; Physical Activity; Health.

RESUMO

Objetivo: Traçar o perfil dos frequentadores das academias de ginástica do município de Canguçu-RS. **Métodos:** Estudo transversal, de caráter descritivo, com 177 frequentadores de academias de diversas modalidades. Utilizou-se um questionário estruturado, contendo 76 questões para mensurar variáveis sociodemográficas, antropométricas, nutricionais e comportamentais, além de informações relacionadas às práticas nas academias. Realizou-se análise descritiva dos dados, com cálculo de médias \pm desvios-padrão para as variáveis contínuas e cálculo de proporções para as variáveis categóricas. **Resultados:** Participaram 177 frequentadores das academias na cidade de Canguçu-RS ($30 \pm 12,5$ anos; $70,0 \pm 12,8$ kg; $1,69 \pm 0,1$ m). Com relação às variáveis comportamentais, a maioria nunca fumou (71,8%), não bebia exageradamente (89,9%) e era ativa no lazer (87%). No tocante às variáveis nutricionais, 66,7% tinham índice de massa corporal normal e a maioria não alcançava as recomendações de consumo diário de frutas, verduras e legumes, e não usava suplementos (69,5%). No que diz respeito às variáveis relacionadas à academia, a maioria dos respondentes frequentava há mais de 12 meses (56,5%), quatro ou mais vezes por semana (52%), à noite (52,5%), relatando que o principal motivo para ir à academia foi permanecer saudável (78%). Os praticantes afirmaram satisfação com os objetivos alcançados (60%) e praticavam a modalidade de musculação (97,2%). **Conclusão:** A maioria dos frequentadores das academias era do sexo masculino, jovem, ativa no lazer, praticava a modalidade de musculação e estava satisfeita com os resultados buscados nas academias. Apesar disso, são necessárias estratégias de mudança de comportamento em relação ao consumo de frutas, verduras e legumes.

Descritores: Dieta; Academias de Ginástica; Atividade Física; Saúde.

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RESUMEN

Objetivo: Describir el perfil de los frequentadores de los gimnasios del municipio de Canguçu-RS. **Métodos:** Estudio transversal, de carácter descriptivo con 177 frequentadores de gimnasio de diversas modalidades. Se utilizó un cuestionario estructurado con 76 cuestiones para evaluar las variables sociodemográficas, antropométricas, nutricionales y de conducta además de las informaciones relacionadas con las prácticas en los gimnasios. Se realizó un análisis descriptivo de los datos con el cálculo de las medias \pm desviación típica para las variables continuas y el cálculo de las proporciones para las variables categóricas. **Resultados:** Participaron 177 frequentadores de gimnasios de la ciudad de Canguçu-RS ($30 \pm 12,5$ años; $70,0 \pm 12,8$ kg; $1,69 \pm 0,1$ m). Respecto las variables de conducta, la mayoría nunca ha fumado (71,8%), no bebía con exageración (89,9%) y era activa durante el ocio (87%). Respecto las variables nutricionales, el 66,7% tenían el índice de masa corporal normal y la mayoría no alcanzaba las recomendaciones del consumo diario de frutas, verduras y legumbres y no consumía suplementos (69,5%). Respecto las variables relacionadas con el gimnasio, la mayoría de los participantes frecuentaba desde hace más de 12 meses (56,5%), cuatro o más veces a la semana (52%), por la noche (52,5%), relatando que el principal motivo para ir al gimnasio ha sido el hecho de permanecer saludable (78%). Los practicantes afirmaron satisfacción con los objetivos alcanzados (60%) y practicaban la modalidad de musculación (97,2%). **Conclusión:** La mayoría de los frequentadores de los gimnasios era del sexo masculino, joven, activos durante el ocio, practicaban la modalidad de musculación y estaban satisfechos con los resultados que buscaban en los gimnasios. A pesar de esto, son necesarias estrategias de cambios de conducta con respecto al consumo de frutas, verduras y legumbres.

Descriptorios: Dieta; Centros de Acondicionamiento; Actividad Motora; Salud.

INTRODUCTION

Chronic non-communicable diseases (NCDs) accounted for 36 million deaths in 2008, or 63% of all deaths worldwide⁽¹⁾, and 74% of all deaths in Brazil⁽²⁾. The World Health Organization (WHO) projects an increase of 15% in worldwide deaths from NCDs, between 2010 and 2020⁽¹⁾.

Among the NCDs, the main ones are cardiovascular diseases, diabetes, cancer, and chronic respiratory diseases, which account for 80% of deaths from NCDs⁽¹⁾. Such diseases are usually caused by four behavioural, i.e., modifiable risk factors. They are: tobacco use, unhealthy diet, alcohol abuse, and physical inactivity⁽¹⁾.

The levels of physical inactivity in the world are worrying. According to information from WHO, about 31% of worldwide adults aged 18 or older in 2008 were

insufficiently active⁽³⁾; in the same year, a sedentary lifestyle was identified as the fourth main risk factor for overall mortality (6% of all deaths worldwide). Moreover, the WHO estimates that physical inactivity is the main cause of approximately 21-25% of breast and colon cancers, 27% of diabetes, and something like 30% of the ischemic heart disease burden⁽⁴⁾.

The growth of epidemiological studies relating physical activity to a means of promoting health is remarkable. In recent decades, studies^(5,6) have consistently evidenced that adequate levels of physical activity decrease the risk of developing coronary artery disease, diabetes, hypertension, and osteoporosis.

Among the spaces available for physical activity in Brazil, the number of gym facilities has grown rapidly in the country from the 1980s on, and there is now a great demand, especially on the part of young people⁽⁷⁾. In 2012, the Federal Council of Physical Education (*Conselho Federal de Educação Física - CONFEF*) stated that the country had reached the mark of 23,743 formalized gym facilities, second only to the United States. According to the Brazilian Association of Fitness Centers, 6.7 million people attend these establishments, generally looking for well-being, health, aesthetics, and often seeking an athletic life⁽⁸⁾.

The literature on the profile of the gym-goers is scarce, thus rendering novel the results of this study, performed in a town of the hinterlands, with most of its population residing in rural areas. In order to fill this literature gap, as well as to provide subsidies for physical education professionals and owners of gyms, concerning the kind of audience that attends these facilities, the aim of this study was to trace the profile of gym-goers in the municipality of Canguçu, RS.

METHODS

A descriptive cross-sectional study was conducted in 2014 in the city of Canguçu, RS. The municipality of Canguçu, RS, is regarded the largest of the smallholdings in Latin America, with a total of 55,546 inhabitants, of whom around 35% live in the urban area⁽⁹⁾.

Data collection began in October 2013. Initially, the city of Canguçu-RS had its gym facilities, duly registered in the Regional Council of Physical Education (*Conselho Regional de Educação Física - CREF/RS*), mapped by the researchers in order to obtain basic information regarding the establishments. The study used the concept of "gym" as a physical activity center which offers numerous activities, such as weight training, aerobic activity, fighting, pilates etc., guided by physical education professionals.

The sample was made up of students who attended for at least one month any of the classes offered by the gyms and

agreed to participate. Four gyms took part in the study, and their patrons in the modalities weight training, gymnastics, fighting classes, pilates, and water activities. The study did not plan sample size calculation, since it sought to interview all the regulars of the gyms.

The structured interview with the gym-goers was conducted between March and April 2014. All of them were contacted and invited to participate. The study guaranteed them the right to refuse and the confidentiality of information to be collected. Those who agreed to participate signed a free and informed consent form.

A questionnaire containing 76 questions was used for data collection, in order to assess sociodemographic, anthropometric, and nutritional variables. The questionnaire included questions created by the researchers and previously validated instruments (related to behaviors on the practice of physical activity, alcohol abuse, and smoking). The sociodemographic variables were age (in years, classified into four categories, i.e., 18-29, 30-39, 40-49, and 50 or above); sex (male or female); marital status (married or living with a partner, single or separated); color (white or non-white); education (incomplete primary, complete primary, incomplete secondary, complete secondary, incomplete higher education, and complete higher education); monthly family income (up to R\$ 1,000.00; R\$ 1,001.00 to R\$ 2,000.00; R\$ 2,001.00 to R\$ 4,000.00; and greater than R\$ 4,000.00). Nutritional variables included body mass index - BMI (calculated from weight and height reported by the respondents), eating habits, and consumption of supplements.

Information relating to practices in gyms was also collected (modality, weekly frequency, time/session, practice goals, and level of satisfaction). The economic level was defined from the monthly family income, being categorized into classes (A-higher, B, C, and D), according to the Brazilian Association of Research Companies (*Associação Brasileira de Empresas de Pesquisa - ABEP*)⁽¹⁰⁾.

Additionally, behavioral variables such as smoking and alcohol intake were assessed, through the instruments proposed by the World Health Organization^(11,12). Regarding the variable alcohol intake, a "shot" was defined and explained to the respondent as being equivalent to the consumption of 285 mL of beer, 120 mL of wine, or approximately 30 mL of spirits⁽¹²⁾.

For the assessment of the behavioral variable "practice of physical activity", it was used the International Physical Activity Questionnaire (IPAQ), validated, long version⁽¹³⁾. Individuals who reported weekly practice of 150 minutes or more were considered sufficiently active, according to the WHO recommendations⁽¹⁴⁾.

The data was initially stored in Microsoft Office Excel 2007. After checking the absence of errors, the database was imported into the STATA statistical software, version 12 (StataCorp - Texas, USA). A descriptive analysis of the data was performed, with calculation of means and standard deviations (SD) for continuous variables, and calculation of proportions for categorical variables.

The study was submitted to the Research Ethics Committee of the Physical Education School of the Federal University of Pelotas and approved under Opinion No. 31661014.0.000.5313, in compliance with Resolution 466/12.

RESULTS

From an estimated total of 400 gym-goers in the city of Canguçu, RS, 177 were interviewed (30 ± 12.5 years; 70.0 ± 12.8 kg; 1.69 ± 0.1 m). Most of the respondents were aged under 30 years (63.8%; n=113). Table I shows that 92.7% (n=164) of the interviewees had white skin color (self-reported), 49.7% (n=88) were single, and 26% (n=42) were students. As to the educational level, most had at least complete secondary or higher education (55.3%; n=98). As for the monthly family income, the majority of the respondents, 57.1% (n=90), were classified in economic classes B1 and B2. Of the total of 177 interviewees, the majority (97.2%; n=172) practiced weight training and 15.8% (n=28) attended gymnastics, spinning, and aerobics classes.

Table II shows the results related to behavioral variables. As for tobacco use, 71.8% (n=127) of the population reported never smoking, and smoking is currently found in 11.3% (n=20). Among men who reported currently drinking alcohol, 8.8% (n=10) drank more than five shots on a single occasion in the last month. Concerning the women, the prevalence was 11.4% (n=13) for the intake of more than four shots on a single occasion in the last month. Analyzing the behavior of weekly physical activity practice (total physical activity), it was found that most of the sample, 94.9%, was active. When the physical activity practice was analyzed separately, the results varied. In the domains of labor and displacement, 59.3% (n=105) and 66.7% (n=118), respectively, proved to be insufficiently active, whereas in the domains of leisure and households, most of the sample, 87% (n=154) and 67.8% (n=120), respectively, proved to be active.

Table III displays the results of the dietary variables. Of the respondents, 66.7% (n=118) had their BMI classified as normal and 41.8% (n=74) had four meals a day. Of the respondents, 55.9% (n=98) consumed fruits up to four times a week and, of these, 94.2% (n=162) said they consumed up

Table I - Sociodemographic characteristics of gym attendees. Canguçu, RS, 2014. (n=177)

Variables	n	%
Sex		
Male	92	52.0
Female	85	48.0
Age (years)		
18 to 29 years	113	63.8
30 to 39 years	23	13.0
40 to 49 years	27	25.3
50 years or more	14	7.9
Skin color		
White	164	92.7
Black/mulatto/brown	13	7.3
Civil status		
Married or living with a partner	81	45.8
Single	88	49.7
Separated	8	4.5
Education		
Incomplete Primary	10	5.7
Complete Primary	12	6.8
Incomplete Secondary	28	15.8
Complete Secondary	62	35.0
Incomplete Higher Education	29	16.4
Complete Higher Education	36	20.3
Economic status (ABEP)		
A (higher)	5	2.8
B1	27	15.2
B2	63	35.6
C1	38	21.5
C2	41	23.2
D	3	1.7
Modalities practiced at the gym		
Weight training	172	97.2
Gymnastics	28	15.8
Fighting	13	7.3
Pilates	3	1.7
Water activities	3	1.7
Occupation		
Student	42	26.4
Storekeeper	15	9.4
Entrepreneur	13	8.2
Retired	8	5.0
Mason	7	4.4
Gym instructor	6	3.8
Primary school teacher	6	3.7
Nursing technician	5	3.1
Serviceman	5	3.1
Others	70	22.9

ABEP=Associação Brasileira de Empresas de Pesquisa (Brazilian Association of Research Companies)

to three servings a day. With regard to the consumption of vegetables, 52.5% (n=93) said they consumed up to four times a week, and 86.9% (n=152) of those who consume vegetables reported consuming up to three servings a day.

As concerns to the consumption of supplements, 30.5% (n=54) stated to be consuming some type of product, and 64.8% (n=35) had been consuming for less than 12 months. Among the most consumed products, proteins supplements stood out (83.3%, n=45), as well as creatine (38.9%; n=21), caffeine (36.5%; n=19), and carbohydrates (24%; n=13). As to the reasons for the consumption of supplements, the muscle mass gain (90.7%; n=49), improvement in sports performance (59.3%; n=32), and staying healthy (38%; n=21) stood out.

Analyzing the variables concerning the use of gyms in the city (Table IV), it was observed that the majority of the students – 56.5% (n=100), 52% (n=92), and 52.5% (n=93) – have been attending the gym for over a year, four or more times a week, and on the evening shift, respectively. Regarding the reasons that made these people attend the gym, these stand out: staying healthy (78%; n=138), gaining muscle mass (74%; n=129), having more energy/reducing fatigue (56.6 %; n=99), and losing weight (50.3%; n=89). As for the satisfaction of people with their goals, most stated to be satisfied (60.4%; n=107), and on the quality of the gym facilities, most of the sample (70.6%; n=125) considered it excellent or good.

Table II - Absolute and relative frequency of behavioral and health variables of gym-goers. Canguçu, RS, 2014. (n=177)

Variables	n	%
Smoker		
Never	127	71.8
Current smoker	20	11.3
Ex-smoker	30	16.9
Abusive alcohol intake		
Men (more than 5 shots)	10	8.8
Women (more than 4 shots)	13	11.4
Total physical activity		
Insufficiently active	9	5.1
Active	168	94.9
Physical activity at work		
Insufficiently active	105	59.3
Active	72	40.7
Physical activity in leisure time		
Insufficiently active	23	13.0
Active	154	87.0
Physical activity in displacement		
Insufficiently active	118	66.7
Active	59	33.3
Physical activity at home		
Insufficiently active	57	32.2
Active	120	67.8

Table III - Absolute and relative frequency of nutritional variables of gym-goers. Canguçu, RS, 2014. (n=177)

Variables	n	%
Body mass index (kg/m²)		
Normal	118	66.7
Overweight	46	26.0
Obesity	13	7.3
Number of meals/day		
Up to 3	35	19.8
4	74	41.8
5 or more	68	38.4
Fruit consumption/week		
Up to 4 times	98	55.9
5 or more	78	44.1
Fruit servings consumed/day		
Up to 3	162	94.2
4 or more	10	5.8
Vegetable consumption/week		
Up to 4 times	93	52.5
5 or more	84	47.5
Vegetable servings consumed/day		
Up to 3	152	86.9
4 or more	23	13.1
Use of supplements		
No	123	69.5
Yes	54	30.5
Time using supplements (months)		
Up to 12	35	64.8
12 or more	19	35.2
Multivitamin/mineral		
No	42	77.8
Yes	12	22.2
Proteins		
No	9	16.7
Yes	45	83.3
Carbohydrate beverages		
No	41	75.9
Yes	13	24.1
Caffeine		
No	33	73.5
Yes	19	36.5
Creatine		
No	33	66.1
Yes	21	38.9
Reasons for the consumption of supplements		
Stay healthy	21	38.9
Improve sports performance	32	59.3
Enhance energy/reduce tiredness	16	29.6
Prevent/treat diseases/lesions	16	29.6
Reduce stress	7	13.0
Lose weight	11	20.4
Gain muscle mass	49	90.7
Correct dietary mistakes	16	29.6

Table IV - Absolute and relative frequency of variables related to the use of gyms. Canguçu, RS, 2014. (n=177)

Variables	n	%
Time attending the gym (months)		
Up to 12	77	43.5
12 or more	100	56.5
Weekly frequency at the gym (times/week)		
Up to 3	85	48.0
4 or more	92	52.0
Shift of gym attendance*		
Morning	52	29.4
Afternoon	56	31.6
Evening	93	52.5
Reasons for gym attendance		
Stay healthy	138	78.0
Improve sports performance	75	42.4
Enhance energy/reduce tiredness	99	56.6
Prevent/treat diseases/lesions	82	46.3
Reduce stress	87	49.2
Lose weight	89	50.3
Gain muscle mass	129	74.6
Satisfaction with the goals achieved		
Totally satisfied	28	15.8
Very satisfied	35	19.8
Satisfied	107	60.4
Not satisfied	7	4.0
Quality of the gym facilities		
Excellent	21	11.9
Very good	69	39.0
Good	56	31.6
Regular	29	16.4
Bad	2	1.1

*Gym-goers are allowed to attend gym on more than one shift a day.

DISCUSSION

In this study, the majority of the participants were aged between 18 and 29 years, similarly to a previous study⁽¹⁵⁾. A possible explanation for this is that young people prioritize their body image⁽⁷⁾, which may justify the high demand of this segment of the population for gyms.

Regarding the occupation of the gym regulars, students appear first, probably because of the age group previously mentioned. Another point that should be emphasized is the greater availability of time for physical activity practice while being a student, as the lack of time is a predominant factor in the high rates of physical inactivity worldwide⁽¹⁶⁾. A study aimed to verify the barriers perceived by adults who dropped out the modality weight training⁽¹⁷⁾ found that 55.2% of them reported the excessive labor journey as the biggest barrier to the practice of weight training.

With regard to education, social class, and ethnicity, the current study results are in line with previous findings⁽¹⁸⁾, which suggest a discriminatory trend in the

gym environment, where only people with high purchasing power can adhere to these activities.

As to the modalities offered by the gyms, the preference pointed in this study was also reported in a previous study⁽¹⁹⁾ performed with 159 regulars of gyms in Belo Horizonte, MG. It seems well established in the literature that the gym modalities related to physical ability are preferred by male attendees⁽²⁰⁾.

Concerning the total physical activity level and leisure time, the majority of the respondents proved sufficiently active. The literature on gym-goers' level of physical activity is scarce; this can be explained by the assumption that, since this population attends the gyms, they are naturally active⁽²¹⁾, at least during the time devoted to leisure. However, when the domains of physical activity are separately analyzed, high percentages of active individuals were found in the domains "leisure" and "home", differently from the domains "displacement" and "work". These data are in line with a population study that

showed high prevalence of inactive individuals at work and displacement in the Brazilian population⁽²²⁾.

With respect to the nutritional variable BMI, a third of the subjects was classified as being at risk for overweight and obesity. Despite the low cost and practicality of BMI to determine the nutritional status of youth and adults, its use in athletes and active people can generate inaccurate results. A study comparing some anthropometric indicators such as BMI and skinfolds, with male regular attendees of gyms showed that some individuals, with highly developed muscles but normal weight, were incorrectly classified with obesity or overweight⁽²³⁾. In this sense, the percentage of overweight and obese subjects in the present study should be seen with caution.

Regarding the number of meals per day and the consumption of fruits and vegetables, the majority of the respondents in this study did not meet the nutritional recommendations. This data is worrisome, given that a population-based study⁽²⁴⁾ investigated the relationship between food frequency, BMI, and waist circumference (WC) of 1,355 men and 1,645 women, aged between 47 and 68 years, who were part of a cohort study in Malmo, Sweden; the results suggest that a higher frequency of daily meals was inversely associated with the likelihood of general and abdominal obesity in men, and positively associated with a healthy lifestyle for men and women. On the other hand, the WHO recommends the consumption of 400 grams per day of fruits and vegetables, or five 40-gram servings per day, to obtain the necessary amounts of phytonutrients, potassium and fibers, responsible for lowering the risk of coronary heart disease, stroke, and hypertension⁽²⁵⁾.

On the consumption of nutritional supplements, nearly a third of the interviewees claimed to be using some kind of, being the most used products those related to proteins or amino acids. A previous study⁽¹⁹⁾ reported a higher prevalence of consumers. Its results, however, corroborate the findings in the present study concerning the most commonly used supplement type. This can be explained by the fact that the majority of the individuals consuming supplements do so in order to gain muscle mass, considering that the quantity and time of protein intake are the main factors that regulate the protein synthesis, which is partially responsible for the muscular development⁽²⁶⁾.

With respect to the use of gyms, this study showed that most of the respondents had been attending the gym for 12 months or more, and four or more days per week. This data confirms that most attendees in these spaces have the financial means and awareness of the importance of physical activity, go to the gym almost every day, and keep this practice for a long period of time, corroborating a study⁽²⁷⁾ carried out with adult gym-goers of both sexes in Rio Claro, SP.

Regarding the reasons reported by the students to attend gyms, studies in several regions of Brazil observed motivations for physical activity practice similar to the present study. Thus, researches conducted in the states of Rio Grande do Sul⁽⁷⁾ and Paraná⁽¹⁵⁾ found aesthetic⁽⁷⁾, health, fitness, bodily well-being, attractiveness and harmony⁽¹⁵⁾ as the main factors motivating to practice.

The aesthetic aspect can be observed among the main reasons in all researches. In this study, aesthetics can be interpreted in the options “losing weight” and “gaining muscle mass”. This suggests that, regardless of the region of the country, and even in a town of the hinterlands, the media can influence people to seek the gyms, given that perfect bodies appear daily on television, magazines, and newspapers, usually with low percentage of fat and evidenced muscles, thus creating beauty prototypes to be followed. A population-based study, performed with 2,096 individuals aged 10 or more years, aiming to evaluate the population’s perception of the media’s influence on the lifestyle, and addressing four behavioral factors, i.e., physical activity, smoking, alcohol consumption, and diet⁽²⁸⁾, noted that 80% of the respondents believed that the media influenced the individual lifestyle. In this study, however, the main reason for the practice was to stay healthy, which may suggest a greater concern and awareness of people regarding the practice of guided physical activity and its benefits to health.

Some important aspects of this study should be highlighted. The novelty of the research should be emphasized, because it is a study referring to gym-goers of a small town. Additionally, careful logistics and the use of validated instruments strengthen the data reliability. On the other hand, limitations should be pointed out, especially with respect to the variable BMI, calculated from self-reported values for weight and height. Moreover, BMI is not a perfect anthropometric indicator for use with athletes and physically active people, because of potential misunderstandings in the interpretation of results⁽²⁴⁾.

CONCLUSION

Most of the gym attendees were male, young, active in leisure, practiced weight training and were satisfied with the results sought in the gyms. Nevertheless, strategies for behavioral change regarding the consumption of fruits and vegetables are necessary.

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