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The Clinical Interview for Psychotic Disorders (CIPD): Preliminary results on interrater agreement, reliability and qualitative feedback

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ABSTRACT

Given the recent treatment paradigm shift in psychosis, focusing on the recovery process, new assessment tools are needed. The Clinical Interview for Psychotic Disorders (CIPD) is an integrative and comprehensive assessment tool for psychotic disorders. CIPD encompasses the evaluation of diagnosis, psychosocial correlates and most relevant comorbidities. The study's aims were to examine CIPD inter-rater reliability, the relationships between CIPD and other instruments assessing positive and negative symptoms and functionality, and to explore participants' qualitative feedback. The sample included 30 individuals with psychotic disorders, aged between 18 and 62 years old. Two experts in clinical psychology conducted the interviews and independently rated other assessment tools (PANSS, GAF and PSP) to determine severity of psychotic symptoms and levels of functionality. Results indicated high inter-rater reliability for the majority of CIPD items and agreement regarding diagnosis was between 73% and 93%. Moreover, positive and moderate to strong correlations were found between CIPD, PANSS, GAF and PSP. From the qualitative analysis five themes emerged, namely: CIPD applicability and utility, comparison with previous interviews, interviewer aspects, negative and positive aspects. Overall, these preliminary results suggest that CIPD is a reliable and valid assessment instrument that seems to be well suited for people with psychosis.

1. Introduction

There has been an intense debate concerning the definitions, boundaries and characteristics of the 'psychosis' concept. Two distinct, though eventually complementary, representations of psychosis have been studied: the categorical (which includes the current diagnostic systems) and the dimensional (which refers to the idea that psychotic symptoms exist in a continuum irrespective of diagnostic categories) representations (Linscott and van Os, 2010). Psychotic disorders are classified in the DSM-5 under the 'Schizophrenia and other related psychotic disorders' group as encompassing "abnormalities in one or more of the following five domains: delusions, hallucinations, disorganized thinking (speech), grossly disorganized or abnormal motor behavior (including catatonia), and negative symptoms" (American Psychiatric Association, 2013, p. 87). Prevalence range from 0.3%–0.7% for schizophrenia, 0.2% for delusional disorder, 0.3% for schizoaffective disorder, and 9% for brief psychotic disorder (American Psychiatric Association, 2013). Although usually associated with major impairment in individuals' lives, namely in health, social, and personal adjustment (Sim, 2006), differential outcomes and recovery trajectories have been found in people with psychosis (Jäger et al., 2014; Lally et al., 2017).

Although several clinical interviews and self-report measures to assess psychotic symptoms do exist, the majority are extensive and particularly diagnosis and phenomenology-oriented (e.g., Diagnostic Interview for Genetic Studies; Nuremberger, et al., 1994). In addition, these instruments frequently do not allow a comprehensive assessment of symptom severity or clinical change (e.g., interviews for

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genetic studies). On the other hand, symptom-based interviews (e.g., Positive and Negative Syndrome Scale; Kay et al., 1987) often do not allow for the establishment of a diagnosis.

Recently, new psychological interventions for psychotic disorders have been developed. These interventions provide a shift from a symptom-focused approach to a more person-based approach, focusing on the recovery process rather than the absence/presence of symptoms. In these person-based approaches, the focus is on promoting individuals' ability to be active, optimistic, hopeful, connected with others and the overall community, empowered, and to pursue a meaningful life (Leamy et al., 2011). This new paradigm encompasses new challenges in the clinical assessment of psychotic disorders and calls for the need to develop instruments that not only evaluate psychotic symptoms but also target key psychological processes. There are already some instruments which were developed based in this recovery model (for a review see Williams et al., 2012). Nevertheless, the majority only assesses a specific domain and do not provide an integrative assessment that combines the assessment of symptoms (frequency, severity, and duration), diagnosis and, particularly, the relationship one establishes with symptoms (e.g. conviction, perceived interference, and empowerment). In fact, the way people relate to their symptoms (for instance, the degree they believe their delusions or hallucinations are true) is linked to significant improvement in long term (e.g. lower rates of rehospitalization) (Bach et al., 2013).

1.1. The Clinical Interview for Psychotic Disorders (CIPD; Martins et al., 2015*)*

The CIPD intends to be an integrative and a comprehensive assessment tool for clinical and research uses, including the identification of intervention's targets, assessment of change and evaluation of clinical interventions. Moreover, the CIPD allows the assessment of both diagnosis, through the presence/absence of psychotic symptoms, the symptoms' psychosocial correlates (such as the relationship with symptoms, empowerment or interference caused by symptoms) and the most relevant co-morbidities. DSM-5 criteria were used to develop the CIPD including the criteria for psychotic disorders, mood disorders, and substance-use disorders. Additionally, to a minor extent, the criteria for social anxiety disorder, and trauma-related disorders were also included with the main focus on its association with psychotic symptoms. By enclosing several components of clinical assessment, CIPD may contribute to a less time-consuming and, though detailed, less burdensome assessment.

In terms of structure, the CIPD is a semi-structured clinical interview, with both open- and closed-ended questions, that follows a clinical approach of interviewing in which questions are grouped by diagnosis and criteria for a specific diagnosis. It comprises the following sections: introduction, psychotic spectrum disorders, mood related disorders, substance-related and addictive disorders and associated symptoms (assessing psychosis-related social anxiety and trauma - optional)

The CIPD allows for clinician- and patient- rated scores. The clinician has to evaluate symptom severity, frequency and interference along a 0 (Minimal severity, with- out clinically relevant distress | Not present | No interference at all) to 5 (Maximal Severity—it may represent danger to self or others | Occurs constantly | Major interference in all areas of life, seriously impaired functioning with difficulties in activities of daily living) rating scale. For each psychotic symptom and at the end of each symptom's section, the participant is asked to: a) rate the interference (and conviction when assessing delusions) associated with the symptom along a 0 (none) to 5 (extreme) scale; b) place themselves in a continuum regarding the perceived sense of empowerment towards symptoms.

The CIPD's main strengths and innovations include, among others: a) the focus on psychosis spectrum disorders allowing for detailed assessment of diagnostic criteria and several additional aspects that further develop and complement the DSM criteria (e.g. negative symptoms following recent conceptualizations); b) the possibility of gathering both the clinician and patient's ratings; c) 'clinical observation items' and adaptations for patients with poor insight. Furthermore, the empowerment scale included in CIPD aims to assess the way people experience symptoms to be in their control, believe in the possibility of improving difficulties, have sense of hope and plans for improvement. This aspect is crucial as it gives emphasis to the patient's subjective perspectives and opinions, promoting a greater involvement and a more active role on the assessment procedure. This provides a more holistic, person and context-centered assessment of not only the symptom per se, but also its expression in patients' lives.

A more detailed description of the development of the CIPD can be found elsewhere (Martins et al., 2015). The experts' panel evaluation of the CIPD revealed high scorings regarding questions for diagnosis, phenomenology assessment, psychosocial correlates of symptoms, and language suitability for the psychosis population (Martins et al., 2015).

This study main goals are: (1) assess the inter-rater reliability on diagnosis and symptoms (frequency, interference, severity) and with the previous established medical diagnosis; (2) explore the relationship between CIPD and other well-known instruments used to assess positive and negative symptoms (PANSS) and functionality (GAF and PSP); (3) analyze the qualitative data from the CIPD.

2. Method

2.1. Participants

The sample comprises 30 participants with a psychotic disorder diagnosis, including 18 males (60%) and 12 females (40%). Participants have a mean age of 35.13 years old (SD = 11.25) ranging between 18 and 62 years old. The mean of years of education is 12.53 (SD = 3.80). The majority of the sample is single (66.7%, $n = 20$) and fifty per cent of the participants are employed ($n = 15$).

All patients had a diagnosis in the psychotic spectrum according to DSM-5 diagnostic criteria, namely: 63.3% with schizophrenia ($n = 19$), 13.3% with affective psychotic disorder ($n = 4$), 10% with schizophreniform disorder ($n = 3$), 3.3% with psychotic disorder NOS ($n = 1$), 3.3% with brief psychotic disorder ($n = 1$), 3.3% with schizoaffective disorder ($n = 1$), and 3.3% with delusional disorder ($n = 1$). The majority of this clinical sample was recruited in outpatient services (76.7%, $n = 23$). Sixteen participants had current psychiatric intervention (53.3%) and ten had psychological intervention (33.3%). The mean age for the disorder onset was 28.8 years old (SD = 8.72) and the mean age for the treatment onset was 30 years old (SD = 8.92). The number of hospitalizations ranged between 0 and 5, with an average of 1.66 (SD = 1.23).

2.2. Procedure

Prior to data collection ethical approval was obtained from National Data Protection Authority, as well as from all institutions enrolled in the study. Participants were referred and invited to participate in the study by their psychiatrist on the day of their medical appointment. Participants that accepted to participate were informed about the study's goals, voluntary and confidential nature. All participants gave their written informed consent (Declaration of Helsinki). Inclusion criteria were: 1) psychotic disorders diagnosis (previously established); 2) absence of significant cognitive impairments; 3) be-

ing clinically stable for participation; 4) aged between 18 and 65 years old. The CIPD was administered to all participants by two experienced clinical psychologists (members of the research team) in order to perform independent ratings. On average, CIPD took around 90 minutes to complete, including the possibility of breaks when needed. Moreover, participants were asked to complete a set of self-reported measures that took approximately 30 min. When needed, the researchers provided clarifications and support.

To measure inter-rater reliability, each patient was interviewed face-to-face in the presence of two researchers at the same time in the same room. One interviewer conducted the interview and asked the questions (lead interviewer, named henceforward Rater 1) and the other interviewer observed (named henceforward Rater 2) and rated the CIPD items as the interview proceeded (observer). At the end of the interview and in case of need, the observer was allowed to clarify any questions. The lead interviewer and the observer rated responses independently and were never allowed to discuss their ratings. The psychiatrists also gave their independent diagnosis for each patient.

Future translations and adaptations of the CIPD interview are possible and should follow the International Test Commission Guidelines. Specially, to ensure that the adaptation is performed by experts in the language, culture and content of the interview and the specific target population.

2.3. Measures

2.3.1. The positive and negative syndrome scale (PANSS) for schizophrenia (Kay et al., 1987)

The PANSS derives from a 30-item semi-structured interview and behavioral information. This scale assesses the severity of schizophrenia and psychotic symptoms (Kay et al., 1987). It comprises three subscales: positive symptoms (7 items), negative symptoms (7 items) and general psychopathology (16 items). In the present study only positive (delusions, suspiciousness, and hallucinations items) and negative symptoms subscales (blunted affect, social withdraw, emotional withdraw, abstract thinking, flow of conversation) were used. All items include a definition and seven possible rating points, representing increased levels of psychopathology (from 1 = absent to 7 = extreme). Each item ratings involve the clinical assessment of symptoms prominence, frequency and impact on and disruption to daily life (Kay, 1991). In a Portuguese sample of people with psychosis (n = 125), adequate psychometric properties were found, including Cronbach´s alphas of 0.79 for positive and 0.89 for negative symptoms (Martins et al., 2018). In the present study, the Cronbach´s alphas were 0.79 for positive symptoms and 0.81 for negative symptoms.

2.3.2. Global assessment of functioning (GAF) (APA, 2000; Endicott et al., 1976)

GAF is a generic measure not related to any specific diagnosis. It aims to assess overall psychosocial impairment caused by mental issues. Thus, GAF considers symptoms severity, extent, duration and consequences for the individual's life. GAF has a continuum 100-point rating scale, ranging from 1 (higher severity and impairment) to 100 (higher functioning), including ten main intervals described by examples of symptoms and functional impairment. For the present study individuals' levels of functionality were determined choosing one of GAF intervals. GAF has consistently proved to be reliable (Startup et al., 2002; Vatnaland et al., 2007), and has also been used in studies with Portuguese samples with good results (Brissos et al., 2012).

2.3.3. Personal and social performance (PSP) scale (Morosini et al., 2000)

PSP is an instrument designed to measure social and personal functioning in a similar way as GAF. This measure includes four domains of social and individual performance (socially useful activities, including work and study; personal and social relationships; self-care; disturbing and aggressive behaviors). Each domain is scored using a six-point rating scale based on severity (absent, mild, manifest, marked, severe or very severe). Also, a global score of functioning can be computed from the results of all domains using a scale between 0 and 100% (Patrick et al., 2009). The PSP has shown adequate reliability, validity and ability to detect clinical changes in people with schizophrenia (Kawata and Revicki, 2008). In Portuguese samples PSP has shown good convergent validity (with GAF), internal consistency (Cronbach's alpha of 0.79), interrater reliability and discriminant validity (Brissos et al., 2012).

2.3.4. "Experiences of being assessed with the CIPD" interview

This interview was developed specifically for the present study. Its aim was to gather qualitative data regarding the participants' experiences from a first-person perspective. The interview privileged open-ended questions and started with a general question (e.g. "How was your experience of being assessed with the CIPD interview?"). When needed, the interviewer asked more objective questions to elicit specific information or follow the existing 'backup questions' included in the interview (more specific questions for participants that do not feel comfortable with general questions—e.g. "which were, in your opinion, the positive/negative aspects of the interview") to elicit specific information.

2.4. Data analysis

Statistical analyses were conducted using SPSS (v. 21, SPSS, Chicago, IL, USA) and Medcalc statistical software. Post-hoc power analysis was performed using the G*Power Software (Faul et al., 2007). Given the type of analyses performed in this study, a power of 83% was found for a Correlation ρ H1 = 0.5. The kappa coefficient was computed to determine the reliability of dimensional assessments. Kappa values greater than 0.7 indicate good agreement, Kappa values ranging from 0.5 to 0.7 indicate fair agreement, and Kappa values less than 0.5 indicate poor agreement (Williams et al., 1992). Spearman correlation coefficients were performed to explore the relationships between CIPD symptoms subscales rated by clinicians (frequency, severity and impairment) and PANSS, PSP and GAF. Spearman correlations are a non-parametric statistic and requires both variables to be ordinal (Field, 2013). Differences in sample size were due to the fact that not all participants presented all symptoms. That is, when a symptom is absent the item is not scored. Qualitative data analyzes were explored with support of NVivo Plus 12 software.

3. Results

3.1. Agreement frequency for diagnosis

For the total sample, results showed that inter-rater agreement was 93.3% (n = 28) and the error was 6.7% (n = 2). Additionally, the agreement between rater 1 and rater 2 and the medical diagnosis was identical (73.3%; n = 22) and the error was 26.7% (n = 8). Considering specifically the schizophrenia diagnosis (the most prevalent diagnosis in our sample), the agreement between rater one and medical diagnosis was 89.5% (n = 17) and the error was 10.5% (n = 2)

while the agreement rater two and medical diagnosis was 94.7% ($n = 18$) and the error was 5.3% ($n = 1$).

3.2. Inter-rater reliability

Table 1 displays inter-rater reliability (Kappa) of the CIPD symptoms. Kappa was calculated for 13 symptoms, including the assessment of frequency, severity and impairment rated by clinicians. Among the 29 CIPD items, one item had poor reliability: disorganized behavior severity ($\kappa = 0.22$, $n = 9$). Furthermore, two items pertaining negative symptoms had fair reliability, namely blunted affect impairment ($\kappa = 0.65$, $n = 10$) and disorganized behavior impairment ($\kappa = 0.67$, $n = 9$). The remaining 26 items presented good reliability (89.66%).

Table 1
Inter-rater reliability agreement (κ) and standard error (SE) for the CIPD items ($N = 30$).

CIPD Item		Total number of positive cases for item	κ	SE	CI
Paranoid delusions	Frequency	19	0.84	0.08	0.68–0.99
	Severity	19	0.89	0.06	0.77–1.00
	Impairment	19	0.73	0.08	0.57–0.89
Delusions of reference	Frequency	22	0.83	0.08	0.67–1.00
	Severity	22	0.82	0.08	0.67–0.97
	Impairment	22	0.78	0.08	0.62–0.94
Auditory hallucinations	Frequency	18	0.91	0.06	0.79–1.00
	Severity	18	0.96	0.04	0.88–1.00
	Impairment	18	0.82	0.09	0.64–1.00
Negative symptoms: avolition	Severity	24	0.77	0.09	0.59–0.95
	Impairment	24	0.86	0.06	0.74–0.97
Negative symptoms: alogia	Severity	10	0.74	0.12	0.50–0.98
	Impairment	10	0.77	0.12	0.54–1.00
Negative symptoms: Anhedonia	Severity	20	0.89	0.06	0.78–1.00
	Impairment	20	0.80	0.07	0.66–0.94
Negative symptoms: blunted affect	Severity	10	0.71	0.11	0.50–0.92
	Impairment	10	0.65	0.14	0.36–0.93
Negative symptoms: asociality	Severity	6	0.86	0.13	0.60–1.00
	Impairment	6	0.85	0.11	0.64–1.00
Disorganized behavior	Severity	9	0.22	0.22	−0.22–0.70
	Impairment	9	0.67	0.10	0.46–0.87
Disorganized speech	Severity	11	0.81	0.14	0.53–1.00
	Impairment	11	0.74	0.12	0.51–0.97
Inappropriate affect	Severity	3	1.00	0.00	1.00–1.00
	Impairment	3	1.00	0.00	1.00–1.00
Major depressive episode	Severity	17	0.70	0.11	0.48–0.91
	Impairment	17	0.82	0.09	0.64–1.00
Major manic episode	Severity	4	1.00	0.00	1.00–1.00
	Impairment	4	0.78	0.11	0.57–0.99

3.3. Sources of validity evidence in relation with other variables

3.3.1. Correlations between CIPD and PANSS

Table 2 shows spearman correlations between CIPD positive symptoms and PANSS positive symptoms. As can be seen in Table 2, moderate to strong significant and positive correlations were found between CIPD paranoid delusions and delusions of reference and PANSS scores for delusions and suspiciousness. Furthermore, there were very high significant and positive correlations between CIPD auditory hallucination items and PANSS scores for hallucinations.

Moreover, spearman correlations analyses were also performed to test the relationship between CIPD negative symptoms and PANSS negative symptoms. Overall, there were no significant correlations, except for the relationship between CIPD alogia severity and PANSS social withdrawal ($r_s = 0.64$, $p \leq 0.05$, $n = 10$). In addition, significant and positive correlations were found between CIPD blunted affect severity and PANSS blunted affect ($r_s = 0.86$, $p \leq 0.01$, $n = 11$), PANSS emotional withdrawal ($r_s = 0.66$, $p \leq 0.05$, $n = 11$), PANSS abstract thinking ($r_s = 0.64$, $p \leq 0.05$, $n = 11$) and PANSS flow of conversation ($r_s = 0.62$, $p \leq 0.05$, $n = 11$). Finally, significant and positive associations were also found between CIPD blunted affect impairment and PANSS blunted affect ($r_s = 0.84$, $p \leq 0.01$, $n = 11$), PANSS emotional withdrawal ($r_s = 0.68$, $p \leq 0.05$, $n = 11$), and PANSS abstract thinking ($r_s = 0.66$, $p \leq 0.05$, $n = 11$).

3.3.2. Correlations between CIPD and PSP

Results showed significant and positive correlations between some of CIPD negative symptoms and PSP social and personal relations, namely for blunted affect impairment ($r_s = 0.62$, $p \leq 0.05$, $n = 11$), asociality severity ($r_s = 0.69$, $p \leq 0.05$, $n = 9$) and asociality impairment ($r_s = 0.74$, $p \leq 0.05$, $n = 9$). No significant correlations were found between CIPD positive symptoms and PSP domains.

3.3.3. Correlations between CIPD and GAF

Results demonstrated that GAF is significantly and positively correlated with CIPD paranoid delusions severity ($r_s = 0.61$, $p \leq 0.05$, $n = 12$), delusions of reference ($r_s = 0.60$, $p \leq 0.05$, $n = 13$), auditory hallucinations frequency ($r_s = 0.61$, $p \leq 0.05$, $n = 11$), auditory hallucinations impairment ($r_s = 0.61$, $p \leq 0.05$, $n = 11$) and auditory hallucinations severity ($r_s = 0.62$, $p \leq 0.05$, $n = 11$).

Table 2
Spearman correlations between CIPD positive symptoms and PANSS positive symptoms.

	PANSS delusions	PANSS suspiciousness	PANSS hallucinations
Paranoid Delusions	–	–	–
Frequency	0.62**	0.57**	–
Severity	0.71**	0.67**	–
Impairment	0.66**	0.73**	–
Delusions of reference	–	–	–
Frequency	0.73**	0.63**	–
Severity	0.68**	0.66**	–
Impairment	0.70**	0.76**	–
Auditory hallucinations	–	–	–
Frequency	–	–	0.97**
Severity	–	–	0.95**
Impairment	–	–	0.93**

**$p < 0.01$. For paranoid delusions and auditory hallucinations $n = 18$ and for delusions of reference $n = 22$.

3.4. Qualitative analysis

Qualitative data was gathered from 10 participants. Five main categories emerged from the analysis of the participants' feedback. The principal themes discussed were: a) CIPD applicability and utility; b) comparison with previous interviews; c) interviewer aspects; d) negative and e) positive aspects. In each major theme, participants' responses were grouped into several sub-categories that best reflected the sub-themes that emerged from the interviews (Table 3).

Regarding the theme of "CIPD applicability and utility", five sub-themes emerged, namely overall utility, individualized treatment, detailed assessment, clinical evolution, and utility for different agents. The theme "comparison with previous interviews" reveals that participants discussed about having no previous interviews, detail and new content of interview. The "negative aspects" were the following: feeling exposed and evaluated, confusion, eliciting unpleasant memories, duration, and question-related issues. Finally, the "positive aspects" included question-related issues, aiding recovery, practical aspects, emotion reactions, cognitive aspects, interview as a sharing moment, interview as a reflection moment, interview encompasses non-judgment and understanding, and useful for understanding the disease and normalize the experience. In regard to "interviewer aspects", the sub-themes were no knowledge of clinical history, setting the relationship for interview, empathy and validation.

Additionally, three other themes emerged that did not had subdivisions: "suggestions", "themes not covered", and "most important aspect". Five participants suggested changes to improve the interview, such as, "to adapt the questions to each patient", "to give feedback on the interview", and "reduce duration". Two participants referred that the interview should be in the presence of a reference clinician (e.g. "the patients' psychiatrist or psychologist should be present during the interview"). Two participants also suggested adding "themes not covered" by the interview, such as the opinion of patients regarding the causes of their experiences, and the post-hospitalization recovery. Regarding the "most important aspect" of the interview, participants ($n = 6$) referred open-ended questions, questions about depression, suicide, and psychotic symptoms (positive symptoms in particular).

4. Discussion

The Clinical Interview for Psychotic Disorders (CIPD) was developed to assess psychosis-spectrum symptoms in an integrative and comprehensive manner. Following the development of the CIPD (for a review see Martins et al., 2015), the present study aimed to analyze CIPD inter-rater reliability, as well as to explore the qualitative feedback from participants from clinical settings. Results showed very high agreement frequency between Rater 1 and Rater 2, as well as high agreement frequency between both Raters and previous established medical diagnosis. Inter-rater reliability was calculated for 29 CIPD items that assessed 13 different symptoms on frequency, severity and impairment. Overall, 26 items showed good reliability, suggesting that CIPD is a reliable and valid assessment instrument to assess psychotic symptoms in clinical populations. In fact, reliability tends to be higher in clinical samples where population is more heterogeneous than in community samples where population is more homogenous (Wittchen et al., 1999). Nevertheless, one item presented poor reliability (i.e. disorganized behavior severity). This result may be due to the retrospective nature of the data since the assessment with CIPD was cross-sectional. In fact, the majority of participants did not show disorganized behavior during the interview. Thus, the raters' assessment relied mainly on participants' evaluation and examples, which in turn might have made the severity assess-

Table 3
Number of participants and references in each sub-category and examples.

Name	Participants/References	Examples
"CIPD applicability and utility"		
Stating utility[a]	4/4	"I think this could be integrated in the medical appointment"; "I think it could change the 'story' of other patients"
Individualized treatment	1/1	"I think it would be useful [using this interview] because it would allow a more individualized treatment, tailored to each persons' needs"
Detailed assessment	2/3	"The interview comprises everything that happens to us"
Clinical evolution	2/2	"An important role in the evolution and clinical status of the patients"
Utility for different agents	1/1	"If administered at different points of treatment, it can be used as an evaluation tool, for the psychiatrist or psychologist and even the patient, to understand the evolution of the recovery/ treatment"
"Comparison with previous interviews"		
No previous interviews	6/6	"No one had ever administered me an thorough interview on these issues before"
Detail	1/1	"Comparing to other interviews this was more detailed and complete"
New content elicited by the interview	2/2	"It comprised aspects I have never talked about before"
"Negative aspects"		
Feeling exposed and evaluated	2/2	"I felt a bit exposed, it is difficult to talk about ourselves especially when you have these experiences"
Confusion	1/3	"I felt that sometimes I was being confusing in my speech when answering questions that were very confusing concerning the specific moments [the events happened]"
"I could not locate in time"		
Eliciting unpleasant memories	2/2	"Having to remember less happy episodes of my life"
Duration	3/3	"I thought it was too long"
Question-related issues	3/3	"In my case there were some themes that did not fit with my health/illness experiences, however I think it is pertinent for other patients who may have experienced these situations"
"Positive aspects"		
Question-related issues	5/14	"Direct, adequate and productive"; "it covered all pertinent issues"; "nothing was left to say"
Aiding recovery	2/6	"It was important to overcome the hospitalization's emotional burden"; "through the questions we are confronted with symptoms we have/did not have experienced and that sets us free"
Practical aspects	4/5	"Not too long"; "it was pleasant being interviewed by two people"; "it is flexible"
Emotion reactions	4/5	"I felt calm and at ease"; "it made me feel better"

Table 3 (*Continued*)

Name	Participants/References	Examples
"CIPD applicability and utility"		
Cognitive aspects	1/1	"The interview was interesting and pertinent"
Interview as a sharing moment	3/5	"It was for me a moment to share previous experiences in an open and clear way"
Interview as moment for reflection	1/1	"It made me think better about everything I went through"
Interview encompasses non-judgment and understanding	4/5	"It seemed a judgment free interview"
Useful for understanding the disease and normalization	2/5	"The interview was positive in the way that it made me understand the disease better and continue my recovery"
"Interviewers' aspects"		
No knowledge of clinical history	1/1	"Questions that were very confusing concerning the specific moments because the interviewer did not know my medical history"
Setting the relationship for interview	3/5	"Proximity between the patient and the professional"
Empathy and validation	1/1	"They managed to put me at ease, creating a setting of empathy, which was very positive"

[a] Participants that stated utility without mentioning any reasons.

ment more subjective on this topic. On the other hand, previous studies have reported lower interrater agreement when referring to disorganization symptoms, comparing to positive and negative symptoms (e.g., de Hert et al., 2002; Peralta and Cuesta, 1994)

In the present study, the aim was also to explore the associations between CIPD and other well-known instruments used to assess positive and negative symptoms and functionality. Results indicated that CIPD items for paranoid and reference delusions were strongly correlated with PANSS items for delusions and suspiciousness. Moreover, CIPD items for auditory hallucinations were highly associated with PANSS hallucinations. The strong correlations found between CIPD and PANSS also provided evidence for the reliability and validity of CIPD items.

In addition, CIPD items regarding negative symptoms, specifically blunted affect impairment, asociality severity and impairment, were moderately to highly correlated with PSP personal and social relations. On the contrary, CIPD positive items were not significantly correlated with PSP domains. These results are in line with previous research indicating presence of negative symptoms as a poor prognosis predictor, including in social outcomes (Milev et al., 2005). Some studies have stressed that the impact of negative symptoms in functionality is greater than the one of positive symptoms (Rabinowitz et al., 2012). On the other hand, CIPD items regarding positive symptoms (delusions and hallucinations) were positively and moderately associated with psychosocial impairment (assessed by GAF). This result points out that participants with higher frequency, severity and impairment of positive symptoms are also rated as being less functional. Associations between the GAF and measures of positive symptoms have previously been shown (Startup et al., 2010). These results, with both negative and positive symptoms being associated with different measures of functioning, might indicate that the way functionality is measured is relevant in people with psychosis. Future studies might clarify these associations in larger samples, further testing CIPD validity.

Another goal of the current study was to assess participants' perceptions regarding CIPD interview. Overall, participants considered the interview as useful, detailed and adequate for their needs, potentially aiding individualized treatment and monitoring clinical evolution. The "negative aspects" category highlighted discomfort due to 'feeling exposed and evaluated' and 'eliciting unpleasant memories', both unspecific consequences of clinical interviews. These unpleasant feelings might be counteracted with 'interviewers' aspects' such as creating a relationship rooted on empathy and non-judgment (themes that also emerged in qualitative analysis). On the other hand, some participants reported positive and pleasant emotions during the interview such as calmness, clarity, or not feeling judged. The interview was pointed out as an important moment for sharing, reflecting upon, understanding and normalizing experiences and even a moment that aided their recovery.

The length of the interview and adequacy of questions were stated as negative aspects. Nevertheless, these opinions were not consensual since some participants found the duration "adequate" and needed to gather pertinent information. On the other hand, although some questions did not apply to all participants (as is expected in a clinical interview aiming to perform diagnosis and differential diagnosis), the majority of participants found the interview/questions adequate. The suggestions given by the participants to improve the experience of being assessed with the CIPD are easily implemented in clinical settings (e.g. interview performed by their clinician, shorter duration with interview being divided in several assessment moments, better pre-assessment of questions that will not apply to each patient).

The main limitation of the current study was the small sample size, particularly considering that some symptoms had low prevalence in our sample. This may impede the generalizability of our results and did not allow for more specific analyses. For instance, reliability of total scores (such as composites for 'positive symptoms' or 'negative symptoms'), discriminant validity of composite scores to discriminate between diagnostic categories, interrater reliability and agreement with psychiatric diagnosis among different diagnostic categories, should be explored in future studies with larger samples. Nevertheless, this was a preliminary study to assess the potential utility and reliability of CIPD, and a larger study, informed by these results, is ongoing. Regarding the sample's characteristics and its potential influence in our results, a limitation was that we did not include sociodemographic variables (e.g. socio-economic status, ethnicity) and other clinical variables (e.g. IQ) as covariates in the analyzes (both due to small sample size and lack of information). Another limitation of the present study was the fact that the assessment with the convergent validity measures (PANSS, GAF and PSP) was performed by the same researchers that administered the CIPD. Although independent raters would be desirable, considering that there is not one standardized assessment for people with psychosis in Portugal (and thus the available assessments varied within participant institutions) it would be unethical and burdensome to perform independent interviews with different interviewers to each participant.

To sum up, although preliminary and in need for replication, the results point to the CIPD's reliability and validity in assessing psychotic symptoms, specifically their frequency, severity and impairment. The inclusion of both clinician and patient assessments is a major strength of this interview, in accordance with recovery-based recommendations (Leamy et al., 2011) potentially aiding personalized treatment (through the identification of therapeutic targets relevant both for the clinicians and each patient). Moreover, CIPD seems to be well accepted by patients that highlighted its utility, degree of detail and content. Participants considered the interview as an op-

portunity for empathy and validation of difficult experiences and a moment for sharing and reflecting upon them in a non-judgmental, normalizing and understanding way.

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Conflict of interest

All authors declared that there is no conflict of interest.

Ethical approval

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

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