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ORIGINAL ARTICLE:

The Clinical Presentation of Early-Onset Psychotic Disorders: A Descriptive Study in Child and Adolescent Inpatient Setting

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ABSTRACT

OBJECTIVE

To identify the common symptoms of Early Onset Psychosis.

STUDY DESIGN

Retrospective study

PLACE & DURATION OF STUDY

The study was conducted at Child and Adolescent Psychiatry Department, Mayo Hospital, Lahore.

SUBJECTS AND METHODS

A total of 116 inpatient record files of admitted patients were included. A proforma was designed for data extraction based on the literature review and in accordance with DSM-5 which included common presenting symptoms at admission along with other relevant clinical and demographic information. Data was collected from the inpatient file records.

RESULTS

70% of the patients were females and the mean age at admission was 13(±1.6). Schizophrenia spectrum disorders were present in 78% of the patients and Brief Psychotic Disorder was the most common diagnosis. Symptoms including odd behavior, speech disorganization, deterioration in daily life activities, and perceptual abnormalities were the most common symptoms.

CONCLUSION

The study provides insight into the clinical presentation and psychosocial factors of psychosis in children and adolescents. It can help in the early detection of Psychotic Disorders in this age group and in formulating a better treatment and management plan.

KEYWORDS

Mental Disorders, Schizophrenia Spectrum and Other Psychotic Disorders, Psychotic Disorders (Source: MeSH-NLM).

INTRODUCTION

Psychotic disorders are complex with a range of symptoms that present in the form of a spectrum.[1] Early onset psychosis (EOP) is the onset of psychotic symptoms before the age of 18 years. It is characterized by the gradual emergence of nonspecific psychotic symptom clusters and various diagnostic categories. These commonly include brief psychotic disorder, schizophreniform disorder, schizophrenia, schizoaffective disorder, delusional disorder, and affective disorders. Nonspecific psychiatric symptoms contribute to diagnostic uncertainty and misdiagnosis and become a precursor of a variety of possible emerging psychotic disorders. They also pose significant treatment difficulties for healthcare professionals. [2]

The prevalence of Very Early Onset Psychosis (VEOP, Onset at less than or equal to13 years of age) differs from that of EOP. Although psychosis is very rare among children (<12 years of age), the prevalence increases in adolescence, and more cases are found in this age group. Studies have suggested that 39% of males and 23% of females with schizophrenia develop the condition by the age of 19.[2] It affects the quality of life of children and adolescents, impacts their development, education, learning, and functioning negatively. It has been shown to be associated with poorer social development, more severe clinical course and negative symptoms. A study found that earlier the onset of psychosis, more generalized is the disruption in brain function.[3] Although, VEOP is associated with a shorter duration of untreated symptoms but poorer premorbid functioning compared to early onset psychosis.[4]

Early onset and adult-onset psychosis differ in many aspects, including clinical presentation, response to therapy, and overall prognoses. [5] In the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, (DSM-5), a dimensional approach is used, involving the inclusion of symptoms to form a spectrum of disorders aligning with the patient's symptoms. The symptom variety and diagnostic criteria form sub-groups of the psychological disorder. Therefore, one needs an approach to individualize each patient's presentation and evaluation.[6,7] Diagnostic uncertainties exist in EOP due to the differential presentation of the disorder in children.[8] Some previous studies have also found differences between EOP and adult-onset psychosis in terms of types of symptoms, overall functionality, and average duration of untreated psychosis. There is more severity of symptoms in VEOP and EOP as compared to AOP. The duration of disease and likely, the duration of hospitalization is also increased in earlier onset types. Similarly, the education level and social functioning is also found lower in them.[3] They also found that EOP was associated with higher levels of negative symptoms as compared to adult-onset.[9-11] Moreover, some studies have documented that EOP was related to a greater duration of untreated symptoms while others have reported a shorter duration of untreated psychosis.[5] Many of these cases are preceded by a prodromal phase characterized by subclinical symptoms.

There is a dearth of information on the pattern of presentation of psychosis in children and adolescents; yet no previous study has focused on EOP in a clinical in-patient setting in Pakistan. So, there is a need to clarify the phenomenology of psychotic disorders in children and adolescents thereby facilitating diagnostic accuracy and appropriate management. This study assessed the clinical profile of children and adolescents with EOP and VEOP admitted to the only dedicated child and adolescent inpatient psychiatric facility in Lahore, Pakistan. The study will yield some clues regarding the presentation, types and duration of symptoms, and functional outcomes along with any comorbidity.

SUBJECTS AND METHODS

Participants

This cross-sectional study was conducted in the department of child and family psychiatry, Mayo hospital Lahore. Non-probability purposive sampling was used and all the admitted patients who were diagnosed with any psychotic disorder during the last five years (2018-2022) were included in the study. Informed consent was obtained from the guardians of the patients upon admission.

Instruments

The data was collected through an extensive chart review from the inpatient record files of the patients diagnosed with Schizophrenia and related disorders. Inpatient files with incomplete information were excluded from the study. Patients with history of psychosis due to another medical conditions, primary mood disorders, features of personality disorders and stress related disorders were also excluded. Diagnosis of Schizophrenia was based on clinical history, serial mental status examinations during the hospital stay. For the extensive record review, we designed a comprehensive questionnaire based on literature review that included demographic data (age, gender, schooling, family history of psychiatric illness and others), an extensive checklist of symptoms of psychosis (based on DSM-5), and clinical global impression scale to assess the severity of illness. (The questionnaire is included as the supplementary file) Diagnoses were based on DSM-5 criteria. Clinical Global Impression (CGI) was employed to assess the severity of illness at time of admission and discharge from the hospital. CGI is a clinician rated scale that compares the severity of illness at the time of admission and discharge and response to the treatment.[15] It considers the history, psychosocial circumstances, symptoms, behavior, and impact of symptoms on a patient's daily functioning. It has three subscales: Severity of illness (CGI-S), Global improvement, and Efficacy index. The inter-rater reliability was determined using two independent raters unfamiliar with the cases and five randomly drawn files.

Procedure

We adhered to the STOBE (Strengthening the Reporting of Observational studies in Epidemiology) checklist for cross-sectional studies to ensure all essential components were included in the manuscript

The duration of this study was six months. We obtained ethical approval from the institutional review board (No. 133/RC/KEMU Dated 28-02-2023). (IRB Approval form is available as the supplementary file)

Data analysis was conducted using SPSS Version 26. Descriptive analysis was done for the socio-demographic and other variables. Comparative statistics including the chi-square test were performed to compare clinical presentations between VEOP and EOP group. P-value of less than 0.05 was considered significant.

RESULTS

A total of 120 patients diagnosed with Psychotic disorders were admitted in the Department of Child and Adolescents Psychiatry, Mayo Hospital, Lahore in the last 5 years. Due to missing information in some of the files, the data of 116 patients was analyzed using the Inpatient Record files. Socio-demographic details of the patients are shown in Table 1. 70% of the patients were females. The mean age at admission was 13.85 (±1.6) years. 80.1% (93) patients were included in the EOP and only 19.8% (n=23) of the patients were less than 13 years of age.79% population belonged to the urban areas. The average duration of hospital stay was 2 weeks; a minimum of 2 days (in patient who left against medical advice) to maximum 9 weeks.

Table 1. Socio-demographic distribution of patients

Demographic Indicator		***Number***	***Percentage***
Gender	*Male*	35	30.2%
	Female	81	69.8%
Age	*>13 Years*	93	80.1%
	<13 Years	23	19.8%
Residence	*Urban*	92	79.3%
	Rural	24	20.6%
Family history of mental illness	*Yes*	31	27.2%
	No	83	72.8%

79% of patients were students and around 75% (n=87) of them were studying in mainstream schools. 84 students (77%) were not attending the school at the time of admission due to the psychotic illness. One third of the patients (n=44;38.3%) fulfilled the DSM-5 Criteria for Brief Psychotic Disorder. Schizophrenia was the second most common diagnosis (n=28,24%). While 78% of the patients fulfilled the criteria for different schizophrenia spectrum disorders, approximately 8%(n=10) were diagnosed with Affective Psychosis. The average duration of the symptoms before admission/ presentation was be less than 6 months in 97% of the patients (Mean 6.3 Months). Prodrome of psychosis was diagnosed in 12% of the cases (n=14) (Figure 1).

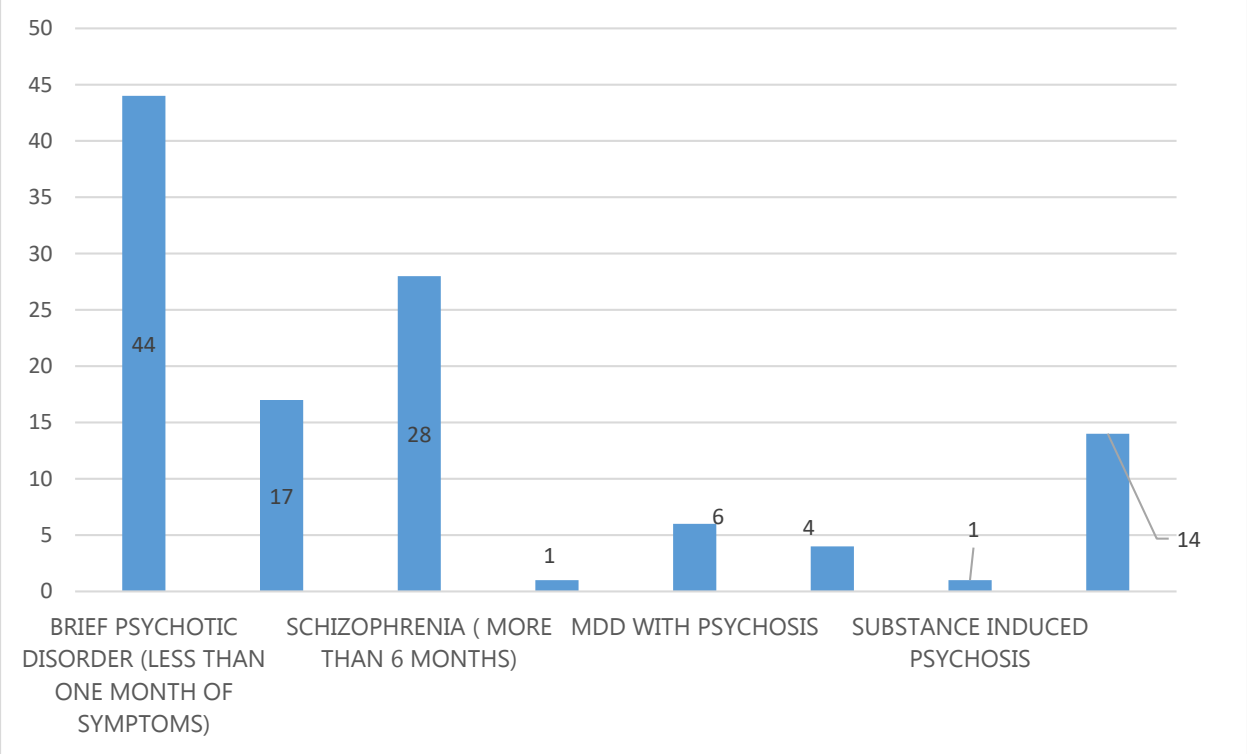
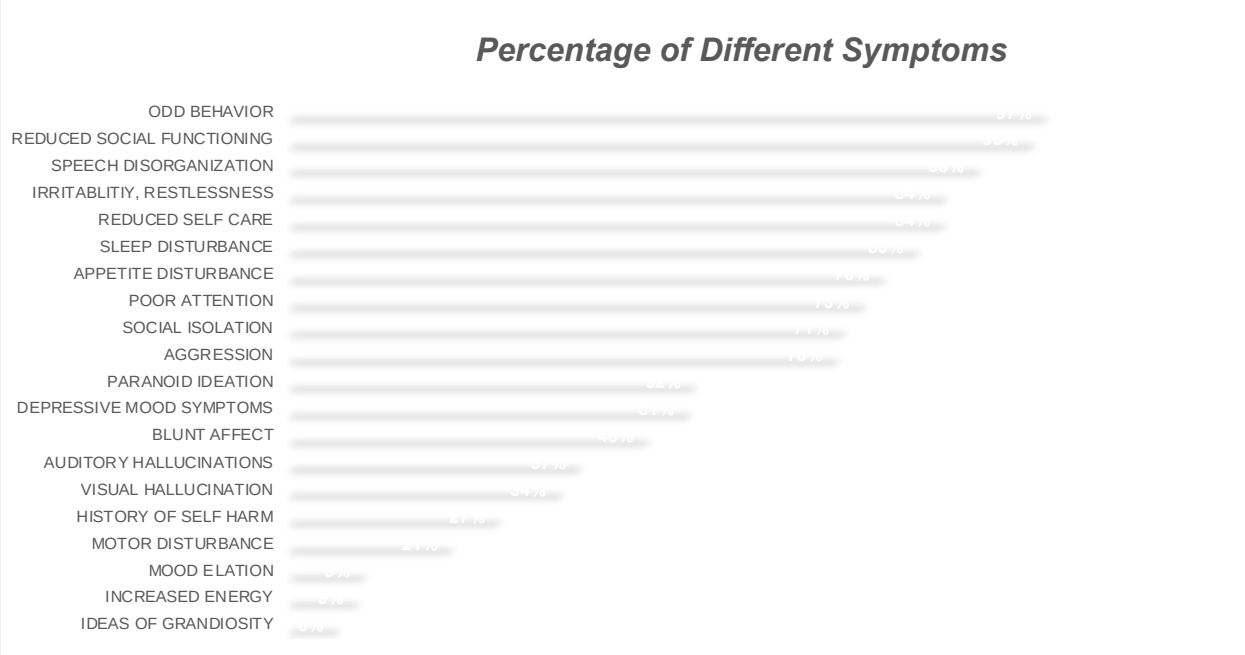


Figure 1. Frequency of Various Diagnoses in child and adolescent inpatient sample

Figure 2 illustrates the various symptoms observed at presentation. These symptoms were found to be associated with decreased role functioning in daily life and reduced Scholastic Performance. Sleep and appetite disturbance was also found to be commonly associated with these symptoms of psychosis. Mood symptoms were also prevalent; 49.5 % of the patients were suffering from depressive mood symptoms. Mood elation was found to be present in 9% of the sample. History of Self-harm was present in 27% of the patients.

Figure 2. Frequency of Different Symptoms at the time of presentation



Other psychiatric co-morbidities were also assessed, with intellectual Disability being the most common psychiatric co-morbidity; almost 16% of the patients had co-morbid intellectual disability. Family history of psychiatric illness was present in 26% of the patients. Chi-square test was performed to compare the categorical variables that defined the clinical presentation in EOP and VEOP. No statistically significant

results were found while comparing the two groups for clinical symptoms, provisional diagnoses, family history, duration of untreated illness.

Severity of illness at admission was found to be significant on Clinical Global Impression (CGI). Significant improvement was seen at discharge in patients with Mean Clinical Global Impression (CGI) severity score on admission being 5.4±1.0 (Markedly ill) and on discharge being 1.9±0.9. 64% of the patients showed '*much improvement'* on Global improvement(CGIC) during hospitalization.

DISCUSSION

This was a retrospective study that aimed to identify the common symptoms of psychosis seen in children and adolescents presenting to Child and Adolescent Psychiatry Department, Mayo Hospital, Lahore. The sociodemographic variables showed female predominance in the sample which contrasts with the previous findings showing that psychosis is more common in males than females. Although this difference between sexes in previous studies has also been attributed to the fact that during initial stages of psychosis, women tend to function better as compared to men, and therefore, are less commonly diagnosed.[12]

Early Onset Psychosis was present in almost 80% of the population while 20% (n=23) of the patients were less than 13 years of age at the time of presentation and hence fall in the category of Very Early Onset Psychosis. Since the number of patients in VEOP group was small no statistically significant results could be drawn when compared with the clinical presentation in EOP. However, previous studies have demonstrated a lower duration of untreated psychosis and poor premorbid functioning in VEOP.[4] The association of substance abuse with psychosis in this age group could not be replicated in our study since substance abuse is noted to be rarely reported in this age group in our clinical settings.

Consistent with the previous findings, Schizophrenia Spectrum Disorders were more common than Affective Psychosis in current study population as well.[13] Brief Psychotic Disorder was found to be the most common diagnosis followed by schizophrenia and prodrome of psychosis. In accordance with the previous studies, affective psychosis was more common in female patients.[14] About half of the patients were already taking some pharmacological treatment at the time of presentation which points towards shorter duration of untreated symptoms. The fact that children and adolescents are usually under the care of parents and teachers might explain the early referral to health care facilities and hence a shorter duration of untreated symptoms. Shorter duration of untreated symptoms has a favorable prognostic value in the treatment of psychosis.[14,16,17]

One of the most notable features of this study sample was the negative psychosocial impact of psychotic symptoms which was evident in the form of social isolation, deterioration in daily life activities, reduced self-care and poor scholastic performance or discontinuation of schooling in this group. These results are in line with the results from previous studies which show that early onset psychosis causes more psychosocial distress and impairment than adult-onset psychosis.[18,21] Moreover, depressive symptoms are also known to occur more frequently in first episode and are usually of severe intensity.[14,15]

In our study, symptoms like attention and concentration problems, reduced self-care, sleep and appetite disturbance, poor role functioning in daily life and low mood were commonly reported. This trend might also be due to the overlap of depressive symptoms with negative symptoms of Schizophrenia.[20] Behavioral problems like aggression and suicidality were also frequently reported.[4] Association of positive family history of Schizophrenia and Early Onset Psychosis is well known and was replicated in this study as family history of Schizophrenia was present in one-fourth of the patients.[22,23] Prodromal or sub-clinical psychotic symptoms were identified in about 10% of the patients. The most common symptoms include suspiciousness or paranoid behaviors, perceptual abnormalities and negatives symptoms including reduced self-care and reduced participation in daily activities. Early identification of these sub-clinical symptoms during the course of disease can help in early treatment and interventional strategies and can, perhaps, delay the onset or reduce the risk of onset of full-blown psychosis in future[20]. During the assessment attention must be paid to poor premorbid functioning, difficulties in school, problems in interpersonal relationships, behavioral problems like conduct disorder, substance abuse, symptoms of depression and anxiety which are all commonly associated with early onset psychosis.[15]

Standardized tools are available for the diagnosis of prodrome of psychosis, symptoms of which are present before the onset of full-blown psychosis in majority of cases.[24] Multimodal management strategies including pharmacological and non-pharmacological treatment options, such as modified CBT should be considered for such patients and should be tailored according to the individual needs and severity of symptoms[25]. Pharmacological treatment includes the use of antipsychotic and antidepressant medication according to the symptoms seen in early onset psychosis. Such early interventions are known to be beneficial for the short-term prognosis of the disease, improve social functioning of the patients, reduce the cost of treatment, and hence can improve the overall prognosis of the disease in the long run.[26,27]

The limitations of this study include the retrospective methodology and lack of use of a formal assessment tool for psychosis which might have enhanced the specificity of reported symptoms. Moreover, small sample size, missing data in the patient record files and lack of consistent patient follow up were some other limitations to our study. The future studies in this area should focus on a prospective approach and a larger sample size that can help make comparisons between different study

groups. Despite these few limitations, our study was one of its kind since there is dearth of local data and information on the pattern of presentation of psychosis in children and adolescents.

CONCLUSION

This study discusses the presentation of early-onset psychosis and how it differs from that of late-onset psychosis. To conclude, our study has showed a female dominance, a mean duration of untreated symptoms of 6 months, preponderance of negative symptoms such as reduced social and occupational functioning in children and adolescents presenting with psychosis, the presence of accompanying conditions like depression and intellectual disability, and the urgent need for timely intervention and treatment. The study underscores the potential for improved outcomes in those grappling with early-onset psychosis. Looking ahead, it's clear that additional research and the creation of standardized assessment tools are imperative to deepen our understanding and devise more effective treatment strategies for this unique population.

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REFERENCES

1. Altamura AC. A multidimensional (pharmacokinetic and clinical-biological) approach to neuroleptic response in schizophrenia, with particular reference to drug resistance. Schizophr Res. 1993 Jan;8(3):187–98. doi:10.1016/0920-9964(93)90017-D.
2. Kao YC, Liu YP. Effects of age of onset on clinical characteristics in schizophrenia spectrum disorders. BMC Psychiatry. 2010 Aug 18;10:63. doi:10.1186/1471-244X-10-63.

3. Biswas P, Malhotra S, Malhotra A, Gupta N. Comparative study of neurological soft signs in schizophrenia with onset in childhood, adolescence, and adulthood. Acta Psychiatr Scand. 2007 Apr;115(4):295–303. doi:10.1111/j.1600-0447.2006.00901.x.
4. Lin A, Wardenaar KJ, Pontillo M, De Crescenzo F, Mazzone L, Vicari S, et al. Is it still correct to differentiate between early and very early onset psychosis? Schizophr Res. 2016 Jan 1;170(1):211–6. doi:10.1186/s12888-020-2484-x.
5. Schimmelmann BG, Conus P, Cotton S, McGorry PD, Lambert M. Pre-treatment, baseline, and outcome differences between early-onset and adult-onset psychosis in an epidemiological cohort of 636 first-episode patients. Schizophr Res. 2007 Sep;95(1–3):1–8. doi:10.1016/j.schres.2007.06.004.
6. McClellan J, Stock S, American Academy of Child and Adolescent Psychiatry (AACAP) Committee on Quality Issues (CQI). Practice parameter for the assessment and treatment of children and adolescents with schizophrenia. J Am Acad Child Adolesc Psychiatry. 2013 Sep;52(9):976–90. doi:10.1016/j.jaac.2013.02.008.
7. Heckers S, Barch DM, Bustillo J, Gaebel W, Gur R, Malaspina D, et al. Structure of the psychotic disorders classification in DSM-5. Schizophr Res. 2013 Oct;150(1):11–4. doi:10.1016/j.schres.2013.04.039.
8. Hafner H, Hambrecht M, Löffler W, Munk-Jørgensen P, Riecher-Rössler A. Is schizophrenia a disorder of all ages? A comparison of first episodes and early course across the life-cycle. Psychol Med [Internet]. 1998 Mar [cited 2022 Nov 19];28(2):351–65. Available from: doi:10.1017/S0033291797006399.
9. Pencer A, Addington J, Addington D. Outcome of a first episode of psychosis in adolescence: a 2-year follow-up. Psychiatry Res. 2005 Jan 30;133(1):35–43. doi:10.1016/j.psychres.2004.10.004.
10. Seidman LJ, Giuliano AJ, Meyer EC, Addington J, Cadenhead KS, Cannon TD, et al. Neuropsychology of the prodrome to psychosis in the NAPLS consortium: relationship to family history and conversion to psychosis. Arch Gen Psychiatry. 2010 Jun 1;67(6):578–88. doi:10.1001/archgenpsychiatry.2010.66.
11. Häfner H. From onset and prodromal stage to a life-long course of schizophrenia and its symptom dimensions: How sex, age, and other risk factors influence incidence and course of illness. Psychiatry J. 2019 Apr 16;2019:1–14. doi:10.1155/2019/9804836.
12. Riecher-Rössler A. Oestrogens, prolactin, hypothalamic-pituitary-gonadal axis, and schizophrenic psychoses. Lancet Psychiatry. 2017 Jan;4(1):63–72. doi:10.1016/S2215-0366(16)30379-5.
13. Paruk S, Jhazbhay K, Singh K, Sartorius B, Burns JK. A comparative study of socio-demographic and substance use correlates in early-onset psychosis. Early Interv Psychiatry. 2018 Jun;12(3):339–47. doi:10.1111/eip.12330.
14. Schothorst PF, Emck C, Van Engeland H. Characteristics of early psychosis. Compr Psychiatry. 2006 Nov 1;47(6):438–42. doi:10.1016/j.comppsych.2006.03.003.
15. Muris P, Meesters C, van den Berg F. The strengths and difficulties questionnaire (SDQ). Eur Child Adolesc Psychiatry. 2003 Feb;12(1):1–8. doi:10.1007/s00787-003-0298-2.
16. Haro JM, Kamath SA, Ochoa SO, Novick D, Rele K, Fargas A, et al. The Clinical Global Impression–Schizophrenia scale: a simple instrument to measure the diversity of symptoms present in schizophrenia. Acta Psychiatr Scand. 2003 May;107(S416):16–23. doi:10.1034/j.1600-0447.107.s416.5.x.
17. Fraguas D, del Rey-Mejías Á, Moreno C, Castro-Fornieles J, Graell M, Otero S, et al. Duration of untreated psychosis predicts functional and clinical outcome in children and adolescents with

first-episode psychosis: a 2-year longitudinal study. Schizophr Res. 2014 Jan 1;152(1):130–8. doi:10.1016/j.schres.2013.11.018.
18. Starling J, Williams LM, Hainsworth C, Harris AW. The presentation of early-onset psychotic disorders. Aust N Z J Psychiatry. 2013 Jan;47(1):43–50. doi:10.1177/0004867412463615.
19. González-Pinto A, de Azúa SR, Ibáñez B, Otero-Cuesta S, Castro-Fornieles J, Graell-Berna M, et al. Can positive family factors be protective against the development of psychosis? Psychiatry Res. 2011 Mar 30;186(1):28–33. doi:10.1016/j.psychres.2010.05.015.
20. Meyer SE, Bearden CE, Lux SR, Gordon JL, Johnson JK, O'Brien MP, et al. The psychosis prodrome in adolescent patients viewed through the lens of DSM-IV. J Child Adolesc Psychopharmacol. 2005 Jun 1;15(3):434–51. doi:10.1089/cap.2005.15.434.
21. McClellan JO, Breiger D, McCurry C, Hlastala SA. Premorbid functioning in early-onset psychotic disorders. J Am Acad Child Adolesc Psychiatry. 2003 Jun 1;42(6):666–72. doi:10.1097/01.CHI.0000046844.56865.6B.
22. Trotta A, Di Forti M, Green P, Dazzan P, Mondelli V, Morgan C, et al. Familial risk and childhood adversity interplay in the onset of psychosis. BJPsych Open. 2015 Jun;1(1):6–13. doi:10.1192/bjpo.bp.115.000158.
23. Georgopoulos G, Stowkowy J, Liu L, Cadenhead KS, Cannon TD, Cornblatt BA, et al. The role of a family history of psychosis for youth at clinical high risk of psychosis. Early Interv Psychiatry. 2019 Apr;13(2):251–6.
24. Taylor JH, Huque ZM. Commentary: Schizophrenia prevention and prodromal psychosis in children and adolescents. J Child Psychol Psychiatry. 2021 May;62(5):674–6. doi:10.1111/jcpp.13408.
25. Kaur T, Cadenhead KS. Treatment implications of the schizophrenia prodrome. Behav Neurobiol Schizophr Treat. 2010:97–121. doi:10.1007/7854_2010_56.
26. Cornblatt BA, Auther AM. Treating early psychosis: who, what, and when? Dialogues Clin Neurosci. 2022 Apr 1.
27. Volkmar F. Childhood and adolescent psychosis: A review of the past 10 years. J Am Acad Child Adolesc Psychiatry. 1996;35(7):843–51. doi:10.1097/00004583-199607000-00009.

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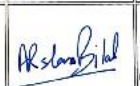
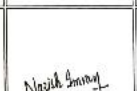
4	Muhamad Arslan Bilal	House officer, Child & Family Psychiatry, Mayo Hospital, Lahore.	Data Curation, Writing – Original Draft, Writing			arslanbilal767@gmail.com	0311 6072228
5	Nazish Imran	Professor & HOD Child & Family Psychiatry, Mayo Hospital, Lahore.	Conceptualization, Writing – Original Draft, Writing – Review & Editing, formal analysis			nazishimrandr@gmail.com	0321 4201955