The cognitive-phenomenological assessment of delusions and hallucinations at the early intervention in psychosis service stage: The results of a quality improvement project

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1 Abstract:

1.1 Aim:

Clinical assessments are vital for gaining an understanding of a patients' presenting problem. A priority for Early Intervention in Psychosis Service staff is understanding and supporting their patients' experiences of hallucinations and/or delusions. We aimed to identify what cognitive-phenomenology dimensions of hallucinations and delusions EIPS staff were assessing with their patients.

1.2 Methods:

We developed a brief checklist of cognitive-phenomenological dimensions of hallucinations and delusions called the Lived Experience Symptom Survey (LESS) based on relevant literature. As part of a Quality Improvement Project, we reviewed the health records of a sub-sample of EIPS patients using the LESS identifying whether each dimension was present or absent.

1.3 Results:

We found that all patients had been asked about the content of their hallucinations and/or delusions, and the majority had been asked about the valence of this content. Despite patients having experienced psychosis for almost two years on average, less than half of patients were asked about the potential or actual harm associated with these symptoms. All other cognitive-phenomenological dimensions were assessed inconsistently.

1.4 Conclusions:

The assessment of hallucination and delusions in our EIPS was inconsistent and incomprehensive. These findings require replication in other EIPS' but may point to a need for guidelines and training around how to conduct a thorough assessment of hallucinations and delusions for current and future EIPS staff. Improved assessment of these symptoms will aid the development of risk assessments and treatment plans.

1.5 Word Count:

236.

2 Keywords:

Hallucinations; delusions; psychotic disorders; psychiatry; quality improvement.

3 Introduction:

A diagnosis of First Episode Psychosis (FEP) is given when psychosis symptoms first emerge (American Psychiatric Association, 2013). The most prevalent symptoms experienced by those with FEP are delusions and hallucinations (Compton et al., 2012; Rajapakse et al., 2011), making them a key treatment target for Early Intervention in Psychosis Services (EIPS) (McGorry, 2015). Although hallucinations and delusions are described as singular symptoms, there is much heterogeneity in the presentation and interpretation of the experience i.e. cognitive-phenomenology. For example, delusions can be further categorised in terms of their content and typology (Paolini et al., 2016), and hallucinations can be classified by their sensory modality (Drake et al., 2007) and perceived entity (Upthegrove et al., 2016).

An in-depth clinical assessment is vital for garnering an understanding of this within-symptom heterogeneity (Cuesta & Peralta, 2016; Rajapakse et al., 2011). To make best use of clinical assessments as a tool for formulation, the most authoritative clinical text on the assessment of psychosis acknowledges the importance of assessing the cognitive-phenomenological dimensions of delusions and hallucinations, irrespective of their modality (Waters & Stephane, 2015). We would therefore expect specialist EIPS multidisciplinary teams to be assessing such symptom dimensions as part of routine clinical practice. Yet current national (NICE, 2014) and international guidelines (Addington et al., 2018, 2020) for EIPS do not specify what cognitive-phenomenological dimensions of delusions and hallucinations staff should be assessing from the wide range of potential features of these psychotic symptoms.

Assessments of psychosis symptom phenomenology, covering the full range of cognitive dimensions and their linked emotional and behavioural dimensions, enables the development of a nuanced treatment plan that ensures patients and staff have a shared understanding of the presenting problem and that fewer needs are left unmet (Slade et al., 1998) Assessment of the cognitive-phenomenological features is also necessary for personalised cognitive behaviour therapy for psychosis (Raune et al., 2021). Secondary benefits of a comprehensive assessment are they permit outcome monitoring during psychological therapy (Raune et al., 2016), facilitate therapeutic alliance (Wright,

2009), and identify any risks (Wessely et al., 1993). It follows that insufficient cognitive-phenomenological assessments will not produce the above benefits, and instead could even be harmful; for example, via ill-informed risk management and safeguarding plans, and also be detrimental to the patients' self-esteem by not validating their inner experiences. Without understanding the patients' presenting problem, it is not possible to prescribe the interventions that are likely to be most beneficial.

Little is known about the nature of cognitive-phenomenological assessments in routine care in EIPS. Work from our group recently found that while staff working in a community mental health service did ask patients about hearing voices, there were key aspects of the experience that have implications for treatment and risk that were frequently neglected (Raune et al., 2021). To understand how hallucinations and delusions are assessed by the EIPS stage we conducted a Quality Improvement Project in a single service. Using a checklist developed for the purposes of the project, we reviewed the health records of a sub-sample of the total patient population to identify what dimensions of hallucinations and delusions staff had assessed. Understanding the cognitive-phenomenological comprehensiveness of assessments in EIPS will help to determine the nature and size of unmet needs amongst FEP patients.

3.1 Project Aims:

The aim of the present Quality Improvement Project was to identify what cognitive-phenomenological dimensions of delusions and hallucinations are routinely assessed within EIPS.

4 Methods:

4.1 Design:

We conducted a Quality Improvement Project (QIP) using a cross-sectional design.

4.2 Setting:

The present project was conducted within a single Early Intervention in Psychosis service (EIPS) in the Central and North-West London (CNWL) Mental Health NHS Trust. The EIPS accepts patients with first presentation psychosis between the ages of 14-35 and is a multidisciplinary team comprising

medical, psychological and social staff offering medication, psychoeducation, cognitive behaviour therapy, family intervention, employment help and social support.

4.3 Participants:

We selected a consecutively-admitted sub-sample of 50 of the total EIPS caseload to be analysed. Patients' health records were eligible for inclusion in the present project, where they met the following criteria: (1) the patient had an ICD-10 (World Health Organisation (WHO), 1992) psychosis diagnosis (see Table 1); (2) they were with the EIPS for at least three months; and (3) had experienced delusions and/or hallucinations.

4.4 Measures:

We collected the demographic and clinical characteristics of the patients included in this analysis from their health records. Next, to address our project aims, we developed a screening checklist hereafter referred to as the Lived Experience Symptom Survey (LESS) checklist. The LESS checklist was developed by the QIP lead (DR) and based on a review of the literature including validated questionnaires of hallucinations and delusions and studies on the clinical significance of different features of delusions and hallucinations at first episode psychosis. From these we produced a list of various cognitive-phenomenological dimensions of hallucinations and delusions that would be useful for the MDT to help them with clinical functions such as patient initial screening for team suitability and the monitoring of patient therapeutic progress across time. The full list of questionnaires reviewed to develop the LESS are included in Appendix A. Health records were then screened against the LESS to identify whether each hallucination and/or delusion dimension was present (1 = it had been assessed by a member of the EIPS team) or not (0 = not assessed at all or insufficient enquiry by the EIPS team) in each patients' health records. A copy of the LESS is included in Appendix B.

4.5 Procedure:

A member of the research team (MI) reviewed the health record for each patient in the sub-sample. The health record was searched from the commencement of the first episode of psychosis until the day of the LESS assessment. The assessment therefore also included information from services before the

patient entered the EIPS; for example inpatient wards and General Practice (GP). All information relating to the phenomenology of any delusions and hallucinations was extracted and collated onto the LESS data collection form. The health records were then thoroughly screened against the LESS checklist (by MR) to identify whether each hallucination and/or delusion dimension had been assessed or not. Any items that were unclear were discussed with the QIP lead (DR).

4.6 Analysis plan:

We used SPSS version 25 to calculate the frequency, and corresponding percentage, that each dimension was assessed across all participants.

4.7 Ethics:

The data presented here was collected as part of a registered NHS quality improvement project and therefore ethical approval was not sought or required.

5 Results:

5.1 Sample characteristics:

We accessed the health records of 50 current EIPS patients. These patients represent 30% of the total caseload for this service at the time of data collection (n = 175). The full sample characteristics are outlined in Table 1. The sample was largely male whose first language was English and had a diagnosis of Schizophrenia. The ethnicity and religion of our sample was relatively diverse. Participants had been experiencing psychosis symptoms for almost two years on average, with a mean duration of untreated psychosis of just over 6 months. Almost all of the sample experienced delusions (96%), and most experienced some form of hallucination (88%).

[Insert Table 1 here]

5.2 Assessment of delusions:

After reviewing the health records of the 48 patients with delusions in our sub-sample, we found that the content and valence of this content had been assessed for all patients. The actual or potential harm

associated with delusions was assessed in only half of patients, with fewer still being asked about their preoccupation with or their perspective on their delusional beliefs. See Table 2.

[Insert Table 2 here]

5.3 Assessment of hallucinations:

Irrespective of modality, all patients were asked about the content of their hallucination, and most were asked about the valence. Overall, auditory hallucinations were the type assessed most comprehensively (i.e. had the highest frequencies/percentages). There were a couple of olfactory hallucination dimensions that were not enquired about at all (i.e. sensory intensity and number of hallucinations). The actual or potential harm associated with hallucinations was the least enquired about 'impact' dimension, with less than half of patients being asked about harm. See Table 3.

[Insert Table 3 here]

6 Discussion:

We conducted a Quality Improvement Project aiming to understand what cognitive-phenomenological features of delusions and hallucinations were assessed in an Early Intervention in Psychosis Service (EIPS). Specifically, we reviewed the health records of a sub-sample of EIPS patients using a checklist developed specifically for the purposes of this project based on a review of relevant literature (the Lived Experience Symptom Survey (LESS)). At an average of approximately 22 months post-FEP, the only aspect of delusions and hallucinations that was assessed in all patients was the content, with most being asked about the valence of the content. All other delusion and/or hallucination dimensions were assessed inconsistently. The potential or actual harm associated with these symptoms was assessed in less than half of patients, despite experiencing psychosis for almost two years.

The most frequently and consistently assessed dimension of hallucinations and delusions assessed was the content. Although a full, multi-faceted assessment is preferable, it is understandable why content was prioritised by EIPS staff considering its predictive value. That is, understanding the content of psychosis symptoms is a strong indicator of whether the patient has a trauma history (Peach

et al., 2021), the emotional impact, associated cognitions (Larøi et al., 2019), the potential for violence (Ullrich et al., 2018), and likely comorbidities (Franceschi, 2020). Despite this, content is not an infallible predictor (Clutton et al., 2017) and cannot therefore be relied upon to provide a full understanding of the presenting problem.

Arguably, the most concerning finding here is how 50% or less of patients were asked about the potential or actual harm associated with hallucinations and/or delusions. Self-harm and suicidality are salient issues amongst FEP patients (Pelizza et al., 2021), with the first year after the onset of symptoms being a particularly high risk period of time (Jakhar et al., 2017). This risk is intrinsically linked to symptoms, where self-harm and suicide attempts are often the result of acting of delusions and/or hallucinations (Dugré et al., 2018; Patel et al., 2019). Although less common, these symptoms can also be associated with harm to others. (Faay et al., 2020; Ullrich et al., 2018). Not asking patients about harm connected to their delusions and/or hallucinations has implications for risk assessments, meaning that safeguarding strategies are not implemented where needed and harmful consequences are not prevented.

Of the different hallucination modalities discussed here, auditory hallucinations were the form assessed most comprehensively. As supported by our data here, auditory hallucinations are the modality most frequently associated with psychosis (Dudley et al., 2018; Montagnese et al., 2021), and transition to a psychotic disorder (Niles et al., 2019). The increased frequency with which auditory hallucinations occur in EIPS will likely mean staff are more familiar with and have greater experience of assessing this modality compared to other forms of hallucination. However, this means that staff may unintentionally be disadvantaging those patients with visual, tactile, and/or olfactory hallucinations. This finding highlights a potential training need for EIPS staff so that they feel better prepared to assess symptoms that they may be presented with less often.

One of the lesser discussed symptom dimensions was the patients' beliefs about their hallucinations and/or delusions. That is, belief aspects were assessed less often than other cognitive-phenomenological dimensions. While phenomenology generally can be informative, it can be less predictive of patient distress than purely cognitive factors (Daalman et al., 2011). The cognitive model of Garety et al.

(2001). This model posits that the distress associated with hallucinations and delusions is largely the product of the thoughts and beliefs that patients have about their symptoms. The relationship between maladaptive cognitions and symptom distress has been evidenced by the positive outcomes of trials of cognitive-behaviour therapy (CBT) (e.g. Van der Gaag et al., 2014). However, it should be borne in mind that in addition to cognitive factors, affective and behavioural processes also appear crucial as part of a comprehensive understanding of patients' clinical phenomenology (Škodlar et al., 2013). Ascertaining patients' cognitive understanding of their hallucinations and/or delusions therefore has a potential therapeutic benefit. As various cognitive dimensions of symptoms were not routinely being assessed in this sample, there are likely to be a number of patients who are missing out on this therapeutic conversation.

6.1 Limitations:

Our findings are from a single EIPS, and we therefore cannot confirm whether our findings are applicable to EIPS' more widely. Also, our analysis is based on the information provided in health records. It is possible that additional dimensions of delusions and hallucinations were assessed by staff but not formally recorded. However, even if this were the case it is still problematic because poor recording keeping prevents information-sharing across the MDT (Hutchinson & Sharples, 2006). Moreover, the health records reviewed contained notes largely from EIPS but also some other services that had supported the patient from the onset of their psychosis (e.g. inpatient services, GP). We did not have the available data to determine what dimensions were assessed by EIPS versus non-EIPS staff. However, as per the care pathway set out in the NICE (NICE, 2014) guidance for those experiencing FEP, all EIPS should be conducting their own in-depth, MDT assessment upon referral to the service rather than relying solely on notes from other services.

Our results are based on a checklist developed for the purposes of this project (the Lived Experience Symptom Survey (LESS)). The LESS checklist was developed after reviewing the relevant literature, but we did not determine the psychometric properties of the checklist beyond face and construct coverage validity. Moreover, we did not ascertain whether staff enquired about additional aspects of hallucinations and delusions that were not included in the LESS.

Finally, we aimed to evaluate what we thought would be clinically useful cognitive-phenomenological dimensions of delusions and hallucinations for the general purposes of the MDT (e.g., initial suitability screening and ongoing therapeutic progress monitoring). We wanted a checklist that was short enough for MDT staff to be able to action in routine clinical practice. We did not aim to assess the suitability of assessments in terms of the diagnostic or treatment utility (i.e. whether sufficient information was gathered to arrive at a diagnosis or inform psychiatric or psychological interventions). We also did not aim to cover all that would be needed for a fully comprehensive phenomenological assessment. Future checklists might consider including phenomenological variables such as self-disorder concepts (Henriksen et al., 2021) and consider further the delusions/hallucinations interaction with the wider social environment (Škodlar et al., 2013).

6.2 Research Implications:

Future research should address the limitations identified above. We propose interviewing EIPS staff about their assessment practices and priorities, as well as conducting a qualitative assessment of patient health records to identify symptom dimensions that were assessed outside of the LESS checklist. We also endorse asking patients themselves about their lived experience of being assessed in an EIPS. Patients may have different priorities than those outlined in the LESS. Also, we must consider the subjective experience of being assessed and the discomfort that can come from being asked about one's mental health. Consulting EIPS patients as part of future research studies in this area will help us understand how best to balance assessment clinically important comprehensiveness with patient comfort.

6.3 Clinical Implications:

The cognitive-phenomenological aspects of hallucinations and delusions that were not consistently assessed might indicate aspects of psychosis symptoms that staff are less knowledgeable, familiar, or confident about. EIPS staff might therefore benefit from training on these lesser assessed dimensions. We enacted this recommendation locally by conducting a single training session feeding back the findings of this project and highlighting the dimensions that were not being assessed. Anecdotally, the

majority of staff reported that after attending the training session they intend to conduct more comprehensive assessments, including asking patients about risks related to delusions and hallucinations. Assuming our findings are applicable to other EIPS, it may be pertinent to roll this training out to other services. This issue could also be proactively addressed by providing robust training on the assessment of hallucinations and/or delusions as part of medical and psychology training programmes. Staff also expressed support for being given a checklist to prompt them as to what dimensions to ask about. The introduction of such a checklist tool into routine EIPS can ensure that assessments are comprehensive and consistent across patients.

6.4 Conclusion:

The present findings demonstrate that while EIPS staff are asking patients about their hallucinations and delusions, there are key dimensions of these symptoms that are being neglected. One aspect of particular concern is the low rates at which staff asked patients about the actual or potential associated physical harm. It may be pertinent to introduce training programmes or an assessment checklist into EIPS to ensure both comprehensive and consistent assessments. Both national and international guidelines need upgrading to help staff assess a much wider range of features.

7 Word Count:

2825.

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9 Conflict of interest statement:

Several of the authors currently work in Early Intervention in Psychosis Services (EIPS) delivering psychological therapies that require thorough assessment of the cognitive-phenomenological dimensions of psychosis symptoms.

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11 Tables:

			Hallucination			
	All	**Delusion**	**Auditory**	**Visual**	**Tactile**	**Olfactory**
Demographic:						
Total	50(100)	48(96)	44(88)	34(68)	13(26)	4(8)
Age (years) *M(SD)*	24.87(5.15)	24.76(5.15)	24.43(4.93)	26.16(5.25)	25.78(6.12)	22.28(7.15)
Gender						
Male	34(68)	33(69)	30(68)	21(62)	5(39)	1(25)
Female	16(32)	15(31)	14(32)	13(38)	8(62)	3(75)
Ethnicity						
White	14(28)	12(25)	10 (23)	11(32)	4(30)	1(25)
Mixed	4(8)	4(8)	3(7)	1(3)	1(8)	
Asian/Asian British	15(30)	15(31)	15(34)	12(35)	5(39)	2(50)
Black/African/Caribbean/ Black British	10(20)	10(21)	10(23)	8(24)	2(15)	1(25)
Arab	1(2)	1(2)	1(2)	1(3)	1(8)	

Other	6(12)	6(13)	5(11)	1(3)		
Religion						
No Religion	6(16)	6(16)	4(12)	3(13)	1(9)	
Christian	10(27)	9(25)	10(29)	6(25)	3(27)	
Muslim	13(35)	13(36)	12(35)	10(41)	5(46)	1(50)
Hindu	5(14)	5(14)	5(15)	3(13)	2(18)	1(50)
Sikh	2(5)	2(6)	2(6)	1(4)		
Other	1(3)	1(3)	1(3)	1(4)		
First Language						
English	40(82)	38(81)	36(82)	29(85)	9(69)	4(100)
Other	9(18)	9(19)	8(18)	5(15)	4(31)	
Clinical:						
Diagnosis						
Schizophrenia	19(38)	18(38)	18(41)	15(44)	8(62)	1(25)
Acute & Transient Psychotic Disorder	13(26)	12(25)	3(7)	2(6)	1(8)	
Psychosis	7(14)		17(39)	11(32)	3(23)	1(25)

Psychosis NOS	3(6)	3(6)	2(5)	2(6)	1(8)	2(50)
Schizoaffective Disorder	3(6)	3(6)	1(2)	1(3)		
Drug-Induced	2(4)	2(4)	1(2)	1(3)		
Non-Psychotic Diagnosis	2(4)	2(4)	1(2)	1(3)		
Delusional Disorder	1(2)	1(2)	1(2)	1(3)		
Duration of psychosis (months) *M(SD)*	22.53(11.94)	22.53(12.19)	23.66(12.15)	23.77(11.48)	22.4(9. 26)	14.77(5.52)
DUP (months) *M(SD)*	6.67(10.41)	6.67(10.41)	7.27(10.90)	6.53(10.28)	2.46(3.29)	1.70(1.20)

Table 1. Sub-sample demographic and clinical characteristics. *Note:* All figures represent frequencies and percentages (*n*(%)) unless stated otherwise; *M* = mean; *SD* = standard deviation; NOS = not otherwise specified; DUP = duration of untreated psychosis, defined here as the time between the onset of the first psychosis symptoms and commencement of antipsychotic medication; Psychosis illness length = the time between the onset of the first psychosis symptoms and the date of data collection in the present project.

	Frequency dimension was assessed *n*(%)
Feature	
Content	48(100)
Valence of content	48(100)
Perspective	20(41.7)
Conviction	43(89.6)
Preoccupation	22(45.8)
Metacognitive valence	29(60.4)
Impact	
Severity of emotion	33(68.8)
Type of emotion	34(70.8)
Severity of life interference	36(75)
Type of life interference	38(79.2)
Physical harm (actual or potential)	24 (50)

Table 2. The dimensions of delusions assessed in an Early Intervention in Psychosis Service (EIPS) (*n* = 48).

	Frequency dimension was assessed *n*(%)			
	Auditory (*n* = 44)	**Visual (*n* = 34)**	**Tactile (*n* = 13)**	**Olfactory (*n* = 4)**
Feature				
Content	44(100)	34(100)	13(100)	4(100)
Valence of content	41(93)	29 (85.3)	13(100)	4(100)
Location	35(79.5)	15(44.1)	11(84.6)	3(75)
Frequency	30(68)	12(35.3)	4(30.8)	2(50)
Duration	4(9)	2(5.9)	1(7.7)	1(25)
Sensory intensity	22(50)	7(20.6)	5(38.5)	0(0)
Number of hallucinations	15(34)	3(8.8)	1(7.7)	0(0)
Perspective	15(34)	6(17.6)	1(7.7)	2(50)
Purpose	36(81.8)	11(32.4)	7(53.8)	2(50)
Metacognitive valence	19(43)	7(20.5)	2(15.4)	2(50)
Origin of causation of experience (physical or non-physical)	12(27.2)	3(8.8)	4(30.8)	1(25)
Believability	21(47.7)	13(38.2)	4(30.8)	2(50)
Belief about command	26(59)	N/A	N/A	N/A
Control	25(56.8)	3(8.8)	1(7.7)	1(25)

Personification	39(88.6)	30(88.2)	10(76.9)	4(100)
Power	15(34)	3(8.8)	2(15.4)	1(25)
Impact				
Severity of emotion	28(63.6)	17(50)	7(53.8)	2(50)
Type of emotion	24(54.5)	10(29.4)	3(23.1)	3(75)
Severity of life interference	24(54.5)	5(14.7)	4(30.8)	1(25)
Type of life interference	29(65.9)	8(23.5)	6(46.2)	1(25)
Physical harm (actual or potential)	20(45)	3(8.8)	2(14)	1(25)

Table 3. The dimensions of hallucinations assessed in an Early Intervention in Psychosis Service (n = 48). *Note:* N/A = not applicable.