

# Schizophrenia, instrumental activities of daily living and executive functions: a qualitative multidimensional approach<sup>1</sup>

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**Abstract:** Introduction: People with schizophrenia often present difficulties in social and occupational reintegration that may be associated with problems in performing daily activities. Executive dysfunction is one of the factors associated to these difficulties. Objective: In this study we sought to know and analyze the potentialities and difficulties of people with schizophrenia regarding the Instrumental Activities of Daily Living, specifically the components related to executive dysfunction through the perception of people with schizophrenia, family members and professionals who participate in support associations in Brazil and In Portugal. Method: Data was obtained through 2 focus groups for each representation (users, family and professionals), with a mean of 6.7 participants per group (N=40). Data were analyzed through Interpretive Phenomenological Analysis. Results: We identified three main themes and their respective subtopics: The to (not) do in its essence - lack of meaning, dissatisfaction and lack of autonomy; Impediments - decreased volition, inflexibility and action and difficulty in planning routines and tasks; Environmental factors - family, association and professionals. Conclusion: We conclude that the insufficiency in the occupational performance of people with schizophrenia in relation to IADL, directly related to executive dysfunction, reveals the importance of specific rehabilitation programs for this population, aiming at cognitive and occupational improvements.

**Keywords:** *Schizophrenia, Executive Function, Daily Activities.*

## Esquizofrenia, atividades instrumentais de vida diária e funções executivas: uma abordagem qualitativa

**Resumo:** Introdução: Pessoas com esquizofrenia frequentemente apresentam dificuldades na reinserção social e ocupacional, as quais podem estar associadas a problemas na realização das atividades cotidianas. A disfunção executiva é um dos fatores que têm sido relacionados a essas dificuldades. Objetivo: Conhecer e analisar as potencialidades e dificuldades de pessoas com esquizofrenia frente às Atividades Instrumentais da Vida Diária, especificamente os componentes relacionados à disfunção executiva. Método: Participaram da pesquisa pessoas com esquizofrenia, familiares e profissionais inseridos em associações de apoio no Brasil e em Portugal. Para a obtenção dos dados, foram realizados dois grupos focais para cada grupo (usuários, familiares e profissionais), com média de 6,7 participantes (N=40). Os dados foram analisados através da Análise Fenomenológica Interpretativa. Resultados: Foram identificados três temas principais e seus respectivos subtemas: O (não) fazer na sua essência – falta de significado, insatisfação e falta de autonomia; Impedimentos – diminuição da volição, inflexibilidade de ação e dificuldade de planejar rotinas e tarefas; Fatores Ambientais – família, associação e profissionais. Conclusão: A insuficiência no desempenho ocupacional das pessoas com esquizofrenia que participaram deste estudo, relativamente



às Atividades Instrumentais da Vida Diária, está diretamente relacionada aos componentes da disfunção executiva e revela a importância de programas de reabilitação específicos para essa população, visando a melhorias cognitivas e ocupacionais.

*Palavras-chave: Esquizofrenia, Função Executiva, Atividades Cotidianas.*

## 1 Introduction

Several interventions have been proposed under the aegis of the Psychosocial Rehabilitation, which advocates the transformation of the healthcare services and society, proposing the facilitation of the functioning of individuals through the minimization of disabilities and disadvantages of people with mental disorders. One of the precepts of the Psychosocial Rehabilitation is that the service spaces enable to construct or reinvent everyday life through interdisciplinary dialogues and intersectoral actions, involving professionals, family members, and users, proposing the de-stigmatization and the education of society (AMORIM; OTANI, 2015; HIRDES; KANTORSKI, 2004).

The participation in socio-representative associations has been a locus for the development of skills and abilities of people with mental disorders. It allows the sharing of individual learning and the construction of theoretical structures that support and refer to the associated group. According to Rodrigues, Brognoli, and Spricigo (2006, p. 242), this associative experience enables an interpretation of reality that “organizes the relationships of the individual with the world and guides their conduct and behavior in the social environment”. Also, according to Nicolau (2015, p. 267), teamwork “enhances transformations in daily activities and in the ways people interrelate.”

In our professional practice as occupational therapists both in Brazil and in Portugal, we noticed that people with mental disorders, especially people with schizophrenia, have limitations in the execution of daily actions, necessary for work, engagement and social participation, corroborating with the findings of Katz et al. (2007), Monteiro e Louzã (2007) e Ricci e Leal (2016). The need to understand these limitations is justified by the understanding that man and social contexts are related, constituting the individual and society, dialogically, through human action/activity on nature (SIRGADO, 2000; VIGOTSKI, 2000; ZANELLA, 2004; TOASSA, 2016). Thus, we understand that it is probably in this dialogue that the tasks are signified and organized in families, in communities, in territories, including the (re) insertion, or not, of individuals with occupational limitations.

Studies have reported that executive dysfunction is one of the factors that influence occupational

deficits in people with schizophrenia at home and in the community as well as interfering in the achievement of positive results in the processes of social reintegration (BARCH; CEASER, 2012; BAUM; KATZ, 2010; CLARK; WARMAN; LYSAKER, 2010; GREENWOOD et al., 2008; HADAS-LIDOR et al., 2001; KLUWE-SCHIAVON et al., 2013; LYSAKER; WHITNEY; DAVIS, 2006; SETER et al., 2011). The Executive Functions (EF) are flexible and adaptive behavior actions in the individual’s interaction with the world, in an intentional way. This set of skills allows planning, monitoring behavior, directing and sustaining attention in a task (LAWS et al., 2008). Lezak et al. (2004) define executive functioning through four basic components: a) volition, which involves aptitudes, as in formulating goals, the intention, motivation and self-awareness; b) planning, which is the capacity for conceptual formation, abstraction, creating of alternatives for action, formulating the steps and sequencing of an activity; c) intentional action, which encompasses the skills necessary to transpose an intention or plan of a productive activity into an action; d) effective performance, which includes capacities, such as self-monitoring, self-direction, self-regulation, relative to intensity, rhythm and other qualitative aspects of the action.

The advancement of research in schizophrenia has led to effective treatment approaches in reducing the positive symptoms of the disease. However, there are still limitations to performing complex tasks, such as the Instrumental Activities of Daily Life (IADL), which are activities guided to interact with the environment, support daily life at home and in the community, as well as confer autonomy on the performance of occupational roles in the social context in which individuals are inserted (AMERICAN..., 2015; LIPSKAYA; JARUS; KOTLER, 2011). Performing IADL usually requires the handling of instruments or tools, requiring skills such as planning, self-monitoring, and problem-solving skills. However, factors impairing the performance of people with schizophrenia in IADL are still poorly understood (LIPSKAYA; JARUS; KOTLER, 2011; NAKANISHI et al., 2007), and it is necessary to explore how these occupational dysfunctions are related to deficits in executive functions.

Thus, the objective of this study was to know and analyze the potentialities and difficulties of people with schizophrenia in relation to IADL,

specifically, the components related to executive dysfunction through the perception of people with schizophrenia, family members, and professionals who participate in associations to support individuals and families with mental disorders.

## 2 Method

This study was carried out with the participation of people from the Arnaldo Gilberto Association (Brazil) and the Nova Aurora Association (Portugal), partners of the Federal University of Paraná (Brazil) and the University of Porto (Portugal) respectively, in several actions (curricular internship, extension projects and research) coordinated by the authors. The first one presents as its mission the favoring of the autonomy of people with mental disorders, supporting them in their socioeconomic, political and cultural needs, through diverse workshops, an income generation project, among other activities offered. It aims to contribute to the reduction of stigma and enable the exercise of citizenship. The second one is to promote quality of life, functionality and social insertion, with a primary focus on combating stigma, through programs of activities that aim at socioeconomic and cultural support, enhancing opportunities for participation and social insertion.

The participants were allocated to three groups to obtaining the data: people with schizophrenia, professionals, and relatives of people with schizophrenia. The inclusion criterion common to all groups was the participation in an association of support for people with schizophrenia.

The following specific inclusion criteria were listed: a) people with schizophrenia: diagnosis of schizophrenia confirmed by a psychiatrist, be over 18 years old and be on steady use of medication for at least six months; b) relatives: be a first-degree relative of a person with schizophrenia and over be 18 years old; c) professionals: be a health professional or social worker with at least two years of experience in the care of people with schizophrenia.

All users of the associations that met the inclusion criteria were invited to join the study through telephone contact provided by the secretariats of the associations, where the objectives and procedures of the groups were exposed. Those who were interested in participating were called to join the groups at a date and time previously scheduled.

This study is part of the Ph.D. project of the first author, held at the Faculty of Psychology and Educational Sciences of the University of Porto, and supported by the opinion n° 673/2014 of the Ethics Committee of the School of Health Technology of Porto and by the opinion n° 638.793 of the

Ethics Committee of the Health Sector of the Federal University of Paraná. All selected members participated in the study after agreeing, reading and signing the Informed Consent Term.

Focal Groups were conducted to learn the performance of people with schizophrenia in the IADL. This is a methodological procedure that offers a way to generate data from the qualitative interaction, exploring different conceptions about a topic. In this context, the participants express and clarify their points of view on the proposed theme (MAZZA; MELO; CHIESA, 2009). The focus on the subjective aspects of the participant's narratives allowed to highlight the understanding and interpretation of the social reality experienced, as well as the meanings given by the actors to their lived experiences (GALHEIGO, 2003).

In this sense, we investigate three guiding questions associated with the occupational performance of this people in the IADL: a) "if" and "how" they perform them; b) difficulties of achievement and indicators of executive dysfunction; c) strategies used to overcome or compensate for difficulties.

Six focal groups (two from each group) were established in institutions that support users with schizophrenia, one in Portugal and another in Brazil. The two associations share the same principles of social and occupational reintegration, offering users and families activities aimed at reintegrating people with experience of mental illness in the work and social contexts.

The sessions were recorded in audio and video from January to July 2015, and each focus group lasted approximately 90 minutes, conducted under a pre-established guide, common to all groups. The guide was composed of five facilitative domains on the theme: 1) opening (presentation and objectives); 2) introduction to the topic (sensitization, daily activities and people with schizophrenia); 3) transition to the topic (contextualization of the IADL); 4) key issues (such as, why, difficulties), and 5) finalization.

After performing each group, the data were transcribed and analyzed through Interpretive Phenomenological Analysis (IPA), which provides for the following steps: several transcription readings, identification of initial themes, grouping, and definition of the main themes. This method of analysis enables the understanding of subjective experience, as well as the cognitions and emotions that ground the opinions on specific individuals in a descriptive and profound way (BIGGERSTAFF; THOMPSON, 2008).

### 3 Results

There were 40 participants in the study. The specific sociodemographic characteristics of each group - professionals, people with schizophrenia and family members - are described below, in Tables 1, 2 and 3, respectively.

The Interpretive Phenomenological Analysis (IPA) had three main themes disaggregated in their respective subtopics and presented in Table 4. The subtopics of the main themes "Do (not) it at their core" and "Limitations" were related to the probable affected executive functions of the participants. The subtopics of the theme "Environmental factors" emerge as

**Table 1.** Sociodemographic data of participants - professionals.

	Portugal (n=6)	Brazil (n=6)
<b>Profession</b>		
Occupational Therapist	3	2
Psychologist	3	2
Social worker	0	2
<b>Age [M (SD)]</b>	31.5 (3.9)	52 (13.3)
<b>Academic Degree</b>		
Doctorate degree	2	1
Master	2	2
University graduate	2	3
<b>Years of experience [M(SD)]</b>	7.6 (4.4)	17 (9.2)

**Table 2.** Sociodemographic data of the participants - people with schizophrenia.

	Portugal (n=9)	Brazil (n=7)
<b>Gender</b>		
Male	7	4
Female	2	3
<b>Age (years old) [M (SD)]</b>	40.33 (6.0)	44.8 (12.6)
<b>Educational level (years) [M (SD)]</b>	12.3 (3.2)	11.5 (2.8)
<b>Marital status</b>		
Single	9	5
Married	0	1
Divorced	0	1
Widow	0	0
<b>Time of the disease (years) [M (SD)]</b>	13.11 (9.4)	20.4 (8.9)
<b>Live with</b>		
Family	5	6
Alone	3	1
Institution	1	0

a reaction of the environment to the difficulties presented, and can be a support factor or barrier.

### 4 Discussion

Two aspects guided and systematized the discussion of the results. The first aspect is the subjective perspective applied in the study, with the analysis of the listening of the participants from three points of view - users, family and professionals -, which led to adopt those inherent to culture in the which participants are inserted as reference standards for the performance of IADL - Brazil and Portugal -, mainly described in the discourse of family members and professionals. This option is based on the conception of Vygotsky (REY, 1993), who declares that each person is the reflection of the totality of social relationships since all are embedded in forms of daily organization that are concretized in values, social practices, modes of being as a characteristic of a culture. The second aspect refers to the fact that there are no differences in the results presented by the Portuguese and Brazilian participants, regarding the types of difficulties in performing the IADL, as well as their facilitators and barriers, which allowed to discuss the set of results as a whole.

The reports of the three groups reveal that the occupational performance of people with schizophrenia in the IADL is impaired when it comes to doing content and how to do it. The limitations between these themes/sub-themes are subtle, intertwined in their causalities and consequences, and eventually suggest some overlap, such as lack of meaning and volition. However, they were very explicit in the participants' discourses that we have chosen to approach each separately.

**Table 3.** Sociodemographic data of participants - relatives of people with schizophrenia.

	Portugal (n=6)	Brasil (n=6)
<b>Gender</b>		
Male	3	3
Female	3	3
<b>Age (years old) [M (SD)]</b>	59.6 (11.9)	55.3 (19.2)
<b>Educational level (years) [M (SD)]</b>	11.8 (1.8)	12.1 (1.6)
<b>Marital status</b>		
Single	0	1
Married	4	5
Widow	2	0

Table 4. Themes and sub-themes identified in IPA.

Main Themes	Sub-themes	Excerpts from the stories	Related Executive Function (LEZAK et al., 2004)
	Lack of meaning	<p>[...] there is always that impression that you should not and do not have to do things by yourself... you have to be doing things for others (UB3).</p> <p>[...] it does not care if the house is turned over (FB4).</p> <p>[...] but if you do not say these things (the need to organize the kitchen and the bedroom) you do not have great care... They seem lazy, but they are not, they can not even do things (FP3).</p>	Volition
The doing (or not) in its essence	Dissatisfaction	<p>[...] My mother helps me in housekeeping... I do not have big aspirations to have a model home, but it's just as organized as I need (UP7).</p> <p>[...] There is a great distance between what is right for them and what the family requires minimally, so they (family members) prefer that they do not even do it... (PP3)."</p> <p>[...] in her head she has no difficulty doing anything in the house, but she does everything very weak... (FB1).</p>	Effective Performance
	Lack of autonomy	<p>[...] yes, he does all this, any of these activities, but he has to order... (FB2).</p> <p>[...] you have to always be giving this space, this opportunity for my relatives to tell me what I have to do, how to do it as if I were a puppet, we get a little annoyed at it (UB3).</p> <p>[...] They have to say what you have to do. (FP3).</p>	Intentional action
	Decrease in volition	<p>[...] I live alone... there are times when there is no will to take care of me... for example going shopping (UP2).</p> <p>[...] I know how to go, which bus to take, but if I did not plan it the day before, I did not think about everything in advance, I do not have the mood, I will not go (UB2).</p>	Volition
Limitations	Inflexibility of thought and action	<p>[...] The impression I have is that the problem is rigor, lack of flexibility and adaptability. (FB2).</p> <p>[...] It's like that little doll that you wind up, he walks straight, hit an obstacle he gets there trying infinitely (FB1).</p> <p>[...] I said so many times, I have already shown that it is wrong, and continues to err, to err, I have already seen that it is not purposeful... (FP3).</p>	Intentional action

The acronyms used to name each participant follow the next principle: 1<sup>st</sup> character: 1<sup>st</sup> character: U = user, P = professional, F = family member; 2<sup>nd</sup> character: P = Portugal, B = Brazil; 3<sup>rd</sup> character: participant's number. Example: FB3: Family Group, Brazil, participant 3.

Table 4. Continued...

Main Themes	Sub-themes	Excerpts from the stories	Related Executive Function (LEZAK et al., 2004)
	Difficulty in planning and organizing routines and tasks	<p>[...] that is a complete disorganization, but she knows where things are, she lives in that mess... the biggest problem is the disorganization, it's all disorganized at home. (FP4).</p> <p>[...] a great difficulty to deal with them is the planning, they can not organize an activity (PP1).</p> <p>[...] I feel guilty... I do not take good care of the house, I take care, but not as I wanted, well organized (UB1).</p>	Effective Performance
	Family	<p>[...] my parents have to keep telling me to do it, otherwise, I'm delay it (UB3).</p> <p>[...] I know how to do some things, but my mother prefers to do it (UP8).</p> <p>[...] many of them have their skills worked on, but families do not allow them to do their homework (PP3).</p>	
	Forums and Associations	<p>[...] the association was light at the end of the tunnel (UP3).</p> <p>[...] I need to be encouraged, or else I do not, here (Association) I at least feel less different (UB4).</p> <p>[...] she improved a lot after she came here (FP1).</p> <p>[...] one thing he's excited about is coming in the association (FB3).</p>	
Environmental factors (facilitators and barriers)	Health and Social Care Professionals	<p>[...] And so the area of functionality of the IADL makes a lot of sense because they have so many deficits, they are much more complex tasks, which I think it requires more differentiated training and that many times we do not get them to have the result required. (PP4.)</p> <p>[...] there are programs that are more laboratory, and then do not pass into real life... we have a training of purchases in the computer... We did a preliminary study and we did not find results with very significant differences between the final and initial evaluation. (PP1).</p> <p>[...] Persistence and getting too close... A few years ago, I started working with cognitive therapy, and that's what works with them. Working every situation... (PB1)</p> <p>[...] But it takes a long time... in some cases we can not change certain behaviors, but they have learned to make coffee, it was valued... (PB2)</p>	

The acronyms used to name each participant follow the next principle: 1<sup>st</sup> character: 1<sup>st</sup> character; 2<sup>nd</sup> character: P = Portugal, B = Brazil; 3<sup>rd</sup> character: participant's number. Example: FB3: Family Group, Brazil, participant 3.

## 4.1 The Doing (or not) in its essence

The first theme highlights difficulties that characterize the functionality of people with schizophrenia, through subjective elements about the sense of doing it or not doing it. When deepening into the analysis of the doing (or not) in its essence, we found subtopics related to lack of meaning, dissatisfaction and lack of autonomy for action that are also associated with other areas of occupational performance of people with schizophrenia such as work and leisure (MOTIZUKI; MARIOTTI, 2014).

### 4.1.1 Lack of meaning

In this subtheme, there is an apparent lack of meaning for people with schizophrenia when performing the IADL. Taking as a theoretical reference the Vygotskian perspective for understanding this topic, meaning refers to “what things mean.” The meaning is related to the appropriation of the activity, involving “know-how”, “understanding” and the dynamics of the relation between instruments-actions-objectives (ZANELLA, 2004). Thus, from this conception, we understand that, for these participants, the performance of IADL seems to be “not very good” for people with schizophrenia, especially to understanding the objectives of the tasks required, which, as a rule, precedes the action, that is, “I act according to what I wish to accomplish.”

In the analysis of these reports, we realized that the doing dynamics of people with schizophrenia and their respective goals do not match the cultural standards expected in their countries. We emphasize that the non-meaning of doing, apparently is not related to issue of not knowing how to do, but to the non-meaning of “why” to perform the IADL daily. Not doing activities that are expected and, above all, important in the daily lives of people can lead to negative reactions and consequences, such as repeated complaints from family members. The same behavior was observed in participants from Brazil and Portugal.

### 4.1.2 Dissatisfaction

The subtheme dissatisfaction refers to the levels of satisfaction and acceptance of the results of tasks performed by people with schizophrenia, by family members and professionals. We analyzed this discussion from the satisfaction parameters referenced by the theory of discrepancy<sup>2</sup>, whose levels are calculated based on the difference between the expected result and the perception of the experience (ESPERIDIÃO; TRAD, 2006).

From this understanding, the results obtained reveal the dissatisfaction of the family members and professionals involved, since when the activities are carried out by people with schizophrenia, they are not in the pattern expected/established/desired by them. However, contradictorily, for most participants with schizophrenia, the tasks are performed with satisfaction, demonstrating a difficulty of self-monitoring in the execution of these activities. In this set of participants, we can deduce that the functionality and perception of performance of people with schizophrenia in the IADL are below expectations and do not correspond to the expectations of their relatives and professionals. Changes in performance may also generate overload for the caregivers, who often need to redo tasks as reported by family participants. Thus, the meaning of the IADL for the family and professional groups have a social value relative to autonomy and independence and are similar in both groups. However, for the group of users, we suggest that meaning seem to be related to subjective values, linked to the low perception of social values.

Nonetheless, we also identify another perspective of dissatisfaction observed in the discourse of people with schizophrenia when referring to the collection imposed on the quality of the tasks. From their point of view, they expect their behavior/performance to be accepted, but they are often perceived as unsatisfactory. There is a space of divergence here that may be related to limitations in the ability to self-monitor and self-regulate the qualitative elements in the performance of the activity, as well as the low tolerance and frustration, which is related to the effective performance component of the EF. Executive dysfunction can be seen in practical difficulties, as well as in behavioral responses, such as motivational lability, inhibition of response or even dealing with tasks that vary in degree of relevance and priority (SABOYA et al., 2007).

### 4.1.3 Lack of autonomy

The autonomy is related to the capacity for self-regulation when facing a situation. This quality calls for the responsibility to act in the face of a decision made, that is, it requires consideration of several alternatives, the possibility of choosing the right one and putting it into action (ZATTI, 2007). From this reference, the results in this group of participants show apathy towards the attitudes required daily. It seems that although there is apparently the capacity to perform, from being independent to action, people with schizophrenia need to be oriented or even urged to perform daily activities, which reveals the lack of autonomy, that

is, the difficulty of make the decision and start the activity. The behavior of these individuals in the IADL seems to demonstrate the need to be constantly guided, reflecting the lack of initiative for the daily demands.

The performance of an objective that generates an action - or the initiation, maintenance, modification or even interruption of an activity - is correlated with the autonomy, the functional expression of the element of the EF, that is, the intentional action. Thus, the lack of autonomy described in the discourse of these participants can be explained by an executive dysfunction, namely in the subset of intentional action (LEZAK et al., 2004; POWELL; VOELLER, 2004).

## 4.2 Limitations

The second main theme brings the three predominant difficulties in the performance of IADL: decreased volition, inflexibility of thought and action, and difficulty in planning and organizing routines and tasks, which, according to the EF reference proposed by Lezak et al. (2004), it allows to associate the difficulties for the elements of executive dysfunction.

### 4.2.1 Decrease in volition

Volition or will refers to the process by which people are motivated and choose what to do. The concept of volition admits that all human beings have the desire to engage in occupations and that this desire is continually shaped through lived experiences, that is, how tasks are performed (FORSYTH; KIELHOFNER, 2011). The will refers to thoughts and feelings that occur in a cycle: thinking about the possibilities of what to do, choosing what to do, experiencing doing and then interpreting the experience. Unlike the motivation, which has the direction of the environment for the individual (for example, a reward), the volition is intrinsic - from the individual to the environment (for example, preferences, identity) and, therefore, it can minimize obstacles found in the performance as well as facilitating the initiation of actions and maximizing attention during the execution. Considering the existence of a threshold of intention for action, when desire is below that threshold, we can determine that it is the motivation that drives doing. Likewise, when desire crosses a threshold of intention at a purely motivational level, it reaches the volition (SHAH; GARDNER, 2008).

Described as one of the negative symptoms of schizophrenia (FERREIRA JUNIOR et al., 2010; MONTEIRO; LOUZÁ, 2007; NAKANISHI et al.,

2007), and as one of the elements of executive dysfunction (NEILL; ROSSELL, 2013; ORELLANA; SLACHEVSKY, 2013), the lack of volition was mentioned in the participants' reports. Procrastination may also be a manifestation of the lack of volition and may be related to a lower degree of attention and long-term reward. This result may confirm what we have previously proposed about difficulties in occupational performance in IADL not related to the lack of competence, but to be an aspect associated with executive dysfunction (CAHN-WEINER; BOYLE; MALLOY, 2002; ORELLANA; SLACHEVSKY, 2013).

### 4.2.2 Inflexibility of thought

One of the reported characteristics about the attitude of people with schizophrenia is the behavioral perseveration in the accomplishment of tasks and in the confrontation of daily situations (FERREIRA JUNIOR et al., 2010; MONTEIRO; LOUZÁ, 2007; ORELLANA; SLACHEVSKY, 2013). In this study, the reports that concretized this concept are present, mostly, in the discourse of family and professionals. There is a perceived intuition in these two groups that people with schizophrenia, although potentially empowered to perform everyday tasks, limited in their ability to overcome any unplanned demands. This is also described in issues such as time, place or materials, demonstrating a decrease in mental flexibility.

The inflexibility or perseverance of thought and, consequently, actions and therefore the lack of volition, is related to executive dysfunction, as already described, and also to limitations in the social and occupational performance of this population.

### 4.2.3 Difficulty in planning and organizing routines and tasks

Planning is an important step for the success in achieving a goal. Defined as the ability to think about the future, it consists of choosing the most efficient strategies, determining the steps and organizing them in sequence to complete a successful task (SETER et al., 2011). The organization is an intrinsic condition, both for the planning and the execution of the activities. This is related to how information is available or a system to achieve desired results. The organization and planning are elements of the EF and are directly related to the expected occupational performance in the day-to-day tasks (LAWS; PATEL; TYSON, 2008).

The difficulty in planning activities may be one of the factors that explain the systematic supervision



of the users, found in the reports of family members and professionals investigated. It has also been observed that they perform the tasks in advance, to avoid disruptions and frustrations for both parties.

In order to systematize the findings in this discussion so far, Figure 1 shows the relationship between the listed difficulties and the presence of executive dysfunction.

Thus, the results are similar to many studies (HADAS-LIDOR et al., 2001; KLUWE-SCHIAVON et al., 2013; LAWS; PATEL; TYSON, 2008; LIPSKAYA; JARUS; KOTLER, 2011; SETER et al., 2011), regarding the relationship between EF and functionality, that is, problems in executive functioning directly affect the pattern of daily activities, as well as the quality of life and autonomy of people with schizophrenia (EVANS et al., 2004).

### 4.3 Environmental factors (facilitators and barriers)

The challenge of experiencing and coping with the difficulties faced by people with schizophrenia was the third major theme emerging in this study, which demonstrates the strategies adopted by the users, the family members and the professionals in facing the obstacles found in the performance of IADL. Fundamentally, we found three resources used, described below.

#### 4.3.1 Family - Stimulus and Obstacle

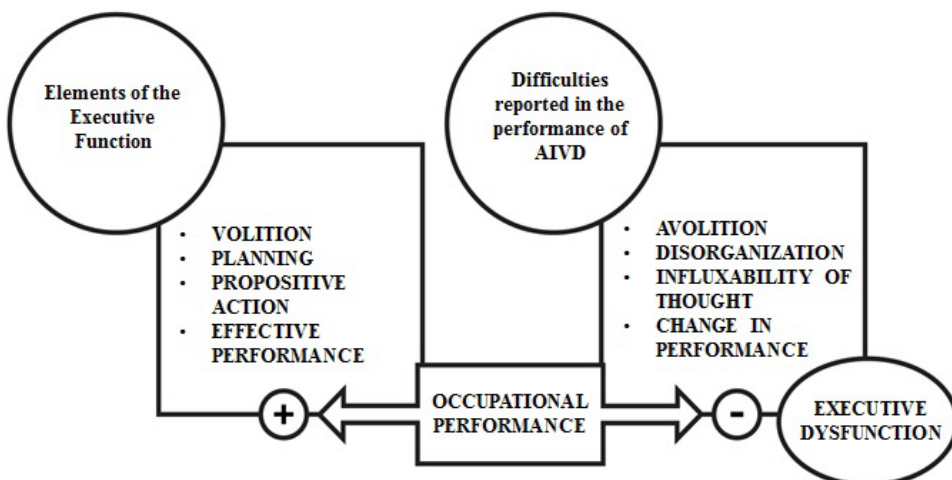
The substitution of the hospital-centered model by the Psychosocial Rehabilitation places the family as a central support network in the reorganization of

the social networks of individuals with schizophrenia, granting them a task that demands preparation and dedication (CASAGRANDE; MARIOTTI; CARDOSO, 2015; SANTOS; CAPOCCI, 2003). Thus, this sub-theme demonstrates the adjustment of all the participants of the two countries to the new models of rehabilitation advocated by the public policies of mental health in Brazil and Portugal, regarding the proposal of the family as a partner in overcoming difficulties. It should be noted that, in both countries, the Psychosocial Rehabilitation precepts are used as guiding principles for mental health care, called the Psychosocial Care Network (RAPS) in Brazil and the National Network of Continuing Integrated Care Mental Health (RNCCI-CCISM), in Portugal (BRASIL, 2011; PORTUGAL, 2011).

Notably, the family members continually encourage users to be active and carry out day-to-day activities. However, contradictorily, sometimes they are also agents of obstruction of the doing when they do not facilitate or do not guide the accomplishment of the tasks. As an important part of the rehabilitation process, it was evidenced in this study that families of people with schizophrenia should be integrated into the treatment programs to guide them about strategies that potentiate their capacities, as well as provide optimize and resignify the doing of their limbs affected by the pathology.

#### 4.3.2 Share with peers - associations

The second sub-theme on environmental factors (facilitators and barriers) is also closely associated with the psychiatric reform and the new equipment that emerged from it. The modality of coexistence



**Figure 1.** Relationship between the components of the executive functions and the difficulties reported in this study.

in associations was pointed out as an efficient device for the improvement of several aspects of the life of the people with schizophrenia, namely in the motivation for the daily doing. The social support networks contribute to face the problems experienced, providing support and protection to the individual (BRUSAMARELLO et al., 2011; FERRO et al., 2012).

For both users and their families, this space is reported as a place to alleviate stigma and strengthen potentialities. These social devices allow an egalitarian experience, favoring the development or the rescue of capacities and abilities through different ways of doing, establishing it as an effective resource in the psychosocial rehabilitation of the people with schizophrenia.

### 4.3.3 Health professionals and social assistance

Despite the differences in techniques used by the professionals participating in the two countries studied, the effect produced seems to be equivalent. In Portugal, professionals reported specific procedures for the training of IADL in laboratory context, through simulation of activities in the Association's premises, and in a real context, when the activities were trained/carried out at home visits or in supermarket, shopping, etc. ., as well as techniques of approaches for cognitive dysfunction through computational cognitive rehabilitation programs.

Otherwise, Brazilian professionals reported that the treatment of occupational dysfunction is performed through cognitive therapy, family care, and skills training in a laboratory context. No specific approaches have been reported for cognitive deficits or for improving the occupational performance of IADL.

We observed that, despite the different treatments given to the difficulties of performing the IADL by people with schizophrenia, both groups of professionals reported observing improvement of the occupational performance of the users in these specific activities (DOMINGO et al., 2015; SAVLA et al., 2012).

## 5 Conclusion

The results of this study emphasized the insufficiency of participants with schizophrenia in occupational performance in the IADL. The participants' reports suggest limitations in the functioning of the EF when they bring concrete illustrations of impairment in their elements, which negatively impact the performance of daily activities.

Nevertheless, in this study, we did not find any actions that directly focused the rehabilitation of the EF. On the other hand, in spite of transcending our objectives, we noticed that the Environmental Factors to face difficulties evidenced are consonant with the precepts of Psychosocial Rehabilitation, as well as reveal that this population is inserted and enjoying the available devices. However, we point out that the number of participants in this study is a limiting factor for the generalization of the results.

The reflection on the determinations of daily life contributes to the movements of its re-signification. For people with schizophrenia, this is revealed in the dynamics of self-determination in the face of the changes in their lives. Thus, in addition to the naming and understanding obtained on the multidimensional factors involved in this research, we also sought to contribute with guiding elements for the construction of treatment and rehabilitation programs, not only for skills and competences, but also to the more favorable contexts for its real effectiveness.

Finally, the main contribution of this study was to identify the difficulties related to executive dysfunction and its impact on the daily lives of people with schizophrenia, through the reports of the participants. This evidences the relevance of specific rehabilitation programs for this population, aiming at cognitive and functional improvements, indicating that this area is to have its knowledge deepened by new studies in new contexts, and also be a profitable area for the performance of the Occupational Therapist.

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## Authors' Contribution

Mônica Macedo contributed in the conception and design of the study, in the data collection, in the analysis and interpretation of the data, in the elaboration and writing of the article. Antônio Marques and Cristina Queirós contributed to the analysis and interpretation of the data and the review of the article. Milton Carlos Mariotti contributed in the data collection, in the analysis and interpretation of the data, in the elaboration and writing of the article. All authors approved the final version of the text.

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- <sup>2</sup> Discrepancy Theory: According to Williams (1994) the discrepancy model argues that satisfaction is entirely relative, defined in large part by the perceived discrepancy between patient expectations and real experience.