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Maladaptive schemas, coping with stress and burden of care in caregivers of individuals with schizophrenia. Preliminary study

Nieadaptacyjne schematy poznawcze, radzenie sobie ze stresem a poziom obciążenia u opiekunów osób ze schizofrenią. Doniesienie wstępne

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Abstract

Purpose: The study is an attempt at describing the psychological characteristics of caregivers of relatives with schizophrenia which contribute to deepening or reducing the negative consequences of care. The study examines the relationship between the burden of care and maladaptive cognitive schemas and strategies of coping with stress used by the caregivers. Exploring this problem area may be important for the planning and implementation of support programs for people caring for relatives with mental illness. **Material and methods:** Thirty caregivers of relatives with schizophrenia completed a questionnaire set comprising the Zarit Burden Interview, the Mini-COPE, the Young Schema Questionnaire – Short Form 3 (YSQ-S3-PL) and a sociodemographic sheet. **Results:** Significant relationships were found between burden of care and sociodemographic indicators, maladaptive schemas and adaptive/non-adaptive coping strategies. Especially, caregivers of family members with schizophrenia which is associated with depression and/or alcohol dependence are more likely to report the burden of caring for individuals with schizophrenia than those with somatic comorbidities. Higher burden of care characterises caregivers who have a higher level of eight out of 18 maladaptive schemas and less frequently use active coping with stress. Correlations between maladaptive schemas and coping strategies have also been obtained. **Conclusions:** In working with carers of relatives with schizophrenia, special attention should be paid to the coexistence of other disorders like depression or alcohol abuse. Moreover, the work should be focused on maladaptive schemas in caregivers, which can block their use of adaptive strategies of coping with stress.

Keywords: burden of care, schizophrenia, maladaptive schemas

Streszczenie

Cel: W badaniu analizowano związek między odczuwanym przez opiekunów osób chorych na schizofrenię ciężarem opieki a posiadanymi przez nich nieadaptacyjnymi schematami poznawczymi w ujęciu Younga i współpracowników oraz strategiami radzenia sobie ze stresem. Poznanie tego obszaru problemowego może być ważne dla planowania i wdrażania programów wsparcia dla osób opiekujących się krewnymi chorującymi psychicznie. **Materiał i metody:** Trzydziestu opiekunów krewnych chorych na schizofrenię wypełniło ankietę socjodemograficzną oraz Zarit Burden Interview Version 1.0 (ZBI), Kwestionariusz Schematów Younga (YSQ-S3-PL) i kwestionariusz Mini-COPE. **Wyniki:** Stwierdzono istotne zależności między odczuwanym ciężarem opieki a wskaźnikami socjodemograficznymi, schematami nieadaptacyjnymi oraz adaptacyjnymi i nieadaptacyjnymi strategiami radzenia sobie ze stresem. W przypadku chorych na schizofrenię, u których współwystępowała jednocześnie depresja i/lub uzależnienie od alkoholu, opiekunowie odczuwali znacząco większy ciężar opieki niż w przypadku chorych, u których występowały obok choroby psychicznej choroby somatyczne. Większy ciężar opieki charakteryzuje opiekunów, którzy mają wyższy poziom ośmiu z osiemnastu schematów w ujęciu Younga i rzadziej korzystają z aktywnego radzenia sobie ze stresem. Odnotowano również korelacje między nieprzystosowawczymi schematami i strategiami radzenia sobie. **Wnioski:** Pracując z opiekunami krewnych chorych na schizofrenię, należy zwrócić szczególną uwagę na współistnienie u ich podopiecznych zaburzeń, takich jak depresja czy nadużywanie alkoholu. Ponadto pomoc powinna koncentrować się na próbach zmiany nieadaptacyjnych schematów u opiekunów, które mogą blokować stosowanie przez nich przystosowawczych strategii radzenia sobie.

Słowa kluczowe: obciążenie opieką, chorzy na schizofrenię, schematy poznawcze

INTRODUCTION

The process of deinstitutionalisation of the health care system for people with severe mental disorders, initiated in Europe in the 1950s, has resulted in a significant shift in the care of the mentally ill to the immediate surroundings, most often the spouse or parent (Awad and Voruganti, 2008; Ciałkowska-Kuźmińska and Kiejna, 2010). In environmental psychiatry, it is noted that the provision of care by loved ones in the natural environment is extremely important for the recovery process of the sick person. On the other hand, some negative consequences of long-term care from the caregiver's perspective have been noted. We may call them "burden of care" or "family burden" – FB, defined by Granda and Sinsbury (1962, after: de Barbaro, 1992, p. 26) as "the effect that mental illness exerts on people living with the sick."

Numerous reports indicate that carers of relatives suffering from mental illness experience many difficulties and permanent stress. This is due to a number of reasons, including the deterioration of the financial situation, the conflict of roles resulting from being the caregiver, the social stigmatisation of mentally ill people (and often their family members), frequent fatigue, lack of time and constant tension. It can safely be stated that a victim of mental illness is not only the person with mental illness himself/herself, but also their family, which bears the material, emotional and social consequences of the disease (Awad and Voruganti, 2008; Borowiecka-Kluza et al., 2013; Chuchra, 2009; Ciałkowska-Kuźmińska and Kiejna, 2010; de Barbaro, 1992; Kasperek-Zimowska and Chądzyńska, 2011; Papastavrou et al., 2010; Przywarka, 2002).

Recently, there has been an interest in the quality of life of caregivers as well as in the emotional, psychological and somatic consequences of caring for a mentally ill person. This is important because more burdened carers are more likely to benefit from health care, including psychiatric care (Chuchra, 2009; Ciałkowska-Kuźmińska and Kiejna, 2010). Studies on caregivers of relatives with schizophrenia have shown high levels of burden of care in 70–90% of the respondents. Women were the most burdened because they were the primary caregivers. The economic difficulty of the caregiver has been a significant factor deepening the sense of burden. The burden of care was positively correlated with the age of the caregiver and the duration of the cohabitation with the ill family member, while negatively related to the level of education of the caregiver, their professional activity and level of income (Caqueo-Urízar and Gutiérrez-Maldonado, 2006; Caqueo-Urízar et al., 2011; Li et al., 2007; Magaña et al., 2007; Papastavrou et al., 2010).

A review of the reports on the relationships between the burden of care and symptoms of schizophrenia facilitates a number of conclusions. Dyck et al. (1999) noted that negative symptoms (e.g. anhedonia, apathy, social and emotional withdrawal) are more likely to be a source of burden than positive symptoms such as hallucinations or delusions, because they make it more difficult for them to approach the sick. In addition, the presence of affective symptoms, especially anxiety and depression associated with illness, can increase anxiety about the condition of a person with schizophrenia, especially when he or she also shows suicidal tendencies. According to police data, mental illness is the most common cause for suicide attempt, affecting 10% of relatives with schizophrenia (Chuchra, 2009; Hołyst, 1996; Nowicka and Marszał-Wiśniewska, 2013; Przywarka, 2002; Putowski et al., 2015; Witusik et al., 2015). Magliano et al. (1998) came to different conclusions, because they assumed that a higher burden of care was associated with the occurrence of positive schizophrenia symptoms. They think that productive symptoms deepen the family's isolation and may arouse fear and misunderstanding in close relatives, especially when accompanied by aggressive behaviours. It is estimated that between 10% and 14% of families experience aggression from their mentally ill relatives (Barak and Solomon, 2005). Other studies have indicated that the burden is similar for positive and negative symptoms, but increases significantly with the severity of symptoms and behavioural disorders (Awad and Voruganti, 2008; Elmahdi et al., 2011; Magliano et al., 2002).

In conclusion, despite the differences outlined above, there is no doubt that a mental illness such as schizophrenia affects to a large extent the immediate environment of the person with mental illness. However, there is little research into which of the psychological properties characterising the caregivers contribute to deepening the average burden and which of them may play a protective role. Exploring this area may be relevant for the planning and implementation of assistance programs for people who take care of the mentally ill.

Among the burden "risk" factors, non-adaptive cognitive schemas occurring in caregivers can play an important role. Young et al. (2014) define a non-adaptive schema as a general, all-encompassing theme or pattern, consisting of memories, emotions, beliefs, and bodily sensations on people and their relationship with others. Schemas develop in childhood or puberty as a result of the frustration of basic emotional needs. Many studies, especially in recent years, have demonstrated a significant, positive relationship between schema intensity and Axis I and II disorders (e.g. Calvete et al., 2015; Eberhart et al., 2011; Mącik, 2016). Also, negative associations of cognitive schemas and variables associated with mental welfare have been demonstrated, albeit in a much lesser extent (Alipourchushaly and Taghiloo, 2015; Oettingen et al., 2017).

Despite the considerable interest in the influence of cognitive schemas on the functioning of an individual, few studies have so far been conducted regarding their role in the situation of providing care for a chronically ill family member. The conclusions drawn from studies on the caregivers of people with dementia (Haley et al., 1996), Alzheimer's disease (McNaughton et al, 1995) and after a traumatic intracranial haemorrhage (Stebbins and Pakenham, 2001)

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indicate that dysfunctional thoughts and beliefs play a major, negative role in the process of adaptation to the situation of custody, by affecting emotions, behaviour and relationships between the carer and the ill family member. The relationship between cognitive schemas and burden in caregivers of relatives with schizophrenia have not been analysed before.

As far as protective factors are concerned, effective strategies of coping with stress can play a vital role. Test results show that the preferred method of coping with stress, which in accordance with the theory of Carver et al. (1989) is flexibly adjusted to the sources of stress, has a large impact on the size of the burden experienced (Borowiecka-Kluza et al., 2013). Ong et al. (2016) made a distinction between more and less adaptive strategies in the context of caring for relatives with schizophrenia, analysing their coexistence with the burden. Strategies associated with a higher burden of care included the use of psychoactive substances, behavioural disengagement, venting of emotions and self-blame. Some strategies focused on solving the problem, in turn, are regarded as beneficial, e.g. planning and taking active actions and positive reframing. The authors also identified the predictive power of individual strategies on the level of stress experienced by the caregivers. Behavioural disengagement was associated with the highest predictive power, followed by positive reframing, self-blame, emotional support and venting (Ong et al., 2016).

Östman and Hansson (2001) emphasized the adaptive benefits of a flexible adaptation of coping with stress strategies to the current state of mental health of the person with schizophrenia. Accordingly, they believe that in a situation where the ill relative is in a psychiatric hospital and where they suffer from suicidal thoughts or suicide attempts, the style of coping with stress aimed at regulating the emotions can be more adaptable for the caregiver. Conversely, styles focused on solving the situation could deepen the frustration and helplessness of the caregiver.

The lack of research on the role of maladaptive schemas in burden of care, and the scarcity of reports on the role of coping with stress have been the impulse for this study. Its aim has been to determine the relationship between non-adaptive schemas, coping strategies used by carers of schizophrenia and the level of burden. The role of the sociodemographic variables characterizing the caregiver and the individual with schizophrenia has also been considered in the study, as well as variables never analysed before (e.g. the existence of other chronic diseases in the relatives, besides schizophrenia). Considering the phenomenon in this scope can broaden the knowledge about how a caregiver functions in the care of a sick relative, and lead to more effective ways of helping those affected.

MATERIAL AND METHODS

The participants were caregivers of individuals with schizophrenia taking care of relatives for at least half a year. The study was conducted at the Pabianickie Centrum Psychiatryczne (Pabianice Psychiatric Centre) and in the investigators'professional environment. A questionnaire including the written consent of the respondents and, where possible, their relatives suffering from schizophrenia was used for the study. A total of 30 people were examined. The participants' age ranged from 22 to 86 years (*M* = 52, *OS* = 16.43), and the age of the ill family members ranged from 18 to 86 years (*M* = 40, *SD* = 14.64). The duration of care for a sick person was in the range of 0.6 to 38 years. The detailed sociodemographic data of the study group have been summarised in Tab. 1.

Measures

The research tools included:

- **Young Schema Questionnaire – Short Form 3 (YSQ-S3-PL)** by Young et al. (2014). This test contains 90 items that are scored on a 6-point Likert scale ranging from 1 – "completely untrue of me" to 6 – "describes me perfectly." This questionnaire was developed to examine the intensity of 18 early maladaptive schemas: Emotional Deprivation, Abandonment, Mistrust, Social Isolation/Alienation, Defectiveness, Dependence, Vulnerability to Harm or Illness, Enmeshment, Failure, Entitlement, Insufficient

		Study group (*N* = 30)
		N* (%)** ***M* ± *SD
Sex	**Female**	22 (73)
	Male	8 (27)
Education	**Vocational**	6 (20)
	Secondary	11 (37)
	Higher	13 (43)
Marital status	**Single**	12 (40)
	Married	18 (60)
Professional activity	**Yes**	15 (50)
	No	15 (50)
Place of residence	**Village**	9 (30)
	City/Town	21 (70)
Living with the sick	**Yes**	21 (70)
	No	9 (30)
Years of caring for the sick		11 ± 9.87
Sole caregiver	**Yes**	12 (40)
	No	18 (60)
Relation	**Parent of the ill relative**	13 (43)
	Sibling of the ill relative	6 (20)
	Other	11 (37)
Any institutional help	**Yes**	2 (7)
	No	28 (93)
Sex of the ill relative	**Female**	11 (37)
	Male	19 (63)

Source: own study.

Tab. 1. Characteristics of the studied group

	Only schizophrenia		Schizophrenia with depression and/or addiction		Schizophrenia with a somatic disease		ANOVA		
	n = 13		*n* = 11		*n* = 6				
	M	***SD***	***M***	***SD***	***M***	***SD***	***F***	***p***	
Burden in the Relationship	**9.69**	**3.92**	**13.73**	**3.95**	**9.83**	**4.45**	**3.408**	**0.048**	**2>1.3**
Emotional Well-Being	**10.46**	**5.30**	**16.27**	**5.16**	**12.17**	**5.31**	**3.730**	**0.037**	**2>1.3**
Social and Family Life	**5.92**	**3.43**	**10.82**	**2.99**	**5.50**	**4.42**	**7.280**	**0.003**	**2>1.3**
Finances	**1.31**	**1.25**	**3.00**	**1.00**	**1.33**	**1.21**	**7.390**	**0.003**	**2>1.3**
Loss of Control Over One's Life	7.62	3.57	9.18	3.64	6.00	4.29	1.605	0.219	-

Source: own study.

Tab. 2. Comparison of mean burden values for subgroups differing in terms of the coexistence of other diseases with schizophrenia

Self-Control, Subjugation, Self-Sacrifice, Recognition-Seeking, Negativity, Emotional Inhibition, Unrelenting Standards, Punitiveness. YSQ was adapted by Oettingen et al. (2017) and it is characterised by good psychometric properties. Alpha Cronbach for each scheme is in range 0.62–0.81 and for the total result 0.96.

- **Mini-COPE**. This instrument is a short version of Carver's COPE, adapted by Juczyński and Ogińska-Bulik. The respondent responds to 28 items that are scored on a 4-point Likert scale ranging from 0 – "I almost never do that" to 3 – "I almost always do that." It measures the frequency of using 14 coping strategies from: Active Coping, Planning, Positive Reframing, Acceptance, Humour, Religious, Emotional Support, Instrumental Support, Self-Distraction, Denial, Venting of Emotions, Substance Use, Behavioural Disengagement, Self-Blame. The method is characterised by good psychometric properties (Juczyński and Ogińska-Bulik, 2009; Ogińska-Bulik, 2014).
- **Zarit Burden Interview Version 1.0 (ZBI)**. Probably the most widely used burden measure in caregiving studies. This questionnaire contains 22 items that are scored on a 5-point Likert scale ranging from 0 – "never" to 4 – "nearly always" for items 1–21 and 0 – "not at all" to 4 – "extremely" for item 22. There is no universal cut-off score. This method allows to estimate the General caregiver burden and specifically in 5 domains: Burden in the Relationship, Emotional Well-Being, Social and Family Life, Finances, Loss of Control Over One's Life (Zarit, 2016). The method was developed in 1980 to assess the burden of carers of dementia patients. Since then, it has been validated in many countries, and has found extensive use in research also for carers of people with schizophrenia, bipolar disorder or cancer. The method has good psychometric properties, as confirmed in both earlier and recent studies (e.g. Gonçalves-Pereira et al., 2017; Higginson and Gao, 2008). In this study, alpha Cronbach for overall result was 0.87.
- **Sociodemographic sheet**. Developed for this study to record the relevant sociodemographic data of the caregiver and the person with mental illness, including age, gender, health, degree of kinship, locality, common living, term of care. Moreover, that sheet records the level of caregiver education, their marital status, professional situation, being the only caregiver or not, institutional support and current health status of the relative with schizophrenia, number of hospitalisations, comorbidities like addiction, depression or somatic diseases.

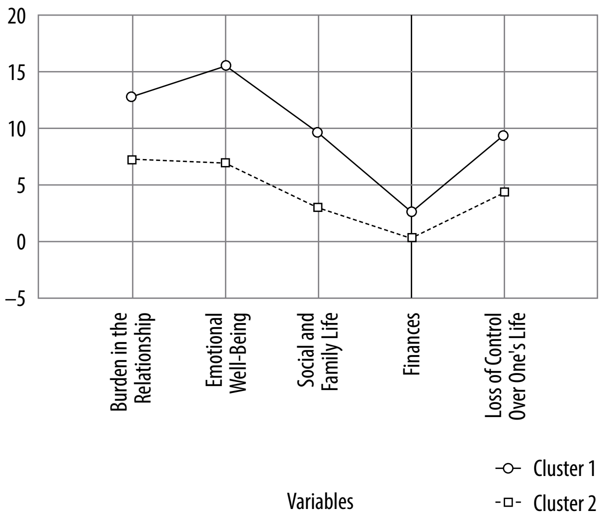

Fig. 1. Two clusters isolated from the studied group based on the results of the Zarit Burden Interview questionnaire

Statistical analysis

STATISTICA 6 and IBM SPSS Statistics were used in statistical analyses. Rho-Spearman correlation coefficients were used to examine selected relationships between sociodemographic variables and the burden. In contrast, analysis of variance was used to compare the burden in the context of the co-occurrence of schizophrenia with additional illnesses. The most important method in the study was the *k*-median cluster analysis used to isolate subgroups that would be homogeneous in terms of the perceived burden. Clusters were compared using analysis of variance, with Pearson's correlation coefficient also used.

RESULTS

First, the characteristics of the examined group were analysed. It indicates that the average primary caregiver of an individual with schizophrenia is a mother with university

	Cluster 1 *n* = 21		**Cluster 2 *n* = 9**		**ANOVA**	
	M	***SD***	***M***	***SD***	***F***	***p***
Burden in the Relationship	12.86	3.75	7.33	3.12	15.01	<0.001
Social and Family Life	15.48	4.12	7.00	4.44	25.49	<0.001
Finances	9.62	3.02	3.00	2.40	33.79	<0.001
Loss of Control Over One's Life	2.62	0.97	0.33	0.71	40.15	<0.001
Emotional Well-Being	9.33	2.90	4.44	2.83	18.10	<0.001
Source: own study.						

Tab. 3. Comparison of two clusters isolated from the studied group based on Zarit Burden Interview questionnaire

education, living in a city with a sick son on average 40 years old. She has been caring for a schizophrenia patient for an average of 11 years without any help from day-care centres or foundations, but shares care with loved ones.

There were no statistically significant differences in the level of burden between the examined men and women. The analysis of the relationship between carers education (data recoded as 0 –vocational/average, *n* = 17 and 1 – higher, *n* = 13) and the burden also did not show statistically significant relationships. A similar situation was found in relation to the relationship between the burden and the surveyed civil status, place of residence, occupational activity, chronic illness of the carer, degree of relationship, length of care, age of the relative with mental illness and number of hospitalisations. In contrast, the current, worse condition of the ill family member is associated with a smaller Emotional Well-Being of the caregiver (Rho-Spearman = −0.44, $p < 0.05$) and a greater Loss of Control Over One's Life (Rho-Spearman = −0.443, $p < 0.05$). This means that the increased severity of dysfunctional behaviour of an individual with schizophrenia is associated with higher tension, anxiety and a sense of destabilisation of life.

In Tab. 2, the relationship between the burden and comorbidities in a person with mental illness have been compared. The results (analysis of variance, post-hoc test) show that caregivers of relatives suffering from schizophrenia and who are depressed or dependent on alcohol are more likely to report a burden on Emotional Well-Being, Social and Family Life and Finances than caregivers of family members suffering from schizophrenia only or with co-occurring somatic disease.

In order to isolate a homogeneous burden subgroup, the *k*-median cluster analysis was used. Two focus groups were identified: lower (*n* = 9) and higher (*n* = 21) burden (Fig. 1). The analysis of variance was applied to compare the described subgroups in terms of age, and above all, the intensity of maladaptive schemas and coping strategies.

	Cluster 1 *n* = 21		**Cluster 2 *n* = 9**		**ANOVA**	
	M	***SD***	***M***	***SD***	***F***	***p***
Emotional Deprivation	**13.95**	**6.22**	**9.00**	**3.54**	**4.96**	**0.034**
Abandonment	16.29	5.12	12.44	5.05	3.57	0.069
Mistrust	14.67	4.61	11.44	4.88	2.98	0.095
Social Isolation/Alienation	**16.19**	**6.37**	**7.89**	**3.02**	**13.75**	**0.001**
Defectiveness	11.57	5.23	8.00	2.65	3.73	0.064
Failure	12.14	5.14	10.22	3.99	0.99	0.328
Dependence	**12.81**	**4.57**	**7.44**	**3.36**	**10.01**	**0.004**
Vulnerability to Harm or Illness	16.00	6.27	11.22	5.97	3.76	0.063
Enmeshment	10.95	4.98	8.67	3.28	1.58	0.219
Subjugation	13.90	5.11	10.78	4.60	2.49	0.125
Self-Sacrifice	19.29	5.85	18.89	4.99	0.03	0.861
Recognition-Seeking	**16.29**	**3.86**	**13.00**	**4.12**	**4.90**	**0.035**
Entitlement	14.52	3.08	13.56	5.81	0.13	0.553
Insufficient Self-Control	**13.95**	**3.98**	**10.44**	**3.28**	**0.36**	**0.028**
Unrelenting Standards	15.86	4.87	15.22	3.27	5.38	0.724
Emotional Inhibition	**13.57**	**4.09**	**9.89**	**4.37**	**4.39**	**0.045**
Negativity	**19.00**	**5.12**	**14.00**	**6.40**	**5.18**	**0.030**
Punitiveness	13.48	4.41	14.67	4.80	0.44	0.514
Source: own study.						

Tab. 4. Comparison of two clusters differing in terms of the perceived burden of care – maladaptive schemas

	Cluster 1 $n = 21$		Cluster 2 $n = 9$		ANOVA	
	M	*SD*	*M*	*SD*	*F*	*p*
Active Coping	**3.38**	**0.92**	**4.44**	**1.13**	**7.37**	**0.011**
Planning	**3.71**	**1.15**	**4.78**	**1.09**	**5.57**	**0.026**
Positive Reframing	**2.90**	**1.61**	**4.33**	**1.12**	**5.82**	**0.023**
Acceptance	3.71	1.10	4.00	2.12	0.24	0.629
Humour	1.33	1.28	0.78	0.97	1.35	0.254
Religious	2.62	2.13	3.11	2.52	0.30	0.588
Emotional Support	2.81	1.72	4.00	1.32	3.41	0.075
Instrumental Support	3.24	1.51	3.89	2.20	0.88	0.356
Self-Distraction	4.14	1.74	3.33	1.50	1.47	0.235
Denial	2.05	1.43	1.56	1.42	0.75	0.395
Venting of Emotions	**2.76**	**1.04**	**1.67**	**1.50**	**5.32**	**0.029**
Substance Use	**1.29**	**1.31**	**0.33**	**0.71**	**4.18**	**0.050**
Behavioural Disengagement	**2.33**	**1.46**	**0.67**	**1.00**	**9.67**	**0.004**
Self-Blame	**3.19**	**1.69**	**1.67**	**1.22**	**5.92**	**0.022**

Source: own study.

Tab. 5. Comparison of two clusters differing in terms of the perceived burden of care – strategies of coping with stress

As shown in Fig. 1 and Tab. 3, the isolated clusters differ significantly in all aspects of the burden, and to the greatest extent in terms of Loss of Control Over One's Life.

After isolating the groups differing by the burden level, it was verified that cognitive non-adaptive schemas and coping strategies differentiate isolated clusters. The results have been shown in Tabs. 4 and 5.

As shown in Tab. 4, the isolated clusters differ in seven out of eighteen maladaptive schemas. People with a higher level of burden of care have a higher level of Emotional Deprivation, which means that the caregivers are convinced that their emotional needs will never be met. On the other hand, higher levels of Social Isolation/Alienation are associated with the carer's greater sense of social alienation or "not fitting in." The higher level of Dependence reflects the difficulty of carrying out your duties without the help of others, which may result from the belief that one lacks competence. Higher burden of carers is associated with Recognition-Seeking, which is excessive effort to obtain approval from others, often at the expense of one's self and Emotional Inhibition, resulting in the lack of emotion for fear of rejection. Surprisingly, there is also a higher level of Insufficient Self-Control, which means that these people, while inhibiting emotions, are convinced that they do it insufficiently and cannot control their impulses. On the other hand, high levels of Negativity in high-burden individuals indicate a tendency towards worrying continuously and concentrating on the negative aspects of life.

As shown in Tab. 5, isolated clusters differ in seven out of fourteen strategies for coping with stress. People in the first cluster reported rare use of Active Coping, Planning and Positive Reframing, and more frequent use of Venting of Emotions, Substance Use, Behavioural Disengagement and Self-Blame.

Pearson correlation coefficients were also calculated between maladaptive schemas and coping strategies (Tab. 6). The calculations were performed exclusively for maladaptive schemas and coping strategies whose levels statistically significantly differed between clusters.

Schemas	Coping strategies						
	Active Coping	Planning	Positive Reframing	Venting of Emotions	Substance Use	Behavioural Disengagement	Self-Blame
Emotional Deprivation	−0.50**	−0.55**	−0.57**	0.25	−0.10	0.36*	0.09
Social Isolation/Alienation	−0.55**	−0.63**	−0.72**	0.42*	0.29	0.44*	0.33
Dependence	−0.54**	−0.35	−0.51**	0.35	0.11	0.49**	0.60**
Emotional Inhibition	−0.24	−0.53**	−0.40*	0.46*	0.18	0.31	0.33
Insufficient Self-Control	−0.26	−0.35	−0.23	0.58**	0.13	0.42*	0.24
Recognition-Seeking	−0.24	−0.04	0.01	0.20	0.27	0.49**	0.13
Negativity	−0.23	−0.24	−0.43*	0.54**	0.29	0.23	0.49**

Source: own study.
* Correlation significant at 0.05.
** Correlation significant at 0.01.

Tab. 6. Correlation between the selected maladaptive schemas and coping strategies

The analysis suggests that coping strategies such as Active Coping and Planning and Positive Reframing (which simultaneously regulates emotions in an adaptive way) correlate negatively with maladaptive schemas (most in Positive Reframing with Social Isolation/Alienation). This means that the feeling of alienation can block Positive Reframing, or the ability to give a positive meaning. It can be seen that not only Social Isolation/Alienation, but also Emotional Deprivation can play a role in limiting the use of practically all three adaptive strategies relevant for the burden. In addition, Active Coping and Positive Reframing negatively correlate with Dependence. This means that people who have a higher sense of inattention rarely take active action, and are unable to find positive aspects of the event, which in turn can translate into higher levels of stress. The same is true for Emotional Inhibition, which can hinder Planning and Positive Reframing. On the other hand, Negativity is associated with a lower level of Positive Reframing. In turn, non-adaptive strategies aimed at regulating emotions such as Venting of Emotions and Self-Blame or Cessation of Operations correlate positively with higher scores in maladaptive schemas. Dependence and Self-Blame is the strongest link. This means that the intensification of dependence is associated with a more frequent use of Self-Blame, and attributing the fault to the negative course of events. As with Emotional Deprivation, Social Isolation/Alienation, Insufficient Self-Control, Recognition-Seeking and Negativity predispose the caregiver to use non-adaptive coping strategies, thereby contributing to increase their burden of care.

DISCUSSION

In this study, issues related to the burden of care in caregivers of relatives with schizophrenia have been analysed. The relationships between the caregiver's burden level and sociodemographic indicators have been analysed. The main subject of the study has been the burden's relationship with various coping strategies and the previously unresearched relationship between the burden and maladaptive cognitive schemas. It has also been an attempt at characterising the association between the severity of maladaptive schemas and the use of adaptive/non-adaptive coping strategies.

The interpretation of the caregiver profile has shown, as in the Awad and Voruganti (2008) and Magaña et al. (2007), that this role is most often performed by the mother. The study of the relationship between the variables of the caregiver and relatives with mental illness and the level of burden has revealed that the lower the caregiver's age and the worse the health status of the individual with schizophrenia, the higher the level of the care burden in various aspects.

Regarding the relationship between the burden and the caregiver's age, the results obtained are different from those of Caqueo-Urízar et al. (2006, 2011), as the authors cited its positive correlation with age, whilst being similar to the results obtained by Alzahrani et al. (2017), who showed a negative correlation between the caregiver's age and the burden (study conducted in Saudi Arabia). This means that the younger caregivers are, the more they experience the negative effects of caring for a sick relative. The authors explain this tendency by the lack of preparation of a young carer to perform this role. In addition, this may be due to the fact that young people lack mature life skills.

The study has not shown any significant association between the burden and gender of the ill family member and sharing the apartment with them, which is different from the results of Alzahrani et al. (2017), according to which higher levels of the burden of care are associated with the care of a sick man and a common residence, but these results may be due to cultural differences between the countries in which the two studies were conducted. On the other hand, the results of our study in respect of the condition of the person with mental illness correspond to the results of Awad and Voruganti (2008) and Elmahdi et al. (2011), according to which the condition described by the intensity of positive and negative symptoms correlates positively with the general level of burden. In addition, our study has shown that the poorer health of the individual with schizophrenia the greater the burden of experienced emotions and loss of control over one's life. It can be assumed that the dysfunctional behaviour of the ill family member triggers the feelings of tension and anxiety in the caregiver, destabilizing the relationship between the caregiver and the relative with mental illness.

As far as the ill relative's condition is concerned, this study has also considered the coexistence of other diseases, apart from schizophrenia, an issue which has not yet been addressed in the literature of the subject. It has shown that caregivers of individuals with schizophrenia associated with depression and/or alcohol dependence are more likely to report the burden of caring for a family member with schizophrenia than those with a coexisting somatic illness. This is probably due to the depressed mood of the relatives with mental illness, their possible suicidal tendencies, or the family budget burden associated with additional medication, the manifestation of aggressive behaviour towards the caregiver and interpersonal difficulties. As a result, the person experiencing a higher burden is willing to use psychological counselling, which is a valuable piece of information for future developing a carers assistance program.

The analysis of the relationship between the burden of care and non-adaptive cognitive schemas has demonstrated that subjects with higher levels of it are characterized by a greater degree of maladaptive schemas significantly related to psychopathological symptoms – Emotional Deprivation, Social Isolation/Alienation, Dependence, Recognition-Seeking, Insufficient Self-Control, Emotional Inhibition, Negativity and Punitiveness (Young et al., 2014). These schemas are probably due to unmet needs in childhood – mainly security and acceptance. It can be cautiously hypothesised that they are fixed in adulthood due to the stigmatisation by the environment and auto stigmatisation associated with the presence of mental illness in the family, making the psychological situation of the caregivers particularly difficult. It is worth noting here that 93% of the respondents do not receive the support of any supportive institution, and the high level of some schemas (e.g. Emotional Deprivation, Social Isolation and Dependency) can effectively impede attempting to ask for help, which should be covered in a therapist's work with the carers. At the same time, these studies confirm the findings on the importance of cognitive factors in the burden of care for the mentally ill relatives with other chronic diseases (Haley et al., 1996; McNaughton et al., 1995; Stebbins and Pakenham, 2001).

These phenomena warrant further research involving a larger group of respondents. However, from a therapeutic point of view, it is important to work on changing dysfunctional schemas in carers to reduce emotional stress, embarrassment, or anger that they often do not express for fear of rejection, and when they fail to stop negative emotions, their level of frustration deepens. On the other hand, the higher intensity of Recognition-Seeking in more burdened caregivers raises the question of possible secondary psychological gains from taking care of the sick person, which is also an area that requires further research.

Interesting results have been obtained by comparing the rates of coping strategies used by caregivers with higher (70%) and lower (30%) levels of burden. Namely, carers who declare higher levels of burden are more likely to use non-adaptive coping strategies focused on regulating emotions through Venting of Emotions, Substance Use, Self-Blame and Cessation of Operations. On the other hand, carers with lower stress are more likely to use adaptive coping strategies such as Active Coping, Planning and Positive Reframing. In order to explain the basis of these predispositions, only relationships between maladaptive schemas and coping strategies relevant for the burden of care were analysed. It has been shown that the increase of Emotional Deprivation, Social Isolation/Alienation, Dependence, Emotional Inhibition, Negativity through mutual negative relationships can block the use of adaptive strategies to coping with stress by carers. In turn, Emotional Deprivation, Social Isolation/Alienation, Dependence, Insufficient Self-Control, Recognition-Seeking, Negativity foster sustaining non-adaptive coping strategies. It is worth mentioning that the acquisition of new coping strategies (e.g. in psycho-educational programs) can be significantly impeded by some caregivers through schemas that are known to be primary in relation to remedial strategies (Young et al., 2014).

In summary, it is worth noting that most of the studies of burden in caregivers focus on the role of sociodemographic variables, health care organisation, functioning of the patient's family as a system, and support provided by the environment (institutional and other family members) for the caregivers' functioning, not on their individual characteristics (Awad and Voruganti, 2008; Chuchra, 2009, de Barbaro, 1992, 2000). Thus, the results of our study, if confirmed in a larger group of respondents, can provide a valuable source of information on how to modify or complement the care of mentally ill carers to improve both their effectiveness and quality of life.

LIMITATIONS

Due to the use of questionnaire methods in the analysis, the social approval variable may have had an impact on the study's results. In addition, the study used a tool to measure coping strategies related to different situations, and not a method of coping with a loved one's mental illness. The most important limitation, however, is the small size of the studied group. Therefore, the results should be treated as preliminary.

The presented research, despite its imperfections, may be the starting point for further exploration of this topic. However, the most important asset is the attention paid to the rarely discussed and very important topic, i.e. the burden of care in persons looking after mentally ill family members.

CONCLUSIONS

Despite the limitations, the results provide new content in the care of the mentally ill. The important role of maladaptive schemas should be highlighted, with special emphasis on Emotional Deprivation, Social Isolation and Emotional Inhibition. This is likely related to the phenomenon of the stigmatisation of the family due to mental illness, which in turn furthers its alienation from the environment. Due to the importance and novelty of the subject matter, the study, in spite of its limitations, may provide an impetus for further exploration.

Conflict of interest

The authors do not report any financial or personal connections with other persons or organisations that might negatively affect the content of this publication and claim rights thereto.

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