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Evaluation of intuitive eating among females following vegetarian diets: the cross-sectional study

Ocena zjawiska intuicyjnego jedzenia w grupie kobiet stosujących diety wegetariańskie — badanie przekrojowe

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Abstract

Introduction. Vegetarian diets are, by definition, elimination diets that exclude specific food groups. Intuitive eating, on the other hand, is the opposite of dietary restriction and refers to dietary intake based on internal cues of hunger and satiety. The study aimed to evaluate the phenomenon of intuitive eating in a group of adult women from Poland following vegetarian diets. To the authors' knowledge, this study is the first to assess intuitive eating among adult women following vegetarian diets.

Material and methods. An online questionnaire containing the Intuitive Eating Scale-2 (IES-2) was used to conduct the survey.

Results. The mean value of intuitive eating of studied females (n = 806, 18–67 years, BMI = 14.1–50.8 kg/m^2) was 3.43 points on a 5-point scale. The value of BMI was significantly negatively correlated with intuitive eating (R = –0.30, $p < 0.001$) and all four subscales. The level of the overall intuitive eating score was not significantly different across reasons for following vegetarian diets ($p > 0.05$).

Conclusion. The results indicated that females following vegetarian diets were not characterized by low levels of intuitive eating. The type of vegetarian diet did not significantly affect the overall level of intuitive eating. This matter should be explored further to provide more adjusted nutritional interventions.

Keywords: intuitive eating, diet, vegetarian, adult, female

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Introduction

Intuitive eating (IE) is the concept of eating that is based on the body's internal ability to regulate food-related needs. IE can be understood as eating based on hunger and satiety cues rather than emotional state or dietary restrictions. Therefore, intuitive eating is in contrast with popular diets and eating paradigms that involve calorie restrictions or regulations concerning the time, type, and quantity of consumed meals [1].

Vegetarian diets are gaining popularity in recent years. Different types of vegetarian diets differ in the type of excluded food groups. A lacto-ovo-vegetarian diet is understood as the exclusion of meat and fish from the diet, but it includes eggs and dairy products. A lacto-vegetarian diet additionally excludes the consumption of eggs, and an ovo-vegetarian diet excludes dairy products. Semi-vegetarians include some meat, mainly from fish and poultry, and other animal products in moderation. A pesco-vegetarian diet contains some fish, in addition to foods of animal and plant origin. A vegan diet, on the other hand, excludes all meats, fish, and other animal-derived products [2]. People choose vegetarian diets for many reasons. These include ethical, health, religious, and environmental concerns [3].

The study aimed to evaluate the phenomenon of intuitive eating in a group of adult females from Poland following vegetarian diets. This style of eating excludes certain foods, which may be associated with the occurrence of disordered eating behaviours [3, 4]. Because intuitive eating and its attributes are negatively related to eating disorders, it is worth investigating this subject among people following this type of elimination diet. It was hypothesized that females on vegetarian diets would have low levels of IE. Furthermore, according to current knowledge, no wide cross-sectional studies have evaluated the phenomenon of intuitive eating among adult females following vegetarian diets in Poland. Examination of this issue in an understudied population of vegetarians highlights the importance of this study.

Material and methods

Participants

A total of 833 females from Poland participated in the study. The inclusion criteria for the study were: 1) being a woman, 2) following one of the varieties of vegetarian diets (without time restrictions), and 3) being at least 18 years old. After the rejection of questionnaires that did not meet these requirements, 806 (96.8%) females were included in the study. Ethical review and approvals were not required for this survey study on human participants following the local and institutional requirements from the Medical University of Warsaw. Participation in the study was completely voluntary and subjects did not receive any financial or material benefits. At the beginning of the questionnaire, the participants were informed that the survey was anonymous and that the results would only be used for research purposes. Written informed consent for participation was not required for this study by national legislation and institutional requirements.

The females in the study ranged in age from 18 to 67 years, and their mean age was 29 years (standard deviation [SD] = 9). Body weight and height were self-reported, and mean body mass index (BMI) (5: weight [kg]/height [m^2]) was 22.3 kg/m^2 (SD = 4). The length of adherence to vegetarian diets ranged from 1 month to 55 years (SD = 6 years). The group was dominated by females aged 20–25 years, with a BMI of 20–25 kg/m^2, and females following vegetarian diets for up to 5 years.

Procedures

The study lasted from August to December 2021. Participants were recruited online via Facebook. More specifically, the survey was published on various Facebook groups for people from Poland following vegetarian diets. A diagnostic survey method was used to carry out the study. The chosen method was implemented by conducting an online questionnaire.

Measures

Intuitive Eating Scale-2 (IES-2) was applied to measure intuitive eating [1, 6]. The Polish transcript of IES-2 was used in the study. The scale consisted of 23 questions rated on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Six questions were reverse-coded. The items were summed, and an average score was calculated for the entire scale and its four subscales. Subscale Unconditional Permission to Eat (UPE) reflects acceptance to eat what one wants to eat and not labelling certain foods as forbidden. Eating for Physical Rather Than Emotional Reasons (EPR) represents eating because of feeling physical hunger, rather than to cope with emotions. Reliance on Hunger and Satiety Cues (RHSC) presents trust in internal hunger and satiety cues to indicate when, what, and how much to eat. Body-Food Choice Congruence (B-FCC) reflects making food choices based on health and body functioning. The score value ranged from 1 to 5 points. The higher the value, the higher the level of intuitive eating.

The questionnaire included questions about what type of vegetarian diets, for how long, and for what reason was used by participants of the study. Participants had to choose one main reason for following a vegetarian diet: health, religious, ethical, environmental, and taste. The length of adherence to the chosen type of diet was determined by entering a specific number of years or months. The type of vegetarian diet that was followed was chosen from the options shown in Table 1. Respondents could also indicate that they do not follow any vegetarian diet or write what

Table 1. Types of vegetarian diets included in the questionnaire

Type of vegetarian diet	Description
Lacto-ovo-vegetarian diet	I do not eat meat (including fish and seafood), but I do eat dairy products and eggs
Lacto-vegetarian diet	I do not eat meat (including fish and seafood) and eggs, but I eat dairy products
Ovo-vegetarian diet	I do not eat meat (including fish and seafood) and dairy products, but I do eat eggs
Vegan diet	I do not eat any animal products: meat (including fish and seafood), dairy products, eggs

other types of vegetarian diets they follow than those listed. Of the other types of diet, two additional groups were studied — the flexitarian diet and the pesco-vegetarian diet. Respondents also provided data about their body weight and height. The BMI of each respondent was calculated based on the collected information.

Data analysis

To check for statistically significant relationships between the variables, an analysis was performed using the non-parametric Pearson's Chi^2 test for quantitative data. The distribution of quantitative data was tested using the Shapiro–Wilk Test. Once the data were distributed non-normally, the Mann–Whitney U Test was used to compare two groups, and the Kruskal–Wallis Test was used for three and more groups. Spearman's Correlation Coefficient (Rho) was applied to assess the dependencies between continuous data. A two-sided p-value of < 0.05 was considered a benchmark of significance. The analysis was performed using StatSoft Statistica (version 13.3, StatSoft Polska Sp. z o. o., Kraków, Poland) statistical package and with the use of Microsoft Office (Microsoft Corporation, Redmond, WA, USA).

Results

Analysis was carried out on survey questionnaires completed by 806 women. The women participating in the study were divided into age and BMI-related groups. Subsequently, the respondents were characterized according to the type of vegetarian diet followed and the length of its use. The BMI of participants following a vegan diet did not significantly differ from the BMI of those adhering to other vegetarian diets with the exclusion of fewer food groups ($p = 0.90$). After adjusting for individuals with underweight (< 18.5 kg/m^2) and the remaining BMI categories (≥ 18.5 kg/m^2), this relationship still did not reach significance ($p = 0.89$). The data are presented in Table 2. The respondents' adherence to vegetarian diets was mainly determined by ethical reasons (56%), and to a lesser extent by health reasons (15%), preference reasons (13%), and environmental reasons (13%). Other reasons and religious reasons constituted 3% and < 1% of the responses, respectively.

The mean intuitive eating score of the female subjects was 3.43 points. Among the four subscales, the highest score was achieved for the B-FCC subscale (3.87 points). The lowest score in the study group (3.26 points) was achieved for the EPR subscale. The results are shown in Table 3.

Age was significantly positively associated with EPR ($p = 0.001$) and negatively with UPE ($p = 0.002$). The total score of the IES-2 scale was not significantly differentiated by age, but its highest value was observed in the age group 21–30 years ($p > 0.05$). RHSC and B-FCC were not significantly differentiated by the age of the respondents (both $p > 0.05$). The data is summarized in Table 4.

The analysis showed a significant relationship between the BMI of the subjects with the IES-2 total score, as well as in relation to the assessed subscales (Table 5). The higher the BMI, the lower the intuitive eating ($R = -0.30$, $p < 0.001$), and significantly lower UPE ($R = -0.11$, $p < 0.001$), EPR ($R = -0.29$, $p < 0.001$), RHSC ($R = -0.24$, $p < 0.001$), and B-FCC ($R = -0.11$, $p < 0.002$).

It was shown that subjects who did not eat meat, fish, and seafood at all had a significantly higher value of UPE than those who consumed them (3.43 vs. 3.27 points, $p < 0.02$). The relationships between the other subscales were statistically insignificant ($p > 0.05$).

It was observed that subjects following a lacto-ovo-vegetarian diet and a lactovegetarian diet achieved a significantly lower value of B-FCC than subjects following other types of vegetarian diets (3.56 and 3.73 points, others on average between 3.93 and 4.01, $p < 0.001$). No significant correlations were found between the other subscales analysed, the total IES-2 score, and the type of vegetarian diet followed (all $p > 0.05$).

Length and reasons for choosing vegetarian diets were not significantly associated with the IES-2 total score (all $p > 0.05$).

Discussion

This study evaluated the phenomenon of intuitive eating in a group of adult females from Poland following vegetarian diets. The main findings were: [1] as age increased, females had lower scores on the Unconditional Permission to Eat subscale and higher values on the Eating for Physical

Table 2. Socio-demographic and dietary characteristics of the subjects

		Total (n and %)	
Age (years)	18–20	92	11.4%
	21–30	437	54.2%
	31–40	177	22.0%
	41–50	76	9.4%
	> 50	24	3.0%
BMI	Underweight (< 18.5 kg/m^2)	72	8.9%
	Healthy weight (18.5–24.9 kg/m^2)	578	71.7%
	Overweight (25–29.9 kg/m^2)	122	15.1%
	Obese (> 30 kg/m^2) (of which n = 15 Obese Class II)	34	4.2%
Type of vegetarian diet	Lacto-ovo-vegetarian diet	323	40.1%
	Lacto-vegetarian diet	25	3.1%
	Ovo-vegetarian diet	55	6.8%
	Vegan diet	251	31.1%
	Flexitarian diet	100	12.4%
	Pesco-vegetarian diet	52	6.5%
Length of the vegetarian diet	< 1 year	60	7.4%
	1–3 years	337	41.8%
	3–5 years	140	17.4%
	5–10 years	163	20.2%
	10–15 years	61	7.6%
	> 15 years	45	5.6%
Total		806	100%

BMI — body mass index

Table 3. Descriptive analysis of intuitive eating in all subjects

		Me	Min	Max
IES-2 total score		3.43	1.48	4.96
Unconditional Permission to Eat	UPE	3.33	1.17	5.00
Eating for Physical Rather Than Emotional Reasons	EPR	3.25	1.00	5.00
Reliance on Hunger and Satiety Cues	RHSC	3.67	1.00	5.00
Body-Food Choice Congruence	B-FCC	4.00	1.00	5.00

IES-2 — Intuitive Eating Scale-2; Me — Median; Min-Max — Minimum–Maximum

Rather Than Emotional Reasons; [2] higher levels of intuitive eating were associated with lower BMI.

The study [7] on females aged 40–65 years showed that they had lower levels of the UPE subscale than females aged 18–39 years. However, the relationship between age and EPR has not been demonstrated. In the study [8] on females aged 60–75 years, it was revealed that the average UPE and EPR scores were 3.6 points, which is higher than in the present study in a similar age group. In addition, it was noted that higher levels of intuitive eating in these females were associated with less frequent occurrences of eating disorders and negative body image. Concerns about weight and body shape may be a barrier to intuitive eating, also among older females. The results should be confirmed in future work, which will allow the development of interventions aimed at intuitive eating in older females on vegetarian diets to promote healthy ageing.

Previous studies [1, 9] which did not distinguish between the types of diets that were followed, showed a negative association between intuitive eating and BMI. In the

Table 4. Descriptive analysis of intuitive eating in all subjects by age group

	Age (years)	Descriptive analysis					Statistics	
		M	SD	Me	Min	Max	Spearman's rho	p-value
IES-2 total score	18–20	**3.38**	0.59	3.41	2.13	4.74	0.00	0.91
	21–30	**3.45**	0.56	3.48	1.91	4.78		
	31–40	**3.42**	0.53	3.43	2.22	4.70		
	41–50	**3.40**	0.63	3.48	1.48	4.96		
	> 50	**3.35**	0.38	3.33	2.57	4.22		
UPE	18–20	**3.39**	0.81	3.33	1.50	5.00	–0.11	0.002
	21–30	**3.48**	0.75	3.50	1.17	5.00		
	31–40	**3.34**	0.75	3.33	1.33	5.00		
	4–50	**3.15**	0.81	3.17	1.33	5.00		
	> 50	**2.96**	0.60	3.00	1.83	4.00		
EPR	18–20	**3.14**	0.86	3.13	1.38	5.00	0.11	0.001
	21–30	**3.26**	0.83	3.25	1.13	5.00		
	31–40	**3.25**	0.84	3.25	1.50	5.00		
	41–50	**3.39**	0.87	3.50	1.00	5.00		
	> 50	**3.41**	0.70	3.25	2.25	4.75		
RHSC	18–20	**3.44**	0.84	3.58	1.17	5.00	–0.03	0.36
	21–30	**3.46**	0.80	3.67	1.00	5.00		
	31–40	**3.50**	0.79	3.67	1.67	5.00		
	41–50	**3.38**	0.93	3.50	1.00	5.00		
	> 50	**3.30**	0.80	3.50	1.00	4.67		
B-FCC	18–20	**3.85**	0.87	4.00	1.00	5.00	0.01	0.78
	21–30	**3.85**	0.82	4.00	1.00	5.00		
	31–40	**3.86**	0.71	4.00	1.00	5.00		
	41–50	**3.94**	0.82	4.00	1.33	5.00		
	> 50	**4.06**	0.77	4.00	2.00	5.00		

B-FCC — Body-Food Choice Congruence; EPR — Eating; IES-2 — Intuitive Eating Scale-2; M — Mean; Max — Maximum; Me — Median; Min — Minimum; RHSC — Reliance on Hunger and Satiety Cues; SD — Standard deviation; UPE — Unconditional Permission to Eat

present study, the strongest correlation was seen between the general IES-2 scale and the EPR subscale. Females with obesity had the lowest levels of intuitive eating in relation to this subscale compared to the rest of the subscales. Furthermore, the gap between the mean intuitive eating score of females with a BMI of less than 18.5 and females in larger bodies was the greatest on this subscale compared to the other subscales. Participants following a vegan diet didn't show a significant BMI difference compared to those on other vegetarian diets with fewer food restrictions.

The term 'emotional eating' is used to describe the tendency to eat in response to emotions, with energy-dense, highly palatable foods being the primary choice. Emotional eating can result from a deficit in body sensation sensitivity. Emotion-related states are then confused with physiological states controlling satiety and hunger [10]. It was shown that higher levels of emotional eating were associated with higher BMI and increased risk of being overweight and obese [11]. Such a phenomenon may explain, why, in the present study, as BMI increased, the level of the EPR subscale decreased.

The UPE subscale reflects eating in response to hunger and refraining from labelling certain foods as prohibited [1]. In this study, when asking about having forbidden products, those avoided due to vegetarian diets were not included. Females who did not eat meat, fish, and seafood at all had higher UPE values than those who did. A similar relationship was found in the study [12] of over 30,000 females, where the association between UPE and consumption of meat, including fish was negative. Furthermore, as

Table 5. Descriptive analysis of intuitive eating in all subjects by BMI

	BMI (kg/m^2)	Descriptive analysis					Statistics	
		M	SD	Me	Min	Max	Spearman's rho	p-value
IES-2 total score	Underweight (< 18.5)	**3.65**	0.56	3.76	2.13	4.65	–0.30	< 0.001
	Normal weight (18.5–24.9)	**3.48**	0.55	3.48	1.48	4.96		
	Overweight (25.0–29.9)	**3.12**	0.48	3.09	1.57	4.39		
	Obese (> 30)	**3.13**	0.51	3.13	1.91	4.17		
UPE	Underweight (< 18.5)	**3.65**	0.86	3.67	1.33	5.00	–0.11	0.001
	Normal weight (18.5–24.9)	**3.40**	0.76	3.33	1.17	5.00		
	Overweight (25.0–29.9)	**3.23**	0.72	3.33	1.50	4.50		
	Obese (> 30)	**3.38**	0.83	3.50	1.67	4.83		
EPR	Underweight (< 18.5)	**3.53**	0.78	3.50	1.75	5.00	–0.29	< 0.001
	Normal weight (18.5–24.9)	**3.34**	0.82	3.38	1.00	5.00		
	Overweight (25.0–29.9)	**2.86**	0.80	2.81	1.00	4.88		
	Obese (> 30)	**2.74**	0.74	2.75	1.38	4.88		
RHSC	Underweight (< 18.5)	**3.67**	0.83	3.83	1.17	4.83	–0.24	< 0.001
	Normal weight (18.5–24.9)	**3.52**	0.80	3.67	1.00	5.00		
	Overweight (25.0–29.9)	**3.08**	0.77	3.17	1.00	5.00		
	Obese (> 30)	**3.23**	0.88	3.33	1.00	4.83		
B-FCC	Underweight (< 18.5)	**3.94**	0.76	4.00	2.00	5.00	–0.11	0.002
	Normal weight (18.5–24.9)	**3.91**	0.78	4.00	1.00	5.00		
	Overweight (25.0–29.9)	**3.72**	0.78	4.00	1.00	5.00		
	Obese (> 30)	**3.48**	1.05	3.83	1.00	5.00		

B-FCC — Body-Food Choice Congruence; EPR — Eating for Physical Rather Than Emotional Reasons; IES-2 — Intuitive Eating Scale-2; M — Mean; Max — Maximum; Me — Median; Min — Minimum; RHSC — Reliance on Hunger and Satiety Cues; SD — standard deviation, UPE — Unconditional Permission to Eat

the level of UPE increased, the overall energy content of the diet, and consumption of fast food, fatty foods, and sweets increased. On the other hand, the study [13] among females in Switzerland showed a higher intake of meat among females with higher UPE scores. In addition to this, it was noted that this subscale was negatively related to diet quality. Higher levels of UPE were associated with poorer diet quality, including a lower intake of vegetables, fruits, and whole-grain products and a higher intake of sweets [12, 14]. Qualitative research is needed among people on vegetarian diets in the area of unconditional permission to eat. This will provide insight into the motivation of these individuals to allow themselves to eat whatever they want. On the one hand, this may be a response to abandoning a diet and decreasing self-control, or it may be a conscious decision to choose foods that are conducive to good health most of the time and not to fight occasional food cravings. Further study of this issue will provide a better understanding of how this phenomenon relates to other aspects of intuitive eating.

The Body-Food Choice Congruence subscale extends the phenomenon of intuitive eating to the idea of gentle eating. The creators of the intuitive eating concept describe gentle eating as the tendency to make food choices that taste good and honour the health and proper functioning of the body. B-FCC is designed to assess gentle eating, rather than a rigid approach, and focus on healthy foods [1]. In the present study, it was noted that females following lacto-ovo-vegetarian and lactovegetarian diets had the lowest levels of B-FCC compared to the other varieties of vegetarian diets. The analysis of the relationship between the reasons for the use of these diets showed that females who followed the lacto-ovo-vegetarian and lactovegetarian diets were least likely to choose them for health reasons. Thus, it can be assumed that aspects such as healthiness or body functions are not as important for females on lacto-ovo-vegetarian and lacto-vegetarian diets as much as females on the other types of vegetarian diets.

The study showed that respondents who had been on vegetarian diets for less than a year had the lowest levels of reliance on hunger and satiety cues. One study [1] noted that RHSC was moderate to strongly negatively related to eating disorders symptomatology. Other studies [15, 16] found that individuals following vegetarian diets exhibited more orthorexic behaviours than those who consumed

meat and other animal products. The need for conscious control of food intake to maintain or lose weight is associated with dysregulation of internal perception of hunger and satiety [17]. The use of vegetarian diets can be considered as a way to limit food intake or as an attempt to hide disturbing behaviours related to eating [18]. The lowest levels of the RHSC among females who followed vegetarian diets for the shortest period suggest that they may be individuals motivated by weight control, which could interfere with the perception of hunger and satiety signals. The overall IES-2 score did not differ significantly according to the reasons why females followed vegetarian diets.

Our results revealed that the average overall IES-2 score in the study was comparable to the score obtained in studies on adult females from the general population in France (3.26) [6]. In comparison, in one study [19], females with eating disorders achieved an average score of 2.36 points. It would be beneficial to investigate the level of intuitive eating among females with eating disorders nowadays. A study of females with eating disorders in Poland found that the COVID-19 pandemic negatively affected their eating disorders by worsening symptoms or reducing diet quality [20]. The cited studies did not distinguish between the types of diets used by females.

The present study has several strengths, including the large size of the study group and its heterogeneous selection regarding the types of vegetarian diets, age, and BMI. Furthermore, according to current knowledge, this is the first study to evaluate the phenomenon of intuitive eating among adult females on vegetarian diets. The results confirmed the observations of an inverse relationship between one of the IES-2 subscales and BMI and highlighted more novel approaches such as mean differences for dimensions of intuitive eating varying by type of vegetarian diet.

Regardless of these advantages, several limiting factors should be mentioned. Participants in the study self-identified which type of vegetarian diets they were following. Similarly, body weight and height were based on the subjects' declarations. This could lead to inaccurate body mass index calculations. The study group consisted of mainly young females, probably because the data were collected via the Internet, which requires access to the web and some experience with technology. Additionally, given the online administration of the study, the possibility of sampling bias must not be overlooked [21]. Future research should be conducted with larger samples of males, to enable a cross-gender assessment of the intuitive eating of people following vegetarian diets. Moreover, it is worth considering in further research whether participants have comorbidities that may affect their dietary choices, such as food allergies or gastrointestinal conditions. The study is constrained by the absence of a specified minimum duration for adherence to vegetarian diets. A brief period of diet adherence may impact the assessment of the phenomenon of intuitive eating, which typically requires a longer time to manifest its impact on eating habits. In future research, it would be beneficial for researchers to consider the duration of diet adherence as a crucial factor. In the analysis of motivations for adhering to vegetarian diets, the motivation associated with weight reduction was not considered, which constitutes a limitation of this study. The relationship between adopting such a dietary pattern as a weight-reduction strategy and the concept of intuitive eating may be an area deserving of further in-depth exploration.

Conclusion

This is the first study evaluating the phenomenon of intuitive eating in a group of adult females following vegetarian diets. The results indicate that females following vegetarian diets are not characterized by a low level of intuitive eating. Further research is needed to implement interventions targeting intuitive eating for older females on vegetarian diets to promote healthy ageing. Dieticians, psychologists, and physicians should be acknowledged to properly adjust treatment and provide more accurate, individualized dietary recommendations.

Additional information

Data availability statement

The original contribution presented in the study is included in the article. Further enquiries may be directed to the corresponding author.

Ethics statement

As required by the Medical University of Warsaw, ethical approval and/or consent was not required for this human survey.

Author contributions

AK — Concept author. Writing the publication. Conducting the research. PSK — Correction. Project management. ABJ — Correction. Supervision. MR — Methodology. Data analysis.

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Conflict of interest

The authors declare no conflict of interest.

Supplementary material

None.

Streszczenie

Wstęp: Diety wegetariańskie są z definicji dietami eliminacyjnymi, które zakładają wykluczenie określonych produktów spożywczych. Jedzenie intuicyjne, z drugiej strony, jest przeciwieństwem restrykcji dietetycznych i odnosi się do przyjmowania pokarmów w oparciu o wewnętrzne sygnały głodu i sytości. Celem badania była ocena zjawiska intuicyjnego jedzenia w grupie dorosłych kobiet z Polski stosujących diety wegetariańskie. Zgodnie z aktualną wiedzą, niniejsze badanie jest pierwszym, które ocenia intuicyjne odżywianie wśród dorosłych kobiet stosujących diety wegetariańskie.

Materiał i metody: Do przeprowadzenia badania wykorzystano kwestionariusz online zawierający Skalę Intuicyjnego Jedzenia-2 (IES-2).

Wyniki: Średnia wartość intuicyjnego jedzenia badanych kobiet (n = 806, 18–67 lat, BMI = 14,1–50,8 kg/m^2) wyniosła 3,43 punktu na 5-punktowej skali. Wartość BMI była istotnie ujemnie skorelowana z jedzeniem intuicyjnym (R = –0,30, p < 0,001) i wszystkimi czterema podskalami. Poziom ogólnego wyniku intuicyjnego odżywiania nie różnił się istotnie w zależności od powodów stosowania diety wegetariańskiej (p > 0,05).

Wnioski: Wyniki wskazują, że kobiety stosujące dietę wegetariańską nie charakteryzowały się niskim poziomem intuicyjnego odżywiania. Rodzaj diety wegetariańskiej nie wpłynął znacząco na ogólny poziom intuicyjnego odżywiania. Konieczne są dalsze badania w tym zakresie, aby zapewnić bardziej dostosowane interwencje żywieniowe.

Słowa kluczowe: jedzenie intuicyjne, dieta, wegetarianizm, kobiety

Folia Cardiologica 2024; 19: 39–47

References

1. Tylka TL, Kroon Van Diest AM. The Intuitive Eating Scale-2: item refinement and psychometric evaluation with college women and men. J Couns Psychol. 2013; 60(1): 137–153, doi: 10.1037/a0030893, indexed in Pubmed: 23356469.
2. Pawlak R. Vegetarian diets in the prevention and management of diabetes and its complications. Diabetes Spectr. 2017; 30(2): 82–88, doi: 10.2337/ds16-0057, indexed in Pubmed: 28588373.
3. Hargreaves SM, Raposo A, Saraiva A, et al. Vegetarian diet: an overview through the perspective of quality of life domains. Int J Environ Res Public Health. 2021; 18(8), doi: 10.3390/ijerph18084067, indexed in Pubmed: 33921521.
4. Brytek-Matera A. Interaction between vegetarian versus omnivorous diet and unhealthy eating patterns (orthorexia nervosa, cognitive restraint) and body mass index in adults. Nutrients. 2020; 12(3), doi: 10.3390/nu12030646, indexed in Pubmed: 32121187.
5. Obesity: preventing and managing the global epidemic. Report of a WHO consultation. World Health Organ Tech Rep Ser. 2000; 894: i–xii, 1, indexed in Pubmed: 11234459.
6. Camilleri G, Méjean C, Bellisle F, et al. Cross-cultural validity of the Intuitive Eating Scale-2. Psychometric evaluation in a sample of the general French population. Appetite. 2015; 84: 34–42, doi: 10.1016/j.appet.2014.09.009, indexed in Pubmed: 25239401.
7. Augustus-Horvath CL, Tylka TL. The acceptance model of intuitive eating: a comparison of women in emerging adulthood, early adulthood, and middle adulthood. J Couns Psychol. 2011; 58(1): 110–125, doi: 10.1037/a0022129, indexed in Pubmed: 21244144.
8. Carrard I, Rothen S, Rodgers R. Body image concerns and intuitive eating in older women. Appetite. 2021; 164, doi: 10.1016/j.appet.2021.105275, indexed in Pubmed: 33915210.
9. Camilleri GM, Méjean C, Bellisle F, et al. Intuitive eating is inversely associated with body weight status in the general population-based NutriNet-Santé study. Obesity (Silver Spring). 2016; 24(5): 1154–1161, doi: 10.1002/oby.21440, indexed in Pubmed: 26991542.
10. Konttinen H. Emotional eating and obesity in adults: the role of depression, sleep and genes. Proc Nutr Soc. 2020; 79(3): 283–289, doi: 10.1017/S0029665120000166, indexed in Pubmed: 32213213.
11. Péneau S, Ménard E, Méjean C, et al. Sex and dieting modify the association between emotional eating and weight status. Am J Clin Nutr. 2013; 97(6): 1307–1313, doi: 10.3945/ajcn.112.054916, indexed in Pubmed: 23576047.
12. Camilleri GM, Méjean C, Bellisle F, et al. Intuitive eating dimensions were differently associated with food intake in the general population-based nutrinet-santé study. J Nutr. 2017; 147(1): 61–69, doi: 10.3945/jn.116.234088, indexed in Pubmed: 27798333.
13. Horwath C, Hagmann D, Hartmann C. Intuitive eating and food intake in men and women: Results from the Swiss food panel study. Appetite. 2019; 135: 61–71, doi: 10.1016/j.appet.2018.12.036, indexed in Pubmed: 30584896.
14. Jacob R, Drapeau V, Lamarche B, et al. Associations among eating behaviour traits, diet quality and food labelling: a mediation model. Public Health Nutr. 2020; 23(4): 631–641, doi: 10.1017/S1368980019003203, indexed in Pubmed: 31769383.
15. Barthels F, Meyer F, Pietrowsky R. Orthorexic and restrained eating behaviour in vegans, vegetarians, and individuals on a diet. Eat Weight Disord. 2018; 23(2): 159–166, doi: 10.1007/s40519-018-0479-0, indexed in Pubmed: 29397564.
16. Dittfeld A, Gwizdek K, Jagielski P, et al. A Study on the relationship between orthorexia and vegetarianism using the BOT (Bratman Test for Orthorexia). Psychiatr Pol. 2017; 51(6): 1133–1144, doi: 10.12740/PP/75739, indexed in Pubmed: 29432508.
17. Sweerts S. Treat or enhance cognitive restraint in individuals suffering from overweight or obesity? Systematic revue of the literature. SOJ Psychology. 2016; 3(1): 1–8, doi: 10.15226/2374-6874/3/1/00125.

18. Norwood R, Cruwys T, Chachay VS, et al. The psychological characteristics of people consuming vegetarian, vegan, paleo, gluten free and weight loss dietary patterns. Obes Sci Pract. 2019; 5(2): 148–158, doi: 10.1002/osp4.325, indexed in Pubmed: 31019732.
19. van Dyck Z, Herbert BM, Happ C, et al. German version of the intuitive eating scale: psychometric evaluation and application to an eating disordered population. Appetite. 2016; 105: 798–807, doi: 10.1016/j.appet.2016.07.019, indexed in Pubmed: 27426620.
20. Kasiak PS, Adamczyk N, Jodczyk AM, et al. COVID-19 pandemic consequences among individuals with eating disorders on a clinical sample in poland-a cross-sectional study. Int J Environ Res Public Health. 2022; 19(14), doi: 10.3390/ijerph19148484, indexed in Pubmed: 35886336.
21. Andrade C. The limitations of online surveys. Indian J Psychol Med. 2020; 42(6): 575–576, doi: 10.1177/0253717620957496, indexed in Pubmed: 33354086.