Research Article

Can the early symptoms of attenuated psychosis syndrome be recognized: Caregivers' perspective

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ABSTRACT

Background: Identification of symptoms of early-onset psychosis is one of the longstanding researches in mental health. As these early symptoms cause functional impairment, it necessitates early management of psychosis. **Objectives:** To identify various symptom clusters recognized by caregivers in Attenuated Psychosis Syndrome (APS). It was also intended to assess the functioning level of patients and pathway of help seeking clinically. **Materials and Methods:** In a hospital-based cross-sectional study, 36 key relatives of patients of APS were chosen from the outpatient department of a tertiary center in psychiatry. Care givers reported the symptoms using a semi-structured 44 items symptom schedule, which was divided into four groups (positive, negative, vegetative, and depressive/anxious symptoms). Data were analyzed for percentages of responses and principal component analysis. **Results:** There was equal representation of the genders in the sample. The mean age of the study population is 27.1 ± 8.9 years. The caregivers could recognize the depressive/anxious, negative symptoms, and vegetative symptoms more easily. Principal component analysis suggested four cluster symptoms (Eigenvalue >0.3). The mean GAF score was 57.5 ± 8.67 suggesting a considerable functional decline in these patients. **Conclusion:** It appears that APS has more depressive/anxious, negative and vegetative symptoms which can be easily identified by the caregivers and grouped into four clusters. Considering the functional impairment and variations in the help-seeking, there is a need to highlight the treatment needs and psycho-education.

KEY WORDS: Caregivers; Attenuated Psychosis Syndrome; Functioning; Symptom Cluster

INTRODUCTION

The Psychosis Work Group of the American Psychiatric Association DSM-V has proposed consideration of Attenuated Psychosis Syndrome (APS) as a new diagnosis.[1] The condition has also been described as "psychosis risk syndrome," "ultrahigh risk," "at risk mental state," and "putative syndrome."

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In the field of early-onset schizophrenia and psychosis, the focus is delaying or preventing fully psychotic symptoms from developing through the identification of prodrome phase of illness. From prodromal phase to the development of psychosis is characterized by "ultrahigh risk symptoms" which is characterized by attenuated positive psychotic symptoms or Brief Limited Intermittent Psychotic Symptoms or Trait and State Risk factors.[2] Such "ultrahigh risk" individuals have a high rate of conversion to psychosis ranging from 30 to 60 percentages over approximately 2 years.[3,4]

Evidence suggests that this "prodromal" period is a reasonable window of risk to try to identify as retrospective studies with first-episode schizophrenia patients have shown that a prodrome occurs in approximately 75% of first-episode patients, has duration of 3-4 years and is characterized by functional decline and attenuated psychotic symptoms.[5] In some earlier studies, prodromal status was associated with a 40-50% rate of "conversion" to psychosis within 1 to 2 years.[6,7] A consortium of research groups in North America reported a more moderate rate of transition to psychosis, for example, 35-40% within 2.5 years.[3,8] In Australia, 1-year transition rates for patients ascertained in successive years have steadily decreased over time: 50% in 1995 to 32% in 1997, 21% in 1999, and 12% in 2000.[9]

APS patients have positive symptoms, negative symptoms, disorganized symptoms, and non-specific general symptoms, such as depressed and anxious mood, increased/decreased appetite.[8] Two early studies demonstrated that untreated APS patients had more severe positive symptoms than treated first-episode psychosis patients.[10,11] Hence, this study was conducted by taking into account of different symptoms as observed by the close caregivers by a semi-structured symptom interview schedule (consisting of 44 items), based on DSM-5 criteria of prodromal symptoms of APS.

The patients with APS syndrome are functionally impaired; it has been reported that baseline scores of global assessment of functioning (GAF) scale for APS patients have been in the 40s suggesting serious impairment[10] and 50 s moderate impairment.[12] Recent studies using more specific measures confirm current impairments of social and/or role functioning.[13] This present study proposed to elicit the functional impairments in social, family, vocational, personal, and cognitive spectrums.

APS syndrome patients on many studies found to have more cognitively impaired than normal controls.[14,15] However, in comparison to some large group of studies in APS syndrome, cognitive impairment is a specific finding; but in some fewer studies, no cognitive decline have been observed.[16] Many epidemiological studies have been reported that cognitive behavioral therapy improves the symptoms of these patients in long-standing follow-up.[17]

No DSM-IV diagnosis accurately captures these patients because they are given a variety of DSM diagnosis clinically.[18] The data show that clinicians are not satisfied that DSM-IV accurately captures the clinical pictures with these patients. Hence, in DSM-5, a separate entity has been mentioned with broad diagnostic criteria of "other specified schizophrenia spectrum and other psychotic disorder," which corresponds to the code-able diagnostic criteria as F28 of ICD, i.e., other nonorganic psychotic disorders. In this code-able diagnostic entity of DSM-5, there are four subcategories of diagnoses, among which APS is one.[19-21]

Therefore, this study was conducted to study the various group of symptoms (positive, negative, vegetative, and depressive/anxious symptoms) of APS as recognized by the caregivers at the onset of illness, the relationship between initial phase of APS and GAF in APS patients and to assess the pathway of care or help-seeking behaviors by the caregivers at the initial phase of APS.

MATERIALS AND METHODS

Ethics

The study was approved by the Institutional Ethics Committee of Mental Health Institute, SCB Medical College, Cuttack, India. All the participants were informed about the research in advance. Before they were interviewed, they were informed in detail about the study purpose and informed consent was obtained.

Study Design

a. Type of research design
   This is a hospital based cross-sectional descriptive study.
b. Procedure
   All the caregivers attending outpatient department of Mental Health Institute, S.C.B. Medical College, Cuttack, India, between September 2015 to January 2016, for 6 months, fulfilling inclusion criteria were screened and recruited for the study. The assessment was completed in a single sitting.
c. Sample Design
   Purposive sampling method was used for recruiting the caregivers for the study. A total of 36 caregivers were taken for the study. Six cases were excluded from the study because of comorbidity of substance use disorder. Four cases were excluded because the caregivers did not fulfill the criteria of staying with the patients for a minimum period of 1 year.
d. Inclusion criteria
   i. Key relative/caregiver of patients (12-50 years) with a clinical diagnosis of APS, attending OPD of Mental Health Institute, S.C.B. Medical College, Cuttack.
   ii. Key relative/caregiver was defined as a family member living with the patient for minimum 1 year and present during onset of abnormal behavior and actively involved in patient care.
   iii. Patients with duration of illness as per DSM-5 criteria of other specified schizophrenia spectrum and other psychotic disorder (APS).
   iv. Caregivers who were willing to provide informed consent and participate in the study.
e. Exclusion criteria
   i. Those patients who did not meet the DSM-5 criteria of other specified schizophrenia spectrum and other psychotic disorder (APS).

ii. Patients with no caregivers.
iii. Those caregivers who did not give consent to participate in the study.
iv. Caregivers who did not fulfill the definition of a Caregiver.

f. Tools used
i. DSM-5 criteria [19] of other specified schizophrenia spectrum and other psychotic disorder (APS).
ii. A sociodemographic pro forma specifically designed for the purpose of the study.
iii. A semi-structured questionnaire was used to interview caregivers. This tool was designed by the primary investigator by taking into all the prodromal symptoms of APS of DSM-5. This 44-item schedule consists of positive, negative, vegetative, and other depressive\anxiety symptoms. The sociodemographic pro forma and the questionnaire were piloted on a few caregivers before the commencement of the study.
iv. GAF scale was used to assess the current psychological, social, and occupational functioning of the patients. The scale ranges from 0 (inadequate information) to 100 (superior functioning). The GAF assigns a clinical judgment in numerical fashion to the individual's overall functioning level. Impairments in psychological, social, and occupational/school functioning are considered.
v. B.G. Prasad's socioeconomic status scale (as per consumer price index for industrial Workers of Nov 2015): This scale was used to determine the socioeconomic status of these patients.

Statistical Analysis

Categorical data were presented as percentages (%). Normally, distributed data were presented as means and standard deviation. The statistical tests were performed at a 5% level of significance. Data analysis was performed using Statistical Package for Social Sciences (SPSS) for Windows version 17.0(SPSS Inc., Chicago IL). Descriptive statistics and principal components analysis were done on symptoms generated from caregiver questionnaire.

RESULTS

- The caregivers were chosen in accordance with inclusion criteria as they are the primary source of giving information. The average age of the study population was quite young (27.11 ± 8.87 years).
- The majority of them were educated up to intermediate level (36.1%), most of them were married (58.3%), of nuclear families (72.2%), and belonged to the upper lower class (61.1%) of socioeconomic status. The majority (80.5%) of them were from the rural and semi-urban background. Family history of psychiatric illness was present only in two cases (5.5%) (Table 1).

Table 2 illustrates the most common symptoms identified by the caregivers (based on 44-item schedule) was poor attention and concentration, which was universally present in all the patients. The number of symptoms in the patients ranged from 8 to 24. The mean number of symptoms the patients experienced was 18. The mean duration of help-seeking behavior for the patients was 63 days starting from the first point of contact.

Principal components analysis was used to identify the various symptom clusters of APS as recognized by the caregivers at the onset of illness. A total of three items, maintaining odd posture for a long period, poor attention and concentration, suicidal ideas were eliminated because of the absence of variance. So finally, 41 items were analyzed using PCA, and they were best explained by four factors with an Eigenvalue >0.3. Again, 23 items were found to be distributed by the four factors; positive symptoms (8 items), negative symptoms

Table 1: Sociodemographic variables

Sex	***n* (%)**
Male	18 (50)
Female	18 (50)
Education	
Primary	1 (2.7)
Secondary	12 (33.3)
HSC	9 (25)
CHSE	13 (36.1)
Graduation	1 (2.7)
Marital status	
Married	21 (58.3)
Unmarried	15 (41.6)
Family type	
Joint	10 (27.7)
Nuclear	26 (72.2)
SES	
Lower class	3 (8.3)
Lower middle class	6 (16.6)
Upper lower class	22 (61.1)
Upper middle class	4 (11.1)
Upper class	1 (2.7)
Domicile	
Rural	14 (38.8)
Semi-urban	15 (41.6)
Urban	7 (19.4)
Family h/o psychiatric illness	
Yes	2 (5.5)
No	34 (94.4)

Table 2: Cluster of symptoms as identified by caregivers based on DSM-5 criteria

Positive symptoms	Frequency (%)
Suspecting others without any obvious reason	29 (80.5)
Laughing to self	2
Muttering to self	14
Irrational thinking	16 (44.4)
Listening voices from outside when nobody is there	3 (8.3)
Culturally inappropriate irrational behaviors	23 (63.8)
Excited	1 (2.7)
Excessive talk	3 (8.3)
Abusive toward others	2 (5.5)
Wandering away from home	1 (2.7)
Self-injurious behavior	2 (5.5)
Spend money inappropriately with requirement	4 (11.1)
Attempt to kill self or others	9 (25)
Excessive religiosity	5 (13.8)
Assault others without any reason	4 (11.1)
Cause damage	1 (2.7)
Irrelevant talk	1 (2.7)
Negative symptoms	
Avoid company	22 (61.1)
Neglect of regular activities done previously	31 (86.1)
Preoccupied with his/her own self	28 (77.7)
Withdrawn socially	28 (77.7)
Neglect self care	29 (80.5)
Confused in daily routine activities	27 (75)
Slowness in activities	28 (77.7)
Maintaining odd posture for a long period	0 (0)
Vegetative symptoms	
Sleep disturbances	32 (88.8)
Decreased/increased libido	1 (2.7)
Increased/decreased appetite	24 (66.6)
Depressive and anxious symptoms	
Get irritable most of the times	30 (83.3)
Looks frightened	24 (66.6)
Looks sad without any reason	32 (88.8)
Aches and pains	3 (8.33)
Incomprehensible speech	5 (13.8)
Sweating/palpitation/tremors	5 (13.8)
Loses all interest in routine activities	28 (77.7)
Tiredness feelings in minor work	23 (63.8)
Worried without any reason	31 (86.1)
Guilty feelings without any reason	21 (58.3)
Ruminating over past events	8 (22.2)
Poor attention and concentration	36 (100)
Crying spells	17 (47.2)
Headache	9 (25)
Suicidal ideas	0 (0)
Increased/decreased energy	24 (66.6)

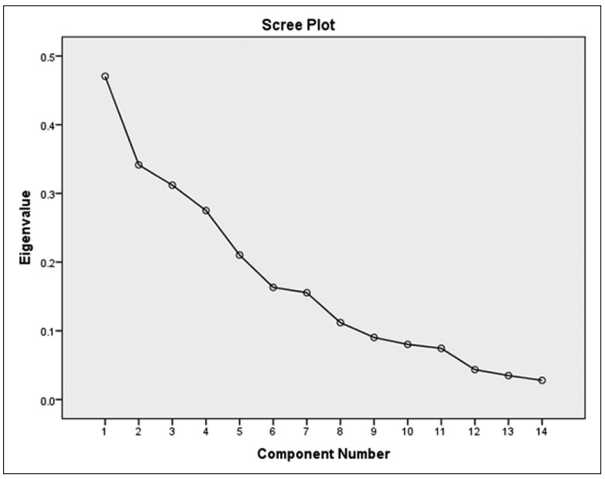

Figure 1: Scree plot showing the distribution of symptoms in accordance with eigenvalue

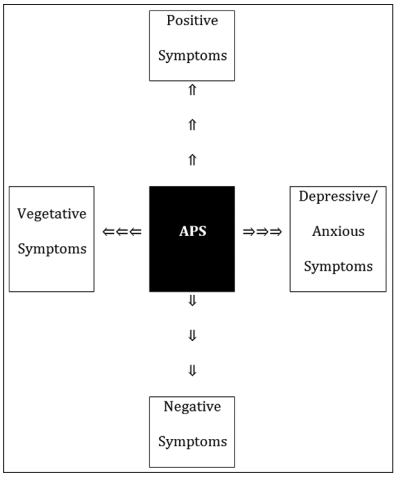

Figure 2: Four clusters of symptoms of attenuated psychosis syndrome

(6 items), vegetative symptoms (3 items), and depressive/ anxious symptoms (6 items) (Figures 1 and 2, Table 3).

In the pathway of help seeking, most of the caregivers of patients (61%) resorted to local Gunia/faith healer, whereas 14% of caregivers were involved in religious behaviors, i.e., worshipping God (14%) as the first modality of consultation/ treatment. Only 14% of caregivers sought the consultation of general physician as the first point of contact while a few (11%) came directly to the mental health professionals either in local hospital or in tertiary care hospital (Figure 3)**.** This shows the preponderance of traditional beliefs and superstitions in our society, particularly in rural areas. Meanwhile, the symptoms may get worsened/aggravated till the time they seek consultation from a doctor, losing a window of opportunity to act in the initial stage.

GAF was assessed in all study population. The GAF score of the study population was found to be 57.5 ± 8.67. This indicates that moderate levels of symptoms and moderate

Table 3: Principal component analysis of cluster of symptoms identified by caregivers

Positive symptoms	Negative symptoms	Vegetative symptoms	Depressive and anxious symptoms
Suspecting others without any obvious reason	Avoid company	Sleep disturbances	Looks frightened
Muttering to self	Preoccupied with his/her own self	Decreased/increased libido	Preoccupied with his/her own self
Irrational thinking	Withdrawn socially	Increased/decreased appetite	Tiredness feelings in minor work
Culturally inappropriate irrational behaviors	Neglect self-care		Guilty feelings without any reason
Spend money inappropriately with requirement	Confused in daily routine activities		Headaches
Attempt to kill self or others	Slowness in activities		Crying spells
Excessive religiosity			
Assault others without any reason			

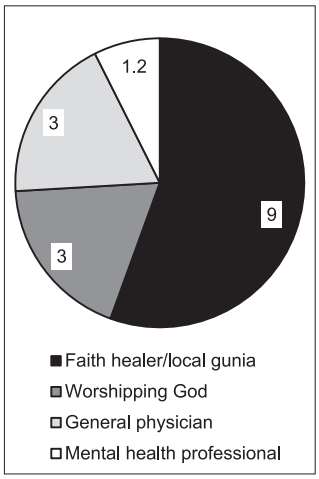

Figure 3: Different pathways of help-seeking behaviors by the caregivers

difficulties in social and occupational functioning are found in APS patients.

DISCUSSION

This study was conducted to identify various symptom clusters recognized by caregivers in APS, assess the functioning level of patients, and pathway of help-seeking behaviors by the caregivers in the initial phase of illness. As observed by the caregivers vegetative symptoms negative symptoms and depressive/anxious symptoms, i.e., poor attention and concentration, sleep disturbance, looking sad without any reason, irritability, worried without any reason, and neglecting routine activities were the most common symptoms in APS, causing definite impairment for which caregivers' help-seeking behavior is a paramount importance for these group of patients.

They also identified other symptoms such as suspiciousness, culturally inappropriate irrational behaviors, preoccupied with oneself, withdrawn socially, confusion in routine daily activities, slowness in activities, loses interest in regular activities, looks frightened, avoid company, tiredness feeling, disturbances in appetite, and loss of energy for which family members consulted the psychiatrist at end. This finding has been consistent with other studies.[1,20,22] However, in this study, positive symptoms were not found in most of the patients. The global assessment functioning indicates moderate level of social and occupational functioning impairment in patients, for which help-seeking behavior from mental health professionals was the need of that time, indicating health-care investment for well-being of the individual. The marked impairment in psychosocial functioning being a clinical predictor of the development of early onset psychosis was proved in other earlier studies.[23]

In Indian culture, the faith healers and worshipping god and goddess are the initial pathway of help seeking in most of the parts of the country, which was consistent with other studies.[24] The magico-religious beliefs and cultural influence in combination contributed to approach non-scientific mode of treatment as first-service provider rather than a mental health professional.[25-27]

In this study population, the patients from rural- and semi-urban areas consulted the faith healers and general physicians at early phase of symptoms, whereas patients from urban areas consulted psychiatrist at an early stage. It can be explained based on access to psychiatric facility, distance covered, and faith healing being the most accepted form of treatment in cultural belief system.

Stigma either internalized self-stigma or social stigma from peers, family, or community makes delay to consult a mental health professional. Identification of these early symptoms by the caregivers and the pathway of help seeking play a major role in the treatment, course, and prognosis of these patients. As most of the patients/caregivers consulted local faith healer/gunia in their first instances, so psychoeducation of the caregivers and awareness about primary mental health symptoms should be given the highest priority.

The prodromal symptoms as observed by the caregivers may be the initial symptoms which will open a new dimension

in the prodromal phase of psychosis. Although prodromal symptoms are always difficult to detect by the caregivers, it is the definitive functional impairment which insisting the caregiver to consult either faith healer or at a tertiary care hospital.

A psychometric instrument with more reliability and validity which is culturally sensitive needs to be developed in different languages to capture the symptoms of APS. The future longitudinal research in these patients would open a new dimension, whether to start with Psychoeducation, Cognitive-Behavioral Therapy or Pharmacotherapy as a treatment of choice.

CONCLUSION

It appears that APS has more depressive/anxious, negative and vegetative symptoms which can be easily identified by the caregivers and grouped into four clusters. Considering the functional impairment and variations in the help-seeking, there is a need to highlight the treatment needs and psychoeducation.

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