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SOCIAL SUPPORT SATISFACTION SCALE IN PEOPLE WITH SCHIZOPHRENIA: ANALYSIS OF THE PSYCHOMETRIC PROPERTIES

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ABSTRACT

Objective: to evaluate the psychometric properties of the Social Support Satisfaction Scale in people with schizophrenia.

Methods: psychometric study, with a convenience sample, consisting of 282 people diagnosed with schizophrenia. The psychometric properties: validity (construct, criterion) and reliability (Cronbach's α) of the Social Support Satisfaction Scale in people with schizophrenia were evaluated. WHOQOL-Bref was used for criterion validity.

Results: the Social Support Satisfaction Scale presented four distinct dimensions of satisfaction with friends (α=0.88), satisfaction with family (α=0.89), intimacy (α=0.72) and social activities (α=0.77), being associated with health-related quality of life.

Conclusions: the scale of satisfaction with social support has similar psychometric properties to the original, being valid and reliable when applied in people with schizophrenia. Thus, it is valid for use in this population both in the clinical context and research.

Keywords: social support; schizophrenia; validation studies; psychometrics; nursing.

INTRODUCTION

Despite the strategies that have been adopted, throughout the history of psychiatry, to combat the stigma and discrimination of people diagnosed with mental illness, those remain as a reality that undermines their dignity. Some of the referred strategies go through mental health literacy campaigns, educational strategies, actions to contact people with mental illness and dissemination in the media[1]. The World Health Organization's 2013--2020 Mental Health Action Plan states that these people may be subject to human rights violations, especially with regard to social, cultural and economic rights. As a consequence, the living conditions are not the most adequate; even being of dubious healthiness and access to work and education is, in some cases, limited. In addition, they are often victims of physical and verbal aggression, including sexual abuse, and are sometimes excluded from society living in a situation of vulnerability[2].

Schizophrenia is part of the spectrum of serious mental illnesses, having as main symptoms the delusions, hallucinations and disorganized thinking and behavior. In addition to these, so-called negative symptoms, such as avolia, anhedonia, apathy, social isolation and affective dullness, are also included in this pathology[3]. The psychopathological process and the symptoms often induce functional changes, which affect several areas, such as cognitive, affective, neurobiological, motor and social, which inevitably lead to social

dysfunction[4]. They also induce difficulties in interpersonal relationships, which often affect the ability to relate to others. The existence of a relational network and the ability to maintain relationships are central to the health/disease process[5]. Now that the ability of relationship is affected in people with schizophrenia, there is an added challenge for nursing professionals in the therapeutic process, which begins with the diagnostic evaluation that is triggered at the moment when the first contact with the person, whether in person or not[5]. Thus, the diagnostic evaluation must take into account the relational network of belonging[5]. Analyzing the relationship between the various dimensions of the diagnostic evaluation process proposed by Lopes[5], we found that being the person affected by the disease, and, consequently, seeing their functions and their self-care affected, family support becomes essential in the therapeutic and rehabilitation process having, in the case of schizophrenia, the special psychosocial aspect, taking into account the specific characteristics of the disease. Associated with family support, community support arises, which is also essential, and all networks that consider themselves to be supportive to family self-care should be mobilized. Intervention in family self-care is essential in the family of the person with schizophrenia, because as a result of the subjective and objective burden that the disease causes[6], and considering the family chaos that is installed due to the factors inherent to the installation of a serious mental illness in a family member, he is also affected, needing an intervention as a whole that includes not only the person with mental illness, but also his family.

In line with the above, social support has a key role and must be considered throughout the therapeutic process. Thus, social support is constituted by the person's support networks and refers to social interactions between people, whether they are day-to-day, between friends, or between parents and children, for example, or regarding organizational relationships, such as cultural or other associations[7]. In addition, this concept is associated with the quantity and functional content of these social relationships, also involving the degree of instrumental or affective-emotional involvement, information and support[8].

Social support plays a crucial role in reducing the impact of mental disorders both on the person and on society[8]. A study carried out in Portugal with a sample of people with schizophrenia concluded that satisfaction with social support is a predictor of better quality of life[9]. It is not by chance that people diagnosed with a mental illness refer to social relationships as fundamental for recovery[10], with social support being considered as a factor capable of protecting and promoting health[11]. However, as the concept is multidimensional, different factors of social support have a different impact on different people or groups[12].

As mentioned, people with schizophrenia usually have difficulties in social interaction; most of them do not marry or have few social contacts outside their family environment[3]. In the same vein, studies indicate that the perception of social support is low among these people, especially with regard to the social network outside the family[13-15]. Bearing in mind that, in people with schizophrenia, social support is associated with quality of life, according to the conclusions of some studies[16-18] and that the greater the satisfaction with social support, the higher the quality of life[19], it seems it is important that not only social support, but also satisfaction with it, be taken into account in the psychosocial rehabilitation of the person with schizophrenia, in order to implement improvement strategies.

In addition, nurses should use instruments that assist in the diagnostic evaluation in psychiatry, through the application of measurable scales, using them later for the evaluation of the intervention[5], so we consider it pertinent to validate this scale for application to people with schizophrenia.

There are some instruments that assess the perception of social support[20-22] and others that assess satisfaction with social support[12,22]. The Social Support Questionnaire (SSQ) was developed in 1983 and consists of two dimensions: (a) perception of social support and (b) satisfaction with social support[22]. More recently, another scale of satisfaction with social support has been validated, although it was specifically built for primiparous women. A curious fact was the association between satisfaction with social support and the mothers' mental health, with regard to depressive symptoms, anxiety and self-efficacy[23].

In the present study, considering the characteristics of schizophrenia and considering that the Social Support Satisfaction Scale (ESSS) developed by Pais-Ribeiro[12], evaluates four essential dimensions in this pathology, namely satisfaction with family, friends, with intimacy and social activities, we consider it pertinent to evaluate and analyze its applicability in this population.

Thus, this study raised the following research question: what are the psychometric properties of the Social Support Satisfaction Scale in people with schizophrenia? In this sense, the objective of the present investigation was to evaluate the psychometric properties of the Social Support Satisfaction Scale in people with schizophrenia.

METHOD

It is a psychometric study, cross-sectional, with a quantitative approach.

All people with schizophrenia, of Portuguese nationality, were established as population. The sample consisted of 282 people diagnosed with schizophrenia, from nine health institutions in mainland Portugal. Data were collected during 15 months, between January 2015 and March 2016.

Inclusion criteria were considered people diagnosed with schizophrenia by the attending psychiatrist, over 18 years old and without exacerbated psychotic symptoms that would prevent the understanding of the study objectives. The sample was of the convenience type, with the participants being referred by the nurse or the doctor.

Data collection was carried out by the principal investigator and an assistant who received training about the study in terms of objectives, instruments to be applied and how to collect the data.

The data collection instruments consisted of a sociodemographic and clinical questionnaire (gender, age, marital status, education, cohabitation, work occupation, number of hospitalizations, duration of pathology, substance use) and the scales: quality assessment instrument World Health Organization (WHOQOL-Bref)[24] and ESSS[12].

The ESSS was developed by Pais-Ribeiro[12], and assesses satisfaction with social support, consisting of 15 items and composed of four domains: satisfaction with friends, intimacy, satisfaction with family and social activities. The items are evaluated using a 5-point Likert scale (1 to 5), with the total score ranging from 15 to 75. The higher the total value of the scale, the greater the satisfaction with social support[12].

The WHOQOL-BREF scale was developed by a group of researchers from the World Health Organization, in 1997, and it is a generic instrument that allows the assessment of quality of life, being able to be used in healthy or sick people. This scale consists of a total of 26 items distributed over four domains: physical, psychological, social relations and the environment. Each item is assessed using a 5-point Likert scale. The scale was validated for the Portuguese population, in 2007, by Canavarro and collaborators[24].

All ethical principles were respected and the recommendations of the Helsinki Declaration were followed, and the study was approved by the National Data Protection Commission (approval No. 843/2015) and by the ethics commissions of the institutions involved.

The free and informed consent was signed by all participants and data confidentiality was guaranteed and all rights were clarified. The participants were informed about the objectives of the research study and about the treatment of the data, being informed that they would only be used for research purposes, it was not used any data that identified them. They were also informed that they could withdraw at any time, without any penalty. Data collection was carried out in a private office, with the participants being referred by the nurse or assistant psychiatrist. It was carried out through paper questionnaires, in person and individually, and the questionnaires were coded, with no data identifying the participant.

For data analysis, the Statistical Package for Social Sciences (SPSS) version 24.0 for Windows was used. For the analysis of psychometric characteristics, the reliability of the scale was assessed using Cronbach's α. The minimum value adopted for internal consistency was 0.70, considering that values between 0.70 and 0.90 are considered good[25]. Regarding validity, an exploratory factor analysis (EFA) was performed using the principal component analysis method, with Varimax rotation. The Kaiser-Meyer-Olkin (KMO) and Bartlett's sphericity test were analyzed to test suitability. The items were distributed by the factors taking into account that the difference between the values of the factor loads exceeds the value of 0.20[25]. Pearson's correlation (r) was also used. The discriminating validity of the items with the sub-dimensions and criterion validity between the ESSS scale and the quality of life scale. The criterion value of not exceeding correlation values of 0.60 was considered, meaning that the score should not predict more than one third of the other[12]. Continuous variables were expressed as mean and standard deviation and categorical variables as percentages or absolute values. The significance level of $p<0.05$ was adopted.

RESULTS

The sample consisted of 282 people diagnosed with schizophrenia, with a mean age of 46.15 (±13.12) years, with the participants divided by the various regions of mainland Portugal (38.7% south; 34.7% north) and 26.6 center), the majority being male (60.3%), single (67.4%) and with disability for work (61.7%). Regarding clinical data, 49.29% have been diagnosed with schizophrenia for less than 20 years, with the majority (44.3%) being hospitalized between 2 and 5 times and 52.5% abusing substances (alcohol, tobacco or other drugs).

Reliability

The reliability of the scale was assessed using Cronbach's α coefficient, being 0.85 for the total ESSS.

Validity

The exploratory factor analysis (KMO = 0.83; Bartlett $\chi 2$ sphericity test [105] 2353.86, $p<0.0001$) presented four factors, which are responsible for 70% of the explained variance of the construct. The first factor, "satisfaction with friends", includes six items, which have an internal consistency of 0.88 and explains 35.03% of the total variance. The second factor, "satisfaction with the family", includes three items, with an internal consistency of 0.89, explaining 15.86% of the total variance. The third factor, "intimacy", comprises four items, which have an internal consistency of 0.72 and explain 12.84% of the total variance. The last factor, "social activities", includes two items that have an internal consistency of 0.77 and explains 6.76% of the total variance (table 1).

The factor load of the ESSS items for people with schizophrenia is high, varying between 0.39 and 0.91. The factor "satisfaction with friends" is what best explains the result with more than half of the total variance explained.

Table 1 – Exploratory Factor Analysis of the Social Support Satisfaction Scale in people with schizophrenia. Portugal, 2016. (n=282).

	Factor 1 Satisfaction with friends	Factor 2 Satisfaction with family	Factor 3 Intimacy	Factor 4 Social activities	h^2
1. Sometimes I feel alone in the world and without support			**0,71**		0.59
2. I don't go out with friends as often as I would like	0.41		**0,61**		0.57
3. Friends don't come to me as often as I would like	0.55		**0,57**		0.66
4. When I need to talk to someone, I easily find friends to do it with	**0.65**				0.48
5. Even in the most embarrassing situations, if I need emergency support I have several people I can be supported by them.	**0.39**	0.33		0.31	0.36
6. Sometimes I miss someone who understands me and with whom I can talk about intimate things.			**0,72**		0.58
7. I miss social activities that satisfy me				**0.83**	0.78
8. I would like to participate more in activities of organizations (e.g. sports clubs, scouts, political parties etc.)				**0.90**	0.81
9. I am satisfied with the way I relate to my family		**0.88**			0.79
10. I am satisfied with the amount of time I spend with my family		**0.86**			0.77
11. I am satisfied with what I do together with my family		**0.89**			0.83
12. I am satisfied with the amount of friends I have	**0.87**				0.79
13. I am satisfied with the amount of time I spend with my friends	**0.86**				0.79
14. I am satisfied with the activities and things I do as my group of friends	**0.91**				0.85
15. I am satisfied with the kind of friends I have	**0.87**				0.77
Own numbers (*Eigenvalue*)	5.25	2.30	1,92	1.01	
Explained variance	35.03%	15.36%	12,84%	6.76%	
Coefficient α^*	0.88	0.89	0,72	0.77	
Mead (SD†)	18.4 (±7.2)	10.5 (4.0)	10,3 (4,3)	6.6.(±4.8)	

*α: α of Cronbach; †SD: Standard deviation.

The discriminating validity of the ESSS items for people with schizophrenia is shown in table 2. The item discrimination index is greater than 20 points between the magnitude of the correlation with the scale to which it belongs (in loaded) and the magnitude of the second value of correlation with another scale, except for items 3 and 5.

Table 2 – Discriminant validity of items on the Social Support Satisfaction Scale in people with schizophrenia. Portugal, 2016. (n=282).

	Factor 1 Satisfaction with friends	Factor 2 Satisfaction with family	Factor 3 Intimacy	Factor 4 Social activities
1. Sometimes I feel alone in the world and without support	0.30†	0.30†	**0.71†**	0.17†
2. I do not go out with friends as often as I would like	0.45†	0.17*	**0.75†**	0.25†
3. Friends don't come to me as often as I would like	0.59†	0.23†	**0.79†**	0.24†
4. When I need to talk to someone, I easily find friends to do it with	0.15*	0.15*	**0.67†**	0.33†
5. Even in the most embarrassing situations, if I need emergency support I have several people I can turn to	0.10	0.10	0.38†	**0.90†**
6. Sometimes I miss someone truly who understands me and with whom I can vent about intimate things	0.03	0.04	0.22†	**0.90†**
7. I miss social activities that satisfy me	**0.70†**	0.19*	0.35†	-0.07
8. I would like to participate more in activities of organizations (e.g. sports clubs, scouts, political parties etc.)	**0.52†**	0.27†	0.32†	0.21†
9. I am satisfied with the way I relate to my family	0.22†	**0.87†**	0.24†	0.07
10. I am satisfied with the amount of time I spend with my family	0.19*	**0.90†**	0.29†	0.04
11. I am satisfied with what I do together with my family	0.26†	**0.92†**	0.27†	0.09
12. I am satisfied with the amount of friends I have	**0.87†**	0.16*	0.46†	0.08
13. I am satisfied with the amount of time I spend with my friends	**0.87†**	0.18*	0.48†	0.10
14. I am satisfied with the activities and things I do as my group of friends	**0.90†**	0.18*	0.41†	0.06
15. I am satisfied with the kind of friends I have	**0.86***	0.20*	0.37†	-0.01

*$p<0.01$; †$p<0.001$.

Pearson's correlation was performed to assess the correlations between the total score of the scale and the scores of each of the domains that compose it (table 3). It appears that the strongest correlation is between satisfaction with friends and total ESSS, followed by intimacy, satisfaction with family and finally with the social activity factor.

Table 3 – Correlation between the subscale scores and the total scale of the Satisfaction Scale with Social Support in people with schizophrenia. Portugal, 2016. (n=282).

Scale and domains of the ESSS	Total scale	Satisfaction with friends	Satisfaction with family	Intimacy
Satisfaction with friends	0.82*			
Family satisfaction	0.57*	0.25*		
Intimacy	0.79*	0.50*	0.30*	
Social activity	0.40*	0.07	0.08	0.34*

*$p<0.001$.

To analyze the concurrent validity, the WHOQOL-Bref quality of life scale was used, taking into account their domains, obtaining significant correlations between domains (table 4).

Table 4 – Correlation between the scores of the Satisfaction Scale with Social Support and the criterion measures (quality of life) in people with schizophrenia. Portugal, 2016. (n=282).

	Total ESSS	Satisfaction with friends	Satisfaction with family	Intimacy	Social activity
Physical Domain	0.43‡	0.42‡	0.16‡	0.34‡	0.13*
Psychological Domain	0.43‡	0.36‡	0.17†	0.41‡	0.16†
Social Relations Domain	0.55‡	0.51‡	0.26‡	0.45‡	0.14*
Domain Environment	0.52‡	0.36‡	0.31‡	0.44‡	0.31‡
General Domain	0.44‡	0.35‡	0.21‡	0.37‡	0.23‡

*$p<0.05$; †$p<0.01$; ‡$p<0.001$.

Table 5 shows the results of the internal consistency of the original scale with the results of our study.

Tabela 5 – Internal consistency of the original ESSS and the ESSS for people with schizophrenia.

Factor	Present study (n= 282 people with schizophrenia)		Pais-Ribeiro[9,19] (n=609 students)	
	No. itens	α*	No. itens	α*
Satisfaction with friends	6	0.88	5	0.83
Intimacy	4	0.72	4	0.74
Family satisfaction	3	0.89	3	0.74
Social activities	2	0.77	3	0.64
Total ESSS	15	0.85	15	0.85

*α: α of Cronbach.

DISCUSSION

Responding to the research question of this study "what are the psychometric properties of the Social Support Satisfaction Scale in people with schizophrenia?", we consider that the internal reliability values are identical to the original version of the scale, whose sample consisted of 609 students[12,26]. The obtained α values are considered good[25,27-28]. Regarding the construct validity, the KMO results are considered good (0.80-0.90)[25,27-28].

Regarding the analysis of the main components, all items were loaded into factors, with adequate factorial loads (that is, >0.3). The factorial weights were identical to the original version of the ESSS, with the items loaded in four factors. Despite the fact that the factors were identical to the original scale, only the component "satisfaction with the family" kept exactly the same items when compared to the original scale[12,26]. In relation to the "satisfaction with friends" component, on the original scale[12] it is composed of five items and in our study it consists of six items, with item 3. "*friends don't come to me as often as I would like*", which in the original scale[12] was in "satisfaction with friends" domain, passed to the "intimacy" factor in our study, and items 4. "*when I need to talk to someone, I easily find friends to do it*" and 5. "*even in the most embarrassing situations, if I need*

emergency support, I have several people who can help me", on the original scale were in the "intimacy "domain, passed to the" satisfaction with friends "domain in our study. Thus, in the dimension "satisfaction with friends", an item was excluded, and two (4 and 5) were introduced that relate to each other, as they refer to the fact of having someone to talk to or for emergency support, which may be associated with satisfaction with friends. Therefore, the results indicate if the person has friends to talk to or to help him when he needs emergency support, the greater the satisfaction with them.

In relation to the "social activities" domain, on the original scale[12] it consists of three items and in our study two, with item 2. *"I don't go out with friends as many times as I would like"*, in our study, to the "intimacy" domain, keeping the rest.

Thus, the "intimacy" factor now includes items 2. *"I don't go out with friends as many times as I would like"* 3. *"friends don't see me as often as I would like"*. These two items are related to each other and one can influence the other and can, in fact, be related to intimacy, as the results indicate that the more intimacy with the other, the greater the demand and the interaction.

With regard to the internal consistency of the factors, the α values in three of the factors were higher than the original scale and in the "intimacy" factor, they were lower, with the internal consistency of the total scale equal to the original, as shown in Table 5. All factors had a good internal consistency (>0.70)[25,28].

Regarding concurrent validity, taking into account that the original study[26] related the ESSS to health, well-being and quality of life, we consider it pertinent to relate it to the quality of life assessed through the WHOQOL-Bref that is composed by the domains, physical, psychological, social relations, environment and general. Positive correlations were found between all domains, not exceeding correlation values greater than 0.60, as expected. In the domains "satisfaction with friends" and "intimacy", the strongest correlation was with the domain "social relationships"; in the domain "satisfaction with the family" and "social activities" the strongest correlation was with the environment domain. In the evaluation of the psychometric characteristics of the original scale[26], positive correlations were also observed between the same and several health measures, such as, for example, the general self-concept evaluation scale[29] and the mental health inventory[30].

The psychometric properties of the ESSS for people with schizophrenia are, globally, in agreement with the original scale[12], thus it can be said that this allows obtaining valid and reliable measures of satisfaction with social support.

We present as limitations to this study the fact that we did not collect data on family and friends, whose correlation with the ESSS could be useful for a deeper understanding of the results. Another limitation is that the sample type is for convenience and not random. However, due to the difficulty in accessing the sample, it was considered that this would be the most appropriate methodology in due time.

As strengths this study has a significant sample, recommending the extension to other mental disorders given the importance of social support and satisfaction with it in these pathologies.

CONCLUSION

The ESSS has good psychometric properties for people with schizophrenia, being valid and reliable, so it is able to be used in this population in the clinical context and for research purposes. In addition, in semantic terms, the new item distributions by factors are adequate.

This scale is related to health-related quality of life. Despite presenting the same 4 factors as the original scale, the differences found between them may be due to the characteristics of the population studied here and we suggest the more qualitative study of these differences that may be important in clinical intervention.

As interpersonal relationships are crucial for the therapeutic process and for the rehabilitation of the disease, the assessment of satisfaction with social support must be part of the diagnostic assessment in mental health nursing for people with schizophrenia, as it allows to perceive in which domain there is a need for intervention, using the integration of the person in the family and in the community, in the most satisfactory way possible. In addition, satisfaction with social support must be reassessed after the intervention to assess its outcome and health gains. To respond to this problem, the nursing team must also work in a network, with the entire multidisciplinary team and with the resources of the community.

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