https://doi.org/10.26493/978-961-293-397-5.33-39

Eating Habits in Therapeutic Community

Tija Božič, Tamara Poklar Vatovec
University of Primorska, Faculty of Health Sciences, Izola, Slovenia

Abstract

Introduction: We studied a group of men aged 21 to 34 years, who participate in a therapeutic community Skupnost Srečanje. Substance abusers face nutritional challenges, such as protein-energy malnutrition, vitamin deficiencies, exhaustion, and loss of muscle mass. *Methods:* We observed the participants' eating habits and measured body composition using a bioelectrical impedance analyser. We analysed the weekly menu and assessed dietary intake using the OPEN program. The study involved seven men aged 21 to 34 years. *Results:* Participants were classified as overweight based on their body mass index (26.5 kg/m^2). The percentages of body fat (19.43%) and visceral fat (4.79) were within recommended ranges, while muscle mass was higher than recommended (65.5 kg; recommended 45.1–52.9 kg), therefore they were considered to be of normal nutritional status. The dietary regime includes three main meals every five to seven hours, which is not ideal as the meals are energy-dense. Participants meet their minimum daily energy requirements of 13027 kJ (3102 kcal) compared to the recommended 13770 kJ (3,279 kcal) and adhere to nutrient guidelines. The high sodium intake (5286 mg compared to the recommended 2000 mg) is a cause for concern, mainly due to bread and processed meats. *Discussion and conclusions:* Participants strive to live healthily, but there is still much room for improvement. It is important to identify and change poor eating habits and apply this knowledge in life after the therapeutic community.

Keywords: *eating habits, dietary regime, healthy food promotion, nutrition in therapeutic community*

Introduction

Substance addiction is well-known in society and is defined by diagnostic criteria of the Diagnostic and Statistical Manual of Mental Disorders (DSM) and the International Classification of Diseases (ICD) (Zou et al., 2017). Overcoming addiction is a complex process involving personal decisions, professional help and family support. There are many addiction treatment programmes available in Slovenia, of which we will focus on the therapeutic community Skupnost Srečanje in this article. Founded by the Italian priest Pierino Gelmini, this community serves as a therapeutic setting for substance abusers, where individuals learn to establish routines that include work, rest and healthy eating habits. The community provides three meals with specific food quantities that the participants prepare themselves (Blažič, 2007; Gelmini Pierino, 2014). Cunningham (2016) highlights nutritional issues among substance abusers, as chronic use leads to protein-energy malnutrition, vitamin deficiencies, exhaustion, and loss of muscle mass. Wiss (2019) adds that eating during abstinence is challenging due to new emotions and anxiety, often leading to overeating as a form of comfort, which explains weight gain after substance cessation. They also emphasize the importance of proper nutrition in addiction treatment, as it reduces the consumption of unhealthy food, raises awareness of healthy eating habits, and promotes recovery. Slovenian Ministry of Health (2008) warns that food is a source of energy for body functions and regeneration, but poor nutrition can increase the risk of high blood pressure, cholesterol, and blood sugar, leading to various diseases. There is limited data on nutrition in therapeutic communities, but studies have shown that incorporating culinary programs and nutritional interventions can improve the eating habits and health status of the participants (Cowan and Devine, 2012; Moore, Gray, Wiss and Parker, 2016). Skupnost Srečanje provides a basic menu with the possibility to adapt for special diets or allergies. Participants learn frugality and responsibility towards food, as they are instructed to eat everything on their plate. At the beginning of each month, the participants decide whether they would like full meals or only half portions. At the present moment, every participant receives large meal portions, with one participant following a vegetarian diet. It is important to note that in all three meals, participants have unlimited access to bread and fruit (personal testimony of the participants of Skupnost Srečanje, April 2, 2023).

Methods

In the theoretical part, we used a descriptive method and participant observation in the therapeutic community Skupnost Srečanje in Nova Gorica. We reviewed literature on eating habits and healthy eating recommendations available in databases. The empirical part included a quantitative study with body measurements (Tanita, BC730) and analysis of the weekly menu (OPEN) to assess participants' dietary intake. Body composition measurements were taken in the morning, on an empty stomach, with 0.5 kg deducted for clothing.

We collected data on eating habits from March 5 to April 23, 2023, analysed the weekly menu, and compared energy and nutrient needs with consumed meals. Data were analysed using Microsoft Excel and IBM SPSS Statistics. To test the statistical difference in nutritional and energy values of the menus, we used the Wilcoxon signed-rank test, and Spearman's rank correlation coefficient to test the statistically significant correlation of anthropometric measurements. Seven men aged 21 to 34 years from the therapeutic community Skupnost Srečanje in Nova Gorica participated in the study.

Results

The results of the participants' body composition measurements were presented using descriptive statistics. The average age of participants is 24.6 ± 5.0 years, the average height is 1.80 ± 0.05 m, and body weight is 85.71 ± 6.29 kg. The body mass index (BMI) averages 26.51 ± 2.25 kg/m^2. The average muscle mass is 65.47 ± 2.80 kg, and the percentage of body fat ranges from 13.6% to 26.0%, with an average of 19.43%. Visceral fat is on average 4.79 ± 2.48, and the average metabolic age is 27.0 ± 10.9 years. The average calculated basal metabolic rate (BMR) is 8606 kJ ± 374 kJ (2049 kcal ± 89 kcal). We analysed the statistical correlation between body composition parameters using Spearman's correlation coefficient (r_s), shown in Figure 1. The results showed a statistically significant, strong, positive correlation ($r_s = 0.767$; $p < 0.05$) between BMI (kg/m^2) and visceral fat. On the other hand, there was no statistically significant correlation between BMI and muscle mass ($r_s = 0.321$; $p = 0.482$). The Wilcoxon test results show that the energy values of the provided menu are significantly lower than the daily requirements ($Z = -2.366$; $p < 0.05$), meaning that the participants do not meet their daily energy needs with the provided menu. The average difference between daily requirements (3279 kcal/13770 kJ) and the consumed amount (3102 kcal/13,027.4 kJ) is minimal, indicating adequacy of energy needs. Statistically significant differences are shown between the consumed amount of protein and the provided menu ($Z = -2.371$; $p = 0.018$) and between the consumed amount and recommendations ($Z = -2.366$; $p = 0.018$), indicating that the consumed amount of protein is higher than recommended. There is also a statistically significant difference between recommendations, the provided menu, and the consumed amount of fat ($Z = -2.366$; $p = 0.018$), as participants did not meet the recommended fat intake. The average difference in consumed carbohydrates (M = 439.1 g) and recommendations (M = 443.8 g) is minimal. The consumed menus do not exceed recommendations for saturated fatty acids ($Z = -2.366$; $p < 0.05$), while there is no statistically significant difference between the consumed amount and recommendations for simple sugars ($Z = -1.014$; $p = 0.310$). Figure 3 shows the coverage of nutritional needs for each participant. The consumed dietary fibre (M = 37.9 g) is higher than recommended (M = 30.0 g) and the provided menu (M = 22.4 g). For sodium, there is a statistically significant difference between recommendations and the provided menu ($Z = -2.530$; $p = 0.011$) and between recommendations and the

consumed amount (Z = -2.366; p < 0.05), indicating that both the consumed and provided sodium amounts exceed daily requirements. There is no statistically significant difference between recommendations and the provided menu for calcium (Z = -1.265; p > 0.05), although the consumed amount (1,334.1 mg) is higher than recommended (1000.0 mg). For cholesterol, both the provided menu (M = 360.6 mg) and the consumed amount (M = 361.3 mg) exceed recommendations (M = 300.0 mg) (Figure 2).

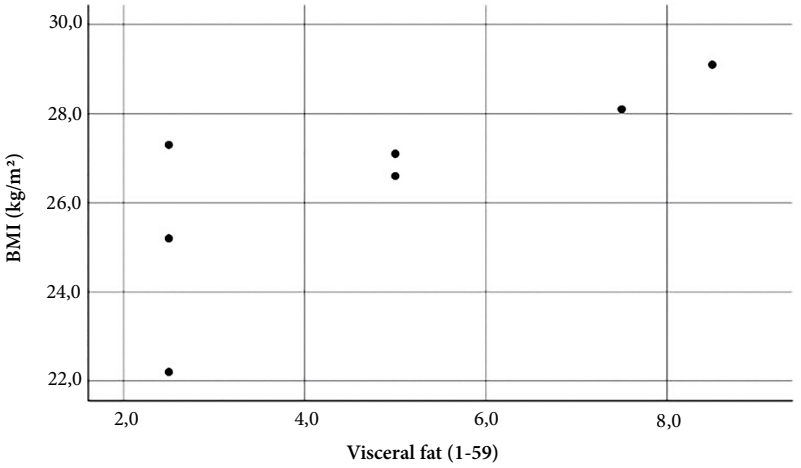

Figure 1: Scatter plot of the correlation between BMI and Visceral Fat.

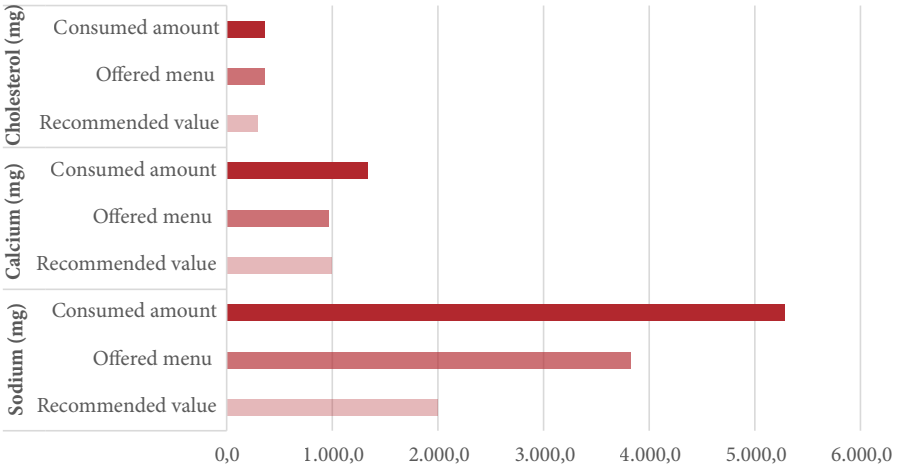

Figure 2: Average values of Sodium, Calcium, and Cholesterol.

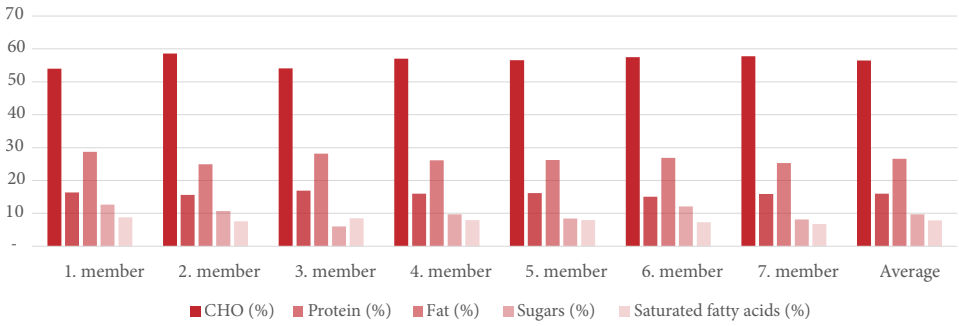

Figure 3: Energy proportions of nutrients consumed by individual participants.

Discussion

Community participants have a set schedule with breakfast at 7:30 a.m., lunch at 12:30 p.m., and dinner at 8:00 p.m., meaning that five to seven hours pass between meals. Skupaj za zdravje (2023) emphasizes that a regular eating schedule is crucial for health, as it helps overcome hunger and prevents unhealthy snacking. They recommend three main meals and two snacks a day, with intervals of three to five hours. The therapeutic community's schedule is not ideal, as the intervals between meals are too long, leading to overeating during main meals, which are energy-dense, containing excess protein and fat, but insufficient carbohydrates.

The body composition of participants showed that they have a good nutritional status, with an average BMI of 26.51 kg/m^2, which classifies them as overweight according to the World Health Organisation (2021). The percentages of body fat (19.43%) and visceral fat (4.79) are within recommended ranges, while muscle mass is above average (65.47 kg). Excessive muscle mass is a sign of a physically active lifestyle and can be considered a positive indicator of health. We observed a strong, positive correlation between BMI and visceral fat and high lean mass, which suggests that BMI alone may be a good indicator of nutritional status.

The average offered menu in the community provides 9642.4 kJ (2295.8 kcal), while the amount consumed is 13027.4 kJ (3101.8 kcal), which is at the lower end of the daily energy requirements (13770.3 kJ or 3278.6 kcal).

The average percentage of energy intake was 16% for protein, 27% for fat, of which 8 % were saturated fatty acids, and 57% for carbohydrates, of which 10% were simple sugars.

Nutritional value of the participants aligns with recommendations. The consumed food exceeds the recommended values for cholesterol and sodium but meets the requirements for calcium and dietary fibre. Based on the analysed menus using the OPEN program, their nutritional value could be improved with a few changes. Adding an afternoon snack, such as nuts and fresh

fruit or crackers with herb spreads, would reduce hunger, overeating and increase fat intake. For lunch, the amount of food could be reduced by serving a smaller portion of pasta (60 g of raw pasta per person) and replacing sausages with lean meats, such as turkey and chicken, which would also lower cholesterol and sodium. Limiting the use of salt in the preparation of soups, potatoes, and sauces, would also be beneficial. Potatoes, which are served daily, could be replaced with grain-based side dishes such as buckwheat, barley, couscous and polenta.

It is necessary to consider the limitations of the bioimpedance device for determining visceral fat and calculating BMR, the small number of samples, and the constraints due to the short monitoring period.

Conclusion

Participants in the therapeutic community Skupnost Srečanje generally meet their nutritional needs and have a good nutritional status. However, some improvements are needed to promote healthier eating habits. A meal schedule with regular intervals between meals and appropriate portion sizes is recommended. Reducing high sodium intake and ensuring a balanced intake of macronutrients are also crucial for long-term health.

Education about healthy eating habits is essential to prevent unhealthy eating behaviours after leaving the community. Further research on larger samples and longer observation periods is recommended to obtain a more comprehensive understanding of the nutritional needs of substance abusers and the impact of nutrition on addiction recovery.

References

BLAŽIČ, Z., 2007. *Zgodovina moje heroinske odvisnosti.* Ljubljana: Mladinska knjiga. ISBN 978-86-11-17778-6.

COWAN, J. A. and DEVINE, C. M., 2012. Process evaluation of an environmental and educational nutrition intervention in residential drug-treatment facilities. *Public Health Nutrition.* July 2012. Vol. 15, no. 7, p. 1159–1167. DOI 10.1017/S1368980012000572.

CUNNINGHAM, P., 2016. The use of sobriety nutritional therapy in the treatment of opioid addiction. *J Addict Res Ther.* 2016. Vol. 7, no. 3. DOI 10.4172/2155-6105.1000282

GELMINI P., 2014. *Tako preprosto: navodila in nasveti za člane Skupnosti Srečanje.* 4. dopolnjena izdaja. Ljubljana: Zavod Pelikan Karitas.

MINISTRSTVO ZA ZDRAVJE, 2008a. Smernice zdravega prehranjevanja delavcev v delovnih organizacijah. Online. 2008a. Vol. 2008. Available from: https://www.gov.si/assets/ministrstva/MZ/DOKUMENTI/DJZ-Preventiva-in-skrb-za-zdravje/Varovanje-in-krepitev-zdravja/preh-

rana-in-tel-dej-np-DTS/prehrana-smernice/Smernice_zdravega_prehranjevanja_delavcev.pdf

MOORE, K., GRAY, V., WISS, D. and PARKER, E., 2016. Hands-on Nutrition and Culinary Intervention within a Substance Use Disorder Residential Treatment Facility. *Journal of the Academy of Nutrition and Dietetics*. 1 September 2016. Vol. 116, no. 9, p. A20. DOI 10.1016/j.jand.2016.06.058.

SKUPAJ ZA ZDRAVJE, 2023. Zdrava prehrana. Online. 2023. Available from: https://www.skupajzazdravje.si/kategorija/zdrava-prehrana/ [Accessed 25 June 2023].

WISS, D. A., 2019. The role of nutrition in addiction recovery: what we know and what we don't. *The assessment and treatment of addiction*. 2019. P. 21–42. DOI 10.1016/B978-0-323-54856-4.00002-X.

WORLD HEALTH ORGANISATION, 2021. Obesity and overweight. Online. 2021. Available from: https://www.who.int/news-room/fact-sheets/detail/obesity-and-overweight [Accessed 22 March 2023].

ZOU, Z., WANG, H., D'OLEIRE UQUILLAS, F., WANG, X., DING, J. and CHEN, H., 2017. Definition of Substance and Non-substance Addiction. *Advances in Experimental Medicine and Biology*. 2017. Vol. 1010, p. 21–41. DOI 10.1007/978-981-10-5562-1_2.