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RESEARCH

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The evaluation of the social functioning of schizophrenia patients followed up in the health center My El Hassan of Kenitra, Morocco

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Abstract

Background Difficulties in interacting in and adapting to the social world are the central complaint faced by patients with schizophrenia. These people are often socially isolated, unemployed and may find it difficult to live independently.

Aim This study aims to evaluate the social functioning of schizophrenic patients, and to highlight the various factors associated with the alteration of the social functioning of schizophrenic patients.

Methods We conducted a prospective descriptive and analytical study of a population of 72 patients with schizophrenia. These are patients between 19 and 59 years old, clinically stabilized, diagnosed and followed at the My EL Hassan health center in Kenitra (Morocco). Symptom assessment is measured using a standardized Positive and Negative Syndrome Scale (PANSS), and social functioning is assessed using a Social Functioning Questionnaire (SFQ).

Results Statistical analysis shows that of 72 schizophrenic patients, 33.3% had good social functioning, 59.7% had moderate social functioning, while 6.9% of patients had altered social functioning (the average score of all SFQ items less than 2.4). 6.9% with altered social functioning, are patients aged 19 to 49, were male ($p < 0.35$), come from an urban areas ($p < 0.17$), without professional activity ($p < 0.00$), and have a progressive onset of the disease ($p < 0.31$). 5.5% ($n = 4$) of them were single ($p < 0.12$), caught this disease at an age greater than or equal to 20 years, and have the mixed type of symptoms (positive/negative) ($p < 0.15$). The altered social functioning of our patients is correlated to five factors: professional activity ($p < 0.00$), family situation ($p < 0.03$), family care ($p < 0.02$), family awareness ($p < 0.01$), and the negative subtype of psychotic symptomatology ($p < 0.02$).

Conclusion This study underlines the interest of psycho-social treatment as specific care which would complement symptomatic treatment and improve the social functioning of patients with schizophrenia.

Keywords Schizophrenia, Social functioning, Quality of life, Social interactions, SFQ

Introduction

Schizophrenia is a chronic debilitating disease associated with serious impairments in several areas of functioning, such as interpersonal, community or professional relationships, as well as in the acquisition of skills [1, 2]

To establish a diagnosis of schizophrenia according to the DSM-V (Diagnostic and Statistical Manuel of Mental Disorders, 5th Edition), it is essential that the individual

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show a deterioration in his social functioning at one point or another of the disease [3].

Schizophrenia is characterized by serious dysfunctions at the cognitive and emotional levels in which hallucinations; delusions, disorganized speech and behavior, and inappropriate emotions are usually found. This disease can affect every aspect of the daily functioning of the person who suffers from it, and leads to a weakening of their social and socio-professional functioning.

Whether in the World or in Morocco schizophrenic patients have difficulty integrating the working life and may find themselves socially isolated, since they have problems forging and maintaining relationships, and losing part of their autonomy, because they need those around them to organize their activities for them [4].

The prevalence rates of schizophrenia are estimated to vary from 0.5 to 1% which its annual incidence rates are estimated to vary from 2.5 to 5.3 per 1000 among the general population [5]. In Morocco, based on the results of a national epidemiological survey conducted in 2005 by the mental health and degenerative diseases department of the Ministry health, in collaboration with the WHO, and the two university hospitals in Casablanca and Rabat. The prevalence of psychotic disorders (schizophrenia, delusional disorder, etc.) is 5.6% [6].

In Morocco, psychiatric disorders are responsible for a significant burden of morbidity generating heavy socioeconomic costs for society and therefore constitute a national priority [7]. Faced with this challenge and due to the lack of social functioning profile studies of schizophrenic patients in Morocco and specifically in the Province of Kenitra, our study is the first that allows us to study the social functioning of schizophrenic patients and to highlight the different factors associated with the disturbance and alteration of the social functioning of schizophrenics. It could serve as a basis for other studies given the relevance of our results.

Methods

Study population

Our study is descriptive and analytical prospective epidemiological of non-hospitalized schizophrenic patients, diagnosed and followed up at the My El Hassan health center, according to the diagnostic criteria of DSM-V. The study is mainly focused on 72 patients for 3 months.

The inclusion criteria were informed and voluntary patients, with a diagnosis of schizophrenia according to DSMV criteria, patients already on neuroleptic treatment.

The exclusion criteria were patients with motor deficits, dermatological problems, and blind patients, schizophrenia with neurological comorbidity or mental retardation, presence of serious cognitive disorders.

Data collection instruments

In order to study all the aspects relating to this study, we associated two data collection methods, in particular two questionnaires. The first it is a standardized form built for the needs of the study made it possible to collect the information on the data socio-demographic, socioeconomic, psychological family history, historic criminal record, family care, family awareness of the disease, family attitude about the disease, type of symptoms as well as data concerning the clinical characteristics of schizophrenia.

The Social Functioning Questionnaire (SFQ) is a hetero-questionnaire designed to enable a detailed assessment of the social functioning of patients for research and rehabilitation purposes, it is divided into 5 sections, each containing 8 items to be completed for each person: self-care skills, domestic skills, community skills, social skills and responsibility.

The Cronbach alpha coefficient of the social functioning questionnaire (SFQ) showed a very strong intra and inter-item stability, it is therefore 0.75, the SFQ constitute a tool with good reliability (0.75).

In addition, the PANSS scale (Positive and Negative syndrome Scale) is a hetero-evaluation scale of 30 items, rated from 1 (absent) to 7 (extreme) which assesses the psychopathological symptoms observed in patients with psychopathological states. Especially in schizophrenia, it allows the determination of the scores of three dimensions: positive symptoms (seven items), negative symptoms (seven items) and general psychopathology (16 items).

In addition to this dimensional rating, it is also possible to evaluate the patient according to a categorical typology which thus makes it possible to distinguish the positive, negative and mixed forms of schizophrenia. Its use is particularly indicated to determine a psychopathological profile. The two questionnaires and the scale were translated into Moroccan Arabic dialect in order to cover our sample.

The data collection was carried out during a directive interview with each patient accompanied by a member of his family, for 30 min, just after the psychiatrist consultation. Each question was asked by the author, and the patient answered, the obtained answers were confirmed by the family member accompanying the patient.

Statistical analysis

The collected data were entered and analyzed with SPSS software (the statistics package for the social sciences) version 20.0.

The variables collected were evaluated by statistical analysis using the Pearson Chi-square test of

independence: "a statistical tool for determining whether two qualitative variables are related or independent". Results were expressed as frequency and as a percentage.

The bivariate analysis by cross-referencing the different items of the social functioning questionnaire as well as with the scores obtained by the PANSS.

We performed a multivariate analysis of the multiple linear regression type, in order to specify the correlations between the socio-demographic, socioeconomic, clinical variables, the psychotic symptomatology scale and the profile of social functioning.

Results

General profile of our sample

Of the 72 cases studied, 76.4% ($n=55$) are male and 23.6% ($n=17$) are female, the sex ratio was not balanced ($p<0.05$). The mean age of our patients was 33.14 ± 9.47 years, with a minimum age of 19 years and a maximum age of 59 years.

The average age of the patients was 22.72 ± 6.258 years, 95% caught this defect between 21.25 and 24.19 years, 2.5% at an age below 21 years and 2.5% at an age above 24 years.

41.7% ($n=30$) of the patients had a psychological family history, and 13.8% ($n=10$) had a criminal history. In our sample, 70.8% ($n=51$) of patients had a progressive disease onset and the remaining 29.2% ($n=21$) had an abrupt onset. Out of 72 patients, 57 cases were not hospitalized at all, which represents 79.16%, the rest of the patients were hospitalized one to five times, with 13.9% and 1.4%, respectively.

77.8% ($n=56$) of our patients are from urban areas, versus 22.2% ($n=16$) are from rural areas, 73.6% ($n=53$) are single, while 26.4% ($n=19$) are married. 62.5% ($n=45$) are patients with a primary school level, against 37.5% ($n=27$) of patients with a college level and above.

Regarding patient family education level, 68.1% ($n=49$) of families (guardians) have primary education and below, while the remaining 31.9% ($n=23$) have college level and above.

Before the onset of the disease, 65.3% ($n=47$) had a professional activity, including 7 women and 40 men, while 34.7% had no professional activity including 10 women and 15 men ($p<0.02$).

After the onset of the disease, just 20.8% ($n=15$) of the patients had an occupation, including 0 women and 15 men, while 79.2% ($n=57$) of the patients did not exercise professional, including 17 women and 40 men ($p<0.02$) (Table 1).

These results show that 44.5% ($n=32$) of the patients lost their jobs after the onset of the disease. This shows the major impact of the disease on the professional functioning of patients (Fig. 1).

Table 1 Chi-square independence test of professional activity before and after the onset of the disease

		Sex		Total	($p<0.05$)
		Female	Male		
Professional activity before disease	Without work	10	15	25	5.71 ($p<0.02$)**
	Work	7	40	47	
Actual professional activity	Without work	17	40	57	5.85 ($p<0.02$)**
	Work	0	15	15	
Total		17	55	72	

45.8% use drugs such as tobacco (36.10%), cannabis (4.16%) or both (5.54%).

The results of the Chi-square test of independence between drug consumption, socio-demographic factors, psychological family history and the criminal history in schizophrenic patients revealed that there is a strong link between sex and taking drugs or not (Chi-square = 18.83; $p<0.000$), in fact, 100% of drug users are males, no woman is declared to use drugs. However, the other variables are not statistically linked to the "drug" factor, but there is still a difference in the categorical representability (Table 2).

The distribution of patients according to: family care, family awareness, and the family's attitude about the disease shows that 88.9% of schizophrenic patients have good family care ($n=64$), on the other hand 52.8% of our patients ($n=38$) their family is moderately aware of the disease. In addition, it is well shown that 88.9% ($n=64$) of patients and their families present a positive attitude towards the disease (Fig. 2).

Assessment of psychotic symptomatology: positive, negative and mixed types

The P.A.N.S.S. allowed us to obtain three groups of schizophrenics: a positive group 31.94% ($n=23$), a negative group 11.11% ($n=8$) and a mixed group 56.95% ($n=41$).

The correlation between the variables two by two shows a strong positive association between the general psychopathological scale and the positive scale ($p<0.000$), which is not shown with the negative scale.

Of the 72 cases studied, the level of symptom severity was high for 93.1% of patients (general psychopathology score on the PANSS superior than 25).

Assessment of the social functioning of patients

The correlation between the variables two by two shows strong positive links between the five items (very highly

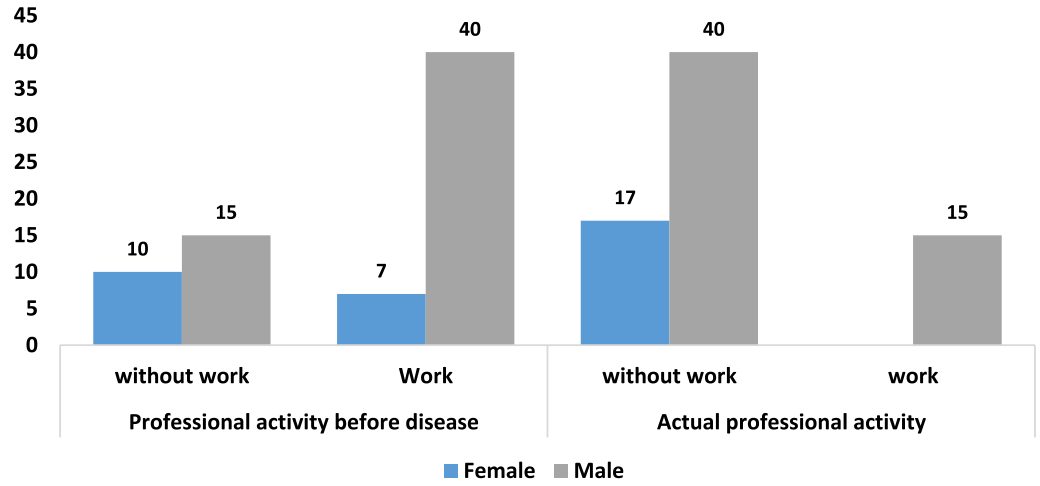

Fig. 1 Distribution of patients by professional activity before and after the onset of the disease

Table 2 The link between drug consumption, socio-demographic factors, the psychological family history and historic criminal record in schizophrenic patients

		Drug consumption		Total	($p < 0.05$)
		No	Yes		
Sex	Female	17	0	17	18.83 ($p < 000$)**
	Male	22	33	55	
Age classes	[19,29]	14	13	27	2.95 ($p < 0.39$)
	[29,39]	18	12	30	
	[39,49]	6	4	10	
	[49,59]	1	4	5	
Level study	Elementary school	24	21	45	0.085 ($p < 0.034$)
	Middle school and higher	15	12	27	
Familial situation	Single	28	25	53	0.14 ($p < 0.71$)
	Married	11	8	19	
Origin	Urban	32	24	56	0.89 ($p < 0.34$)
	Rural	7	9	16	
Psychological family history	Without	21	21	42	0.71 ($p < 0.41$)
	With	18	12	30	
Criminal record	Without	36	26	62	2.73 ($p < 0.09$)
	With	3	7	10	
Total		39	33	72	

significant difference). Indeed, the five items therefore evolve together while increasing or decreasing together.

The mean overall social functioning scores of all patients was 3.21 with a standard deviation of 0.44.

According to the components of SFQ, among 72 studied cases: 86.1% ($n = 62$) of patients have high self-care skills including 15 women and 47 men, 54.2% ($n = 39$) have a high level of domestic skills, including 11 women and 28 men, 41.7% ($n = 30$) have high community skills, including 2 women and 27 men, 8.9% ($n = 28$) have high social skills including 7 women and 21 men, and 59.7% ($n = 43$) of patients have high responsibility skills including 10 women and 33 men (Fig. 3).

The Chi-square test of independence shows that there is a relationship on the one hand between family care and the two components of the social functioning questionnaire: social skills ($p < 0.02$), and responsibility ($p < 0.01$) (Table 3). On the other hand, between the

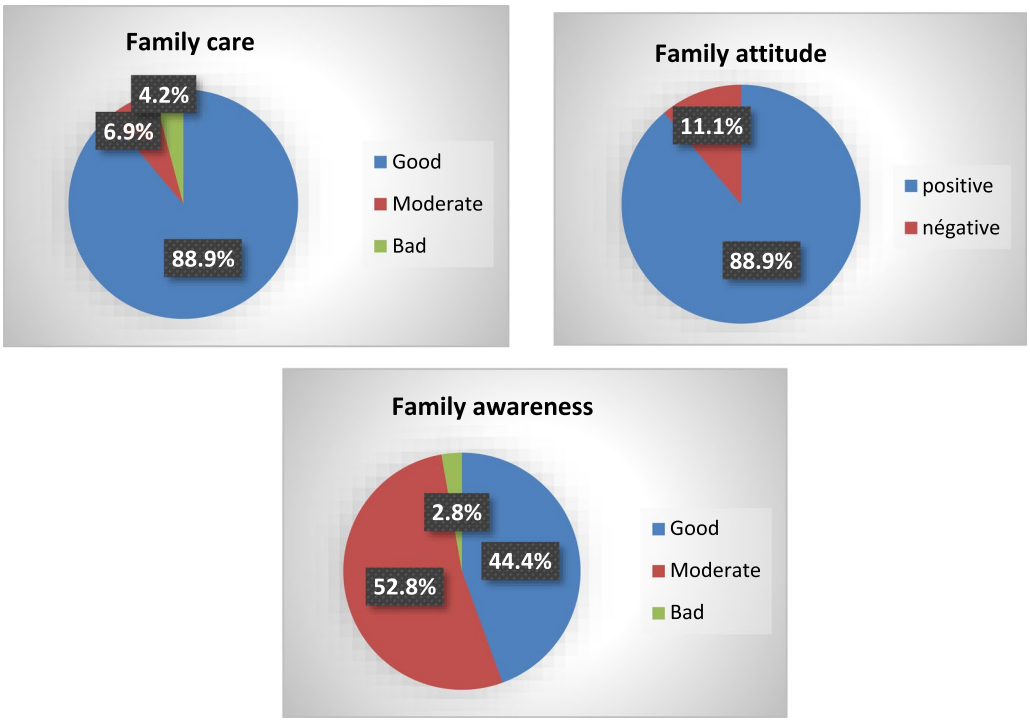

Fig. 2 Distribution of patients according to: family care, family awareness of the disease, and the family's attitude about the disease

attitude of the family (Table 4), family awareness, and the social skills with a very high significance for the two variables ($p < 0.00$) (Table 5).

Out of 72 patients, 6.9% ($n = 5$) of patients had impaired or low social functioning (the mean score of all SFQ items less than 2.4), however, the analysis showed that 33, 3% ($n = 24$) had good social functioning (the average score of all SFQ items greater than 3.2) and the remaining 59.7% ($n = 43$) had moderate social functioning.

The 6.9% patients with impaired social functioning were males aged between 19 to 49 years ($p < 0.35$), from an urban environment ($p < 0.17$), without any professional activity ($p < 0.00$), and have a progressive onset of the disease ($p < 0.31$). Among these patients, 5.5% ($n = 4$) are single ($p < 0.12$) and caught this disease at an age greater than or equal to 20 years, they have mixed symptoms (positive /negative) ($p < 0.15$).

The statistical analysis by multiple linear regression showed that the impairment of social functioning, of our patients, was correlated with five factors: professional activity ($p < 0.00$), family situation ($p < 0.03$), family care ($p < 0.02$), family awareness ($p < 0.01$), and the negative subtype of psychotic symptomatology ($p < 0.02$) (Table 6).

The factor that appeared to be very strongly correlated with altered social functioning is professional activity, so it is a good marker of the evolution of social functioning.

Discussion

Professional activity is a good marker of the evolution of social functioning. In 2004, Marwaha and Johnson published a review of 26 studies on the employment rate and schizophrenia. These different studies showed that only 10 to 15% of subjects suffering from schizophrenia were integrated into the labor market [8].Our results also show that 20.8% of our patients find themselves active or rather exercised a professional activity.

In 2010, Bouvet and Alegre in a study demonstrated a positive effect of employment on patient stabilization in the sense that it strengthens self-esteem, reduces depression, and improves interpersonal skills. For this, integration into the labor market seems to have identical effects to psycho-social rehabilitation [9], which confirms our study.

Our schizophrenic patients are mostly single (73.6%), which proves the difficulty faced by the patients to establish links with others, or to establish interpersonal relationships, this higher frequency of single subjects among schizophrenics is not surprising and it appears to be consistent with the conclusions of other authors [10, 11].

The high percentage of male schizophrenic patients (76.4%) compared to females (23.6%) is not only a sign that men are affected earlier by the onset of schizophrenia than women, but also is due to the set of Moroccan beliefs and traditions that make the image of women

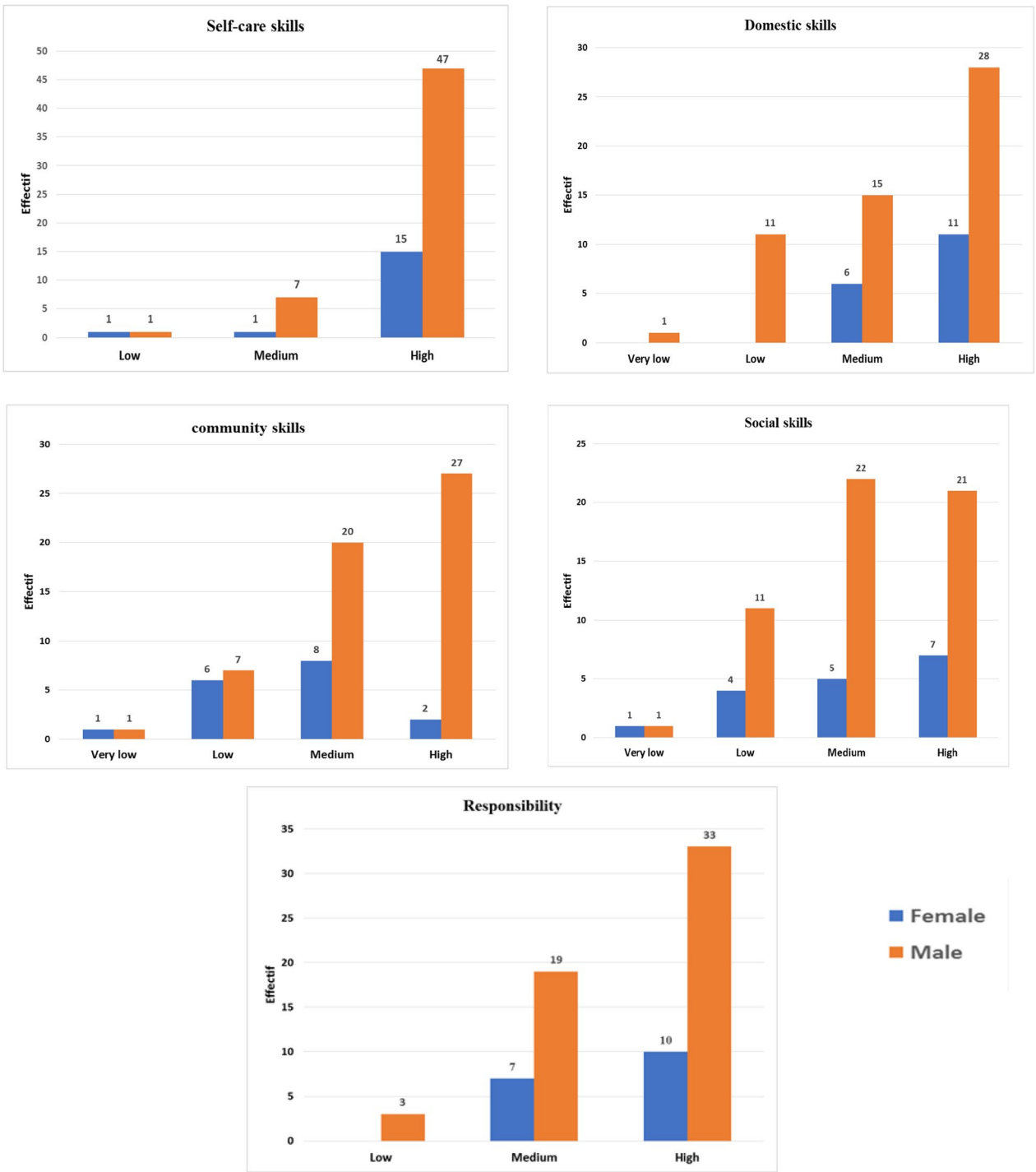

Fig. 3 Distribution of patients according to the 5 components of SFQ

more sensitive in the Moroccan population, the thing that does not encourage them to worry about their state of mental health, and to go to the health centers for screening and diagnosis at the onset of the first signs of the disease.

In 1995, Lalonde placed particular emphasis on the involvement of the family in the treatment of schizophrenia, Considering that the family constitutes the cornerstone for the care of the affected person, and that it is essential that professionals involved in the treatment

Table 3 Chi-square independence test between family care, social skills and responsibility (components of SFQ)

		Family care				Total	($p < 0.05$)
		Good	Pretty good	Moderate	Bad		
Social skills	High	16	11	1	0	28	26.33 ($p < 0.02$)**
	Medium	8	14	3	2	27	
	Low	5	10	0	0	15	
	Very low	0	0	1	1	2	
Responsibility	High	23	18	1	1	43	16.87 ($p < 0.01$)**
	Medium	5	16	4	1	26	
	Low	1	1	0	1	3	
Total		29	35	5	3	72	

Table 4 Chi-square independence test between family attitude, social skills and responsibility (components of SFQ)

		Family attitude		Total	($p < 0.05$)
		Positive	Negative		
Social skills	High	27	1	28	18.28 ($p < 0.00$)**
	Medium	23	4	27	
	low	14	1	15	
	Very low	0	2	2	
Responsibility	High	41	2	43	5.96 ($p < 0.05$)**
	Medium	20	6	26	
	Low	3	0	3	
Total		64	8	72	

quickly establish a therapeutic alliance with the family and the patient in order to support and free families from schizophrenia [12].

In 2004, Van Meer concluded that the sick person asks for the support of his parents, since the activities of daily living are difficult to assume, and that the parents must take responsibility for the care of the patient [13]. In 2009, Brill et al. also report a link between premorbid social functioning and the negative symptoms of boys with schizophrenia or with a socio-emotional disorder, and have just confirmed that the negative symptoms would even constitute a mediator of the link between the general functioning before and after the onset of the disease [14]. A study carried out in 2010 by Zouari et al. shows that the quality of life of schizophrenic patients depends on the negative subtype of psychotic symptomatology [15]. Couture et al. in 2011 also demonstrated that negative symptoms are relevant factors in predicting the functioning of people with schizophrenia [16].In contrast, positive symptoms are not necessarily related to social functioning of schizophrenia patients [17].

There are other important factors linked to a high or moderate social functioning on the one hand there is the solidarity character of the Moroccan family since all the patients of our population lived with families, and those who work, most of them work in family projects, particularly in agriculture and in shops. We talk about the entourage and the family support, the characteristics of these two families have clearly shown their roles in improving the social functioning of schizophrenic patients. The latter influences the management of schizophrenic patients; it can initiate care and often actively participates in maintaining the care pathway [18].

Furthermore, there is the good care and the positive attitude of the family towards the disease since about 90% of the patients have a good family care and their families had a positive attitude towards the disease, paradoxically higher in families with a low education level.

Table 5 Chi-square independence test between family awareness and social skills (one of components of SFQ)

		Family awareness			Total	($p < 0.05$)
		Good	Moderate	Bad		
Social skills	High	18	10	0	28	24.8 ($p < 0.00$)**
	Medium	8	18	1	27	
	Low	6	9	0	15	
	Very low	0	1	1	2	
Total		32	38	2	72	

Table 6 Correlation between social functioning profile, family situation, professional activity, family care, family awareness, and the negative scale of psychotic symptomatology

	Social functioning profile	Familial situation	Professional activity	Family care	Family awareness	Negative scale
Social functioning profile	1.000	−0.218*	−0.417**	0.253*	0.268*	0.259*
Familial situation		1.000	0.158	−0.083	−0.062	−0.107
Professional activity			1.000	−0.088	−0.172	−0.203*
Family care				1.000	0.463**	0.098
Family awareness					1.000	0.022
Negative scale						1.000

**The correlation is significant at the 0.01 level (two-tailed)

*The correlation is significant at the 0.05 level (two-tailed)

The positive results of the social functioning of schizophrenic patients followed at the MY EL Hassan health center in Kenitra is also due to the psychoeducation that was done by the treating psychiatrists in all the patients and their families as well as the insistence on family integration, social and professional that was the most important topic during the follow-up consultations.

Conclusion

In our study, we came to the conclusion that the altered social functioning of our schizophrenic patients was correlated in particular with five factors: professional activity, family situation, family care, family awareness, and subtype. Negative of psychotic symptomatology, the solidarity character of the Moroccan family can be one of the components of good social functioning.

Even though there is still a lot to do to better understand the social functioning of patients with a psychotic disorder and to better help them. This preliminary work may help other researchers think about other factors that can impact the social functioning of patients with psychotic disorders.

Abbreviations

DSM-V Diagnostic and Statistical Manuel of Mental Disorders, 5th Edition
SFQ Social Functioning Questionnaire
PANSS Positive and Negative Syndrome Scale
SPSS Statistics Package for the Social Sciences

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Author contributions

All the authors have contributed to the realization of this study, each in his own position. MC: associate professor helped me in the interpretation of the results and the elaboration of the manuscript. ME: a psychiatrist who supported me during the study with his always useful instructions. SB: a member of our laboratory helped me in the statistical processing of data.AE: my supervisor who supervised me and guided me throughout the study. AM: director of our laboratory who gives his point of view on the quality of the study and the relevance of the results. All authors read and approved the final manuscript.

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Availability of data and materials

The parameters collected on the study sheets were entered into statistical processing software, and the database of all parameters are available from the author.

Declarations

Ethics approval and consent to participate

The administration of the psychiatry department at the My EL Hassan health center in Kenitra agreed to the study for epidemiological purposes. The patients who met the inclusion criteria were informed about the objectives of the study and the conditions of participation. Their consent was obtained before beginning to fill in the exploitation sheets. The respect of anonymity and confidentiality of information was rigorous. The study does not expose the patient to any risk during the different stages of its progress, the data entry of the patient does not contain his identity.

Consent for publication

Not applicable.

Competing interests

The authors declare that they have no competing interests.

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