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Health behaviour of Polish nurses

Zachowania zdrowotne polskich pielęgniarek i pielęgniarzy

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A – Development of the concept and methodology of the study/Opracowanie koncepcji i metodologii badań; B – Query - a review and analysis of the literature/Kwerenda – przegląd i analiza literatury przedmiotu; C – Submission of the application to the appropriate Bioethics Committee/Złożenie wniosku do właściwej Komisji Biotycznej; D – Collection of research material/Gromadzenie materiału badawczego; E – Analysis of the research material/Analiza materiału badawczego; F – Preparation of draft version of manuscript/Przygotowanie roboczej wersji artykułu; G – Critical analysis of manuscript draft version/Analiza krytyczna roboczej wersji artykułu; H – Statistical analysis of the research material/Analiza statystyczna materiału badawczego; I – Interpretation of the performed statistical analysis/Interpretacja dokonanej analizy statystycznej; K – Technical preparation of manuscript in accordance with the journal regulations/Opracowanie techniczne artykułu zgodne z regulaminem czasopisma; L – Supervision of the research and preparation of the manuscript/Nadzór nad przebiegiem badań i przygotowaniem artykułu

STRESZCZENIE

ZACHOWANIA ZDROWOTNE POLSKICH PIELĘGNIAREK I PIELĘGNIARZY

Cel pracy. Celem pracy było określenie poziomu zachowań zdrowotnych oraz korelacji ze zmiennymi demograficznymi pielęgniarek i pielęgniarzy.

Materiał i metody. W przeprowadzonych badaniach wykorzystano metodę sondażu diagnostycznego z użyciem techniki ankietowej. Narzędzie badawcze za pomocą, których zebrano dane to: autorski kwestionariusz danych socjodemograficznych oraz standaryzowany kwestionariusz: Inwentarz Zachowań Zdrowotnych (IZZ).

Wyniki. Dokonując oceny badanej grupy pielęgniarek/pielęgniarzy za pomocą inwentarza zachowań zdrowotnych uzyskano wynik na poziomie średniej 80,44±11,96. Najwyżej oceniony przez badanych został obszar prawidłowych nawyków żywieniowych (średnia 3,43±0,63). Dokonując oceny respondentów za pomocą IZZ z podziałem na podgrupy stwierdzono, że największą grupę stanowiły osoby o przeciętnych zachowaniach zdrowotnych 44,2% (n=542). Grupa z najniższym odsetkiem to zachowania zdrowotne na poziomie wysokim 18,1% (n=222). Poziom niski zachowań zdrowotnych deklarowało 37,7% (n=462).

Wnioski. Część czynników wpływających na zachowania zdrowotne jest zbieżna ze środowiskiem i rodzajem pracy, a zatem jest charakterystyczna dla personelu pielęgniarskiego. Z drugiej strony, na wysoki poziom prawidłowych nawyków żywieniowych wpływają także pozytywne zmiany cywilizacyjne i wyższa świadomość społeczna dotycząca stylu życia, co nie było przedmiotem pogłębionych badań w tej pracy. Niski poziom praktyk zdrowotnych związany jest ze specyfiką pracy pielęgniarki w kontekście czasu pracy, systemu pracy, a także intensywności intelektualnej i fizycznej wykonywania tego zawodu.

Słowa kluczowe: zachowania zdrowotne, pielęgniarki/pielęgniarze

ABSTRACT

HEALTH BEHAVIOUR OF POLISH NURSES

Aim. This study aimed to determine the level of health behaviours and correlations with demographic variables of nurses and nurse practitioners.

Material and methods. The research used a diagnostic survey method with a survey technique. The research tool used to collect data was a proprietary sociodemographic data questionnaire and a standardised questionnaire: Health Behaviour Inventory (HBI).

Results. Assessing the study group of nurses using the Health Behaviour Inventory, a mean score of 80.44±11.96 was obtained. The area of correct eating habits (mean 3.43±0.63) was rated highest by the respondents. Assessing the respondents using the HBI by subgroups, it was found that the largest group was those with average health behaviours of 44.2% (n=542). The group with the lowest percentage was high level health behaviour 18.1% (n=222).

Conclusions. Some of the factors influencing health behaviors are consistent with the environment and type of work, and are therefore specific to nursing staff. The high level of proper eating habits is also influenced by positive civilization changes and higher social awareness of lifestyle, which was not the subject of in-depth research in this study. The low level of health practices is related to the specific nature of a nurse's work in the context of working time and work system.

Key words: health behoviours, nurses

INTRODUCTION

Health behaviour is defined as any conscious human action that has a close and broad connection to health [1]. This includes both health behaviour and anti-health behaviour aspects [2].

Health-promoting behaviours refer to taking care of physical activity, building good eating habits, shaping correct patterns of caring for one's health, including prevention, and fostering mental and social well-being [3]. This group of behaviours includes, for example, following a wholesome diet, maintaining regular exercise, maintaining sleep hygiene, and taking care of mental and bodily comfort. Anti-health behaviours, on the other hand, cause disturbances in the previously mentioned aspects. They lead to disease or increase the risk of disease. Examples of this type of behaviour are, among others, smoking, use of intoxicants, alcohol abuse [4-5].

The responsibilities of nursing staff include providing health education to the patient, health promotion in the broadest sense, and prevention [6]. Despite carrying out these activities in the field of work with the patient, the nursing staff often have problems adhering to the recommendations presented [7-8]. Shift work, which affects the majority of nurses, is considered to be more harmful to health than working fixed hours. This type of working time allocation may be one of the barriers to implementing health-promoting behaviours among nursing staff. Nurses working in hospital wards admit that, for example, they do not pay significant attention to the quality of their meals and do not eat regularly [9]. Most studies show that nursing staff or therapeutic staff, more broadly, neglect their private lives due to the nature of their work, devoting insufficient time to their family and friends. This lack of concern for interpersonal relationships and neglecting the work-life balance negatively affects their well-being and mental health [10-11].

The study presented in this article concerns a group of 1,226 nurses in the Lublin Voivodeship. Importantly, the analysis covered health care workers from one region who work in similar environmental conditions. Another advantage of the study is the sheer number of respondents, which allows drawing statistically significant and representative conclusions for the entire community of nurses in Poland, in particular in the local area of the Lublin Voivodeship. The study was also expanded to include many significant correlations with sociodemographic factors, which allows us to determine a broader context of health behaviors, their tendencies and reasons for changes in this area.

AIM

This study aimed to determine the level of health behaviours and correlations with demographic variables of nurses.

MATERIALS AND METHODS

The study group consisted of 1226 persons working actively in the nursing profession in hospitals in Lubelskie Voivodeship. The research was conducted through physical contact with respondents. The authors of the article distributed surveys to nurses during their duty and collected them after 1 week. In addition to the main tool – the Health Behavior Inventory, the study measured sociodemographic factors, such as: gender, place of residence, marital status, level of health security, specificity/area of work, level of education, work system, postgraduate education. According to data presented in the Report on the State of Nursing and Midwifery in Poland prepared by the Supreme Chamber of Nurses and Midwives for the 8th National Congress of Nurses and Midwives on 15-17.05.2023, there were 21,461 registered nurses in Lubelskie Province [12]. Using the Sample Size Calculator, it was calculated that, assuming a population of 21461 persons, a confidence level of 95%, a fraction size of 0.5, and a maximum error of 5%, the representative group is min. 377 persons. The sample group was almost three times the minimum required.

The research used a diagnostic survey method with a survey technique. The research tool used to collect data was a proprietary sociodemographic data questionnaire and a standardised questionnaire:

Health Behaviour Inventory (HBI)

It contains 24 statements that present different forms of health-related behaviours. The HBI allows the determination of an index of the overall intensity of health-related behaviours, as well as the degree of intensity among the 4 categories of behaviours described: correct eating habits, preventive behaviours, health practices, and positive mental attitudes [13].

The internal concordance of the mental attitudes (MA), assessed based on Cronbach's alpha, is 0.85 for the whole Inventory, while for its four subscales it ranges from 0.60 to 0.65.

The respondent indicates how often he/she performs the health-related activities given in the prepared statements by rating each of the behaviours listed in the inventory on a five-point scale: 1 - almost never, 2 - rarely, 3 - occasionally, 4 - often, 5 - almost always. The numerical values selected by the respondent are counted to obtain a score range from 24 to 120 points. A higher score indicates a higher intensity of the presented health behaviour overall index, health behaviour inventory after changing to standardised units based on a sten scale. Scores between 1 and 4 sten are considered low, scores between 7 and 10 sten are considered high, scores between 5 and 6 sten are considered average [13].

Ethical requirements

Participation in the study was voluntary and anonymous. Respondents were informed about the survey content and confirmed their informed consent to participate. Respondents could also refuse to complete the questionnaire and discontinue the study at any time. Approval was obtained from the Bioethics Committee at the Medical University of Lublin - Resolution KE - 0254/290/2018. The study was conducted in accordance with the Declaration of Helsinki.

Statistical analysis

The collected research material was compiled using the IBM SPSS Statistics package (version 21).

Quantitative variables were shown by mean, standard deviation, minimum, and maximum values. Qualitative variables were described by abundance and percentage of each category. The normality of the data distributions was checked using the Shapiro-Wilk test. As the assumption of normality of the distributions of analysed variables was not met, non-parametric methods were applied: the Mann-Whitney test and the Kruskal-Wallis rank ANOVA test. Spearman's rank correlation coefficient was used to determine the relationship between variables.

The analysis results were assumed to be statistically significant at a significance level <0.05.

RESULTS

Characteristics of the study group

In the study group of respondents, 94.4% (n = 1157) were women and 5.6% (n = 69) were men. The age of the respondents ranged from 22 to 63 years (mean 44.06, SD = 9.92). In the question on place of residence, the majority 66.2% (n = 812) declared a city, with 33.8% (n = 414) of the respondents living in the countryside. A much larger group of respondents were in a relationship, 68.1 % (n = 835). The majority of the group surveyed provided specialist level health care services 53.2% (n = 652). The majority of the group worked in a provincial hospital 41.6% (n = 510), while the fewest worked in a city hospital 21.5% (n = 263). Most of respondents declared a bachelor of nursing degree 44.6% (n = 547). Most of respondents declared that they worked on a 12-hour on-call basis – 86.4 % (n = 1059). The most significant number of respondents declared that they had been working between 21 and 30 years – 36.1% (n = 442). Those working up to 10 years in the profession accounted for 20.9% (n = 257) of the total surveyed group; nurses with seniority between 11 and 20 years accounted for 22.4% (n = 275). Respondents with more than 30 years of seniority accounted for 20.6% (n = 252) of the total. The characteristics of the study group are shown in Tab. 1.

Tab. 1. Sociodemographic data of the surveyed nurses

	N	%
Gender		
Woman	1157	94.4
Man	69	5.6
Total	1226	100.0
Place of residence		
Village	414	33.8
City	812	66.2
Total	1226	100.0
Marital status		
Single	391	31.9
In a relationship	835	68.1
Total	1226	100.0
Type of health care provided		
Basic	574	46.8
Specialist	652	53.2
Total	1226	100.0
Specificity/area		
Urban	263	21.5
Clinical	453	36.9
Provincial	510	41.6
Total	1226	100.0
Education		
Secondary/ Medical High School	210	17.1
Bachelor of Nursing	547	44.6
Master of Science in Nursing	467	38.1
PhD	2	0.2
Total	1226	100.0
System of work		
8-hour duty	167	13.6
12-hour duty	1059	86.4
Total	1226	100.0
Postgraduate training*		
No	105	8.6
Specialist course(s)	1004	81.9
Qualification course(s)	783	63.9
Specialisation(s)	636	51.9
Total *Multiple-choice question Percentages do not add up to 100	2528	–

Health behaviour among the study group

Assessing the study group of nurses using the Health Behaviour Inventory, a mean score of 80.44±11.96 was obtained. The area of correct eating habits (mean 3.43±0.63) was rated highest by the respondents. Areas: Preventive behaviours and positive mental attitude were rated at the same level (means: 3.42±0.64 and 3.42±0.60, respectively). The lowest values were obtained in the area of Health Practices (mean: 3.14±0.61) (Tab. 2).

Tab. 2. Level of health behaviour of surveyed nurses

	M	SD	Min	Max	Q1	Me	Q3
Health Behaviour Inventory	80.44	11.96	39.00	120.00	73.00	80.00	88.00
Correct eating habits	3.43	0.63	1.50	5.00	3.00	3.50	3.83
Preventive behaviour	3.42	0.64	1.17	5.00	3.00	3.33	3.83
Positive mental attitude	3.42	0.60	1.17	5.00	3.00	3.50	3.83
Health practices	3.14	0.61	1.00	5.00	2.67	3.17	3.50

M – mean, SD – standard deviation, Min – minimum value, Max – maximum value, Q1 – quartile 1, Me – median, Q3 – quartile 3

Assessing the respondents using the HBI by subgroups, it was found that the largest group was those with average health behaviours of 44.2% (n=542). The group with the lowest percentage was high level health behaviour 18.1% (n=222). A low level of health behaviour was declared by 37.7% (n=462).

Level of health behaviour and selected sociodemographic variables

Tab. 3. Relationship between health behaviour inventory scores and sociodemographic variables

Variables	Woman		Male		Statistical analysis	
	M	SD	M	SD	Z	p
Health Behaviour Inventory	80.71	11.78	75.97	13.94	**-3.516**	**0.000**
Correct eating habits	3.45	0.62	3.18	0.78	**-3.071**	**0.002**
Preventive behaviour	3.44	0.64	3.21	0.68	**-2.565**	**0.010**
Positive mental attitude	3.42	0.60	3.27	0.64	**-2.570**	**0.010**
Health practices	3.14	0.61	3.00	0.68	-1.922	0.055
Variables	**Village**		**City**		**Statistical analysis**	
	M	**SD**	**M**	**SD**	**Z**	**p**
Health Behaviour Inventory	79.87	11.87	80.73	11.99	-0.734	0.463
Correct eating habits	3.39	0.61	3.45	0.64	-1.322	0.186
Preventive behaviour	3.38	0.64	3.44	0.64	-1.409	0.159
Positive mental attitude	3.43	0.57	3.41	0.62	-0.730	0.465
Health practices	3.11	0.60	3.15	0.61	-0.964	0.335
Variables	**Single**		**In a relationship**		**Statistical analysis**	
	M	**SD**	**M**	**SD**	**Z**	**p**
Health Behaviour Inventory	80.16	11.76	80.57	12.05	-0.041	0.967
Correct eating habits	3.42	0.63	3.44	0.63	-0.002	0.999
Preventive behaviour	3.41	0.66	3.43	0.63	-0.427	0.669
Positive mental attitude	3.37	0.62	3.44	0.59	-1.293	0.196
Health practices	3.16	0.56	3.13	0.63	-1.102	0.270

Variables	City Hospital		Clinical Hospital		Provincial Hospital		Statistical analysis	
	M	SD	M	SD	M	SD	H	p
Health Behaviour Inventory	78.44	12.37	79.81	11.32	82.03	12.10	**13.635**	**0.001**
Correct eating habits	3.34	0.67	3.41	0.61	3.50	0.62	**8.610**	**0.013**
Preventive behaviour	3.35	0.66	3.39	0.61	3.50	0.65	**11.787**	**0.003**
Positive mental attitude	3.36	0.60	3.37	0.61	3.48	0.59	**8.105**	**0.017**
Health practices	3.03	0.63	3.13	0.57	3.19	0.63	**11.327**	**0.003**
Variables	**Secondary/Medical High School**		**Bachelor of Nursing**		**Master of Science in Nursing**		**Statistical analysis**	
	M	**SD**	**M**	**SD**	**M**	**SD**	**H**	**p**
Health Behaviour Inventory	81.88	12.77	79.38	12.14	81.03	11.25	**8.250**	**0.016**
Correct eating habits	3.46	0.66	3.39	0.64	3.48	0.59	3.953	0.139
Preventive behaviour	3.54	0.66	3.37	0.66	3.44	0.60	**11.771**	**0.003**
Positive mental attitude	3.48	0.64	3.39	0.59	3.42	0.59	4.839	0.089
Health practices	3.16	0.66	3.09	0.61	3.18	0.59	5.054	0.080

Variables	Age	
	r	p
Health Behaviour Inventory	0.021	0.462
Correct eating habits	**0.062***	**0.031**
Preventive behaviour	0.013	0.646
Positive mental attitude	0.021	0.463
Health practices	-0.028	0.319
Variables	**Job Seniority**	
	r	p
Health Behaviour Inventory	0.002	0.941
Correct eating habits	0.029	0.307
Preventive behaviour	-0.001	0.984
Positive mental attitude	0.015	0.602
Health practices	-0.037	0.200

cont. Tab. 3. Relationship between health behaviour inventory scores and sociodemographic variables

Variables	8-hour on-call service		12-hour on-call service		Statistical analysis	
	M	SD	M	SD	Z	p
Health Behaviour Inventory	82.54	14.59	80.11	11.46	**-2.706**	**0.007**
Correct eating habits	3.53	0.77	3.42	0.60	**-2.515**	**0.012**
Preventive behaviour	3.52	0.74	3.41	0.62	**-2.755**	**0.006**
Positive mental attitude	3.45	0.68	3.41	0.59	-0.822	0.411
Health practices	3.26	0.70	3.12	0.59	**-2.354**	**0.019**
Variables	**Number of work shifts**					
	rho		**p**			
Health Behaviour Inventory	0.027		0.340			
Correct eating habits	0.001		0.981			
Preventive behaviour	-0.044		0.126			
Positive mental attitude	**0.064***		**0.024**			
Health practices	**0.063***		**0.026**			
Variables	**Material situation**					
	rho		P			
Health Behaviour Inventory	**0.093****		**0.001**			
Correct eating habits	**0.063***		**0.027**			
Preventive behaviour	**0.032**		**0.267**			
Positive mental attitude	**0.129****		**<0.001**			
Health practices	**0.059***		**0.038**			
Variables	**Lack of specialised courses**		**Specialist course(s)**		**Statistical analysis**	
	M	**SD**	**M**	**SD**	**Z**	**p**
Health Behaviour Inventory	79.98	13.45	80.54	11.60	-0.692	0.489
Correct eating habits	3.42	0.69	3.44	0.61	-0.024	0.981
Preventive behaviour	3.42	0.68	3.43	0.63	-0.204	0.838
Positive mental attitude	3.41	0.67	3.42	0.58	-0.256	0.798
Health practices	3.09	0.70	3.15	0.59	-0.888	0.375
Variables	**No qualification courses**		**Qualification course(s)**		**Statistical analysis**	
	M	**SD**	**M**	**SD**	**Z**	**p**
Health Behaviour Inventory	79.84	10.81	80.78	12.55	-1.605	0.108
Correct eating habits	3.35	0.59	3.48	0.65	**-3.421**	**0.001**
Preventive behaviour	3.38	0.57	3.45	0.68	-1.946	0.052
Positive mental attitude	3.43	0.56	3.41	0.62	-0.653	0.514
Health practices	3.14	0.57	3.13	0.63	-0.169	0.866
Variables	**Lack of specialisation**		**Specialisation(s)**		**Statistical analysis**	
	M	**SD**	**M**	**SD**	**Z**	**p**
Health Behaviour Inventory	79.32	11.77	81.48	12.04	**-3.403**	**0.001**
Correct eating habits	3.35	0.61	3.51	0.63	**-4.454**	**0.000**
Preventive behaviour	3.38	0.61	3.46	0.67	**-2.423**	**0.015**
Positive mental attitude	3.38	0.60	3.45	0.60	**-1.960**	**0.049**
Health practices	3.11	0.63	3.16	0.59	-1.590	0.112

M – mean, Me – median. SD – standard deviation. p – statistical significance. H – Kruskal-Wallis test, Z – Mann-Whitney test, rho – Spearman's correlation, r – Pearson's correlation.

Analysis of the relationship between the results of the HBI and sociodemographic data helped to observe that women had a higher overall Health Behaviors score and higher scores in the sub-scales: Correct Eating Habits, Preventive Behaviors, and Positive Mental Attitude. Moreover, respondents working in provincial hospitals presented the highest results in general Health Behaviors and the highest results in all sub-scales.

Respondents declaring education at the level of Secondary School obtained a statistically significant, highest overall result in Health Behaviors and the highest result in the scale of Preventive Behaviors. It was also shown that the highe the age of the respondents, the higher the statistically significant level of Correct Eating Habits.

Detailed data and all statistical relationship are presented in table no. 3.

DISCUSSION

Health behaviours are specific actions that people take in relation to their psycho-physical state. Such activities are divided into those that are conducive to health, i.e., pro-health, and those that are detrimental to health, i.e., anti-health. The former include proper eating habits, prophylactic behaviour, health-promoting practices, such as physical activity, and a positive mental attitude. Detrimental health actions may be evidenced by smoking or drinking alcohol [14].

The formation of health behaviour consists of the individual's own decisions and the influence of the environment. Health education can influence taking the right direction in one's health actions. Ultimately, the individual decides for himself which behaviours to follow and to what extent he will shape them in himself [15].

To the best of the authors' knowledge, this is the first paper discussing the health behaviour of Polish nurses based on such a large study group.

In our study, the overall health behaviour inventory score equaled 80.44. Divided into subscales, the highest score was obtained in the section on healthy eating habits (3.43±0.63). In the study of Sternal et al. for two domains in the FGD concerning health behaviours among nursing staff, the respondents obtained lower mean values than for health behaviours in general, i.e. for health practices (3.02±0.61) and preventive behaviours (3.28±0.74). The nursing staff surveyed paid particular attention to correct eating habits and a positive mental attitude. The results of our study and those of the authors mentioned in the example are consistent. Notably, the subscale of correct eating habits had the highest values in both groups. This tendency may indicate that the staff responsible for fostering proper nutrition habits are themselves subconsciously or consciously self-educating on this aspect [16]. The results of the study by Trojanowska et al. showed that paediatric nurses are insufficiently concerned with implementing health behaviours. As in our study, a frequent declaration of irregularity in meals and snacking between main meals was noted [15]. In the group of nurses studied by Konieczny, a slightly lower frequency of realisation of health-promoting physical activity behaviours was shown compared to regular eating habits. This may be related to excessive working hours. When doctors assessed the frequency of physical activity, it showed that 46 out of 71 exercise daily or several times a week [17]. A study by Trojanowska et al. showed that about half of the respondents undertook physical activity in the amount recommended by the WHO, with activity mainly involving cycling and walking [15]. In our study, the physical activity question yielded a result (2.99±0.91), which reflects a similar trend as in the studies cited above. Namely, medical staff, in this case nurses, present a low commitment to physical activity, mainly due to a lack of time availability.

Our research noted that nurses have an average level of health behaviour. Lewko et al. classified the rate of health behaviours among the surveyed nursing students as low [18].

A study by Muszalik et al. (2007) found low levels of selected health behaviours among nurses, i.e. low levels of physical activity, presence of overweight, mental illnesses, irrational nutrition, smoking, and a low number of preventive examinations performed [19]. The same results about the low level of health behaviours are presented by Bogdan et al. and Walentukiewicz et al.; the studies concerned a group of nursing and paramedic students. Due to the medical studies undertaken, these persons should present health-promoting behaviours with their attitude [20,21].

All of the above data specific to the thread on the health behaviour inventory overall score, which were discussed on the basis of the aforementioned studies, indicate a negative trend in the results of the level of health behaviour. The vast majority of studies conducted among a group of treatment team or future medics present low or at most average levels of health behaviour.

A study by Samaei et al. found that sociodemographic data influenced the assessment of health behaviours. Samaei et al. found that the following factors – age, BMI, gender, number of hours worked per week, shift work and length of service – were statistically significant regarding health behaviour among nurses [22]. The same relationship can be seen in the results of our study. The sociodemographic factors mentioned by Samaei correlate significantly with the results of our study. In contrast, in the results of Gilchristet et al. these correlations did not occur [23]. In another study by Skela-Savič et al., it was shown that the level of motivation to form positive eating habits is directly related to the quality of earnings in the work of nurses. The respondents' assessment of the regularity of sports per week compared to their level of education was positively correlated. The higher the level of education, the higher the regularity and frequency of sport [24].

Our study observed an inverse trend of correlations regarding educational level in the correlation of health behaviours. Those declaring a post-secondary education presented the highest overall health behaviour inventory score and the highest score in preventive behaviour.

In addition, the existing literature clearly shows that long working hours and short recovery periods between shifts lead to fatigue in nurses, which, in turn, contributes to slower reaction times, loss of critical judgement and reduced motivation to follow organisational and hygiene rules and provide work that complies with workplace safety requirements [25-27].

Analysing the results of the study by Jablonska et al., it was noted that nurses living in the city engage in a higher degree of health behaviour than those declaring the countryside as their place of residence [28].

In a study by Moreira et al., nurses had higher scores in the individual areas of HBI than nurses. It was not only gender that significantly differentiated the results in this study, but also age indicated an inverse trend. Older people were less likely to care for proper health behaviour than young employees [29]. Our research confirms these observations.

The article by Kędzierska et al. describes the impact of the type of on-call form on health behaviour among

nursing staff. A correlation was observed that the results are lower in most areas if the respondent works day and night duty than only day duty. The same relationship was observed in our study. In the individual areas, the highest scores for those working only during the day were obtained in the health practices subscale (4.02±0.38) and the lowest in preventive behaviour (3.42±0.35). Among shift--only staff, the highest score was obtained in the preventive behaviour subscale (3.83±0.71), while the lowest score was obtained in the health practices subscale, which was (2.42±0.64). These results were the same as the authors' study [30].

The authors are aware of the limitations of the study, which resulted only from the analysis of the health behaviour of nurses operating in only one province. Another limitation of the research was the form of collecting surveys. The authors chose the form of physical contact with the respondent, which certainly resulted in limiting the number of potential respondents. The results obtained also require an in-depth analysis of the influence of individual variables on health behaviours. The specificity of the healthcare system and the extent of professional autonomy that nurses have within it are also factors that should be taken into account in future analyses of this phenomenon. The research also demonstrates the need to take action to improve the health behaviour of Polish nurses both at an individual and organisational level, e.g., by healthcare facilities, such as introducing gym passes. This is very important, especially concerning insufficient human resources among nurses in the Polish healthcare system.

CONCLUSIONS

Our research shows that nurses' overall level of health behaviour is average. It is worth noting that this conclusion is based on data from one province so that it may differ from others. In the future, this research may serve as a comparison group for studies collected in another part of Poland.

The highest score was obtained in the area of correct eating habits, while the lowest score was obtained in the area of health practices. It is difficult to precisely list all the factors causing the high score regarding correct eating habits. The authors are aware that some of these factors coincide with the environment and type of work and are, therefore, characteristic of nursing staff. On the other hand, the high level of correct eating habits is also influenced by positive changes in civilisation and higher public awareness of lifestyle, which was not an area of in-depth research in this thesis. The low level of health practices is related to the specificity of the nurse's work in the context of working time, the working system, as well as the intellectual and physical intensity of this profession, which directly affects the degree of staff involvement in health practices in the broadest sense. A factor less analysed in this research that also influences health practices is the actual environmental, financial, and locational accessibility for the group studied. According to the authors of the study, it would be beneficial to juxtapose these results in the future with an assessment of the availability and feasibility of broadly defined health practices in the assessment of a group of professionally and environmentally identical people from the Lubelskie voivodeship.

Women with secondary/post-secondary education, working in provincial hospitals in 8-hour on-call, declaring a good financial situation, and specialising in nursing present the highest overall level of health behaviour. The authors are aware that the demographic characteristics of a group of nurses may differentiate the overall level of health behaviour from the same demographic characteristics in another characteristic professional group. This difference would need to be verified by comparing these data with identical results in another group of workers. It should also be noted that gender in this study did statistically significantly correlate with other data, but the authors are aware of the quantitadive disproportionality of men versus women.

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