CHAPTER 1
INTRODUCTION
1.1 Background

Psychotic disorders are considered to be one of the most debilitating states with very high social, psychological and economic liability and costs (Deshpande, 2005). The importance of prevention, early detection and early intervention has started gaining impetus only in last few decades in the emergence of Clinical Psychology and Psychiatry. Early identification and intervention in Psychosis, is even newer a development which has led to further advancements in the concept of psychosis and the scientific as well as service related concerns associated with it (French & Morrison, 2004). It has shifted how the individuals with these diagnoses are viewed from being labeled and seen as having inevitably very poor prognosis, to seeing the course of these disorders as fluid and subject to positive changes (Mcgorry, Killackey, & Yung, 2008).

1.2 Prodrome Psychosis

Prodrome phase is considered as the precursor phase of psychotic disorders. This period is marked by various changes in an individual’s biological rhythms, psychological functioning as well as social functioning. It can range from few weeks to few months to even a year prior to the onset of psychotic disorders. During this phase, the presentation can be subclinical as well (World Health Organization, 1992). With respect to early detection, three stages of psychotic disorders have been proposed in order to identify and intervene as per the stage an individual is at. Services for individuals who are potentially at risk for psychosis and experiencing prodromal phase were first established as early as 1995 at the Personal Assessment and Crisis Evaluation (PACE) Clinic by Yung at al. in Australia (Fusar-Poli, et al.,
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2016). However, there is still dearth of complete understanding and delineation of specific aspects of prodromal phase and its validity, as well as the interventional procedures that can be applied with individuals experiencing it due to the myriad manifestations of psychosis and it being a cluster of diseases with variety of bi-psycho-social causal factors (Fusar-Poli, et al., 2016).

Prodrome can be seen as the phase of change from stable normal functioning to frank manifestation of psychotic symptoms. This includes changes in functioning from the premorbid personality of the individual. It can comprise of many symptoms that are non-specific to psychotic disorders like low mood, or increasing anxiety and psychotic experiences that are sub-threshold or sub-clinical in nature. Subjective experiences of alterations in perception, cognitive functioning as well as biological symptoms like sleep and apetite (Yung, et al., 2003). At the core, the symptoms are indicative of changes in how one’s perceives the self, and overvaluing of elements and ideas related to self and surroundings by being preoccupied with them which in turn affects functioning in personal and social context of an individual. This can be noted in behavioural disturbances and alterations such a withdrawal from social and academic activities, a global change in behaviour from the predisposing personality, and changes in appearance, and changes in interests that are marked, evident and lasting and not just normal fluctuations of interest as seen in adolescents. For instance, an individual might, without any evident reason, become very introverted, and start contemplating on existential issues, and philosophical themes (Moller & Husby, 2000).

Psychotic disorders tend to have poor prognosis and the probability of improving the prognosis is one of the major factors that early detection and
intervention have become of interest to clinicians and researchers. It is this concern that evoked investigators to understand this phase of prodrome in great detail (Moller & Husby, 2000). Previously, the curiosity to chalk out the stages in development of psychosis led to research studies that were retrospective in nature. Studies focused on the reports by patients and caregivers of patients experiencing psychotic episodes. Among the tools developed to study prodrome retrospectively, is the Interview for the Retrospective Assessment of the Onset of Schizophrenia (IRAOS), developed by Hafner et al. in the year 1992. A total of 73%, out of the 232 first time schizophrenia patients under study, showed existence of prodrome phase with an length averaging 5 years in temporal length. He also reported that in 57% of the patients, social impairment emerged two to four years before the psychotic episode. Negative symptoms were found to be more prevalent than positive ones during this phase of prodrome (Chen, Lee, Chan, & Wong, 2013).

Prodrome Psychosis has been of interest to clinicians and researchers inclined towards prevention of psychotic disorders. Unfortunately, the research conducted in this aspect is scarce. For a long time, prodrome has been understood only in retrospect by going down the case history of individuals who have developed psychosis (Woods, et al., 2009).

1.3 Theoretical Basis

1.3.1 The role of clinical staging model (in prevention, early detection and intervention of Psychoses)

The ‘clinical staging model’ is aligned with the prevention paradigm and is an emerging trend in diagnosis. It aims to make diagnosis more specific and refined.
It helps to understand the progression of a disorder at various stages and thus helps in slicing it right to the initial of phases where detection, and intervention services can be provided. The model considers the development of psychopathology from its earliest roots, to its complete manifestation. By doing so, it does not eliminate the possibility that progression of illness will occur, however, it seeks to map factors that can be modified or intervened into to help in possible alterations to help minimise the repercussions of complex treatment procedures at later stages of illness progression. Thus, understanding of the biological, social, and psychological factors in terms of the risk factors as well as the protective factors is emphasized and encouraged. The model thus contributes to the fields of Psychiatry and Psychology by helping in the development of predictive measures of assessing risk of developing psychopathology (McGorry, et al., 2014).

The three focal points or stages proposed for the clinical staging model of Prodrome psychosis are: Ultra High Risk, First psychotic episode (which include brief intermittent psychotic episode and attenuated positive symptoms), and the recovery period or the critical period (Mcgorry, Killackey, & Yung, 2008).

This model has various advantages. The most important one being, prevention from progression to a stage more in severity. As it is an approach that targets specific phases and stages, the factors associated with each stage can be further studied giving a deeper understanding of a disorder from the bio-psycho-social perspective. it has paved way for understanding duration, prognostic features, and in designing interventions specific to various stages (Mcgorry, Killackey, & Yung, 2008). This model sees the disease progression as a continuum from normality to frank symptom manifestation in an individual and helps to locate the individual on
that continuum at a given point. It takes into account the holistic bio-psycho-social progression and explanation of the disease. Due to it’s focus on intervening at earliest stages, it has been considered a beneficial model for young individuals (McGorry, et al., 2007).

The prodrome psychosis phase, the aim of the present study, is covered under the first stage of this model, Ultra high risk, as applied to psychoses. The Prodrome phase, as discussed above, is a precursor for the psychotic disorders and is characterised by changes across many aspects of an individual’s life and personality. The term ultra high risk also indicates a chance for false positive cases where psychosis may or may not emerge from the prodromal signs and symptoms. This is the earliest point where preventive measures and interventions can be provided to individuals (Mcgorry, Killackey, & Yung, 2008). Such concept of providing intervention at sub-threshold and sub-clinical stage to prevent or ameliorate the onset of full blown psychotic disorder is referred to as ‘Indicated Prevention’ (Mrazek & Haggarty, 1994).

For better early detection and intervention, criteria for Psychosis risk syndromes have been proposed. Yung & McGorry (1996) have put forth the following three criteria that constitute the Psychosis risk syndrome (Yung & McGorry, 1996):

Brief Intermittent Psychotic Syndrome (BIPS): this is characterised by recent and frank psychotic symptoms that last for a very brief period of time. The presence of the symptoms of psychotic intensity can last for a few minutes in a day, and appear at least once in a month (Yung & McGorry, 1996).
Attenuated Positive Symptom Syndrome (APSS): the symptom presentations that began one year prior, or those that seem to be currently present at psychotic risk intensity at least once per week, are included under this criteria (Yung & McGorry, 1996).

Genetic Risk and Deterioration Syndrome (GRDS): This criteria serves as a combination of current symptoms of deterioration in functioning accompanied by genetic predisposition to schizophrenia spectrum disorders. Genetic risk is said to be present if the individual has any first degree relative who has been a patient of any affective or non-affective psychotic disorders. It also holds true for patients who are screened positively for Schizotypal personality disorder criteria (Yung & McGorry, 1996).

Individuals fulfilling even one of the criteria of psychotic risk syndromes is said to be at risk for psychosis and can further be evaluated for the severity and intensity of the symptoms (McGlashan, Walsh, & Woods, 2010). Early detection programs can therefore help in ensuring better prevention, interventions, and other necessary services for individuals who are at risk for developing psychoses.

1.4 Psychotic experiences in General population

Previously, researchers have argued that disorders lie on a continuum as opposed to the belief that they are all or none phenomena (Rose & Barker, 1978). Studies have indicated the presence of psychotic symptoms like experiences in the general population. Self report of these experiences is considered a reliable and valid source although it doesn’t guarantee development of psychotic disorders at a later stage but it does offer an insight into the risk one is at for developing these disorders.
These differences are also accounted for by the predictive validity of different tools (Loewy, Johnson, & Cannon, 2007).

Previous studies have brought forth that the prevalence of psychotic experiences in general population is 5% and the incidence rate is 3%. These experiences may or may not cause distress, may or may not lead to development of psychiatric disorders; or lead to help seeking behaviours (Van, Linscott, Jermeys, Deles, & Krabbendam, 2009). Findings have also shown that psychotic experiences during developmental periods are common and can also be transient in nature (Dominguez, Wichers, Lieb, & Wittchen, 2009). However, this is also dependant on the severity of symptoms experienced and on the frequency of these experiences. High severity and frequency of symptoms increase vulnerability of transition into psychotic disorders by as much as five times, and there is likelihood of being diagnosed even in a period of as long as four years (Hanssen, Bijl, Vollebergh, & Van, 2003). This cannot ignore the fact that even subthreshold psychotic experiences found in both general as well as clinical population pose the risk of being diagnosed with psychotic disorders.

The increasing interest in screening general population for psychosis risk is because individuals needing help often do not reach out because of the stigma attached to the label of being a psychotic individual. Stigma affects an individual with respect to the self, his or her relationships with peers as well as with caregivers. Being at risk can lead to alteration in many decisions pertaining to career, relationships, work, etc. It can also change how an individual perceives himself or herself. In conditions of lack of awareness and resources, an individual might think of himself as being ill, or being damaged in some manner, and this may affect their
motivation for future life goals. These concerns also vary with respect to factors like age of the participant and the severity of the symptoms being experienced (Corcoran, Malaspina, & Hercher, 2005). Due to these factors, and lack of awareness and resources, individuals are devoid of a lot of preventive measures, and intervention services that can be provided. This also leads to increase in the cost and liabilities that these disorders leave on the economy (Keshavan, et al., 2003).

1.5 Prodrome Psychosis in Adolescence

Psychosis tends to find its emergence during the sensitive developmental period of adolescence. Adolescence has been viewed as a stage of biological, psychological as well as social changes and upheaval for a very long time now.

Historically, pioneers such as Bleuler and Kraeplin admitted the similar manifestation of schizophrenia in children and adolescents as in adults; the former stated that around 5% of patients with schizophrenia showed onset before the age of 15 years, and the latter found out that there were approximately 3.5% of the patients who had onset before the age of 10 years, and that this percentage was raised by 2.7% with an onset between 10-15 years of age. Before 1970s adolescent onset schizophrenia was a very broad concept including developmental disorders that were all seen as the manifestations of schizophrenia in adults. This also leads to difficulties in understanding the research done in this aspect. Post 1970s, the schizophrenia with an onset in childhood and adolescent came to be diagnosed with the same criteria as the adult schizophrenia, not encompassing other disorders (Hollis, 2000). A meta-analytical study by Kelleher et al. (2012) indicated that the prevalence of psychotic symptoms between the ages of 9 and 12 years is 17% and that among
adolescents between the ages of 13 and 18 years was found to be 7.5% (Kelleher, et al., 2012).

Increasing research data from longitudinal studies are considering adolescence to be the crucial period for the emergence of the ‘prodromal phase’ or the precursor of manifestation of psychotic symptoms (Trotman, et al., 2013). It can be characterised by indicators that can be subclinical in nature, like positive or negative symptoms such as impairment in attention, dysphoria, and decline in functioning with respect to various personal and social roles (Tan & Ang, 2004). It can also lead to changes in motor activity, specifically causing psychomotor poverty, odd beliefs, and mistrust on others (Yung & McGorry, 2007).

The etiological factors involved in psychotic illness in adolescence include many aspects. The role of biological factors associated with adolescence have been implied in development of psychoses. Neuroanatomical and neurodevelopmental models have indicated that the resulting psychotic diseases are a result of neurodevelopmental abnormalities that keep occurring in the brain for several years before the frank symptomatic manifestation occurs (Rapoport, Giedd, & Gogtay, 2012). Ample of empirical research evidence has emerged to indicate that the pre- and peri-pubertal changes put adolescents at risk for manifestation of many psychiatric symptoms and syndromes (Trotman, et al., 2013). Improper development of neural process in foetus in the second trimester of gestation is also seen as one of the factors associated with psychotic illness (Srivastava, Sharma, & Bhatia, 2014). Emerging evidence also indicates role of gonadal and adrenal hormones in brain development during adolescents linked to abnormalities of functioning (Trotman, et al., 2013). Neurotransmitters have also been attributed in terms of the pathology of
psychotic illness especially schizophrenia. These include Dopamine, Serotonin, Glutamate as well as dysfunction in receptors called \(N\)-Methyl-D-Aspartate (NMDA) have been implicated (Srivastava, Sharma, & Bhatia, 2014).

In terms of gender differences, studies have found that the earliest signs of non-specific symptoms or negative symptoms do not differ significantly among adolescent girls and boys. Difference is noticed in the alterations in social functioning. Boys are more likely to show social disability, alongwith lack of personal hygiene, deficits in communication, and lack of interest in any work. Whereas, girls who went on to develop schizophrenia were found to have been of introverted nature throughout their childhood and adolescence (McCarthy, 2015).

Adolescents vary from adults on certain aspects in terms of the initial presentation of the illness. Frequently reported symptoms may include disturbances in speech, bizzare thoughts, lack of interest, fluctuations in mood and odd behaviours, inability to identify difference between reality and dreams or reality and television, problems with maintaining friendships and peer relationships (Tolbert, 1996). Adolescents tend to have low frequency of hallucinations, less structured delusions, and more of negative symptoms as compared to adult counterparts. They also exhibit issues with interpersonal adjustment and academic achievement. The onset of illness in adolescents has been found to be of acute nature (Gur, Gur, Keshavan, Kohler, & Walker, 2017). The disturbances in cognitive functions in children and adolescents with psychotic symptoms is similar to that of adults, and they show deficits in abstraction ability, learning, and attention (Courvoisie, Labellarte, & Riddle, 2001).
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As per older traditions in the field, the belief that prevalence of psychotic disorders in adolescence is low, can be a reason that most clinicians are not equipped to understand the manifestations and presentation of symptoms. They are also not well equipped to make early detection. This also puts service providers at a dearth for age appropriate interventions and management of such incidents (Clark, 2001).

Adolescents tend to understand that there is something wrong with respect to their thoughts and perception; and they may experience feelings of fear, confusion or distress related to the same. They might experience paranoia which inhibits them from sharing their feelings with significant others. Parents also tend to minimise the issue by thinking that it will heal with time and the adolescent will be fine again. This is sometimes reinforced by clinicians who do not have adequate information regarding this diagnosis and thus tend to explain the symptoms as being trivial or transient (Semper & McClellan, 2003).

Due to limited research and knowledge in the area of prodrome in adolescents, the clinical management majorly includes treating any prodromal signs of depression, anxiety, and/or any substance abuse the individual is involved in. Psychoeducating parents about the symptoms and psychosis, and the possible risk of psychosis has also been utilized as intervention strategies (Findling & Schulz, 2005). Some major issues with relation to adherance to any management related suggestions in adolescents have been delineated. Firstly, adolescence is a phase where the individual tends to believe that he or she is in charge of the thoughts and feelings, and does not need to depend on any external factors, like medication, to keep their well-being intact. Secondly, avoidance of medication is seen due to their sedative nature. The drowsiness tends to interfere with the activities an adolescent might
otherwise engage in. Thirdly, reducing or abstaining from drug use, in case of substance abuse, is a difficult process for this age group and may require a specific treatment regime in itself. Fourthly, the parent-child relationship can either support or be an obstacle to medication intact. In case of a healthy relationship, the parents may be able to persuade the adolescent into complying with the medication, however, if the relationship is not very healthy, not complying to medication can be a form of oppositional behaviour displayed by the adolescent. Lastly, the parents’ understanding of the symptoms and need for psychopharmacological treatment also determine the level of treatment adherence on part of the adolescent (Cepeda, 2013).

Previously, research has mostly been focused on psychotic experiences in adult populations. However, there has been growing interest in understanding of psychotic disorders in childhood and adolescence after developments in neuropsychological formulations of schizophrenia and the emphasis on premorbid factors and early developmental factors with respect to the onset of psychosis (Hollis, 2000).

1.6 Operational Definitions

1.6.1 Adolescence: For the present study, the adolescence has been considered as the period between 12-16 years of age. This is the time frame when prodromal symptoms tend to emerge. This age range is within the purview of World Health Organization (WHO), that considers ‘adolescence’ as the period between 10-19 years of age, which generally encompasses the time from the onset of puberty to the legal age of maturity (Dogra, 2007).
1.6.2 Psychosis: For the present study, Psychosis has been defined as comprising of symptomatology like hallucinations, delusions, or a limited number of gross abnormalities, such as gross excitement or over activity, marked psychomotor retardation, or catatonic behaviours (ICD 10: International statistical classification of diseases and related health problems, 2009).

1.6.3 Prodrome Psychosis: For the present study, Prodrome Psychosis has been defined as a phase that comes in precedence to the development of Psychotic symptoms. It can occur before weeks or even months in certain cases. During this phase, many symptoms and behaviours become evident. These include, loss of interest in work, social activities, and personal appearance and hygiene, together with generalized anxiety, and mild degrees of depression and preoccupations (ICD 10: International statistical classification of diseases and related health problems, 2009). For the present study, the risk for prodrome psychosis has been categorised on the basis of Prodromal Questionnaire – Brief Version and is defined by a cut off of 6 or more endorsed items on the questionnaire (Loewy, Pearson, Vinogradov, Bearden, & Cannon, 2011)

1.7 Purpose and rationale for the study

This study is an exploratory study that aimed to bring forth the concept of early detection and screening for risk of prodrome psychosis. Knowing that adolescence is considered a crucial point for initiation of psychosis, this shall help understand the frequency, the symptomatic experiences and distress associated with
the self reported experiences among adolescents of Gwalior. It aims to reach out to the general population that might be at risk but often does not seek help due to the stigmatization of being diagnosed with mental illness. It will further pave way for developing rigorous screening procedures and early interventions required at prodrome phase as well as encourage screening and intervention development for specific stages of psychoses.

1.8 Objectives of the Study

1.8.1 The study aimed to investigate the prevalence of risk of Prodrome Psychosis in school going adolescents of Gwalior city.

1.8.2 The study aimed to investigate the distress experienced by school going adolescents of Gwalior city who report symptoms of Prodrome Psychosis risk.