Early Psychosis Symptoms

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ABSTRACT

Objective: To determine the prodromal symptoms of schizophrenia in the pathways to help-seeking.

Study Design: A cross-sectional study.

Place and Duration of Study: The Department of Psychiatry, the Aga Khan University, Karachi, from 2008 to 2009.

Methodology: A total of 93 patients were interviewed in the pathways to care of schizophrenia. The diagnosis was based on ICD-10 criteria. The pathways to care were assessed through a semi-structured questionnaire. The onset, course and symptoms of psychosis were assessed through Interview for Retrospective Assessment at Age at Onset of Psychosis (IROAS).

Results: Fifty five (59%) participants were male while 41% (n=38%) were female. Using IROAS, 108 symptoms were identified as concerning behaviour. Alternatively, 60 (55%) concerning behaviours were reported in the open-ended inquiry of the reasons for help seeking as assessed by the pathways to care questionnaire with a statistically significant difference between most symptoms category. The difference was most pronounced (p < 0.001) for depressed mood (66%), worries (65%), tension (63%), withdrawal/mistrust (54%) and loss of self-confidence (53%). Thought withdrawal (22%) and passivity (15%) were elicited only through structured interview (IROAS). When symptoms were categorized together, about 83% of the subjects presented with affective and non-specific prodromal symptoms. Roughly, 10% of the subjects presented with positive symptoms and 3% presented with the negative symptoms of psychosis. The non-specific, affective symptoms appear to predominate the prodromal phase of the illness.

Conclusion: Prodromal symptoms of schizophrenia include non-specific, affective symptoms. Attention needs to be paid on identifying the prodromal symptoms and change in social functioning in order to identify those who are at risk of long-term psychosis.

Key Words: Early psychosis. Schizophrenia. Duration of untreated psychosis. Pakistan. Pathways to care.

INTRODUCTION

The World Mental Health Survey found that mental illnesses are undertreated in many developed and developing countries.[1] In developed countries, around 36 - 50% cases with serious symptoms were untreated in the year prior to the survey while in developing nations around 76 - 85% of serious cases were untreated. Disorder severity was strongly related to treatment in all countries. Kessler *et al*. reported median delay time between onset of symptoms and effective help seeking to be between 6 - 14 years across various psychiatric disorders. Probability of treatment contact was inversely related to age at onset.[2] A pilot study carried out at the Aga Khan University Hospital (AKUH), reported a mean delay of 2.8 years (range of 1-6 years) between the onset of first symptoms and presenting to the first health carer. The mean time-lag between seeing the first carer to the last carer and presenting to AKUH was estimated to be 3.8 years.[3]

The duration of untreated psychosis (DUP) significantly predicted time to remission, longer duration of symptoms after hospitalization, high levels of positive symptoms and poor social functioning and suicidal behaviour.[4] However, Barnes *et al*. did not find any association between DUP and prognosis, severity of negative symptoms and severity of positive symptoms.[5] Despite of some unresolved methodological issues, there is significant evidence of relationship between delay in initial treatment of psychosis and poorer short-term clinical outcomes.[6]

Early intervention that reduces the duration of delay between the onset of symptoms and time of first treatment contact, improves patients' outcomes.[7] The benefits of early intervention include better remission of symptoms, improved social functioning and long-term prognosis.[8] Behavioural antecedents of schizophrenia, psychotic decompensation and prodromal symptoms have been the focus of recent research. The acronym 'CASIS', representing cognitive deficits, affective disturbance, social isolation and school failure was used by a research-group to summarize the prodromal signs.[9] Docherty *et al*. reported five consistent stages in the development of psychotic symptoms.[10] The first three primarily consist of non-psychotic symptoms and the type of behaviour (typically reflecting emotional dysphoria) which are then followed by psychotic disorganization. The most frequently cited prodromal symptoms consist of mood changes such as tension, irritability, depression, anxiety, withdrawal and vegetative changes such as disturbed sleep and loss of appetite.

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However, prodromal signs are difficult to measure given the late presentation of psychosis and long-winded care pathways in the context of poor human (and material) resource settings. Not enough is known from developing countries in terms of the presentation of early psychosis and illness prodrome. However, little attention has been paid to the actual process which goes before patients (eventually) make contact.

The specific aims of this study were to explore the presentation of early psychosis and detect possible associations with treatment delay.

METHODOLOGY

All patients with the ICD-10 diagnosis of schizophrenia were enrolled through convenience sampling. Patients with comorbid substance abuse or organic mental disorder were excluded from the study. Efforts were made to ensure a consistent and professional level of reliability of measurement across subjects in this study. Data was collected by a research medical officer, hired specifically for data collection, collected the data.

Patients were interviewed using 'Interview for Retro-spective Assessment of Age at Onset of Schizophrenia' and 'Pathways to Care'. IROAS examines the social course, course of the symptoms, disability, and treatment from the first sign or indicators of illness until the time of interview. It was originally developed within the framework of the ABC (Age, Beginning and Course) schizophrenia study.[11]

The symptoms included in the original version were chosen on the basis of internationally approved psycho-pathological scales, e.g. the Present State Examination (PSE 9), Schedule for Clinical Assessment in Neuro-psychiatry (SCAN, WHO, 1995) or the Scale for the Assessment of Negative Symptoms (SANS), and were ascertained in an interview with experts. Since social disabilities were also regarded as early indicators or consequences of the beginning of psychosis, all areas of the Disability Assessment Schedule of the World health Organization (WHO/DAS 1988) were integrated in the indicator part of the IROAS. The instrument reflects diagnostic concepts as formulated in the ICD-10 (WHO, 1991) and operationalized by relevant diagnostic criteria (WHO 1994).

The pathways to care explore the help seeking behaviour since the onset of symptoms, and was developed by Perkins *et al*. at the University of North Carolina. The simultaneous use of two instruments enabled us to compare the concerning behaviour that initiated help seeking and symptoms of early psychosis.

The Ethics Review Committee (ERC) of the Aga Khan University reviewed the study protocol and granted the permission to conduct this study. Written informed consent was taken from all the participants. This paper emanates from the research project on the pathways to care and help seeking behaviour in patients with schizophrenia. The pathways to care are reported in a paper on the duration of untreated psychosis.[12]

Data was initially entered in Epidata. Files from Epidata were subsequently transferred to Statistical Package for Social Sciences (SPSS) version 15. Univariate analysis was carried out on the outcome variable and socio-demographic variables (gender, marital status, and education level), family history of psychiatric illness and concerning behaviour. Standard 2 x 2 tables were constructed for each of the self-reported and interview inquired symptoms. The McNemar test was used in order to check for possible associations between self-reported and interviewer inquired symptoms. The significance of 0.05 was considered statistically significant.

RESULTS

The study sample comprised of 55 (59%) males and 38 (41%) females. More females (44%) were married than males (31%). The gender difference in marital status was not significant (p=0.569). About 60% of the subjects reported up to 12 years of education. Among them, 62% reported completion of school education in a standard period of time while 20% reported some delay in completion of school education. Around 43% reported specialized skills training after completion of schooling. About 18% reported change in vocational training and 10% discontinued the training due to illness related behavioural abnormality. Twenty-two percent of the subjects were working at the time of the interview. In 40% of the participants, work corresponded to the level of training. Majority (91%) of the patients were living with one or both parents, while the rest were living with other relatives. In terms of cohabitation of parents, 58% were living together. In the rest of the cases one or both parents had passed away. In terms of birth order, 36% subjects were first-borns. About two-thirds (73%) of the patients had 3 or less siblings.

The mean duration of the illness was 9 ± 7.35 months. See Figure 1 for graphical display. Around 86% of the patients presented with non-specific prodromal symp-toms or affective symptoms (Table I). Positive symptoms of psychosis were the reason for help seeking in 10% of the cases while a small minority (3%) presented with negative symptoms of psychosis (Table II). There was no significant association between treatment delay and socio-demographic variables like gender (p=0.99), family history (p=0.49), marital status (p=0.561), education (p=0.973) and continuity of school education (p=0.848) as a measure of pre-morbid functioning.

Explicit information regarding the diagnosis was not given to a significant majority (71%, n=27) of the patients. Around 15% of the patients were told that they

Table I: Affective and non-specific symptoms of early psychosis.

	Interviewer assessed (IROAS)		Patient reported			
	Responses		Responses			
	N	%	N	%	Difference	p=value
Worries	66	71.70%	6	6.50%	65.20%	< 0.001
Pains	40	43.50%	5	5.40%	38.10%	< 0.001
Tension	67	72.80%	9	9.80%	63.00%	< 0.001
Free floating anxiety	53	57.60%	21	22.8%	34.80%	< 0.001
Panic	39	42.40%	12	13.0%	29.40%	< 0.001
Phobias	48	52.20%	7	7.60%	44.60%	< 0.001
Obsessions (washing, cleanliness)	24	26.10%	5	5.40%	20.70%	< 0.001
Obsessive thoughts	60	65.20%	18	19.60%	45.60%	< 0.001
Depressed mood	64	69.60%	3	3.30%	66.30%	< 0.001
Tiredness, loss of drive	49	53.30%	2	2.20%	51.10%	< 0.001
Loss of self confidence	51	55.40%	2	2.20%	53.20%	< 0.001
Loss of self-esteem	29	31.50%	1	1.10%	30.40%	< 0.001
Feelings of guilt	26	28.30%	1	1.10%	27.20%	< 0.001
Pessimism, hopelessness	31	33.70%	1	1.10%	32.60%	< 0.001
Thoughts of death, suicidal thoughts	29	31.50%	2	2.20%	29.30%	< 0.001
Suicide attempt	18	19.60%	7	7.60%	12.00%	< 0.001
Indecisiveness	45	48.90%	1	1.10%	47.80%	< 0.001
Crying	43	46.70%	12	13.00%	33.70%	< 0.001
Overtaxing through routine demands	13	14.10%	1	1.10%	13.00%	0.005
Decreased talkativeness	55	59.80%	11	12.00%	47.80%	< 0.001
Loss of concentration	50	54.30%	5	5.40%	48.90%	< 0.001
Loss of interest	34	37.00%	1	1.10%	35.90%	< 0.001
Impaired thinking	31	33.70%	3	3.30%	30.40%	< 0.001
Psycho-motor agitation	21	22.80%	2	2.20%	20.60%	< 0.001
Psycho-motor inhibition	23	25.00%	6	6.50%	18.50%	< 0.001
Depressive stupor	1	1.10%	1	1.10%	0.00%	NP
Sleeplessness	48	52.20%	40	43.50%	8.70%	0.0078
Increased appetite	3	3.30%	3	3.30%	0.00%	NP
Loss of appetite	32	34.80%	16	17.40%	17.40%	< 0.001
Loss of weight	19	20.70%	5	5.40%	15.30%	0.0001
Reduced sexual interest	4	4.30%	2	2.20%	2.10%	0.5

Table II: Positive and negative symptoms of psychosis.

|	Interviewer assessed (IROAS)		Patient reported			
	Responses		Responses			
	N	%	N	%	Difference	p=value
Thoughts being read	38	41.30%	16	17.40%	23.90%	< 0.001
Thought insertion	30	32.60%	6	6.50%	26.10%	< 0.001
Thought broadcasting	3	3.30%	1	1.10%	2.20%	0.5
Thought blocking	18	19.60%	1	1.10%	18.50%	< 0.001
Delusions of control	11	12.00%	10	10.90%	1.10%	0.99
Delusions of reference	9	9.80%	1	1.10%	8.70%	0.0078
Delusion of persecution	61	66.30%	40	43.50%	22.80%	< 0.001
Expansive delusion	6	6.50%	8	8.70%	-2.20%	0.5
Delusions of love	13	14.10%	3	3.30%	10.80%	0.002
Auditory hallucination	62	67.40%	45	48.90%	18.50%	< 0.001
Verbal hallucinations (voices)	41	44.60%	11	12.00%	32.60%	< 0.001
Mood congruent hallucinations (depressive)	6	6.50%	1	1.10%	5.40%	0.0625
Mood congruent hallucinations (manic)	11	12.00%	4	4.30%	7.70%	0.0156
Visual hallucinations	28	30.40%	16	17.40%	13.00%	0.0005
Poverty of speech contents	1	1.10%	5	5.40%	-4.30%	0.125
Incoherence, derailment	2	2.20%	1	1.10%	1.10%	0.99
Self-neglect	33	35.90%	9	9.80%	26.10%	< 0.001
Withdrawal, mistrust	77	83.70%	27	29.30%	54.40%	< 0.001
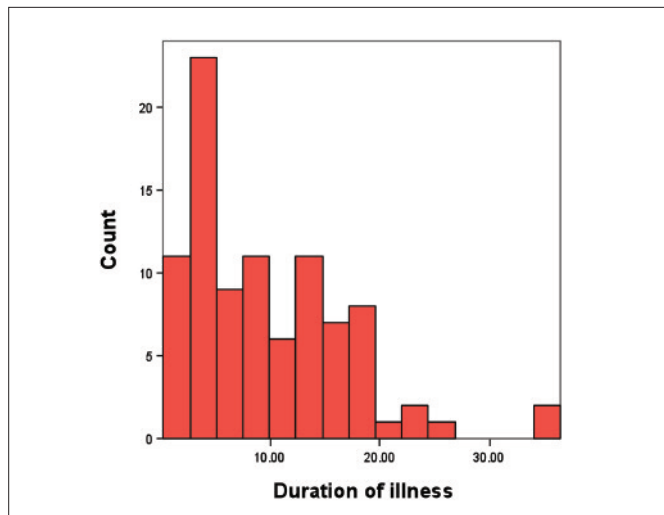
Figure 1: Duration of Illness in months.

had some sort of psychiatric illness. A specific diagnosis of psychosis and depression was made in 5% of the cases. This could have significant bearing on the recognition of early psychosis and subsequent delay in help seeking. Patients eventually made more contacts for help seeking before a definitive diagnosis was given with the initiation of appropriate treatment. Details of pathways to care and help seeking are presented in this earlier report on the duration of untreated psychosis.

Auditory hallucinations (61%), delusion of persecutions (43%), irritability (43%), insomnia (41%) and mistrust/withdrawal (29%) were the key concerning behaviours that initiated help seeking. Among the 108 symptoms from the indicators of illness in IROAS, 60 (55%) concerning behaviours were reported in the open-ended inquiry of the reasons for help seeking.

The difference in self-reported and interviewer elicited symptoms on indicators of illness (IROAS) was statistically significant ($p < 0.001$) for 'worries', 'tension', 'withdrawal/mistrust', 'loss of self-confidence', 'loss of drive', 'indecisiveness', 'decreased talkativeness', 'suicidal ideations' and 'phobias'. The difference was non-significant for symptoms of 'sleeplessness', 'delusion of reference', 'mood congruent hallucinations' and 'loss of control', suggesting that these factors caused clinically significant distress in patients and were subsequently the main reasons for help seeking. Some symptoms were only interviewer elicited; 'delusion of guilt', 'impaired work performance' 'thought withdrawal' and 'passivity experience' were reported in response to a checklist of symptoms (indicators of illness).

DISCUSSION

To the best of authors' knowledge, this is the first study from Pakistan that examines the presentation of early psychosis. The present results are consistent with some of the earlier reports. Patients experience various

affective and non-specific symptoms before the onset of psychosis. Oversight of this can delay the diagnosis of illness and initiation of appropriate treatment.

The value of classifying early signs of increasing psychosis as prodromal is contentious. Generally, in medical literature, the term 'prodromal' was applied in the field of infectious diseases. Typically, generalized non-specific symptoms such as malaise, fever, aches and pain which occur before the appearance of the symptoms associated with a specific disease are labeled as an illness prodrome. Such prodromes are indicative of the possible onset of any one of a variety of infectious diseases. If one is to use the term 'prodromal symptoms' in an analogous fashion with regards to schizophrenia, then the nature of these symptoms must differ from the specific or defining psychotic symptoms of schizophrenia. It would, therefore, appear to be more appropriate and less confusing to restrict the use of the term 'prodrome' to non-psychotic symptoms.

Alternatively, some investigators have also included the symptoms suggestive of early exacerbation of psychosis in prodromal symptoms. Herz *et al*. have suggested that the onset of psychosis should not be considered an all-or-none phenomenon. It is more likely to be a gradual process involving a progression from subtle disruption in perception of reality and thought structure to more blatant inability to identify reality or think coherently.[9]

The presentation of early psychosis has an implication on the (estimation of treatment delay and assessment of) duration of untreated psychosis. An appropriate outcome measure, in terms of research, could be the duration of illness (DUI) which is expected to record the time line from the appearance of the first sign of illness to the first attempt at help seeking and successful treatment (use of anti-psychotic drugs for a duration of 4 to 6 weeks).[6] Classification of psychotic disorder according to DSM-IV - schizophrenia also needs to be reviewed from the perspective of early intervention. A period of 6 months is warranted before a confirmatory diagnosis of schizophrenia can be made, as opposed to ICD-10 which relies on Schneider's symptoms of first rank as a core diagnostic criteria, and duration of 4 weeks.[8]

In most circumstances, contact is made when the patient is floridly psychotic or socially disruptive. Furthermore, the dearth of services and difficulty in accessing care in developing countries makes early intervention quite challenging.[13] Pakistan is a developing South East Asian country with a scarcity of mental health resources (psychiatrist: population=0.02). Emigration of mental health professionals from low and middle income countries to high income countries poses a serious challenge. According to a recent report, Pakistani origin psychiatrists working overseas (1158) far outreach the numbers practicing in the country (< 500).[14] Those working in the country are mostly collated in the large

tertiary care centres in the urban settings. Given this dilemma, patients have little choice in terms of seeking help. Additionally, there are other cultural factors which prolong the delay in treatment. There is some evidence to suggest that in developing countries female patients are kept home despite the severity of their symptoms on account of social stigma, thereby delaying the initiation of treatment.[11] Similarly, convolutions in the pathways to care arise when patients have to pass through alternative care providers - shamans, faith healers and *Hakims* - thus, prolonging the duration of untreated psychosis.[15,16]

The Society of Early Intervention in Psychosis looks to study various perspectives in the recognition and treatment of psychosis, given the fact that the therapeutic nihilism associated with schizophrenia impedes active efforts to change the status quo of research and care.[17] This study also highlights the need to observe the symptoms of early psychosis thereby helping the initiation of treatment at an early stage.

There are certain limitations which should be kept in mind while reviewing the results. This was a cross-sectional survey, enrolling patients from a single tertiary care centre. Although the hospital caters to a large segment of the population, the bias of selective enrollment (from a single centre) cannot be ruled out. A multicentre study, exploring the presentation at a public sector centre as well as a private health care centre could yield a more representative sample. Recall bias on the part of the patients could have led to selective reporting of certain (more disturbing) behaviour. Additionally, erroneous recording of symptoms, on the part of the assessors, could have also introduced bias in the observations.

CONCLUSION

Early psychosis presents with non-specific, affective symptoms which are prodromal symptoms of schizophrenia. More research needs to be done on identifying the early stages of illness in order to screen for early detection and treatment.

REFERENCES

1. Murray C, Lopez A. Global mortality, disability, and the contribution of risk factors: global burden of disease study. *Lancet* 1997; **349**:1436-42.

2. Kessler R, Olfson M, Berglund P. Patterns and predictors of treatment contact after first onset of psychiatric disorders. *Am J Psychiatry* 1998; **155**:62-8.

3. Naqvi HA, Khan MM. Pathway to psychiatric care in Karachi. *J Coll Physicians Surg Pak* 2006; **16**:438-9.

4. Malla AK, Norman RM, Joober R. First-episode psychosis, early intervention, and outcome: What have we learned? *Can J Psychiatr* 2005; **50**:881-91.

5. Barnes T, Hutton R, Chapman S, Mutsatsa S, Puri B, Joyce E. West London first-episode study of schizophrenia: clinical correlates of duration of untreated psychosis. *Br J Psychiatr* 2000; **177**:207-11.

6. Norman R, Malla A. Duration of untreated psychosis: a critical examination of the concepts and its importance. *Psychol Med* 2001; **31**:381-400.

7. Cornbatt B, Lencz T, Obuchowski M. The schizophrenia prodrome: treatment and high-risk perspectives. *Schizophr Res* 2002; **54**:177-86.

8. Offord DR, Cross LA. Behavioural antecedents of adult schizophrenia: a review. *Arch Gen Psychiatr* 1969; **21**:267-83.

9. Herz M. Prodromal symptoms and the prevention of relapse in schizophrenia. *J Clin Psych* 1985; **46**:22-5.

10. Docherty JP, Kammen V, Siris S, Marder SR. Stages of onset of schizophrenia psychosis. *Am J Psychiatry* 1978; **135**: 420-6.

11. Hafner H, Maurer K, Loffler W, an der Heiden W, Munk-Jorgensen P, *et al*. The ABC schizophrenia study: a preliminary overview of the results. *Soc Psychiatry Psychiatr Epidemiol* 1998; **33**:380-6.

12. Naqvi HA, Hussain S, Zaman M, Islam M. Pathways to care: duration of untreated psychosis from Karachi, Pakistan. *PLoS One* 2009; **4**:e7409.

13. Naqvi I, Murtaza M, Naqvi H. Gender differences in age at onset of schizophrenia: a cross sectional study from Pakistan. *J Pak Med Assoc* 2010; **60**:886-9.

14. Jenkins R, Kydd R, Mullen P, Thomson K, Sculley J, Kuper S, *et al*. International migration of doctors, and its impact on the availability of psychiatrists in low and middle income countries. *PLoS ONE* 2001; **5**:e9049.

15. Saeed K, Gater R, Hussain A, Mubbashar M. The prevalence, classification and treatment of mental disorders among attenders of native faith healers in rural Pakistan. *Soc Psychiatry Psychiatr Epidemiol* 2000; **35**:480-5.

16. Zafar SN, Syed R, Tehseen S, Gowani SA, Waqar S, Zubair A, *et al*. Perceptions about the cause of schizophrenia and the subsequent help seeking behaviour in a Pakistani population - results of a cross-sectional survey. *BMC Psychiatr* 2008; **8**:56.

17. First Episode Psychosis. Recommended roles for the psychiatrist: world psychiatric association committee on education. *Early Intervent Psychiatr* 2009; **3**:239-42.

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