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Health behaviors of female students of the University of the Third Age in the light of body mass index

Zachowania zdrowotne słuchaczek Uniwersytetu Trzeciego Wieku w świetle wskaźnika masy ciała

Summary
The aim of the present paper was to analyse the proper nutritional habits (PNH), preventive behaviours (PB), positive thinking (PT) and health practices (HP) in the light of general index of intensity of health behaviours of elderly women including body mass index.
Research was conducted on a sample of 67 women in the University of the Third Age (UTA) in Wałcz.
The methodological basis for this investigation was Z. Juczyński's (2001) Health Behaviour Inventory (HBI). General index of intensity of health behaviours (GIIHB) was calculated by adding the results of all the 24 statements included in HBI. According to the guidelines the respondents were grouped into three groups: with a high GIIHB (H), average GIIHB (A) and low GIIHB (L). Four categories of health behaviours were analysed separately: proper nutritional habits, preventive behaviours, positive thinking and health practices.
The largest percentage of examined UTA listeners received inadequate (49.3%) and 34.3% higher general index of intensity of health behaviours (GIIHB) in response to the questions included in the Health Behavior Inventory. The highest average point values were recorded for proper nutritional habits ($\overline{x}$ = 3.8). In the light of the test body mass index the overweight women received the highest point values in each separately analysed category of health behaviours.

Key words: Health behaviors, BMI, the elderly, University of the Third Age

Streszczenie
Celem niniejszej pracy była analiza oceny zachowań zdrowotnych (prawidłowe nawyki żywieniowe, zachowania profilaktyczne, pozytywne nastawnie psychiczne oraz praktyki zdrowotne) wśród dojrzałych kobiet w świetle wskaźnika ogólnych zachowań zdrowotnych z uwzględnieniem wskaźnika masy ciała badanych. Przebadano 67 kobiet będących słuchaczkami Uniwersytetu Trzeciego Wieku w Wałczu.
W badaniach wykorzystano kwestionariusz Inwentarz Zachowań Zdrowotnych (IZZ) opracowany przez Juczyńskiego (2001) W analizie zgodnie z wytycznymi autora kwestionariusza uzyskano podział na badanych o OWNZZ wysokim (W) przeciętnym (P) i niskim (N). Odrębnie zanalizowano cztery kategorie zachowań zdrowotnych tj.: prawidłowe nawyki żywieniowe, zachowania profilaktyczne, pozytywne nastawnie psychiczne oraz praktyki zdrowotne.

Największy odsetek badanych słuchaczek UTW uzyskało przeciętny (49,3%), a 34,3% wysoki ogólny wskaźnik nasileń zachowań zdrowotnych w zdeklarowanych odpowiedziach na pytaniach zawarte w Inwentarzu Zachowań Zdrowotnych. Najwyższe średnie wartości punktowe odnotowane zostały dla kategorii Prawidłowych Nawyków Żywieniowych ($\overline{x}$=3,8). W świetle wskaźnika masy ciała badane z nadwagą zdeklarowały najwyższe wartości punktowe w każdej odrębnie analizowane kategorii zachowań zdrowotnych.

Słowa kluczowe: Zachowania zdrowotne, BMI, starzenie się, Uniwersytet Trzeciego Wieku

Introduction

With the increase in the length of human life, a key aim of the state policy becomes prevention and promotion of health in adulthood and old age. Health-promoting programs increase health awareness and preventive behaviors of older people (Chao et al. 2012, Goetzel et al. 2007, Huang et al.2002). In turn, the increase in health awareness can be an effective strategy to improve health, thus reducing health care costs and improving the quality of life of elderly people (Cho et al. 2008). Also, with the civilization progress a rapid development of societies creates opportunities for continuous education of elderly people. In addition, the main challenge of successful aging is to create opportunities for an active social life for retired people (Grzanka-Tykwińska, Kędziora-Kornatowska 2010; Kozieł, Trafiałek 2007).

In that respect numerous Universities of the Third Age are of great importance. They enable further education and acquiring knowledge and skills according to their individual needs and intellectual interests (Tomczyk, 2012; Bielawska et al. 2012).

An important dimension of successful aging is also a positive mental attitude. Participation in activities organized by the Universities of the Third Age appears to be important in this regard (Orzechowska et al. 2008; Zielinska-Więczkowska et al. 2012). The research results indicate (Jachimowicz, Kostka, 2009) that the family situation affects the presence of emotional problems and social alienation.

One of the important aspects of aging is to maintain health and functional efficiency. Scientific studies show that in maintaining health of older people a proper diet plays an important role. The diet should be modified accordingly, with emphasis on the special dietary needs of an aging body (Posner et al. 1993; Gacek, 2010; Jabłoński, Kaźmierczak, 2005; Kałuża et al. 2004).

Nutrition, physical activity, connected with them the body mass index and the quality of life are also important determinants that affect life expectancy. The main issue that has gained importance in the light of the recent numerous global research is to analyse the connection between BMI (underweight, overweight and obesity) and mortality in elderly patients (Kulminski et al. 2008, Ringbäck Weitoft et al. 2008, Berraho et al. 2010, Flegal et al. 2013, Zamboni et al. 2005).

The aim of the present paper was to analyse the proper nutritional habits (PNH), preventive behaviours (PB), positive thinking (PT) and health practices (HP) in the light of general index of intensity of health behaviours of elderly women including body mass index.

Material and method

Research was conducted on a sample of 67 women in the University of the Third Age (UTA) in Wałcz. The BMI categories were established according to the guidelines put forward by WHO: 18.5-24.9 kg/m^2 – normal; 25.0-29.9 kg/m^2 – overweight, and ≥ 30 kg/m^2 – obese (WHO/NUT/NCD 1997).

The research plan was approved by the Bioethics Committee of the Pomeranian Medical University in Szczecin. The methodological basis for this investigation was Z. Juczyński's (2001) Health Behaviour Inventory (HBI). General index of intensity of health behaviours (GIIHB) was calculated by adding the results of all the 24 statements included in HBI. The obtained GIIHB oscillated between 24 and 120 points. The results were then converted to standard units, and interpreted in terms of the Sten score system (Juczyński 2001). According to the guidelines presented by the author of the questionnaire, the respondents were grouped into three groups: with a high GIIHB (H), that is 7-10 stens, average GIIHB (A): 5-6 stens, and low GIIHB (L): 1-4 stens.

Four categories of health behaviours were analysed separately: proper nutritional habits, preventive behaviours, positive thinking and health practices.

Results

The analysis of obtained results (Fig. 1) shows that nearly half of the respondents (49.3%) had an average GIIHB, 34.3% were characterised by a high GIIHB, and the GIIHB of 16.4% of the women was low.

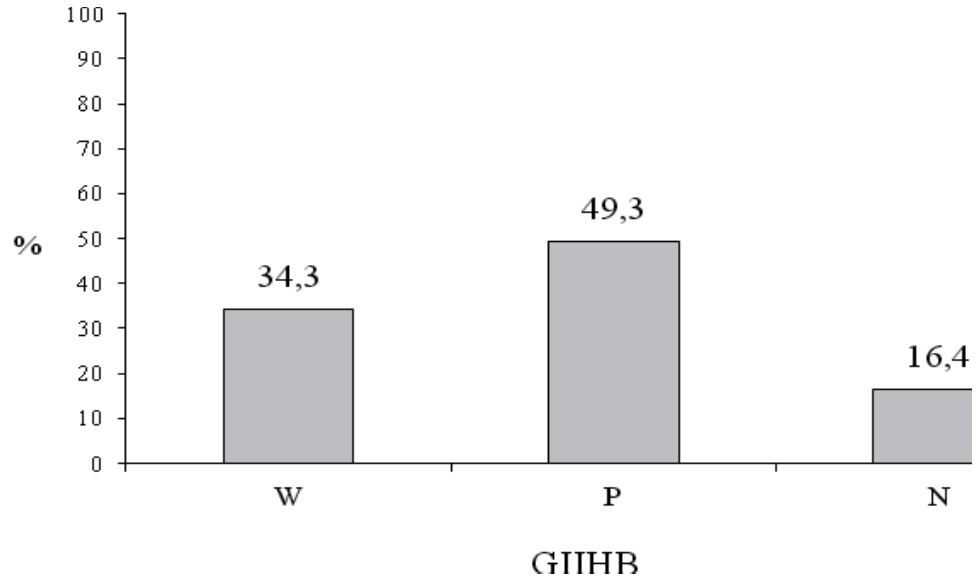


Fig.1. Percentage of women with a high (H), average (A) and low (L) general index of intensity of health behaviours

In the following analysis of the various categories of health behavior it has been reported that the respondents received the highest average point values ($\bar{x}$=3.8) in the category of proper nutritional habits and the lowest ($\bar{x}$= 3.5) in the category of health practices. However, it is worth noticing that the mean score differences among the results of the three categories were insignificant. Detailed figures were shown in Figure 2.

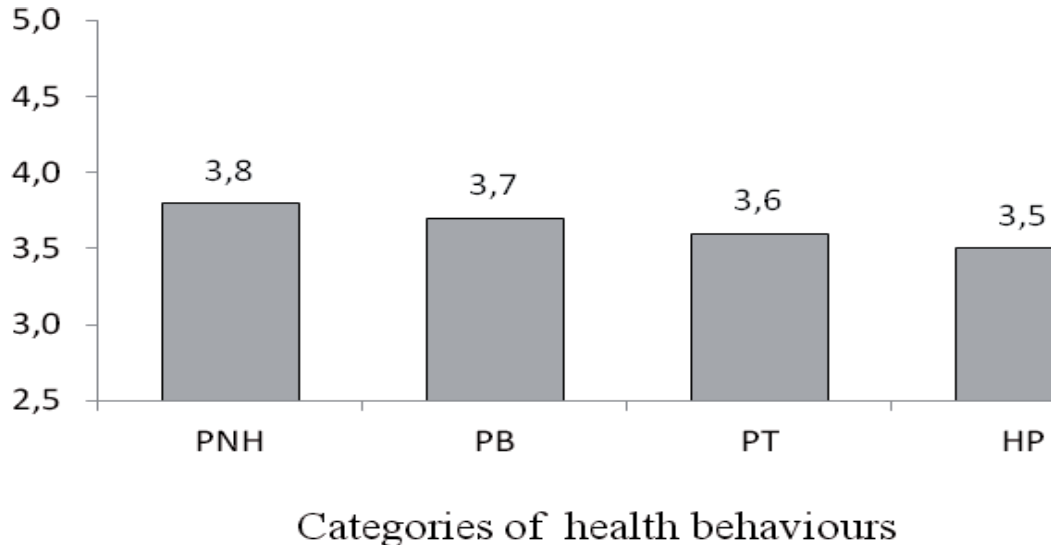


Fig. 2. Average point values of the results obtained by female UTA students for each category of health behaviors: proper nutritional habits (PNH), preventive behaviours (PB), positive thinking (PT) and health practices (HP)

Any attempt to answer the question of how to differentiate respondents for each category of health behaviors depending on the general index of intensity of health behaviours (GIIHB): high (H), average (A) and low (L) a detailed analysis was performed, separately for each group. The results are presented in Figure 3.

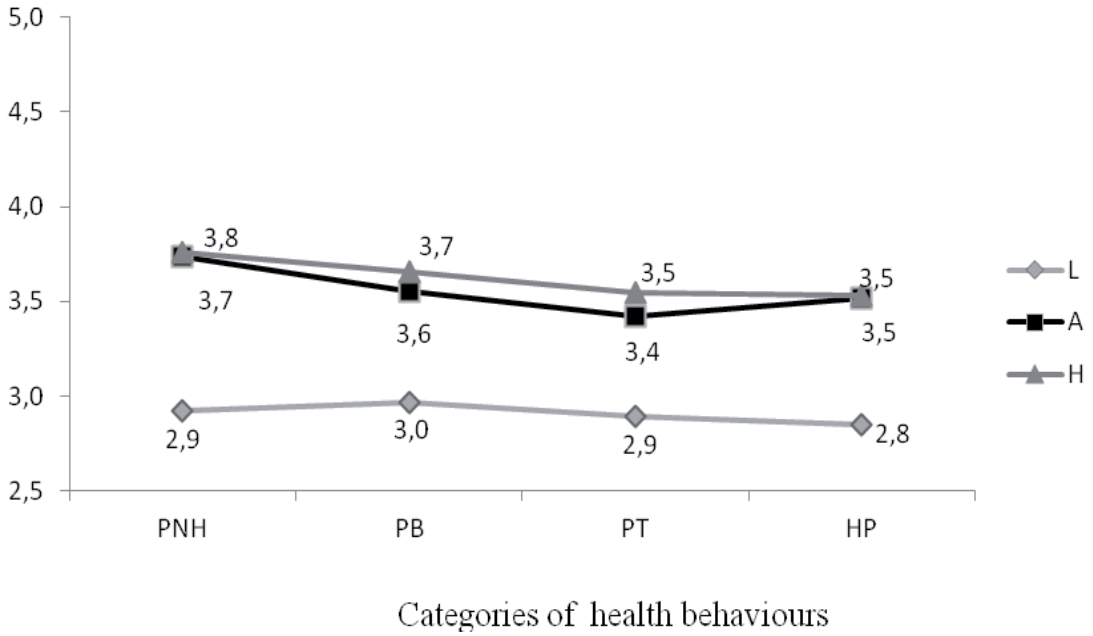


Fig. 3. Mean values of health behaviors categories: proper nutritional habits (PNH), preventive behaviours (PB), positive thinking (PT) and health practices (HP), depending on the GIIHB: high (H), average (A) and low (L)

It can be seen from the data illustrated in Figure 3 that the subjects who received high and average general index of intensity of health behaviours obtained the highest values for proper nutritional habits (high $\overline{x}$=3.8 and $\overline{x}$=3.7 average). In turn people with an average general index of intensity of health behaviours obtained the lowest value for positive thinking ($\overline{x}$ = 3.4), and those with a high GIIHB): for positive thinking ($\overline{x}$=3.5) and health practices ($\overline{x}$=3.5). However, it is worth noticing that the results for each category are similar. It has not been reported that within each group of female UTA students high (H), average (A) and low (L) general index of intensity of health behaviours would assess one category much higher or lower than another, which would affect the overall score. Research data show that within each group in all categories the obtained results are on the same level.

Taking into consideration the relationship between the health behaviour and BMI, results, BMI (normal, overweight, obese) were analysed in the light of the three GIIHB groups (high, average, and low). For details see Figure 4.

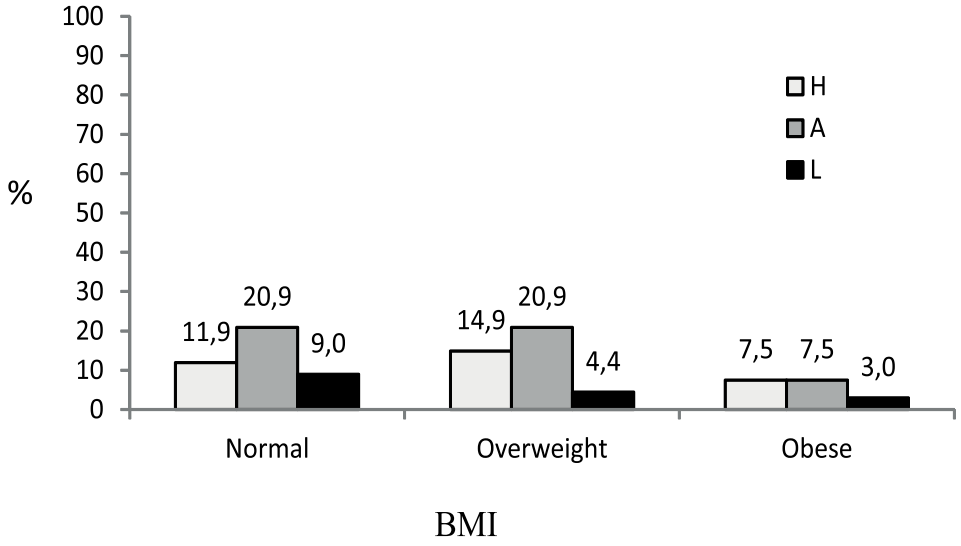


Fig. 4. Percentages number of UTA listeners high, average and low GIIHB in different groups according to BMI (normal, overweight, obese)

The data presented above show that the largest percentage of women (41.8%) had normal weight, 18.0% were obese and 40.2% overweight. Both in the group of women with normal body weight and overweight women with the highest percentage of respondents showed the overall average rate of health behaviors (20.9%).

Out of the total number of all subjects, including those with high GIIHB 14.9% of the respondents were overweight and 11.9% were characterized by normal weight. The total number of UTA listeners high and average GIIHB who reported obesity accounted for 7.5%.

Further analysis was conducted to compare and differentiate the respondents answers for each category of health behaviors depending on what the body mass index (normal, overweight, obese) was. The detailed results for each group are illustrated in Figure 5.

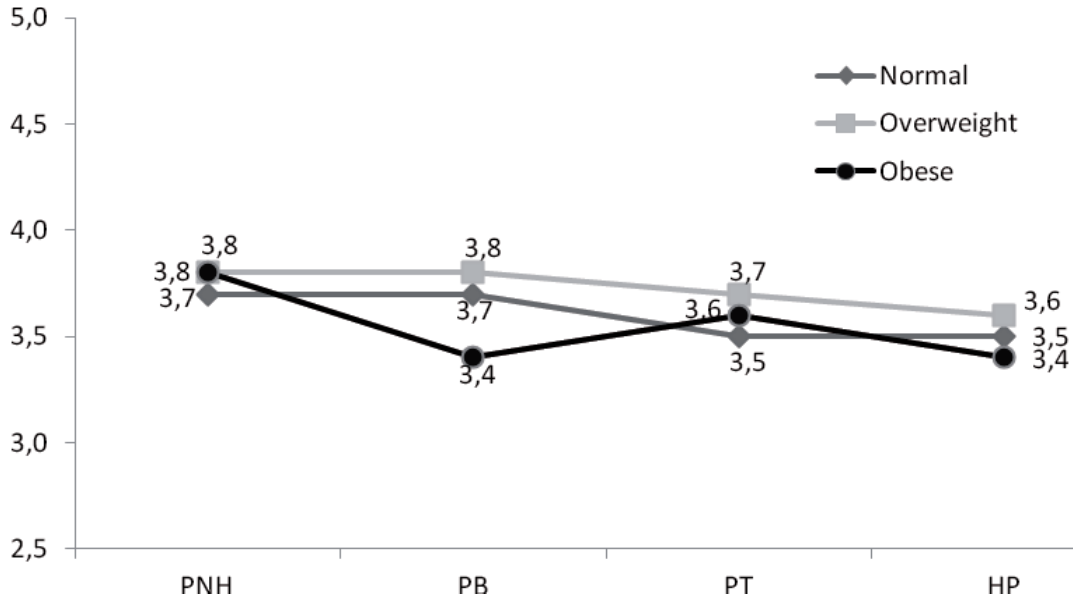


Fig. 5. Mean values of health behaviors categories: proper nutritional habits (PNH), preventive behaviours (PB), positive thinking (PT) and health practices (HP) according to BMI (normal, overweight, obese).

Analysing the data presented in Fig. 5, it was observed that tested overweight women received the lowest mean values for health practices ($\overline{x}$ =3.6), obese women in the category of health practices and preventive behaviours ($\overline{x}$ =3.4), and women with normal body weight for positive thinking and health practices ($\overline{x}$ =3.5).

Interestingly, women who are overweight and obese gained in responses to questions about the proper eating habits the highest point values ($\overline{x}$ = 3.8). However, it was found that the declared health behaviors analysed separately for each category of listeners at the University of the Third Age in the light of body mass index indicate the highest point values obtained by the women who reported being overweight. In turn the women of normal weight showed values slightly lower ($\overline{x}$ = 3.7 for PHN and PB and $\overline{x}$ =3.5 for PT and HP). Contrary to expectations, this analysis found no significant differences. All the results oscillate at a very similar level and it has not been proved that any BMI group obtained significantly different results in any category.

Discussion

In the present study, almost half of the respondents (49.3%) is characterized by the average general index of intensity of health behaviours, 34.3% higher and 16.4% lower. Very similar results obtained Dębska et al. (2012) UTA students (51% high, 34% average and 14% lower).

These results are slightly different from the data obtained by Smoleń et al (2011), who pointed out that as many as 43.2%. UTA students examined in Sanok has a high level of health behaviors, and 39.7% reported an average. In comparison to the data reported by Smoleń et al (2011) the percentage of students tested in Sanok, who have declared low GIIHB is 17.1% higher than in the surveyed students in Wałcz 16.4.%.

The best values obtained from the answers were recorded for health practices. Health practices include daily sleep habits, recreation and physical activity (Juczyński 2001). This study suggests that health practices belong to the category of health behaviors that among UTA listeners in Wałcz remain at an average level ($\overline{x}$=3.5).

Interestingly, these results do not differ much from some of the published studies and are generally consistent with previously presented studies ($\overline{x}$=3.6 Muszalik, Kedziora-Kornatowska 2007; $\overline{x}$=3.6 Maćkowska, Basińska 2010; $\overline{x}$=3.17 Ślusarska, Nowicki, 2010; $\overline{x}$=3.4 Dębska et al 2012; $\overline{x}$=3.6 Smoleń et al 2011). However, in this study, the highest mean score was obtained in the proper nutritional habits ($\overline{x}$=3.8). This category takes into account primarily the kind of consumed food (such as whole wheat bread, vegetables and fruit). It is worth noticing that despite the small point discrepancies there are similarities between the declared eating behaviors expressed by UTA students in this study, and the results obtained by other researchers ($\overline{x}$=3.6 Dębska et al 2012; $\overline{x}$=3.6 Muszalik, Kedziora-Kornatowska 2007).

In addition, it should be stressed that a certain difference was observed by Maćkowska and Basińska (2010) in the analysis of healthy eating behaviors and people with type 1 diabetes and Graves' disease. The results of this study showed higher mean values in sick ($\overline{x}$=3.6) than healthy people ($\overline{x}$=3.6). In turn, Kurowska i Figiel (2009) reported in patients with type 2 diabetes, the lowest mean score of healthy eating habits, and the highest in preventive behaviors.

Preventive behaviors in this analysis relate to compliance with health recommendations and obtaining information about health and disease (Juczyński 2001), which in this case explains the results. For the tested by Muszalik i Kedziora-Kornatowską (2007) also preventive behaviours with a positive mental attitude is the most scoring category ($\overline{x}$=3.8), while for UTA students surveyed by Dębska et al. (2012) it is a positive mental attitude ($\overline{x}$=3.8), which includes psychological factors such as avoiding too strong emotions, stress and tension or depressing situations (Juczyński 2001).

Review of the published studies indicates that the analyses concerning the relationship between the declared health behavior and the age and place of residence of the respondents, (Ślusarska, Nowicki 2010) did not show significant statistical dependencies, in contrast to the level of education of respondents ($p < .05$). In the present study such dependencies were not analysed and accordingly it is not possible to compare the results.

The studies were designed to evaluate the declared health behaviors among women being UTA listeners according to BMI. Surprisingly overweight woman obtained the highest point value in the declared behaviours (analysed separately for each category). Undoubtedly, the weakness of the analysed material is a small research group, therefore the results should be interpreted with caution. Therefore, it seems necessary to conduct further and more extensive research in this area, which will contribute to a better understanding of the issues and will be analysed to draw conclusions relevant to making future practical measures.

Conclusions

1. The largest percentage of examined UTA listeners received inadequate (49.3%) and 34.3% higher general index of intensity of health behaviours (GIIHB) in response to the questions included in the Health Behavior Inventory. The highest average point values were recorded for proper nutritional habits($\overline{x}$ = 3.8).

2. In the light of the test body mass index the overweight women received the highest point values in each separately analysed category of health behaviours.

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