

Mental health services research targeting the clinical high-risk state for psychosis: Lessons, future directions, and integration with patient perspectives.

Abstract

Purpose of Review: We summarize the history of the clinical high-risk stage of psychosis (CHR), current research on this stage, recent critiques of the field, and evaluate current CHR guidelines and frameworks.

Recent Findings: Following its identification and characterization, CHR services have successfully been developed in North America, Europe, Australia, and elsewhere. As reflected in guidelines, these services and their orientation largely emerged as an outgrowth of the framework pioneered by early intervention services for first episode psychosis. We critically discuss what is known so far about the subjective experience of the CHR syndrome, the meaning of this “unofficial” diagnosis, as well as what is known and unknown about the service-related needs.

Summary: While a range of outstanding questions remain in the field, there is a particular need for patient-oriented work and to investigate the service-related needs of young people at CHR.

Keywords: clinical high risk for psychosis; service needs; help-seeking; pathways to care; service guidelines; patient-oriented research

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Introduction

For the most part, the development of schizophrenia and related psychoses is believed to follow a progression beginning with a premorbid stage (where individuals present with some basic or cognitive symptoms and functional difficulties, but no identifiable psychotic symptoms); followed by an “ultra” or clinical high-risk stage (CHR) consisting of sub-threshold symptoms combined with impairment and distress; and then a threshold-level first episode of psychosis (FEP) [1]. Early intervention programs for psychosis initially focused on the FEP as a key point where intensive clinical intervention was required [2]. However, in keeping with Birchwood’s view of the critical period encompassing the 2-5 years around the onset of psychosis [3], the last two decades have witnessed an important extension of the early intervention paradigm into the prevention of psychosis via examining and intervening during its at-risk (or ‘clinical high-risk’, CHR) stage [4].

The CHR stage emerged as a clinical research strategy aimed at operationalizing the concept of the “schizophrenia prodrome”, a period of continuous early signs and symptoms that immediately precedes the onset of a threshold-level disorder. Because the prodrome required knowledge of a subsequent psychosis, it could only be retrospectively defined [5-8]. As a result, Yung and colleagues (using a “close-in” strategy and DSM-III-R’s prodromal schizophrenia criteria [9, 10]) created the first CHR-specific service in Australia to prospectively identify and operationalize the putative prodrome. Three diagnostic criteria purported to increase an individual’s chance of developing psychosis were generated: 1) the presence of subthreshold or attenuated psychotic symptoms (APS); 2) threshold-level but transient psychotic episodes referred to as Brief (or Limited) Intermittent Psychotic Syndrome (BLIPS); and 3) the presence of trait and state risk factors, including genetic risk (a first degree relative with psychosis) and a 30% deterioration in global functioning (GRD). Later, this group and others further refined the categories by developing the first CHR diagnostic screening assessments: the Comprehensive Assessment of At-Risk Mental States (CAARMS) [11] and the Structured Interview for Psychosis-Risk Syndromes (SIPS) [12, 13] both of which are now widely used internationally.

CHR diagnostic categories have historically shown strong predictive validity. For example, the initial 1996 study found that approximately 40% of those meeting the DSM-III-R schizophrenia prodrome criteria developed schizophrenia within a 20-month period [14]. Following the development and utilization of the CAARMS, Yung et al.’s subsequent report similarly found that approximately 40% of individuals who met CHR criteria on the CAARMS and the psychotic and delusional conviction

subscales of the Brief Psychotic Rating Scale and Comprehensive Assessment of Symptoms and History scales (respectively) transitioned to psychosis over a 6-month and 12-month period [15].

However, ongoing research involving the CHR stage challenges the previously assumed linear development of FEP from CHR. For example, although the risk of psychosis from CHR increases over time [16], the majority of individuals at CHR do not ultimately develop a psychotic illness (e.g. [11, 17]). Furthermore, within the criteria, variation exists in the predictive validity of each sub-syndrome (e.g.[18-21]), and it now appears that not all FEP psychosis emerges from a prior CHR stage [22].

Notwithstanding these challenges, the need for care in this group is consistently demonstrated by their frequent development of non-psychotic diagnoses (e.g. depression, anxiety or substance use disorders) [23], and/or experiencing high levels of distress [24]. Thus, this review will focus on what is known regarding the service-related needs of young people experiencing a CHR state, gaps in current knowledge, and potential avenues for further research to better address these gaps and advance care for CHR populations.

What do we know about the needs of youth at CHR for psychosis?

CHR services and clinical guidelines

Prior to the development of CHR services, individuals who met diagnostic criteria for CHR were often excluded from care [25]: on the one hand, their CHR symptoms did not meet threshold diagnosis for psychosis (and thus, they were not eligible for early intervention services), on the other, their symptoms were often considered too severe for “general” youth mental health services. In response, CHR initiatives, services, and guidelines have been created to describe the CHR state, support its operationalization, and address needs of this group. In recognition of the fact that youth at CHR are often help-seeking, CHR-specific clinics and interventions emerged. They began in Australia in 1995 (Personal Assessment and Crisis Evaluation [PACE] clinic [9]); followed by the United Kingdom and Europe (e.g. Outreach and Support in South London [OASIS] [26]); Canada (e.g. Clinic for the Assessment of Youth At Risk [CAYR] [27]; Focus on Youth Psychosis Prevention [FYPP] [28]; Prevention through Risk Identification, Management and Education [PRIME] [29]); and beyond. In addition to clinical services, the CHR state has become the subject of major research projects such as the North American Prodrome Longitudinal Study (NAPLS), a consortium of eight research programs aiming to bring together CHR datasets to determine predictors of psychosis longitudinally (NAPLS 1

study), and to describe prodromal symptoms and their change over time (NAPLS 2 study) along with associated neurobiology [30].

Beyond these large-scale projects, CHR infrastructures that are organized around clinical services are generally closely linked to FEP early intervention services. CHR services typically include: outreach initiatives to reduce barriers and improve rapid access to the service; monitoring of subthreshold psychotic and other symptoms via follow-up assessments; provision of as-needed case management and medication; and psychoeducation for service users and their caregivers [31, 32]. For example, [CHR service], a CHR service in [location], focuses on treating current distress in youth through monitoring via follow-up assessments, as-needed case management and medication, with psychotherapy techniques employed on a case-by-case basis [citation blinded]. Similar approaches are used elsewhere (e.g. [26, 9]).

Guidelines and recommendations for CHR services allude to the fact that this population has specific service-related needs. For example, Canadian guidelines recommend individual cognitive behavioural therapy (CBT); treatments for frequently comorbid disorders (e.g. depression and anxiety); interventions to prevent the persistence of social and occupational difficulties; pharmacological management in conjunction with CBT to prevent the onset of a FEP; and ongoing monitoring of symptoms by a psychiatrist, psychologist, or trained CHR specialist [33]. A similar review of early intervention and treatment approaches for CHR likewise recommends therapeutic engagement, assessment and monitoring of symptoms and safety concerns, CBT for CHR, treatment of comorbid problems, social skills training, family interventions, supported education/employment, and a focus on healthy lifestyle (e.g. nutrition, physical activity, sleep, etc) [34]. However, given that these guidelines are either embedded in or based on early intervention for psychosis paradigms (e.g. the European Psychiatric Association (EPA) [35] and Canadian guidelines [33]), some service-related needs may have been identified primarily based on the stated goal of preventing psychosis onset (reducing incidence of psychosis) rather than addressing the equally important goal of addressing current service needs (reducing prevalence of any presenting distress).

Importantly, such gaps also highlight the need to critically analyze what are deemed to be important outcomes for individuals at CHR. Interestingly, a recent study conducted a DELPHI to unpack how CHR researchers and clinicians define “good” outcomes. Overall themes included functioning, symptoms, distress, suicidality, and subjective wellbeing [36]. In contrast, a follow-up study assessing patient-defined good outcomes identified certain non-symptom related factors (such as resilience and

subjective wellbeing) that were not well captured by current outcome assessments [37]. This echoes an early qualitative study reporting that individuals receiving CHR services identified issues of employment, career, and living accommodations as important outcomes [38] that may be insufficiently addressed by current services. The lack of patient-defined outcomes (or those that are the product of shared dialogue between patients and clinicians) is a potential gap in CHR guidelines and recommendations that is critical to address, particularly given the frequently ‘transitional’ nature of the CHR state.

Reasons for help-seeking and pathways to care

Along with issues surrounding guideline recommendations and the types of outcomes that should be targeted by CHR services, help-seeking itself has recently been investigated as well. First, the experience of the CHR state can render help-seeking difficult in young people, with self-stigma as well as anticipated and perceived public stigma as barriers to help-seeking and accessing care for young people at CHR [39-41]. Second, although positive attitudes and emotions (e.g. feeling less isolated and hopeful) were frequently reported regarding access to CHR services, negative emotions such as embarrassment, fear, and frustration were related to help-seeking [40]. Not only are stress, depression and anxiety highly prevalent in this population [42, 43], they are also among the primary reasons why youth at CHR seek help [43, 44]. Further, delusions/paranoia, depression, and anxiety were more frequently associated with referral to a CHR service compared to hallucinations, decrease in concentration, social withdrawal and so on [45].

Current evidence indicates that the duration of pathways to care for individuals at CHR ranges from 1.49 to 30 months, with mental health professionals, family members, and general practitioners as important contact points along the pathway [46]. Indeed, multiple studies on pathways to care identify general practitioners as one of the first help-seeking contacts along the pathway to care for CHR [45-48] (but potentially being infrequent sources of direct referral to a CHR clinic [47]). Another small sample in Korea found that family members, teachers, or the internet were most common help-seeking contacts, and 33% of adolescents sought help themselves [49]. However, once a referral to CHR services is made, individuals may encounter barriers related to the physical environment (e.g. inconveniences of transportation), as well as in the kind of services received (i.e., when services do not meet their needs) [50].

Service-related Needs

Research only hints at the service-related needs of youth at CHR for psychosis. In 78.1% of one CHR sample, difficulties with social and occupational functioning were a greater source of distress than were subthreshold psychotic symptoms [51]. Moreover, service users have reported concerns regarding finding future employment, living accommodations, and their mental illness returning [38]. A CHR sample also expressed feeling “broken”, “abnormal”, having difficulties maintaining relationships, and poor expectations for their futures [52]. In a study examining service users’ understanding and experience of the CHR state, participants expressed the importance of knowing more about their diagnosis, were concerned about how others would perceive their CHR diagnosis, and highlighted the importance of sharing their problems in a safe environment [53]. Moreover, those affected have identified wanting to get help with social issues, and found seeing a psychiatrist, CBT, medication, and supportive therapy as most helpful [44]. Although these studies provided some indication of useful intervention targets, to the best of our knowledge there is a paucity of research that directly listens to the subjective experience of needs in this group beyond predetermined outcomes. As a result, there is as of yet little information regarding whether existing CHR services adequately meet service user-defined needs.

Outstanding questions

Key questions remain regarding the potential impacts that the CHR label can have on young people at risk for psychosis, and further research is needed on approaches to improve detection, engagement, and pathways to care. To that end, strategies such as peer support and e-mental health [54] may be important areas for further investigation. Importantly, no research project to our knowledge has directly addressed the question of what young people at CHR themselves identify as their needs. In particular, much of the research on service-based needs has used quantitative methodologies to clarify what such needs could be, situated within the existing framework of symptom reduction and psychosis prevention. The extent to which the perspectives of youth at CHR fits within that framework has yet to be thoroughly interrogated. There is thus a critical gap that future research should focus on, paying close attention to the lived experience of those at CHR for psychosis, the social and emotional contexts within which needs arise, the ways in which CHR services do or do not address such needs, and whether there is room to optimize services with those needs in mind.

Conclusions

Despite rapid growth, the CHR research field is still in its infancy in terms of diagnostic certainty and service development. While much of its foundation was built on psychosis prevention, the field has begun to differentiate from these roots, recognizing that the needs of youth at CHR for psychosis may have similarities as well as distinctions from those of FEP [55]. As our understanding of the CHR state and its pluripotential outcomes grows, the scope of related studies may need to expand beyond the prism of psychosis, with important implications for service design and implementation [56]. An increasingly patient-oriented approach to the questions generated by such shifts in focus will doubtless benefit the development of the field and, most importantly, young people themselves.

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