

EWA HUMENIUK¹, OLGA DAŃBSKA¹, KATARZYNA PAWLIKOWSKA-ŁAGÓD²,
MAŁGORZATA MATUSKA¹

Health-related behavior patterns of cancer patients determined by socio-demographic variables

Abstract

Introduction. Health practices have been a subject of theoretical and empirical discussions among experts from various fields of knowledge. They are analyzed more and more closely, regarding their connection with specific diseases. Because cancer is one of the main causes of death in Poland, it is very important to learn more about pro-health behaviors undertaken by cancer patients.

Aim. An attempt was made to establish if pro-health activities and their separate categories regarding cancer patients are pre-conditioned by socio-demographic variables.

Material and methods. The research was conducted on the group of 100 cancer patients. Diagnostic poll method, survey technique was used when conducting this study. Health Behavior Inventory (HBI) by Zygfryd Juczyński was the research tool. STATISTICA 12 and Microsoft Office Excel were used to analyze the gathered data. Statistical significance of $p < 0.05$ was assumed which indicated statistically important differences or correlations.

Results. There was no association between sex, marital status, place of residence, education level, financial situation and pro-health activities undertaken by cancer patients. Average HBI score for the whole group amounted to 78.47 ± 15.80 which is average. The highest level of pro-health behavior was observed in Proper Eating Habits subscale and the lowest level of pro-health behavior was observed in Health Practices category.

Conclusions. The knowledge gained on the basis of the conducted research will constitute a valuable hint regarding deficits in the observance of the principles of health culture in patients with cancer.

Keywords: health behavior, life style, cancer, patients.

DOI: 10.1515/pjph-2017-0032

INTRODUCTION

According to Gochman, health-related behavior patterns, which condition strengthening and health recovery, are shaped by beliefs, predictions, expectations, motifs, emotions, way of thinking, personality [1]. That is why it was assumed that human health is mostly conditioned by individual health-related behavior patterns. „Health-related behavior patterns are strongly connected with a person’s social life. A person has a lot of health-related behavior patterns to choose from and to follow. Bases of those choices are ingrained in different cultures and are comprised of values and their hierarchy, and they are determined by the place health assumes in those hierarchies. Cultural background also plays a very important role regarding shaping health-related behavior patterns” [2].

Health-related behavior patterns can be divided into positive (pro-health – supporting and strengthening health, preventing diseases, supporting recovery) and negative (anti-health – contributing to health disturbance in physical, emotional and psycho-social areas which impede preventive treatments, diagnosis, therapies and rehabilitation) [3-4]. Steptoe and co-workers put special focus on the following positive health-related behavior patterns: drugs and stimulants avoidance,

eating habits, positive pro-health activities, preventive actions, health condition self-control [5]. Boguszewski was analyzing knowledge about health among Poles. The most popular health-related behavior patterns were enumerated by the surveyed and 1/2 claimed healthy eating habits, 1/3 claimed regular doctor checkups, 1/3 claimed avoiding stressful situations, 1/4 claimed regular exercise and 1/5 claimed reduction of drugs and stimulants [6].

Among etiological agents which determine progression of cancer, two main factors can be enumerated: non-modifiable (such as sex, genetic predispositions) and modifiable (widely understood lifestyle and health activities and „(...) habitual pattern of behavior regarding one’s own body (...)” [7].

AIM

Health-related behavior patterns have been a subject of theoretical and empirical debates among representatives of various science fields for many years. They are analyzed more and more often regarding their connection with various ailments. Since cancer is one of the main causes of death in Poland, it is imperative to learn more about health activities undertaken by oncological patients. An attempt was made to establish

¹ Department of Pathology and Rehabilitation of Speech, Medical University in Lublin, Poland

² Department of Ethics and Human Philosophy, Medical University in Lublin, Poland

if health-related behavior patterns and respective categories among cancer patients are conditioned by socio-demographic variables.

MATERIAL AND METHOD

The surveyed group consisted of 100 cancer patients. The age of respondents was 21-72 and the average amounted to 46.22 ± 12.80 . Most of the surveyed consisted of women (69%) and cities residents (66%). Less than half of the respondents were struggling with malignant neoplasm (48%). The average time of disease duration amounted to 2.17 ± 1.81 years (range from 2 months to 10 years). In most respondents (85%) the cancer was diagnosed for the first time and there were no coexisting diseases (79%). In most cases there was no cancer present in the family history (72%). The respondents suffered from breast cancer (34%), lung cancer (13%), uterus cancer (11%), large intestine cancer (8%), anus cancer (7%), thyroid cancer (6%), testicular cancer (5%), ovary cancer (3%), small intestine cancer (3%), kidney cancer (3%), lymphatic system cancer (3%) and others. Less than half of the surveyed were married (45%). The most respondents had secondary education (49%) and vocational education (31%). According to the self-assessment of the surveyed, their financial situation was good (57%).

Diagnostic poll method, survey technique was used when conducting this research. Health Behavior Inventory (HBI) by Zygfryd Juczyński was the research tool. The questionnaire comprising of 24 statements assesses the character of the health-related behavior patterns undertaken by the surveyed and they can be classified into four categories: a) proper eating habits – type of consumed food, b) preventive actions – following health-related recommendations, gathering information regarding health and the disease, c) positive mental attitude – avoidance of strong emotions, stress, tensions and depressing situations, d) pro-health activities – daily habits regarding physical activity, sleep, rest etc.. The statements were accompanied by a 5-level Likert scale assuming values from 1 (almost never) to 5 (always). The surveyed can gather up to 24-120 points where the higher the score the better pro-health lifestyle of an individual [8]. The tool was also accompanied by the authorial attachment which contained questions regarding socio-demographic factors. The survey was involuntary, individual and anonymous. It was conducted according to the Declaration of Helsinki. The surveyed were informed about the study goal and course. The analysis of the research material was conducted with the use of STATISTICA 12 and Microsoft Office Excel software. Statistical significance of $p < 0.05$ was assumed which signalizes occurrences of statistically significant differences or dependences.

RESULTS

An average HBI result for the surveyed group amounted to 78.47 ± 15.80 points which is mediocre. The highest level of pro-health activities was observed in Proper Eating Habits subscale and the lowest in Pro-health Activities subscale. A detailed description of the HBI result and its respective categories are presented in the table below (Table 1).

There was no association between sex and HBI questionnaire categories ($p > 0.05$). However, it was observed that women were undertaking pro-health activities slightly more often than men (Table 2).

There was no association between marital status of the surveyed and HBI questionnaire categories ($p > 0.05$). However, single respondents obtained better results regarding proper eating habits, positive mental attitude and pro-health activities than married respondents and they also scored better in HBI (Table 3).

There was no association between respondents' place of residence and HBI questionnaire categories ($p > 0.05$). It could be observed that respondents from the cities undertook pro-health activities more often than respondents from the country (Table 4).

TABLE 1. Detailed description of the HBI result and its respective categories.

Subscales	M	Me	Q ₁	Q ₃	SD
Proper Eating Habits (PEH)	3.36	3.25	2.75	4.00	0.85
Preventive Actions (PA)	3.34	3.17	2.67	4.00	0.81
Positive Mental Attitude (PMA)	3.25	3.17	2.83	3.67	0.65
Pro-health Activities (PHA)	3.12	3.00	2.67	3.67	0.67
Health Behavior Inventory (HBI)	78.47	76.00	67.00	91.50	15.80

M – average, Me – median, SD – standard deviation, Q₁ – lower quartile, Q₃ – upper quartile
Source: own elaboration.

TABLE 2. HBI results based on sex of the surveyed.

Subscales	Women			Men			Statistical analysis	
	M	Me	SD	M	Me	SD	Z	p
PEH	3.40	3.33	0.87	3.29	3.17	0.83	0.61	0.54
PA	3.35	3.17	0.79	3.32	3.17	0.85	0.31	0.76
PMA	3.28	3.17	0.67	3.18	3.17	0.61	0.52	0.60
PHA	3.14	3.00	0.63	3.08	3.00	0.75	0.41	0.68
HBI	79.03	76.00	15.77	77.23	74.00	16.07	0.45	0.65

M – average, Me – median, SD – standard deviation, Z – the result of Z test, p – level of statistical significance
Source: own elaboration.

TABLE 3. HBI results based on marital status.

Subscales	Single			In a relationship			Statistical analysis	
	M	Me	SD	M	Me	SD	Z	p
PEH	3.44	3.17	0.92	3.27	3.33	0.77	0.64	0.52
PA	3.33	3.17	0.84	3.36	3.17	0.77	-0.25	0.80
PMA	3.28	3.17	0.64	3.21	3.17	0.66	0.52	0.61
PHA	3.16	3.00	0.68	3.07	3.00	0.65	0.39	0.70
HBI	79.25	78.00	16.62	77.51	74.00	14.87	0.42	0.68

M – average, Me – median, SD – standard deviation, Z – the result of Z test, p – level of statistical significance
Source: own elaboration.

TABLE 4. HBI results based on place of residence.

Subscales	Town			Village			Statistical analysis	
	M	Me	SD	M	Me	SD	Z	p
PEH	3.39	3.33	0.84	3.31	3.17	0.88	0.36	0.72
PA	3.38	3.17	0.78	3.28	3.00	0.86	0.64	0.52
PMA	3.23	3.17	0.68	3.27	3.17	0.60	-0.37	0.71
PHA	3.18	3.00	0.65	3.01	3.00	0.69	1.23	0.22
HBI	79.09	80.50	15.79	77.26	75.00	15.99	0.66	0.51

M – average, Me – median, SD – standard deviation, Z – the result of Z test, p – level of statistical significance
Source: own elaboration.

There was no association between respondents' education level and HBI questionnaire categories ($p>0.05$). However, respondents with vocational and primary education undertook pro-health activities less often than respondents with secondary and higher education (Table 5).

TABLE 5. HBI results based on education level.

Subscales	Basic and vocational			Secondary			Higher			Statistical analysis	
	M	Me	SD	M	Me	SD	M	Me	SD	H	p
PEH	3.30	3.17	0.78	3.41	3.33	0.96	3.38	3.42	0.70	0.76	0.69
PA	3.24	3.00	0.83	3.40	3.17	0.86	3.40	3.17	0.57	1.30	0.52
PMA	3.16	3.00	0.63	3.35	3.33	0.69	3.13	3.08	0.53	2.53	0.28
PHA	3.02	3.00	0.63	3.21	3.00	0.72	3.07	3.08	0.56	2.24	0.33
HBI	76.31	74.0	15.47	80.22	79.0	17.47	77.81	79.5	10.36	1.57	0.46

M – average, Me – median, SD – standard deviation, H – the result of Kruskal-Wallis test, p – level of statistical significance
Source: own elaboration.

TABLE 6. HBI results based on financial situation.

[Table content is missing]											

Adamowicz proved that pro-health activities were undertaken more often by people with higher education, women, non-smokers and respondents with broader oncological knowledge. Despite that, the level of pro-health behavior patterns among the patients was mediocre and the average HBI amounted to 71.3 for the whole evaluation (76.2 for women and 66.1 for men). The HBI results of the respective categories were the following: Proper Eating Habits – 2.90, Preventive Actions – 3.18, Positive Mental Attitude – 3.05 and Pro-Health Activities – 2.98 [10]. The surveyed from Kurowska and Kalawska study obtained average HBI results. The researchers observed that undertaking pro-health activities was directly proportional to education level. The surveyed showed average level of Proper Eating Habits and Pro-health Activities and high level of Preventive Actions. Preventive Actions was the highest rated category. The best HBI results were obtained by the oldest respondents, country residents, respondents with higher education and respondents with no family history of cancer [11]. In the study conducted by Kurkowska and Adamczyk the respondents showed high level of pro-health activities. They scored the lowest in the Proper Eating Habits category and they scored high in Preventive Actions, Positive Mental Attitude and Pro-Health Activities categories. The best HBI results were obtained by the oldest respondents, cities residents, respondents with higher education, respondents struggling with the disease for longer than a year and respondents with family history of cancer [12]. Kurowska and Bialasik were assessing the pro-health activities level of chronically ill patients from an emergency room. The surveyed obtained average HBI score (80.3). They scored the highest in Pro-Health Activities and the lowest in Proper Eating Habits. Pro-health activities were undertaken by women more often than men. They were not determined by age, education level nor disease duration [13]. According to the study conducted by Kalupa, women led more healthy lifestyle than men, especially regarding healthy eating habits, as men consumed meals irregularly more often than women [14]. According to Królikowska, discrepancies in health care between men and women stem from social and cultural factors such as different patterns of behavior, social roles and stereotypes. Social patterns of behavior identify men with risky actions and women with care and protection [15]. According to Sygit-Kowalkowska, age, sex and education level are insignificant predictors of pro-health activities and it is imperative to refer to other human resources for more accurate data. Education level turned out to be a variable that correlates with pro-health activities the most. The higher education level, the higher the intensification of pro-health activities [16]. In the authorial study, there was no association between socio-demographic variables such as sex, marital status, place of residence, education level and financial situation and pro-health activities undertaken by cancer patients. Despite the fact that sex was not related to pro-health activities among the respondents, it was observed, similarly to other studies, that women led more healthy lifestyle than men. Even though HBI result of the surveyed was average in the authorial study as well as in the other studies, the highest score was obtained by the respondents in Proper Eating Habits category and the lowest in Pro-Health Activities category.

CONCLUSIONS

1. The surveyed group obtained average HBI result. The group scored the highest in Proper Eating Habits subscale and the lowest in Pro-Health Activities subscale.
2. There was no association between sex, marital status, place of residence, education level, financial situation and pro-health activities undertaken by cancer patients.
3. The knowledge gained on the basis of the conducted research will constitute a valuable hint regarding deficits in the observance of the principles of health culture in patients with cancer.

Corresponding author

Olga Dąbska
 Department of Pathology and Rehabilitation of Speech
 Medical University of Lublin
 4-6 Staszica St., 20-081 Lublin, Poland
 E-mail: olga49a@wp.pl
 Phone: 511413167

REFERENCES

1. Gochman DS. Health behavior: Plural perspectives. In: D. S. Gochman (ed). Health behavior: Emerging research perspectives. New York: Plenum; 1988. p. 3-17.
2. Babiarczyk B, Małutowska-Dudek B. Ocena zachowań zdrowotnych podejmowanych przez pacjentów z nadciśnieniem tętniczym hospitalizowanych i leczonych ambulatoryjnie. *Pol Prz Nauk Zdr.* 2016;1(46):29-35.
3. Żołnierczuk-Kieliszek D. Zachowania zdrowotne i ich związek ze zdrowiem. In: B. T. Kulik, M. Latański (ed). *Zdrowie publiczne.* Lublin: Czelej; 2002. p. 75-114.
4. Gruszczyńska M, Bąk-Sosnowska M, Plinta R. Zachowania zdrowotne jako istotny element aktywności życiowej człowieka. Stosunek Polaków do własnego zdrowia. *Hygeia Public Health.* 2015;50(4):558-65.
5. Steptoe A, Gardner B, Wardle J. The role of behaviour in health. In: D. French, A. Kaptein, K. Vedhara, J. Weinman (ed). *Health psychology.* Oxford: Blackwell; 2010. p.12-32.
6. Boguszewski R. Polacy o swoim zdrowiu oraz prozdrowotnych zachowaniach i aktywnościach. Warszawa: CBOS; 2012.
7. Heszen I, Sęk H. Behawioralne uwarunkowania zdrowia i choroby. In: I. Heszen, H. Sęk (ed). *Psychologia zdrowia.* Warszawa: PWN; 2012. p. 90-104.
8. Juczyński Z. Inwentarz Zachowań Zdrowotnych. In: Z. Juczyński (ed). *Narzędzia pomiaru w promocji i psychologii zdrowia.* Warszawa: Pracownia Testów Psychologicznych Polskiego Towarzystwa Psychologicznego; 2012. p. 110-6.
9. Farbicka PE, Nowicki A, Krzemkowska E. Wiedza o zachowaniach prozdrowotnych i chorobie kobiet operowanych z powodu raka piersi. *Piel Zdr Publ.* 2016;6(2):119-26.
10. Adamowicz K. Ocena wiedzy w zakresie chorób nowotworowych oraz wybranych zachowań sprzyjających zdrowiu wśród chorych na zaawansowanego, przerzutowego raka płuca w trakcie chemioterapii. *Psychoonkol.* 2016;20(2):84-9.
11. Kurowska K, Kaławska H. Zachowania zdrowotne a umiejscowienie kontroli zdrowia u kobiet po mastektomii. *Curr Gynecol Oncol.* 2013;11(2):115-24.
12. Kurowska K, Adamczyk I. Rola wsparcia i zachowań zdrowotnych w zmaganiu się kobiet z rakiem piersi. *Curr Gynecol Oncol.* 2014;12(4):278-89.
13. Kurowska K, Białasik B. Zachowania zdrowotne a radzenie sobie w chorobie u pacjentów szpitalnego oddziału ratunkowego (SOR). *Now Lek.* 2009;78(2):113-22.
14. Kalupa W. Zachowania prozdrowotne osób czterdziestoletnich w aspekcie poziomu wykształcenia. In: T. Maksymiuk, L. Bartkowiak (ed). *Badanie stanu zdrowia populacji i funkcjonowanie opieki zdrowotnej. Zagadnienia wybrane.* Poznań: AM im. K. Marcinkowskiego w Poznaniu; 2002. p.57-64.
15. Królikowska S. Nierówności w stanie zdrowia między kobietami a mężczyznami w kontekście płci biologicznej oraz społeczno-kulturowej. *Ann Univ Lodz Folia Sociol.* 2011;39:33-52.
16. Sygit-Kowalkowska E. Zachowania zdrowotne osób w okresie późnej dorosłości – socjodemograficzne korelaty i różnice między środowiskami społecznymi. *Ann Acad Med Stetin.* 2013;59(1):103-13.