

¹Nursing and Midwifery Institute, Medical Department, University of Rzeszów

²Department of Nursing Theory, Faculty of Nursing and Health Sciences
Medical University of Lublin

MONIKA BINKOWSKA-BURY¹, MAŁGORZATA MARC¹,
JOLANTA GÓRAJEK-JÓZWIK²

*The sense of coherence and selected health risk behaviours
among students*

In the common conception of so-called health fields published in 1973 in Canada by M. Lalonde four important elements influence an individual's health: lifestyle – determining health (about 50%), physical (natural and man-made) and social environment of living, working and learning – influencing our health in about 20%, genetic factors – described as man's biology (about 20%) and medical care which, according to estimate, can solve only about 10% of the health problems of the society.

The lifestyle has been described as the most important factor in determining people's health (1–5). In general terms, a lifestyle is characterised by certain behaviours, beliefs and attitudes which can be seen in everyday situations in which people find themselves (6). In health terms, a lifestyle is described as the whole of interrelated behaviours and habits which can influence the risk of premature development of certain diseases and which are determined by socio-cultural factors and individual features (7).

Taking into account the fact that it is the lifestyle characterised by health behaviours which determines health the most, it has been assumed that the individual mainly decides about his or her own health. In the field of health behaviour there are many classifications. The most frequently used terms are the following: behaviours leading to health improvement (healthy, positive), behaviours leading to health deterioration (unhealthy, risky, negative) (8, 2).

Smoking cigarettes, drinking alcohol and taking medicines without a doctor's supervision belong to risky behaviours and specialists have no doubts about their negative effect. The relationship between smoking cigarettes, drinking alcohol, taking medicines and people's health is very meaningful. What proves this statement is the number of chronic diseases for which drinking alcohol, smoking cigarettes, taking painkillers, sleeping pills and sedatives are risk factors. The diseases are mainly the following: diseases of the circulatory system, cancer (lung cancer, gullet cancer, liver cancer, nipple cancer, stomach cancer, large intestine cancer), diseases of the digestive system (diarrhoea, bleeding, gullet inflammation, stomach and duodenum ulcers, fatty liver), non-cancer-related diseases of the respiratory system, addictions to alcohol, cigarettes and medicines, damage to the peripheral and central nervous system and others (9).

Studies on behavioural health conditioning are not only related to the holistic conception of health but also to the salutogenetic orientation connected with the factors influencing our choice of some health behaviour (10). As a consequence of the new salutogenetic approach towards health and illness one more factor determining health has been described – global life orientation described by its

author A. Antonovsky as the sense of coherence – SOC understood as a generalised, relatively permanent emotional and perceptive way of seeing the world and it consists of three inseparably connected components (11).

The sense of comprehensibility – refers to the extent to which an individual perceives the stimuli both from his organism and the outward world as comprehensible, coherent and explainable. This component is formed on the basis of the coherence of experiences of the whole life. An individual with a strong sense of comprehensibility perceives events in his life as experiences that he or she can cope with, as challenges that he or she can face (11).

The sense of manageability – the sense of sufficiency of the resistant resources available to an individual. It refers not only to the resources under an individual's control but also to the resources described by the author as eligible others, e.g. God, spouse, friends, doctor, history (11). So, to cope with stress effectively it is possible to use social support and the sources thanks to which an individual owns given resources. This property assumes that if a need arises people activate their own forces or they reach for other resources to use them effectively in a stressful situation. In this way they have an active attitude towards stressful events and they try to solve emotional and instrumental problems (12). An individual with a strong sense of manageability does not think that life is cruel for him or her. Should difficult situations appear in his or her life, he or she can cope with them without giving up (11).

The sense of meaning – it is a motivating and emotional factor thanks to which an individual perceives difficult situations as a challenge, not as a danger. It determines the level of one's involvement into life, the belief into the sense of the activities undertaken and the will to form one's own fate (12). An individual with a strong sense of meaning faces challenges and defends himself or herself looking for some sense in it, he or she does his or her best to get through difficulties (11). If something makes sense for people, it means that it is ordered in perception categories. This component plays a very important role in the formation of the global sense of coherence (11, 13). Other authors also confirm this view and state that "the need for the sense of life is one of the most basic psychological needs and its fulfilment guarantees normal life and activities of an individual ..." (14, 15).

Although the three components of the sense of coherence described above are quite autonomous, they remain in mutual relations. On the basis of empirical data Antonovsky proved that there are strong correlations between them (16, 17, 11, 18). According to the author's conception, the sense of coherence is a crucial factor determining first of all health related behaviour. Depending on the formation and intensity of the components this factor may have direct or indirect influence on health.

The aim of the studies was to assess the correlation between the global sense of coherence with its components (the sense of comprehensibility, manageability and meaning) and some risky behaviours related to smoking cigarettes, drinking alcohol and taking medicines among students.

MATERIAL AND METHODS

The research was done between January and July in 2006. 520 second- and third-year students from universities in Rzeszów representing humanities, science and medical faculties were assessed in this study. The participation in the study was voluntary and anonymous. By giving back the survey questionnaires students agreed to take part in this study. Two kinds of questionnaires were used in this research: a Questionnaire of Life Orientation SOC – 29 (The Sense of Coherence Questionnaire) (19) and a new original type of Survey Questionnaire.

To analyse the results risky behaviours related to smoking cigarettes, drinking alcohol and taking medicines were identified. The statistical analysis was done by using the statistical packet Statistica. In statistical analysis the following parameters of descriptive statistics were used: average, standard deviation. To assess the correlation between the sense of coherence and risky behaviour the following levels of relevance were used: $p > 0.05$ – lack of statistical relevance; $p < 0.05$ – statistical relevance; $p < 0.01$ – high statistical relevance; $p < 0.001$ – very high statistical relevance.

RESULTS

Humanities and medical faculties were almost completely feminised (87.0% and 97.6% of women respectively). Men prevailed among representatives of science faculties – 53.8% and there were 46.2% of women in this group. In the studied group a half (50.0%) of the students were students aged between 19 and 21 and they were mostly representatives of science faculties (76.9%). Among students aged between 22 and 25 there were more than a half of the students representing humanities (65.1%) and science faculties (57.9%) and every fifth of the students representing medical faculties (19.6%).

More than a half of the students came from a village – 56.3%. Other results were the following: 18.9% of the students came from small towns (with up to 50,000 inhabitants), 15.2% of the students came from big cities (with more than 100,000 inhabitants) – it might be assumed that they were mostly inhabitants of the city of Rzeszów. 9.6% of the students came from towns (with between 50,000 and 100,000 inhabitants).

In the studied group the number of risky behaviours concerning smoking cigarettes, drinking alcohol, taking painkillers, sedatives and sleeping pills was assessed. Among the risky behaviours were the following: smoking cigarettes regularly and occasionally, drinking alcohol regularly and occasionally, taking medicines every day, often, rarely and very rarely.

The results presented in table 1 showed that there were no statistically relevant differences between students in the following categories: drinking alcohol, smoking cigarettes and taking medicines. Among the risky behaviours the most frequent were drinking alcohol (84.8%) and smoking cigarettes (28.0%). In total only 3.1% of the students admitted to taking medicines (Table 1). To analyse the sense of coherence only the answers of the students who answered all the questions in the questionnaire SOC-29 were taken into account.

Table 1. The structure of some risk factors related to smoking cigarettes, drinking alcohol and taking medicines among students

Faculties Risk factors	Humanities		Science faculties		Medical faculties		p	In total		N*
	N	%	N	%	N	%		N	%	
Smoking cigarettes	56	33.1	46	25.3	42	25.6	0.1874	144	28.0	515
Drinking alcohol	149	88.7	153	84.1	134	81.7	0.1950	436	84.8	514
Taking medicines	6	3.6	2	1.1	8	4.8	0.1258	16	3.1	517

N – the number of people who declared the risk factor

N* – the number of people who gave answers to the questions

To establish the correlation between the sense of coherence and risky behaviours such as: smoking cigarettes, drinking alcohol and taking medicines three groups of students were distinguished: students with low, medium and high level of the sense of coherence and its component parts. This division was done on the basis of the high and low quartile deviation.

The Sense of Coherence Questionnaire does not have any norms. The analysis of the results is based on comparing the average results achieved in the study with results given by other authors.

Generally, in the group studied the average value of coherence was 124.9; the standard deviation was $s = 19.2$. These values are a little bit lower than the results published in literature. In the research done among Polish students the values of the global sense of coherence were the following: 1) average: 131.95; standard deviation 20.27; $N = 137$ (Gruszczyńska 2001), 2) average: 131.36; standard deviation 22.58; $N = 329$ (Banaszkiewicz 2003)

Table 2. The division of the global sense of coherence and its components: the sense of comprehensibility, the sense of manageability and the sense of meaning

The level of the sense of coherence and its components	SOC1		SOC2		SOC3		SOC4	
	N	%	N	%	N	%	N	%
Low	114	22.1	127	24.7	119	23.1	125	24.2
Medium	273	53.0	270	52.4	273	53.0	262	50.9
High	128	24.9	118	22.9	123	23.9	128	24.9
In total	515	100.0	515	100.0	515	100.0	515	100.0

SOC1 – the sense of comprehensibility;

SOC2 – the sense of manageability;

SOC3 – the sense of meaning;

SOC4 – the global sense of coherence

Table 3. Risky behaviours and the global sense of coherence, the sense of comprehensibility, manageability and meaning

The level of the global sense of coherence	The number of risk factors related to smoking cigarettes, drinking alcohol and taking medicines $N=515$							
	0		1		2		3	
	N	%	N	%	N	%	N	%
Low	15	12.0	70	56.0	35	28.0	2	1.6
Medium	31	11.8	151	57.6	71	27.1	5	1.9
High	23	18.0	77	60.1	28	21.9	0	0.0
p	p = 0.5202							
The level of the sense of comprehensibility	The number of risk factors related to smoking cigarettes, drinking alcohol and taking medicines $N=515$							
	0		1		2		3	
	N	%	N	%	N	%	N	%
Low	11	9.6	66	57.8	32	28.0	2	1.7
Medium	38	14.0	160	58.6	70	25.6	3	1.0
High	20	15.6	72	58.6	32	25.0	2	1.5
p	p = 0.9692							
The level of the sense of manageability	The number of risk factors related to smoking cigarettes, drinking alcohol and taking medicines $N=515$							
	0		1		2		3	
	N	%	N	%	N	%	N	%
Low	21	16.5	70	55.1	34	26.7	1	0.7
Medium	33	12.2	158	58.5	70	26.0	4	1.5
High	15	12.7	70	59.3	30	25.4	2	1.7
p	p = 0.9536							
The level of the sense of meaning	The number of risk factors related to smoking cigarettes, drinking alcohol and taking medicines $N=515$							
	0		1		2		3	
	N	%	N	%	N	%	N	%
Low	16	13.4	63	53.0	35	39.4	2	1.6
Medium	30	11.0	161	59.0	74	27.1	5	1.8
High	23	18.6	74	60.1	25	20.3	0	0.0
p	p = 0.9536							

$p > 0.05$

The results presented in Table 2 showed that almost a half of the students had a medium level of the global sense of coherence (50.9%). More than a half of the students had medium level of the sense of meaning (53.0%), the sense of comprehensibility (53.0%) and the sense of management (52.4%). Every fourth student showed high level of the global sense of coherence (24.2) or low level of the sense of coherence (24.9%).

The analysis of the data showed that there is no statistically relevant correlation between the level of the global sense of coherence, the sense of comprehensibility, manageability, meaning and the number of risky behaviours related to smoking cigarettes, drinking alcohol and taking medicines among students ($p > 0.05$), which shows that the increase in the level of the sense of coherence does not decrease the number of risky behaviours (Table 3).

DISCUSSION

The sense of coherence, that is general life orientation, may have so called indirect influence on the health of an individual. It enables an individual to use effective strategies of managing, to choose health behaviour and to maintain interactions with the environment helpful for the individual (20).

Polish studies in this subject give little information on correlations between the sense of coherence and health behaviour. The research was done to provide some relevant information in this field. It attempted at establishing the correlation between the level of the sense of coherence with its components and risky behaviour related to smoking cigarettes, drinking alcohol and taking medicines among students.

As the analyses showed, the sense of global coherence among the examined students was a little lower than among students examined by other authors (12, 21). According to the author of the conception, the following two factors are important in the process of the formation of the sense of coherence: a model of life experiences and the socio-cultural influence. It seems that in the case of the examined students both the factors mentioned above could influence the process of the formation of low sense of coherence. It is worth mentioning that the examined students lived in villages and small towns, and the university they studied at was a local one. Women represented almost a half of the examined students. The results of some studies show that sex is a variable which strongly differentiates the sense of coherence (20, 22, 23). These studies show that women represent lower level of the sense of coherence, but this correlation is not definitely identified.

The studies did not confirm the existence of a correlation between the global sense of coherence, the sense of meaning, comprehensibility, meaning and between risky behaviours related to smoking cigarettes, drinking alcohol and taking medicines among the examined students. It was also stated that the level of the global sense of coherence, the sense of meaning, comprehensibility and meaning does not decrease the number of risky behaviours related to smoking cigarettes, drinking alcohol and taking medicines (painkillers, sedatives and sleeping pills). The results of the studies confirmed the results of some earlier and rarely done studies in this field. Terelak and coauthors in the studies done among students of Warsaw University and Medical Academy in Warsaw did not establish correlations between the level of the sense of coherence and smoking among students (24). Smaller correlations related to smoking cigarettes, drinking alcohol and taking medicines were presented by Włodarczyk in his studies done among inhabitants of Gdańsk (25).

It must be remembered that among the examined students there were mostly young people who are in a very difficult and stressful situation; they study, which means that they are under a lot of stress caused by the change of environment and additionally this stress is enhanced by the change of the place of residence, exams, financial circumstances and others. It might be assumed that alcohol, cigarettes and medicines are one way of coping with stress and its results. They ensure that students

feel distanced from their problems and have more self-control, they give seeming support and are a short escape from the incoming stimuli.

Kawczyńska-Butrym showed on the basis of her research that the reasons why students smoke cigarettes, drink alcohol and take medicines are the following: they treat these substances as an antidote to problems of student life, they relax and calm down in this way or they do it for social reasons (26).

CONCLUSIONS

1. It was shown that there is no statistically relevant difference between the level of the global sense of coherence, the sense of comprehensibility, manageability, meaning and between the number of risky behaviours related to taking addictive substances and medicines.

2. The level of the global sense of coherence, the sense of comprehensibility, manageability and meaning does not decrease the number of risky behaviours related to smoking cigarettes, drinking alcohol and taking medicines (painkillers, sedatives and sleeping pills).

REFERENCES

1. Dolińska-Zygmunt G.: Behavioralne wyznaczniki zdrowia – zachowania zdrowotne. [W:] G. Dolińska-Zygmunt (red.), Elementy psychologii zdrowia, Wydawnictwo Uniwersytetu Wrocławskiego, 31, Wrocław 1996.
2. Dolińska-Zygmunt G.: Behavioralne wyznaczniki zdrowia – zachowania zdrowotne. [W:] G. Dolińska-Zygmunt (red.), Podstawy psychologii zdrowia, Wydawnictwo Uniwersytetu Wrocławskiego. 33, Wrocław 2001.
3. Karski J. (red.): Promocja zdrowia. Wydawnictwo Nowe, COiEOZ. 19, Warszawa 1999.
4. Narodowy Program Zdrowia 2006-2015. Ministerstwo Zdrowia, Warszawa 2006.
5. Gawel A.: Pedagogzy wobec wartości zdrowia. Wyd. UJ, Kraków 2003.
6. Siciński A.: Styl życia – problemy pojęciowe i teoretyczne. [W:] A. Siciński (red.), Styl życia. Koncepcje i propozycje. PWN, Warszawa 1976.
7. Drabik J., Wróblewska A.: Styl życia rodziców dzieci u progu szkoły podstawowej. [W:] Z. Czaplicki, W. Muzyka (red.), Styl życia a zdrowie. Materiały z ogólnopolskiej konferencji naukowej „Styl życia a zdrowie”, Wydawnictwo Littera, 77, Olsztyn 1994.
8. Woynarowska B. (red.): Jak tworzymy szkołę promującą zdrowie, IMi D. 15, Warszawa 1995.
9. Żołnierczyk-Kieliszek D.: Zachowania zdrowotne i ich związek ze zdrowiem. [W:] T. B. Kulik, M. Latalski (red.), Zdrowie Publiczne. Wyd. Czelej, 75, Lublin 2002.
10. Dolińska-Zygmunt G.: Orientacja salutogenetyczna w problematyce zdrowotnej. Model Antonovsky'ego. [W:] G. Dolińska-Zygmunt (red.), Podstawy psychologii zdrowia, *op cit.*, 17, Wrocław 2001.
11. Antonovsky A.: Rozwikłanie tajemnicy zdrowia. Jak radzić sobie ze stresem i nie zachorować. Wydawnictwo Fundacji Instytutu Pamięci Narodowej, Warszawa 1995.
12. Gruszczynska E., Worsztynowicz A.: Koncepcja salutogenezy i poczucia koherencji Aarona Antonovsky'ego. Promocja Zdrowia, Nauki Społeczne i Medycyna, 6, 17, 93, 1999.
13. Terelak J. F.: Koncepcja salutogenetyczna stresu A. Antonovsky'ego. [W:] Psychologia stresu. Oficyna Wydawnicza Bratna, 48, Bydgoszcz 2001.
14. Obuchowski K.: Psychologia dążeń ludzkich. PWN, 202, Warszawa 1983.

15. Mariański J.: W poszukiwaniu sensu życia. Szkice socjologiczno-pastoralne. Wydawnictwo Katolickiego Uniwersytetu Lubelskiego, 89, Lublin 1990.
16. Jelonkiewicz I.: Model Antonowsky'ego – odniesienie do wybranych koncepcji psychologicznych. *Nowiny Psychologiczne*, 3, 55, 1994.
17. Antonovsky A.: Poczucie koherencji jako determinanta zdrowia. [W:] I. Heszen-Niejodek, H. Sęk (red.), *Psychologia zdrowia*, PWN, 206, Warszawa 1997.
18. Sęk H.: Salutogeneza i funkcjonalne właściwości poczucia koherencji. [W:] H. Sęk, T. Pasikowski (red.), *Zdrowie–Stres–Zasoby. O znaczeniu poczucia koherencji dla zdrowia*, Wydawnictwo Fundacji Humaniora, 23, 24, Poznań 2001.
19. Antonovsky A.: The structure and properties of Sense of Coherence SCALE, *Social Science and Medicine*, 36, 6, 725, 1993.
20. Jelonkiewicz I.: Przegląd badań nad korelatami i regulacyjnymi funkcjami poczucia koherencji – przegląd literatury. *Alkoholizm i Narkomania*, 22, 19, 1996.
21. Banaszekiewicz M.: Poczucie koherencji a zachowania zdrowotne młodzieży akademickiej na przykładzie studentów bydgoskich uczelni wyższych. Praca doktorska, Wydział Lekarski, Akademia Medyczna im. Ludwika Rydygiera w Bydgoszczy, 2003.
22. Słowik P., Wysocka-Pelczyk M.: Poczucie koherencji a style i sposoby radzenia sobie. *Sztuka Leczenia*, 1, 43, 1998.
23. Szymona K., Pawłowska B., Płotka A.: Poczucie koherencji a czynniki socjodemograficzne u pacjentów z zaburzeniami nerwicowymi, *Zdrowie Publiczne. Supl.* 1, 177, 2002.
24. Terelak I. F., Gumowska A. K.: Poczucie koherencji a palenie sytuacyjne u studentów. Wydawnictwo Akademii Teologii Katolickiej, 37, Warszawa 1997.
25. Włodarczyk P.: Poczucie koherencji a zachowania zdrowotne. *Lider*, 6, 13, 1998.
26. Kawczyńska-Butrym Z. (red.): *Uczelnia promująca zdrowie*. Wyd. UMCS. 103, Lublin 1995.

SUMMARY

According to the conception of Aaron Antonovsky, the sense of coherence is a crucial factor in determining health behaviour. Depending on the structure and the intensity of its components (the sense of comprehensibility, manageability and meaning) this factor can influence an individual's health directly or indirectly. The aim of this study was to assess the correlation between the global sense of coherence with its components (the sense of comprehensibility, manageability and meaning) and some risky health behaviours observed among students. The following behaviours were mainly analysed here: tobacco smoking, drinking alcohol and taking medicines. 520 second- and third-year students from Rzeszów University and Rzeszów Polytechnic were assessed in this study. This study was done by means of a Questionnaire of Life Orientation SOC – 29 and a new original type of Survey Questionnaire. The number of risky behaviours related to tobacco smoking, drinking alcohol and taking medicines (sedatives, painkillers and sleeping pills) was assessed. The analysis of the results showed that the level of the sense of coherence, the sense of comprehensibility, manageability and meaning do not decrease the number of risky behaviour practices related to smoking cigarettes, drinking alcohol and taking medicines (sedatives, sleeping pills and painkillers).

Poczucie koherencji i wybrane zachowania ryzykowne wśród studentów

Według koncepcji Antonowsky'ego poczucie koherencji stanowi istotny czynnik warunkujący, między innymi, podejmowanie zachowań związanych ze zdrowiem. Zależnie od ukształtowania

i nasilenia elementów składowych (poczucia zrozumiałości, zaradności i sensowności) czynnik ten może mieć bezpośredni jak też pośredni wpływ na stan zdrowia człowieka. Celem podjętych badań było określenie związków pomiędzy globalnym poczuciem koherencji i jej składowymi (poczuciem zrozumiałości, zaradności i sensowności) a wybranymi zachowaniami ryzykownymi dla zdrowia, jakimi są stosowanie przez młodzież akademicką używek i leków. Szczególnym przedmiotem analizy było palenie papierosów, picie alkoholu oraz stosowanie leków. Badaniem objęto 520 studentów drugiego i trzeciego roku studiów stacjonarnych Uniwersytetu Rzeszowskiego i Politechniki Rzeszowskiej. Badanie przeprowadzono przy wykorzystaniu Kwestionariusza Orientacji Życiowej SOC-29 oraz autorskiej wersji Kwestionariusza Ankiety Zachowań Zdrowotnych. Oszacowano ilość zachowań ryzykownych w zakresie palenia tytoniu, stosowania napojów alkoholowych i stosowania leków (uspakajających, nasennych i przeciwbólowych). Analiza otrzymanych wyników wykazała, że poziom globalnego poczucia koherencji, poczucia zaradności, zrozumiałości i sensowności nie wpływa na spadek zachowań ryzykownych w kategoriach stosowanie używek (palenie papierosów, picie alkoholu) i przyjmowanie leków (przeciwbólowych, uspakajających i nasennych).