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PERSONAL RESOURCES AND HEALTH BEHAVIOURS OF NURSING STUDENTS

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ABSTRACT

The aim of the study was to determine the health behaviours and personal resources of nursing students.

The study was conducted among 130 nursing students. Health Behavior Inventory, Generalised Self-efficacy Scale and List of Personal Values were used as tools. Verification of differences between variables was performed using Mann-Whitney's Kruskal-Wallis test and Spearman rho correlation coefficient. The use of nonparametric methods was dictated by the lack of normality of variable distributions (verified by Kołmogorow-Smirnow and Shapiro-Wilk tests) or lack of group equality (verified by the compliance test χ^2).

The highest intensity of health behaviours, which the examined subjects presented in terms of a positive mental attitude. Significantly lower levels of health behaviours were observed in healthy eating habits. The health status of students increased together with the increase in self-efficacy. People, for whom a symbol of happiness was a favourite, professional job, had a higher overall level of health behaviour, especially in the field of prevention.

Sex, place of residence, self-efficacy and hierarchy of values determine the health behaviour of students.

Key words: health behaviour, self-efficacy, health value.

INTRODUCTION

Pro-health behaviours are positively correlated with current and predicted health status. They are defined as various forms of health-related behaviours that cause specific health effects. Their formation in childhood determines proper development and preservation of optimal psychophysical efficiency [1]. Attitude towards health is influenced by health behaviours, especially the sense of responsibility for their health and shared responsibility for the health of others. In this process, self-efficacy and advocated values are important as well as core values. Bandura includes belief in the effectiveness of their basic beliefs, thanks to which, all the other ones connected with the functioning of man are formed. It is helpful in making choices about behaviour and pursuing goals. The stronger the sense of efficiency and the expectations associated with it, the greater the confidence in the ability to achieve results [2]. The stronger the sense of self-efficacy, the more people are willing to preserve their health behaviours, have strong belief that it is possible are to achieve goals and overcome obstacles in their pursuit [3, 4]. Persons with large internal resources in the belief of their own abilities are able to cope with adversities. It states that a strong sense of self-efficacy in a particular situation allows one to set higher goals for one's own actions, to take action even in the face of failure, and most importantly, to interpret failure, and is an incentive to increase efforts to achieve the goals [5]. Self-efficacy is proven in the use of health care. People with high self-efficacy often take prophylactic measures [6].

Health assessment also has an impact on the conduct of health behaviours. Those who attribute high health values in the hierarchy of recognized values are more engaged in taking pro-health behaviours [7]. The health of the individual is a vital resource, enhanced by leading a healthy lifestyle or being weakened by anti-health behaviours [8].

Values are vital in every person's life, and they are also important to the social group in which they

function. Personal values are defined as something valuable, what is the purpose of human aspirations. They have a close connection with personal beliefs, attitudes, ideals and standards. Every person confesses specific values that constitute the individual hierarchy. These values motivate the behaviour of a person and determine the direction and purpose of actions. The higher the given value, the greater the satisfaction of the person. Personal values, defining the way of thinking and influencing the sphere of survival, determine the directions and ways of action for both individuals and social groups. It is important to educate children and young people in the proper hierarchy of values, which will have a direct impact on their choices related to lifestyle and health behaviour, as well as the importance they assign to different values, including health [9, 10].

Abnormal health behaviours are the cause of many diseases such as cardiovascular disease, cancer and incomplete effectiveness [11, 12]. Pro-health action should be taken against the students, because they are part of this society, who largely relate to risky health behaviours.

AIM OF THE STUDY

The aim of the study was to evaluate selected personal and behavioural health behaviours of nursing students.

MATERIAL AND METHODS

The study was carried out by means of diagnostic survey and estimation, by survey technique. The author's questionnaire was used as a tool for questions on sociodemographic data (age, gender, place of residence), Juczyński's Health Behavior Inventory and Personal Values List, as well as the Generalized Self-efficacy Scale in the version by Schwarzer, Jerusalem and Juczyński [13].

The Health Behavior Inventory (IZZ) contained 24 statements regarding various types of health behaviour. The researcher points out how often he performs health-related activities, assessing on a five-point scale: 1 – almost never, 2 – rarely, 3 – from time to time, 4 – often, 5 – very often. The overall conversion rate for standardized units is interpreted according to the characteristics of the stenographic scale. Results in 1-4 sten are taken as low, 5-6 as average and 7-10 as high. The overall rate of health behaviour is within the range of 24-120 points. The higher the score, the higher the declared behaviour. The frequency of individual behaviour is determined by the overall severity of the behaviour and the intensity of the four behavioural categories – correct eating habits, preventive behaviours, health practices, and positive mental attitudes. The inventory can be used to set trends in behavioural modifications and monitor changes in health practices [13].

The GSES – Generalized Self-Efficacy Scale measured the power of a person's general convictions about the effectiveness of coping with difficult situations and obstacles. It consisted of 10 statements relating to the various personal qualities that the investigator judged as true or false in his case, following the scores: 1 – no, 2 – rather not, 3 – rather yes, 4 – yes. Theoretical scale ranges from 0 to 40 points. The higher scores corresponded to higher self-efficacy. The maximum number of points to obtain is a range of 30-40 points, which indicates a high self-efficacy measured the power of a person's general convictions about the effectiveness of coping with difficult situations and obstacles developed by Schwarzer, Jerusalem, Juczyński [13].

The List of Personal Values consisted of two parts. The first included the description of 9 symbols of happiness; the second depicts 10 categories of personal values, among which were good health. Among the symbols of happiness, the researcher selected 5 most important, and then assigned them points from 5 – for the most important symbol to 1 – being the least important. A similar rule of thumb applies to personal values. The study allows you to track changes in your health evaluation, including that through health promotion or modification of health behaviours [13].

All nursing students (326) were informed about the possibility of taking part in the study. The study was eventually conducted among 130 students who volunteered to consciously participate in and the freedom to withdraw from the test at any time. All the research meets the ethical guidelines. The protocol for the research project was approved by Ethics committee of State Higher Vocational School in Tarnów. The research conforms to the provisions of the Declaration of Helsinki in 1995 (as revised in Brazil, 2013). All participants gave informed consent for the research and were informed that their anonymity would be preserved.

Questionnaires received from respondents were evaluated and checked individually for completeness, data was coded, entered into the database, and processed using IBM SPSS Statistics 20 for Windows. Verification of differences between variables was performed using Mann-Whitney's Kruskal-Wallis test and Spearman rho correlation coefficient. The use of nonparametric methods was dictated by the lack of normality of variable distributions (verified by Kołmogorow-Smirnow and Shapiro-Wilk tests) or lack of group equality (verified by the compliance test χ^2). The significance level $p < 0.05$ was used.

RESULTS

The study group consisted of 83.8% women (*n* = 109) and 16.2% men (*n* = 21). The median age of the subjects was 22.27 years (SD = 1.49). The age ranged from 20 to 28 years, and half of the people were under the age of 22 years. 58.5% of the respondents (58%) lived in the countryside, while 41.5% lived in the city (*n* = 54).

The average level of severity of health behaviours of the examined students (scale of 24-120 points) was 68.40 points (SD = 13.53). Results ranged from 42 to 108 points. Half of the respondents were below 66 points, and 75% of the respondents scored below 77 points.

The highest intensity of health behaviours (scale of 1-5 points), were those that the examined subjects presented in terms of a positive mental attitude (M = 3.34, SD = 0.59). The results of this scale were within the range of 1.67-4.83 points, and half of the subjects scored below 3.33 points. Slightly lower levels of health behaviours were associated with health practices (M = 3.14, SD = 0.67), where results ranged from 1.83 points to 4.67 points. Significantly lower levels of health behaviours were observed in healthy eating habits (M = 2.57, SD = 0.77). Results ranged from 1.33 to 4.67 points and half of the subjects' score was below 2.50 points. The lowest level of health behaviours examined included prevention (M = 2.35, SD = 0.69). The results of this scale ranged from 1.00 to 4.50 points, and half of the score was below 2.17 points.

The overall level of severity of health behaviours, after being transformed into standardized units, indicated that the low level of health behaviour was manifested by 74.6% of the respondents (*n* = 97), the average was 18.5% (*N* = 24) and only 6.9% of respondents (*n* = 9) was high level of health behaviors.

Own studies did not show statistically significant correlations between the age of the subjects and the severity of health behaviours (rho = –0.022, *p* = 0.80). Both the overall effect of health behaviours and the results of individual subscales (*p* > 0.05) did not significantly depend on the age of the examined persons.

Men obtained higher scores on the scale of positive mental attitudes (M = 3.55, SD = 0.72) than women (M = 3.33, SD = 0.55) (*p* = 0.04). Small differences also suggested that men had a higher level of health behaviour associated with preventive behaviour (M = 2.52, SD = 0.75) compared to women (M = 2.31, SD = 0.70). Also, the overall effect of health behaviours was slightly higher among men (M = 72.29, SD = 13.79) than women (M = 67.65, SD = 13.44).

A higher level of health behaviours (*p* = 0.011) was presented by city dwellers (M = 72.13, SD = 15.20) than countryside inhabitants (M = 65.75, SD = 11.65). The differences were statistically significant and contributed to the prevalence of preventive behaviours (M = 2.54, SD = 0.74 city vs. M = 2.21, SD = 0.62 country, *p* = 0.006) and a positive mental attitude (M = 3.45, SD = 0.63 city vs. M = 3.26, SD = 0.55 country, *p* = 0.017). Minor differences also suggested a higher incidence of health behaviours among the urban dwellers due to the correct eating habits (M = 2.76, SD = 0.91) and health practices (M = 3.27, SD = 0.7) compared to the rural population (respectively M = 2.43, SD = 0.63, *p* = 0.07 and M = 3.05, SD = 0.64, *p* = 0.06).

Almost half of the respondents (*n* = 63, i.e. 48.5%) had a high sense of self-efficacy. Average self-efficacy was seen in 38.5% of people (*n* = 50), while in 13.1% of respondents it was low (*n* = 17).

With the increase in self-efficacy, the increase in health behaviours among the respondents increased according to statistical analysis (Table 1).

Table 1. Intensity of health behaviours and self-efficacy of respondents (*n* = 130)

	M	Min	Max	SD	rho Spearman	*p*
HBI – sten	3.43	1.00	9.00	1.82	0.394411***	0.000003
GSES – sten	6.18	2.00	10.00	1.49		
HBI – PEH	2.57	1.33	4.67	0.77	0.379879***	0.000008
GSES	28.89	17.00	40.00	3.90		
HBI – PB	2.35	1.00	4.50	0.69	0.239909**	0.005973
GSES	28.89	17.00	40.00	3.90		
HBI – PMA	3.34	1.67	4.83	0.59	0.295877***	0.000631
GSES	28.89	17.00	40.00	3.90		
HBI – HP	3.14	1.83	4.67	0.67	0.309887***	0.000333
GSES	28.89	17.00	40.00	3.90		

*n – number of subjects; M – mean; SD – standard deviation; p – level of statistical significance (*p < 0.05; **p < 0.01; ***p < 0.001), rho – Spearman correlation coefficient; HBI – health behaviour inventory; GSES – Genralised Self-efficacy Scale; PEH – proper eating habits; PB – preventive behaviours; PMA – positive mental attitude; HP – health practices*

Happiness for the patients was most connected with good health (M = 4.12, SD = 1.44). In a somewhat less fortunate way, the subjects associated with successful family life (M = 3.18, SD = 1.44) or a large circle of friends (M = 2.98, SD = 1.57). To a much lesser extent, under the concept of happiness, the respondents mentioned their favourite job, profession (M = 1.43, SD = 1.60), success in learning, working (M = 1.28, SD = 1.39). Happiness for the respondents was a good measure of material conditions (M = 0.89, SD = 0.92), being needed (M = 0.74, SD = 1.22), a life full of adventure, travel (M = 0.35, SD = 0.85) or fame, popularity (M = 0.09, SD = 0.29).

Among personal values, the greatest importance for the subjects was good health, physical fitness and mental health (M = 4.52, SD = 1.07). Love and friendship was in second place (M = 3.58, SD = 1.53), intelligence and sharpness of the mind was to a lesser extent a personal value for the subjects examined (M = 1.52, SD = 1.48), as were knowledge, wisdom (M = 1.43, SD = 1.49) or joy and satisfaction (M = 1.12, SD = 1.26). Sense of humour and jokes, were of little value among the personal values (M = 0.77, SD = 1.32), as were courage, determination (M = 0.77, SD = 1.17), gentle appearance, presence (M = 0.57, SD = 0.84), kindness, gentleness (M = 0.42, SD = 0.79) and wealth, fortune (M = 0.24, SD = 0.54).

Those who have made the most of the symbols of happiness are more likely to have a favourite job, occupations also have a higher overall level of health behaviour (rho = 0.221), which translated into preventive behaviour (rho = 0.287) and a positive mental attitude (rho = 0.196). People who were more fortunate to have good health at the same time were less likely to show lower preventive behaviours (rho = –0.177). The subjects for whom happiness was more prominent and popular at the same time presented higher levels of health behaviours related to health practices (rho = 0.235; Table 2).

Respondents whose personal values included a sense of humour and jokes showed a higher level of health behaviour associated with positive mental attitudes (rho = 0.204). People who attributed greater importance to joy and satisfaction showed poorer attitudes towards healthy eating habits as well as personal values (rho = –0.219) and health practices (rho = –0.176). Those who valued wealth and fortune showed a significantly lower overall rate of health behaviour (rho = –0.198), which translated into lower scores associated with normal eating habits (rho = –0.175) and health practices (rho = –0.213; Table 3).

Table 2. Strengthening of health behaviours and symbols of happiness (*n* = 130)

Symbols of happiness		The severity of health behaviour	Proper eating habits	Preventive behaviours	Positive mental attitude	Health practices
1. Large circle of friends	rho	0.054	0.077	0.069	–0.027	0.049
	p	0.5439	0.3826	0.4386	0.7627	0.5833
2. Successful family life	rho	0.066	0.080	0.022	0.046	0.121
	p	0.4580	0.3663	0.8029	0.6006	0.1708
3. Doing your favourite job	rho	0.221	0.107	0.287	0.196	0.099
	p	**0.0114**	0.2249	**0.0009**	**0.0257**	0.2633
4. Success in learning, working	rho	–0.117	–0.121	–0.101	0.024	–0.134
	p	0.1845	0.1720	0.2525	0.7892	0.1280
5. Good health	rho	–0.088	–0.053	–0.177	–0.114	–0.036
	p	0.3179	0.5530	**0.0443**	0.1953	0.6822
6. Being needed for other people	rho	–0.037	–0.010	0.015	–0.049	–0.055
	p	0.6750	0.9094	0.8632	0.5791	0.5341
7. Good material conditions	rho	–0.126	–0.110	–0.107	–0.043	–0.123
	p	0.1534	0.2148	0.2276	0.6254	0.1641
8. Life full of adventure, travel	rho	–0.012	–0.018	–0.002	0.072	–0.010
	p	0.8888	0.8378	0.9821	0.4176	0.9130
9. Fame, popularity	rho	0.137	0.175	–0.035	0.027	0.235
	p	0.1189	0.0462	0.6904	0.7632	**0.0071**

*p – level of statistical significance (*p < 0.05; **p < 0.01; ***p < 0.001); rho – Spearman correlation coefficient*

Table 3. Strengthening of health behaviours and categories of personal values (n = 130)

Categories of personal values		The severity of health behaviour	Proper eating habits	Preventive behaviours	Positive mental attitude	Health practices
1. Love, friendship	rho	0.034	–0.040	–0.027	0.067	0.122
	p	0.6997	0.6550	0.7612	0.4491	0.1651
2. Good physical and mental health	rho	0.044	0.030	0.023	–0.011	0.004
	p	0.6178	0.7350	0.7934	0.9028	0.9637
3. Sense of humour	rho	0.126	0.146	0.024	0.204	0.058
	p	0.1530	0.0973	0.7850	**0.0197**	0.5119
4. Intelligence, sharpness of mind	rho	–0.115	–0.134	–0.069	–0.062	–0.083
	p	0.1915	0.1294	0.4352	0.4855	0.3485
5. Knowledge, wisdom	rho	0.073	0.079	0.092	0.030	0.037
	p	0.4086	0.3733	0.2996	0.7317	0.6774
6. Joy, satisfaction	rho	–0.149	–0.219	–0.035	–0.041	–0.176
	p	0.0911	**0.0123**	0.6950	0.6438	**0.0448**
7. Courage, determination	rho	0.013	0.094	–0.029	–0.171	0.131
	p	0.8859	0.2870	0.7443	0.0512	0.1359
8. Goodness, delicacy	rho	0.028	–0.015	0.045	0.030	–0.068
	p	0.7511	0.8697	0.6096	0.7319	0.4408
9. Gentle appearance, presence	rho	0.023	0.023	0.083	0.006	0.035
	p	0.7927	0.7953	0.3468	0.9472	0.6942
10. Wealth	rho	–0.198	–0.175	–0.108	–0.118	–0.213
	p	**0.0238**	**0.0465**	0.2205	0.1794	**0.0150**

p – level of statistical significance; rho – Spearman correlation coefficient

DISCUSSION

Health behaviours are largely responsible for the health of people. During childhood and adulthood, it is important to shape healthy behaviours. At the same time, there is an increased risk of taking risky actions or being passive towards preventive measures that promote health. The development of healthy ideals among the young is extremely important in building the health potential of future

In personal studies it was shown that the average level of severity of health behaviours of the studied students was 68.40 points. Among the four categories of health behaviours, the highest levels of severity of behaviour were presented in terms of positive mental attitude, followed by health practices, proper eating habits and preventive behaviours. Studies conducted by the smoker also showed the highest average of health behaviours in the category of positive mental attitudes and health practices [14].

The overall level of health behaviours indicated that the low level was seen in 74.6% of the respondents, an average in 18.5% of respondents and high only in 6.9% of examined respondents. Similar results were obtained by Walentukiewicz *et al.* [15], investigating the health behaviour of nursing students. A generally low level of health behaviours was also seen in students of physical education [16]. Binkowska-Bury however, indicate that the examined youth were characterized by moderate and low level of health behaviour [1]. In studies conducted by Michalski *et al.* [17] demonstrated that the level of health behaviours among young people was low and independent of sex.

Own studies did not show statistically significant correlations between the age of the subjects and the severity of health behaviours. Higher scores on the scale of positive mental attitudes were obtained by men than women. Minor differences also suggested that men had a higher level of health-related attitudes towards preventive behaviours. Also, the overall health outcomes were slightly higher for men than for women. Palacz, analysing the relationship between health behaviours and sex of respondents, stated that both men and women differ only in the category of positive mental attitudes, in which case in the average male it is higher [14]. In studies conducted by Michalski *et al.* [17] demonstrated however that the level of health behaviours of young people was low and independent of sex. Szkup-Jabłońska *et al.* [18] also showed that care about health behaviours

of students of medical schools does not depend on sex or age.

A higher level of health behaviours was presented by city dwellers than by country dwellers. Small differences have also been suggested by city dwellers in the increase in health behaviours associated with good eating habits and health practices. Kropornicka *et al.* [19] by examining students of the Medical University of Lublin showed that people from rural areas declared higher levels of health behaviours than those from cities. Also Binkowska-Bury [1], confirms that academic youth from rural areas are characterized by a higher level of health and preventive behaviours than those from large cities.

Almost half of respondents (48.5%) had a high self-efficacy. As the level of self-efficacy increased, the severity of health behaviours increased. This relationship was significant both for the overall scale of health behaviours and for the individual subscales. Research results of Klimczak and Majda [20] and research by Zalewska-Puchała *et al.* [21] show that more than half of the students surveyed had high self-efficacy. These results confirm the relationship between self-efficacy and some health behaviours. Baumgart *et al.* [22] also show a positive correlation between self-efficacy, and health behaviours referring to correct eating habits, preventive and health behaviours and positive mental attitudes. Schwarzer and Fuchs [23] have also shown a positive effect of self-efficacy on health behaviours in the category of regular physical activity, abstinence, especially smoking, weight control and proper nutrition. Also, Marr and Wilcox [6] have shown that self-efficacy affects physical activity and nutrition of American students.

Happiness for patients was most connected with good health. To a lesser extent, the researchers associated them with a successful family life or a large circle of friends. Then they declared that doing their favourite job, profession, success in learning and work was a blessing for them. Happiness means good material, being needed, life full of adventures, journey or fame and popularity to a small extent. Among personal values, the greatest importance for the subjects was good health, physical fitness and mental health. Love and friendship was in second place. To a lesser extent, personal values were intelligence, mental acuity, knowledge, wisdom or joy or satisfaction for the examined subjects. A sense of humour, jokes, firmness, gentle appearance, presence, kindness, wealth and fortune were of little importance among the personal values.

The subjects examined, who were more interested in performing their favourite job, also had a higher overall level of health behaviour, which translated into preventive behaviour and positive mental attitude. People who were more fortunate to have good health were less likely to show less preventive behaviour. Examined subjects for whom happiness was more prominent and popular, at the same time presented higher levels of health behaviours related to health practices.

Examined subjects for whom a sense of humour and jokes constituted personal values also had higher levels of mental health behaviour. Individuals who felt they were more valued by joy and satisfaction, as personal values, had lower attitudes towards healthy eating habits and health practices. Those who appreciated wealth possessed a significantly lower overall rate of health behaviours, which translated into lower results related to correct eating habits and health practices. Analysing the results of the research of Binkowska-Bury [1], it should be noted that health ranked second, immediately after love, in the hierarchy of values among the studied students. The author also identifies the relationship between health assessment and overall health status, including preventive behaviours. Binkowska-Bury [1] similar to Jackson *et al.* [7] emphasize that high-esteem health predisposes to increased health-promoting behaviours that promote health.

Most people attribute high values to health, but pro-health activities do not always follow suit. In own studies, it was found that factors determining the health behaviour of students are gender, place of residence, self-efficacy and hierarchy of values. Similar results were obtained by Peker and Bermek [24], who demonstrated the relationship between students' health behaviours and self-efficacy, health status, stress levels, and social support. Kózka *et al.* [25] showed concurrently that among the factors shaping the health behaviours of junior high school students is a sense of self-efficacy, as well as the location of health checks. Self-efficacy of students plays a significant role in shaping healthy behaviours [26, 27], and is a prerequisite for adopting pro-health behaviours [28].

CONCLUSIONS

In conclusion, students belong to a group that is subject to educational socialization. It is important to implement effective education in youth education. Properly managed health education should foster the formation of a personal hierarchy of values in such a way that the health of the person in that place is important. Pro health-related behaviours are indicators of the attitudes towards health that result from the values that are adopted by the individual, and therefore the need to advise, support and assist in shaping them.

More than half of nursing students showed low levels of health behaviour. The highest level of health behaviour, in terms of positive mental attitudes and behaviours was associated with health practices. City

dwellers showed a higher level of health behaviours compared to the rest of the respondents. As self-efficacy increased, the severity of health behaviours increased in the examined subjects. Good health, physical fitness and mental health were the most important factors for the respondents. People whose profession and job performance were symbols of happiness had a higher overall level of health attitudes, especially in the field of prevention. Social-cognitive variables such as knowledge, self-efficacy, value system are critical in planning interventions to develop effective health promotion strategies that have the greatest impact. Educators can consider empowering students` self-efficacy. Experiential learning, critical reflection, and small-group teaching should feature in nursing curriculum design as a combined model. When planning courses and academic tasks, the different health needs should therefore be considered. Future research should evaluate these variables with a larger sample size and perform advanced statistical analyses.

LIMITATION OF THE STUDY

The main limitation of this study is that data collection occurred at one point in time, rather than longitudinally. Also, participants in the study were mainly young women with high sense of self-efficacy what could cause bias. Future research should also be undertaken at multiple universities.

Disclosure

The authors declare no conflict of interest.

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