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Sense of coherence and ways of coping in the relationship with brother or sister in healthy siblings of mentally ill persons

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Summary

Aim. The aim of the present study was to investigate sense of coherence in healthy siblings of persons suffering from schizophrenia as well as their ways of coping in the relationship with ill brother or sister.

Methods. 40 healthy brothers and sisters of persons with ICD- 10 diagnosis of F20 to F29 participated in the present study. Orientation to Life Scale (SOC- 29) was used to assess sense of coherence and Ways of Coping with Stress questionnaire (SRSS) was used to examine stress coping strategies.

Results. Mean global score of siblings of persons with schizophrenia was 111 points. Subjects used coping strategies focused on problem significantly more often than those focused on emotions.

Conclusions. Therapeutic work with healthy siblings should focus on strengthening sense of personal competence, development of personal resources and different ways of coping with stress, investigation of emotions that healthy siblings experience in the relationship with ill brother or sister as well as supporting the process of accepting changes in the relationship with the ill sibling.

Key words: schizophrenia, healthy siblings, sense of coherence

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Introduction

Relationships between siblings are considered to be most fundamental and yet, most complicated bonds among humans. Thus, when brother or sister develops mental illness, healthy sibling experiences variety of difficult emotions, such as sadness, anger, jealousy, guilt, shame, but also- feelings of love. However, healthy siblings are often invisible for psychiatric care system and therefore deprived of information and support which are crucial for coping with brother's or sister's illness [1].

Research conducted among siblings of persons with schizophrenia resulted in development of several classifications regarding coping styles. Kinsella et al. identified positive (healthy) and negative (unhealthy) styles. Examples of positive styles include constructive escape (e.g. in sport, reading), support seeking (most frequently mentioned by the respondents), information gaining, spiritual beliefs. Negative strategies are unhealthy escape (blocking and avoiding difficult feelings), control of own beahaviour and isolation (avoiding social contacts) [2]. In another study three coping patterns were found: collaborative, crisis oriented, detached. The collaborative siblings were actively involved with professionals, whereas crisis oriented brothers or sisters collaborated exclusively in crisis situations. Detached siblings were only indirectly involved in lives of their ill brother or sister [3]. In the study of Barnable et al. it was revealed that close relationships in the family were of great importance for healthy siblings in their coping with brother's or sister's mental illness [4]. According to siblings participating in another study symptoms control in ill sibling, social support and professional help use were the most efficient coping strategies [5].

Loss of the previous bond and changes in relationship experienced by healthy brothers or sisters are considered to be primary sources of stress. Friedrich et al. found that healthy siblings were also at risk of experiencing greater stress in areas other than family relationships. Illness of brother or sister seemed to have influence on their intimate relationships, health and other aspects of their lives [6].

According to Antonovsky's conception individuals experience variety of stressors which mobilizes them to reach for the resources and cope with difficult situations. One of such resources is sense of coherence which has a function of meta- resource. Once it is well developed, sense of coherence influences assessment of situation and helps in choosing effective stress coping strategies. Sense of coherence was examined e.g. in the population of mentally ill persons [7] and in parents of adult children with chronic mental illness [8].

However, few studies examined sense of coherence in persons with paranoidal schizophrenia and their siblings. Majdan- Chmielowiec et al. found no significant differences in coherence level between siblings, although there was a tendency for healthy siblings to report higher sense of coherence while compared to ill brothers or sisters [9].

The aim of the present study was to investigate sense of coherence in healthy siblings of persons suffering from schizophrenia as well as their ways of coping in the relationship with ill brother or sister. The following research question has been stated:

would level of sense of coherence be correlated with specific stress coping strategies in healthy siblings and if yes, what will be the nature of this relationship?

Material

Data was collected with the use of the following research tools:

1. Orientation to Life Scale (SOC- 29) developed by A. Antonovsky was used to assess sense of coherence. Questionnaire consists of 29 items and 3 subscales- comprehensibility (including 11 items), manageability (10 items) and meaningfulness (8 items). Items are answered on 7- point Likert type scale, where 1= specific attitude is always present and 7= never present. Global result indicating sense of coherence level is also calculated (results range: 29- 203).
2. Ways of Coping with Stress (SRSS). Polish adaptation of Folkman and Lazarus' Ways of Coping questionnaire developed in 1980 and revised in 1985 by Folkman, Lazarus, Dunkel- Schetter et al was used to assess coping strategies. Polish version includes 80 items describing cognitive and behavioural ways of coping with stress. Frequency of specific strategies use is assessed on 4- point Likert scale (0- 3) ranging from "never" to "very often". On the basis of the subscales 2 general strategies were identified: problem oriented strategies and emotions oriented strategies. Guidelines for the questionnaire were amended for the purposes of examining coping strategies in the situation of contact with mentally ill siblings [10].
3. Socio- demographic questionnaire for the participants developed specifically for this study included data on age, gender, education, marital status, age at the time of sibling's illness onset, family relationships, relationships with ill brother or sister.
4. Socio- demographic questionnaire regarding ill siblings developed specifically for this study included data on age, gender, marital status, diagnosis, duration of illness, number of hospitalizations. All questionnaires were fulfilled by the participants during one session without any assistance from the research team.

Material

Participants were contacted with assistance from personnel of psychiatric wards and community treatment centres. 40 healthy brothers and sisters of mentally ill persons participated in the present study. Inclusion criteria were the following: age between 18 and 65, having a brother or sister diagnosed with schizophrenia spectrum disorder - F20 to F29 (ICD-10) and signed consent to participate in the study.

Results

Demographic and clinical characteristics

A total of 40 individuals were included in the current study: 27 (67,5%) sisters and 13 (32,5%) brothers, with a mean age of 38 years (20 to 63). Participants were on average 2 years younger than their ill siblings (from 13 years younger to 10 years older). Majority of the study population had secondary or higher education (28 persons- 70% and 11 persons- 27,5% respectively). Almost half of the study group (18 persons- 45%) was single and 22 persons (55%) were in intimate relationship. 18 persons (45%) reported having offsprings (1-3 children) comparing to 21 persons (52,5%) who had no child. 29 persons (72,5%) were employed and only 4 persons (10%) were finically supported by their parents. 10 participants lived together with their ill brother or sister (25% of the studied group).

Table 1 reports distribution of the demographic and clinical characteristics of the study participants and ill siblings.

Table 1. Demographic and clinical characteristics of the study population (n=40)

	Mean	SD	Min	Max
Age of participant	37.70	12.34	20	63
Age of ill sibling	39.18	11.95	21	61
Age difference	1.69	5.38	-10	13
Absolute age difference	4.66	3.10	0	13
Age of ill sibling at illness onset	22.58	8.42	6	48
Illness duration (in years”	15.79	10.75	1.5	46
Number of hospitalizations	6.38	5.73	0	20

Ill siblings of the study participants were treated in day centres (20 persons, 50%) or attended occupational therapy workshop (13 persons, 32,5%). This group included 45% females and 55% males with a mean age of 39 years. Majority of ill siblings was single (87,5%) and had secondary education (52,5%). The average age was 39 years and mean disease duration - 16 years. Patients were hospitalized on average 6 times, about 50% of them were hospitalized in twenty-four hour boards up to 4 times.

Sense of coherence

Mean global score of siblings of persons with schizophrenia was 111 points [11]. More detailed data on sense of coherence measures is presented in Table 2.

Table 2. Mean scores on Orientation to Life Scale (SOC-29) in siblings of persons suffering from schizophrenia.

Orientation to Life Scale (SOC-29)			
Scale	Mean	SD	min – max
Comprehensibility	44.38	8.07	30-58
Manageability	36.70	3.42	29-44
Meaningfulness	29.70	3.42	25-40
Global result	110.78	8.80	94-128

Stress coping strategies in the relationship with ill sibling

Results on the strategies of coping with stress in the situation of contact with ill brother or sister are included in Table 3.

Table 3. Mean scores on Ways of Coping with Stress questionnaire (SRSS) in siblings of persons suffering from schizophrenia.

Ways of Coping with Stress scales (SRSS)			
	Mean	SD	min – max
- Self- control	2.11	0.48	1-3
- Problem solving seeking	2	0.6	1-3
- Mobilization to take action	2.07	0.55	1-3
Problem oriented strategies	6.2	1.44	2.98-8.61
- Information seeking	1.44	0.54	0-3
- Support seeking	1.24	0.55	0-3
- Disengagement. passivity	0.71	0.67	0-3
- Auto-aggression. self- guilt	1.2	0.55	0-3
- Disorganization	0.95	0.51	0-3
- Downplay	0.93	0.54	0-3
- Compensation	1.48	0.53	0-3
Emotion oriented strategies	7.94	2.27	2.96-13.33
- religious	0.95	0.9	0-3
- optimism	1.9	0.54	1-3
- maturing	1.73	0.68	0-3

In order to compare frequency of using different stress coping strategies mean scores for problem oriented and emotion oriented strategies were calculated. Only statistically significant relationships are presented due to words limits. Subjects

used coping strategies focused on problem (mean subtests results=2.07, SD=0.47) significantly more often than those focused on emotions (mean subtests results=1.12, SD=0.35); (t= 8,49; df= 39; p< 0,0001). Moreover, statistically significant differences were found with regard to use of specific ways of coping with stress (F= 29,237; df1= 12, df2= 468; p <0,0001). Self- control, problem solving seeking and mobilization to take action were the most frequently chosen strategies, whereas disengagement, passivity, downplay, disorganization and religious strategies were the least popular among subjects (p< 0,05).

Sense of coherence and stress coping strategies in the relationship with ill brother or sister

Regression analyses was used to examine relationship between sense of coherence and coping with stress in the situation of contact with mentally ill sibling. Coping strategies focused on problem were associated with demographic variables (F=3.078; p= 0,013) and sense of coherence (F= 4,227; p= 0,012) (Table 4 and 5). Following demographic variables were selected for regression analyses: age, gender, marital status, absolute age difference between the subjects and their ill siblings, duration of illness, number of hospitalizations, living arrangements (together vs. alone).

Table 4. Socio- demographic characteristics and problem oriented strategies.

Dependent variable: Problem oriented strategies			
Adjusted R- squared=0.322; F=3.078; p_v=0.013			
	Beta	t	p_v
(Constant)		2.9096626	0.0071614
age	0.381959	1.4342977	0.1629689
gender	0.3458228	2.3436985	0.0267061
marital status	-0.115769	-0.63695	0.5295217
age difference	-0.371423	-2.068838	0.0482592
living arrangements	-0.20122	-1.263053	0.2173691
number of hospitalizations	0.0667494	0.344974	0.7327869
illness duration	0.2375098	0.8501614	0.4027116
having children	-0.116298	-0.577389	0.5684605

Demographic variables explained 32.2% of the variance in problem oriented strategy scale. Males used problem focused strategies more frequently (beta= 0.364; t= 2.344; p= 0.027) while compared to females. Similarly, the smaller age difference between siblings, the greater the frequency of problem oriented strategies use (beta= -0.371; t= -2.069; p= 0.048).

Table 5. Sense of coherence and problem oriented strategies

Dependent variable: Problem oriented strategies			
Adjusted R- squared =0.199; F=4.227; p_v=0.012			
	Beta	t	p_v
(Constant)		1.634094	0.110955
SOC-29 Sense of comprehensibility	0.465791	3.221726	0.002704
SOC-29 Sense of manageability	-0.07611	-0.52595	0.602146
SOC-29 Sense of meaningfulness	-0.14684	-1.00784	0.320259

Scores on the sense of coherence subscales explained 19,9% of the variance in problem oriented strategy scale. Subjects with higher level of comprehensibility used problem oriented strategies more frequently (beta= 0.466; t=3.222; p=0.003). Scores on problem focused strategies scale were also positively correlated with global sense of coherence (Pearson's r= 0.343; p= 0.03).

Strategies focused on emotions were associated with one component of sense of coherence, i.e. sense of comprehensibility (F= 7.065; p= 0,001).

Table 6. Sense of coherence and emotion oriented strategies.

Dependent variable: Emotion oriented strategies			
Adjusted R- squared =0.318; F=7.065; p_v=0.001			
	Beta	t	p_v
(Constant)		0.549326	0.586173
SOC-29 Sense of comprehensibility	-0.47172	-3.5366	0.001136
SOC-29 Sense of manageability	0.251863	1.886539	0.067309
SOC-29 Sense of meaningfulness	0.252598	1.879243	0.068326

Sense of coherence explained 31,8% of the variance in emotion oriented strategy scale. Subjects with higher level of comprehensibility used emotion oriented strategies less frequently (beta= -0.472; t= -3.537; p= 0.001).

No significant relationship between sense of coherence, as well as its components, and demographic variables was found in the study group (with the use of regression analyses).

Moreover, significant relationships were found between sense of coherence subscales and frequency of specific coping styles use (Table 7).

Table 7. The correlation coefficients between Orientation to Life scales (SOC- 29) and Ways of Coping with Stress (SRSS) in siblings of persons with schizophrenia.

The Correlation Coefficient (Pearson's r) P- value		Orientation to Life Scale (SOC-29)			
		Sense of comprehensibility	Sense of manageability	Sense of meaningfulness	Global sense of coherence
Ways of Coping with Stress (SRSS)	Self-control	0.525* (p=0.001)	- 0.014 (p=0.931)	- 0.089 (p=0.584)	0.443* (p=0.004)
	Mobilization to take action	0.556* (p<0.0001)	- 0.085 (p=0.601)	- 0.206 (p=0.202)	0.398* (p=0.011)
	Disengagement. passivity	- 0.599* (p<0.0001)	0.055 (p=0.735)	0.340* (p=0.032)	- 0.397* (p=0.011)
	Auto-aggression. self-guilt	- 0.606* (p<0.0001)	0.159 (p=0.327)	0.293 (p=0.067)	- 0.381* (p=0.015)
	Disorganization	- 0.629* (p<0.0001)	0.263 (p=0.101)	0.255 (p=0.113)	- 0.377* (p=0.017)

* The significance level was set at $p < 0.05$

Self- control and mobilization to action were positively correlated with global sense of coherence as well as sense of comprehensibility. Disengagement, passivity, autoagression, self- guilt and disorganization were negatively correlated with global sense of coherence as well as sense of comprehensibility. Positive correlation was found between sense of meaningfulness and use of disengagement oriented coping strategy.

Discussion

The results of the current study should be interpreted with caution due to the number of limitations. Firstly, limited sample size is a reason for caution. Secondly, sample in the present study was not randomly selected due to lack of such a possibility. Finally, research procedure that was applied might have resulted in overrepresentation of subjects who are in regular contact with ill brother or sister and who are engaged in care. Therefore findings are not generalizable to the general population of healthy siblings of persons with schizophrenia.

Majority of the subjects fulfilled their family roles; had intimate relationships and children as well as independent living arrangements. These qualities seem to indicate that healthy siblings managed to achieve many life goals which are comparable to those of other healthy individuals, although generally they experience onset of their sibling's illness in their adolescence or early adulthood, which may have negative impact on meeting developmental challenges of this stage [12].

It is proved in the literature that specific indicators of sense of coherence are significantly statistically related with indicators of human's health resources. Sense of comprehensibility is related with sense of being in control of own activities, inner control of events and sense of self- efficacy [13]. The greater the sense of own com-

prehensibility is, the less frequently strategies oriented on reducing emotional tension and avoidance are employed [14]. Sense of comprehensibility of own activities means also that external factors are identified as challenge [15]. As far as clinical symptoms are concerned all subscales of sense of coherence, i.e, sense of comprehensibility, manageability and meaningfulness are negatively related with depression, anxiety and aggression [16, 17].

In the present study global result was below the normal range for healthy adult population in Poland [11], which indicates that healthy siblings have lower resources for coping with stress. Low sense of coherence in the subjects may result from experiencing continuous loss and from being challenged with demands which are not proportional to their resources. Parents' expectations which can be both directly and directly formulated are an example of such demands. Expectations may have different content and may express e.g. parents' need for healthy siblings to take care of their ill brother or sister, also after their death.

Results of the present study showed that demographic variables explained 33% of variance in the coping with stress strategies. Males used task solving oriented strategies significantly more frequently than females, which could be associated with different obligations and expectations towards gender roles. Research findings show that females are significantly more frequently expected to shoulder responsibility for the care of elderly or disabled family members, while compared to males. It may result in experiencing burden, roles conflict and development of less adaptive coping strategies [18]. Relationship between being a male and applying the strategy oriented on problem solving may also be analyzed with the use of gender theories which suggest that females are more emotionally aware and express their feelings more openly than males. Greater subjective sense of burden in healthy sisters, while compared to brothers, may be related to their greater awareness of emotional dimension of coping process in the relationship with ill sibling. Therefore, in the study healthy sisters demonstrate emotional aspects of coping with sibling's mental disorder [19].

In the current study significant relationships between sense of coherence components and stress coping strategies were found. Sense of comprehensibility was significantly positively correlated with self- control and mobilization to take actions and significantly negatively correlated with disorganization, autoagression, self- guilt, disengagement and passivity.

According to Dudek and Koniarek sense of comprehensibility is crucial for coping with chronic stress [20]. It is an emotional equivalent of cognitive comprehensibility and manageability which influences engagement in coping with stressful situation [15]. Healthy siblings comprehend their situation, attempt to control emotions and concentrate on task. However, positive correlation was also found between sense of meaningfulness and use of disengagement oriented coping strategy. Sense of meaningfulness constitutes motivational component of sense of coherence which impels an individual to take action whenever he or she believes that specific challenge is worth the effort and engagement. According to Antonovsky a human being who has

a sense of life meaningfulness, feels that at least some of the challenges he/she faces are worth engagement, effort and commitment. It does not mean though that he/she is happy when he/she or his/her close person encounters adverse events [21]. While facing brother's or sister's illness, especially chronic one, healthy siblings may use coping strategies that are oriented on alleviating the effects of this situation, protecting self- esteem and avoiding negative emotions. Use of such a strategy may protect sense of comprehensibility while being confronted with long-term stress related to illness of a close person. Passivity may develop in healthy siblings as a result of acknowledging biological dimension of the illness as well as impairments and changes in family functioning that are consequences of the illness.

Clinical experience shows that relationship with ill siblings of ten contributes to confrontation with negative emotions in healthy siblings, such as guilt related to not being mentally ill as well as fear about own health and health of the children. Burden coming from this relationship may result in lack of initiative to take action and partial withdrawal. Passivity may both allow healthy siblings to sustain relationship and protect them from confrontation with negative emotions. Torrey recognizes "survivor syndrome" in the experiences of healthy siblings [1]. In this context passivity and withdrawal from taking effort may be interpreted as equivalent of numbness that constitutes part of the syndrome.

Use of passive coping strategies may also be explained in the context of developmental challenges that are specific for early and mature adulthood. It is possible that effort and activity were invested in fulfillment of important life goals that constitute sense of meaningfulness for healthy siblings and are not related to ill brother or sister. It is also known that healthy siblings often experiences role conflict related to the choice whether own energy should be dedicated to brother's or sister's illness, or studying, work, intimate relationships or other family members [19].

Conclusions

Study results showed that subjects favored strategies oriented on problem solving: self-control and mobilization to take action. It was also found that sense of meaningfulness was related to passive strategy of coping with stress. This knowledge can contribute to better understanding of healthy siblings needs. Therapeutic work with healthy siblings should focus on strengthening sense of personal competence, development of personal resources and different ways of coping with stress, investigation of emotions that healthy siblings experience in the relationship with ill brother or sister as well as supporting the process of accepting changes in the relationship with ill sibling.

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