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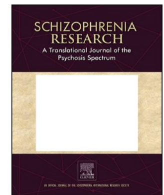

Adherence to recommended health and social distancing precautions during the COVID-19 pandemic in individuals with schizophrenia and youth at clinical high-risk for psychosis

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In March 2020, the coronavirus emerged as a global pandemic. To decrease infection and death rate, hygiene and social distancing safety precautions were implemented. Accumulating evidence suggests that many individuals throughout the world are adhering to these recommended precautions (Fong et al., 2020). There was initially fear that greater adherence would lead to worsening mental health due to greater social isolation, loneliness, and fear of contamination; however, findings have been mixed in studies examining the general population and those with pre-existing mental health diagnoses (Dean et al., 2021; Pinkham et al., 2020).

Although the COVID-19 pandemic has been found to worsen symptoms in the general population and those with psychotic disorders (Lee et al., 2021; Wynn et al., 2021; Esposito et al., 2021), the extent to which individuals with schizophrenia-spectrum disorders have followed recommended safety practices and whether such adherence has been associated with worsening mental health is unclear.

The current study evaluated COVID-19 health, hygiene, and social distancing precaution adherence in two samples: 1) outpatients with schizophrenia (SZ: $n = 32$) and community controls (CN: $n = 31$); 2) individuals at clinical high-risk for psychosis (CHR: $n = 25$) and CN ($n = 30$). It was hypothesized that compared to CN, SZ and CHR participants would report experiencing greater fear of contracting the coronavirus and greater impact of health/social distancing on pursuit of recreational, goal-directed, and social activities; however, CN and clinical groups were expected to report being similarly adherent to recommended precautions.

Participation occurred between July 9, 2020 and October 5, 2020. At the time of study completion, the COVID-19 pandemic state of emergency was still in effect and precautions were widely in place. Participants were originally recruited for studies that occurred prior to the COVID-19 pandemic. Original recruitment occurred at outpatient mental health clinics and online or printed advertisements. Diagnosis was established via the SCID-5 (First, 2014). Participants in the CHR group included young adults recruited from the Georgia Psychiatric Risk Evaluation Program (G-PREP), which receives referrals from local clinicians to perform diagnostic assessment and monitoring evaluations for youth displaying psychotic experiences. CHR participants were included if they met criteria for a prodromal syndrome on the Structured Interview for Prodromal Syndromes (Miller et al., 1999). Healthy control participants (CN) were recruited through printed and online advertisements to match the SZ and CHR groups. CN completed a diagnostic interview, including the SCID-5 (First, 2014) and SCID-5-PD (First et al., 2016) and did not meet criteria for any current psychiatric disorder or schizophrenia-spectrum personality disorder. CN also had no family history of psychosis and did not meet lifetime criteria for psychotic disorders. No participants met criteria for substance use disorders (other than tobacco) and all denied lifetime history of neurological disorders associated with cognitive impairment. Clinical and CN groups did not significantly differ in age, parental education, sex, or ethnicity; however, CHR and SZ had lower personal education than their CN groups (see Strauss et al., 2021).

Participants completed questionnaires assessing adherence to

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Table 1
Group differences in COVID health and social distancing safety precautions.

Questionnaire item	SZ	CN	Test statistic, *P*-value	CHR	CN	Test statistic, P-value
Has a doctor, nurse, or other health professional ever told you that you had COVID-19?	0%	0%	N/A	8.3%	3.3%	$X^2 = 0.64$, $p = 0.58$
Do you know anyone who has been told by a doctor, nurse, or other health professional that they had COVID-19?	51.6%	70%	$X^2 = 2.16$, $p = 0.19$	72%	93.3%	$X^2 = 4.54$, $p = 0.06$
Are any adults living in your home an ESSENTIAL WORKER (e.g., healthcare, delivery worker, store worker, security, building maintenance?)	28.1%	32.3%	$X^2 = 0.13$, $p = 0.79$	48%	60%	$X^2 = 0.79$, $p = 0.42$
Did you ever have symptoms that made you worry about having COVID19 (e.g., fever, cough)?	43.8%	38.7%	$X^2 = 0.17$, $p = 0.80$	36%	56.7%	$X^2 = 2.34$, $p = 0.18$
Have you practiced social distancing? (i.e., reduced your physical contact with people outside of your home in social, work, or school settings by avoiding large groups and staying 3–6 ft away from other people when out in public)?	100%	100%	N/A	100%	100%	N/A
Are you afraid of the corona virus (COVID-19)?	75%	54.8%	$X^2 = 2.82$, $p = 0.12$	72%	66.7%	$X^2 = 0.18$, $p = 0.77$
How often are you doing the recommended pandemic hygiene, like washing hands frequently, avoiding touching your face, covering coughs, and avoiding frequently touched surfaces in public places?	4.53 (0.62)	4.55 (0.51)	$F = 0.014$, $p = 0.905$	4.32 (0.63)	4.3 (0.7)	$F = 0.012$, $p = 0.91$
How often has feeling unsafe or afraid of getting the coronavirus kept you from enjoying recreational activities or hobbies, pursuing goals, or socializing?	3.56 (1.24)	3.35 (1.2)	$F = 0.46$, $p = 0.502$	3.76 (0.88)	3.27 (0.69)	$F = 5.42$, $p = 0.02$

COVID-19 health precautions and psychiatric symptom changes during the pandemic. The questionnaire included six binary questions regarding the presence of COVID-19 fear and risk factors for infection. The final questions were conducted using a Likert Scale to indicate level of adherence with safety measures and/or withdraw from pre-pandemic recreational, goal-oriented, and social activity. Negative symptoms were assessed via the Negative Symptom Inventory Self Report (NSI-SR), which also included before and during pandemic reporting timeframes. Other scales designed to assess the frequency and distress resulting from hallucinations, delusions, depression, anxiety, and sleep problems before and during the pandemic were also administered. Results regarding symptom change are reported in Strauss et al. (2021) and forthcoming manuscripts.

Chi-square analyses indicated that groups did not differ in the proportion of participants who reported being diagnosed with or having symptoms consistent with COVID-19, living with an essential worker, or practicing hygiene and social distancing precautions. CHR reported that fear of contracting COVID-19 kept them from enjoying recreational activities/hobbies, pursuing goals, and socializing more than CN (see Table 1). Correlations were conducted between physical/social distancing items and symptom change scores (during pandemic−pre-pandemic) for positive symptoms, negative symptoms, and general symptoms (depression, anxiety, sleep). Correlations indicated that greater adherence to COVID safety precautions was associated with greater increases in asociality ($r = 0.29$, $p < 0.01$), but not other symptoms, during the pandemic.

Findings suggest that those with SZ-spectrum diagnoses are likely to follow recommended health/safety precautions, which are decreasing the frequency of social contact by their nature, but not leading to symptom exacerbations otherwise. These findings add to the growing literature suggesting that COVID-19 health and social distancing safety precautions are themselves not associated with increased mental health problems during the pandemic, even though mental health may indeed be worsening in individuals with and without pre-existing psychiatric conditions.

CRediT authorship contribution statement

GS designed the study and obtained funding. The first draft of the manuscript and statistical analyses were performed by KM and GS. IR, AB, and LA designed measures, programmed surveys, and processed data. KM coordinated recruitment, scheduling, and study compensation. All other authors contributed to subsequent drafts of the manuscript.

Declaration of competing interest

G. P. Strauss is one of the original developers of the Brief Negative Symptom Scale (BNSS) and receives royalties and consultation fees from ProPhase LLC in connection with commercial use of the BNSS and other professional activities; these fees are donated to the Brain and Behavior Research Foundation. Dr. Strauss has received honoraria and travel support from ProPhase LLC for training pharmaceutical company raters

on the BNSS. In the past two years, Dr. Strauss has consulted for and/or been on the speaker bureau for Minerva Neurosciences, Acadia, and Lundbeck pharmaceutical companies. All other authors have no conflicts to report.

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