Journal of Student-Run Clinics
Original Study

COVID-19 Related Mental Health Among a Sample of Families Transitioning from Homelessness Living in a Communal Housing Facility

Phillip Yang, MA[1]; Jack Tsai, PhD[2]; Barbara Robles-Ramamurthy, MD[3]; Nida Emko, MD[4]

[1]Joe T. and Teresa Lozano Long School of Medicine, San Antonio, Texas, USA
[2]School of Public Health, University of Texas Health Science Center at Houston, San Antonio, Texas, USA
[3]Department of Psychiatry and Behavioral Sciences, Joe T. and Teresa Lozano Long School of Medicine, San Antonio, Texas, USA
[4]Department of Family and Community Medicine, Joe T. and Teresa Lozano Long School of Medicine, San Antonio, Texas, USA

Corresponding Author: Phillip Yang, MA; email: phillipypr@gmail.com

Published: October 10, 2022

Abstract

Background: The COVID-19 pandemic has worsened the health and mental health of individuals experiencing homelessness. However, little research has investigated the pandemic's impact on families experiencing homelessness, who likely experienced greater stressors due to the additional responsibilities of managing the needs of children. Student-run free clinics (SRFCs) can provide important needs assessment investigations and mental health interventions in underserved communities. This study examined the effect of the pandemic on the mental health of one sample of families experiencing homelessness associated with an SRFC.
Methods: Between November and December 2020, families experiencing homelessness at a homeless shelter in San Antonio, Texas were surveyed. Twenty-one parent and 20 child questionnaire responses on the pandemic's effect on health, depression, and anxiety were analyzed. One-sample t-test with Bonferroni correction was used for statistical analysis.
Results: Parents experiencing homelessness reported statistically significant worsening of coping ability, stress levels, family situation, financial situation, physical health, mental health, depression, and anxiety symptoms at the time of the survey compared to prior to the pandemic. Adults reported more worsening of anxiety symptoms than depression symptoms. Loneliness was the only general health measure that was not significantly worsened. In their young children (mean age = 6.7 years), parents reported no worsening of any outcomes.
Conclusions: Our sample of families experiencing homelessness reported significant life and mental health challenges due to the COVID-19 pandemic. People experiencing homelessness who live in a communal housing facility may protect against characteristic pandemic-related loneliness. Young children may require developmentally focused clinical assessments to adequately capture mental health challenges. SRFCs should be equipped to provide specialized mental health services and other community health services, such as vaccinations, to reduce pandemic-related morbidity and mortality.

Introduction

Homelessness is a complex public health issue with detrimental consequences to health. People experiencing homelessness are at greater risk of cardiovascular events, respiratory conditions, infections, unintentional injury, substance abuse, depression, anxiety, and health issues.[1-3] An estimated 76% of people experiencing homelessness have at least one mental health disorder.[4] Children experiencing homelessness are more likely to engage in high-risk activities, perform poorly

in school, be malnourished, and experience chronic mental health issues.[5,6] The relationship between trauma and homelessness is clear and can manifest in a cycle where adverse childhood experiences lead to homelessness, and homelessness promotes further trauma on families and their children.[7]

The coronavirus disease 2019 (COVID-19) pandemic adds an additional layer of complexity to homelessness. The pandemic has been projected to exacerbate homelessness due to increases in evictions, unemployment, and closure of homeless shelters.[8-11] Within homeless shelters, difficulties with adhering to communicable disease safety practices have led to several COVID-19 outbreaks in the United States.[12] Due to the greater likelihood of pre-existing conditions in people experiencing homelessness and lack of access to medical care, being infected with COVID-19 imparts an increased risk of severe infection complications and mortality.[11,13,14]

Student-run free clinics (SRFCs), staffed with healthcare students and clinical provider volunteers, provide free or low-cost ambulatory healthcare services to underserved and homeless populations.[15] Many studies have shown the benefits of SRFCs to address underserved community needs, such as improving access to care, reducing rates of hospitalization, administering vaccinations, and providing mental health services.[16-18] Healthcare students who participate in SRFCs also benefit with marked improvements in knowledge, skills, attitudes, and self-efficacy in working with the underserved.[19] However, SRFC services are often limited by funding and availability of faculty supervision.[15]

The impacts of the pandemic on societal mental health have been profound and well-documented. In July of 2020, roughly 53% of adults in the United States reported worsening of mental health due to the pandemic and increased levels of depression, anxiety, and stress.[20-21] Due to physical distancing practices, loneliness has also been a key mental health feature of the pandemic which can worsen mental health symptoms, contribute to substance abuse, and increase risks of suicidal behavior.[22-25] Although there is growing evidence on the mental health consequences of the pandemic on society-at-large, little is known about how families experiencing homelessness are affected.

This project takes place in a homeless shelter and assistance program in San Antonio, Texas for families experiencing homelessness to support the transition out of homelessness. Within the homeless housing program, an interdisciplinary team of nursing, pharmacy, physician associate, and medical students and providers provide free health care weekly in a SRFC for current and graduated program residents. In additional to general health services, residents can receive mental health medication management, counseling services, and psychiatric referrals. However, the SRFC does not currently have the capacity to provide specialized mental health care. In this needs assessment study, we investigated the impacts of COVID-19 on the mental health of families transitioning from homelessness at this homeless housing program.

Methods

Study design and population

From November to December 2020, all 32 families receiving homeless-related services at the homeless housing program were invited to participate in a cross-sectional questionnaire of their mental health before and during the pandemic and attitudes towards COVID-19 vaccines. A written informed consent was obtained prior to participation of the questionnaire. The questionnaire (Appendix A) was created through review of the literature and consultation with community partners. The questionnaire captured participant demographics and assessed four outcomes: 1. General measure, 2. Depression measure, 3. Anxiety measure, 4. COVID-19 vaccine hesitancy. Demographic variables included age, gender, race/ethnicity, highest level of education, marital status, and date of homelessness. The general measure items include physical health, mental health, financial situation, family situation, stress levels, loneliness, and ability to cope. Depression and anxiety symptom items were drawn from the Patient Health Questionnaire-9 (PHQ-9) and General Anxiety Disorder-7 (GAD-7) questionnaires, respectively, with the responses changed to a 5-point Likert scale with 1 being “much less/worse compared to before quarantine”, 3 being “the same compared to before quarantine”,

Table 1. Participants' Demographic Characteristics

Demographics	N (%)
Age (years)	
Minimum	23
Median	30
Interquartile Range	4
Maximum	53
Gender	
Female	20 (95.2)
Race/Ethnicity	
Black or African American	3 (14.3)
Hispanic or Latino/a	9 (42.9)
Native Hawaiian or Pacific Islander	1 (4.8)
White	8 (38.1)
Education	
Less than high school	4 (19.0)
High school	5 (23.8)
Some college	7 (33.3)
2-year college degree	1 (4.8)
Trade school	4 (19.0)
Marital Status	
Married	3 (14.3)
Never married	12 (57.1)
Separated	5 (23.8)
Widowed	1 (4.8)
Homeless since March 2020	9 (42.9)
Number of children	
1 child	9 (42.9)
2 children	10 (47.6)
3 children	2 (14.3)
Mean	1.6
Total	35
Age of eldest child	
Mean (years)	6.7
<1 year old	1 (4.8)
1-4 years old	8 (38.1)
5-9 years old	6 (28.6)
10-17 years old	6 (28.6)
Total	21
Gender of eldest child	
Female	10 (47.6)

and 5 being "much more/better compared to before quarantine". For COVID-19 vaccine hesitancy, participants were asked to rate their confidence in the efficacy of the COVID-19 vaccine, and the likelihood of receiving the COVID-19 vaccine for themselves and for their children on a 5-point Likert scale. Reasons for vaccine hesitancy were drawn from McKee and Bohannon.[26] As the vaccine hesitancy questions were assessed prior to the release of the first COVID-19 vaccine and may not be as relevant at the time of writing of this manuscript, vaccine hesitancy findings are shown in Appendix B. Families were recruited at shared living spaces. Adult participants responded to the survey for themselves and for their children. In the children sample, only responses from the eldest child were used for analysis. After taking the survey, participants were counseled on the free mental health services available to them at the homeless housing program. Participants also received an informational note which listed free mental health services, 24-hour mental health hotlines, and a supportive statement with ways to reach out for help. Participants received $10 of points for the in-house grocery store and a raffle for one of five $10 gift cards to a large chain grocery store.

Statistical analysis

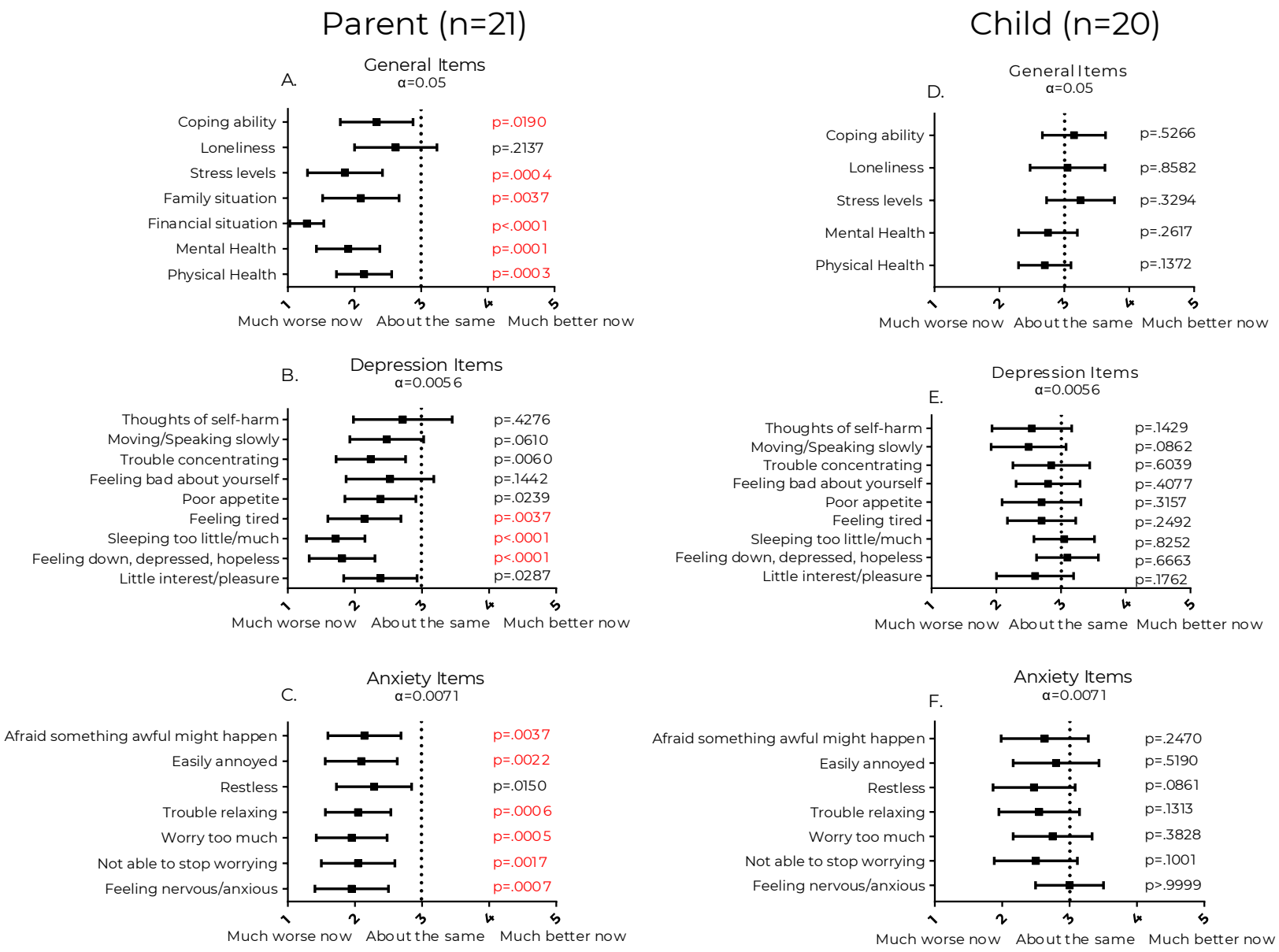
Survey responses were captured using Qualtrics (2020, Qualtrics, Provo, UT). Statistical and graphical analyses were conducted using GraphPad Prism (Version 9.3, GraphPad Software, La Jolla, CA). Descriptive statistics were used to characterize participant demographics. For the general, depression, and anxiety measures, one sample two-tailed t-tests assessed if mean scores were different from three (no change). Bonferroni corrections were applied to the depression ($\alpha = 0.0056$) and anxiety ($\alpha = 0.0071$) measures to strengthen the reliability of the analysis. The study was classified Human Research Determined Exempt by the Office of the Institutional Review Board at The University of Texas Health Science Center at San Antonio. The data supporting this study's findings are available from the corresponding author upon reasonable request.

Results

Demographics

Of the 32 families that were eligible, 21 adult participants (66.0%) completed the survey. Most

Figure 1. Participant responses to general, depression, and anxiety measures for themselves and their eldest child



adult participants identified as female (95.2%), with a median age of 30 years old (Table 1). The average age of the eldest children from the children sample was 6.7 years. One of the eldest children was born during the pandemic period and was excluded from analysis (N = 20). Nine adult respondents (42.9%) identified as Hispanic or Latino/a, 8 (38.1%) identified as White, 3 (14.3%) identified as Black or African American, and 1 (4.8%) identified as Native Hawaiian or Pacific Islander. Nine (42.9%) participants reported they became homeless since the outbreak of the pandemic in March 2020.

General, depression, and anxiety measures

Parents reported significant worsening for 6 of the 7 general measure items: coping ability ($p = .0190$), stress levels ($p = .0004$), family situation ($p = .0037$), financial situation ($p < .0001$), mental health ($p = .0001$), and physical health ($p = .0003$) (Figure 1A). Loneliness was the only general measure item that was not significantly impacted. Parent participants reported significant worsening for 3 of the 9 depression items: feeling tired ($p = .0037$), sleeping too little/much ($p < .0001$), and feeling down, depressed, hopeless ($p < .0001$) (Figure 1B). Parent participants reported significant worsening for 6 of the 7 anxiety items: afraid something awful might happen ($p = .0037$), easily annoyed ($p = .0022$), trouble relaxing ($p = .0006$), worry too much ($p = .0005$), not able to stop worrying ($p = .0017$), and feeling nervous/anxious ($p = .0007$) (Figure 1C). For their children, parents reported no statistically significant worsening of general, depression, or anxiety items (Figure 1D-F).

Discussion

Almost half of our sample (42.9%), which consisted of mostly female adults, reported becoming homeless since the outbreak of COVID-19 in March 2020. While our study did not directly assess causes of homelessness, our sample reported worsening of financial and family situations by the pandemic which may have contributed to family homelessness. Participants self-reported the pandemic significantly worsened various aspects of their lives, including their physical health, mental health, family situation, stress levels, coping ability, and financial situation. One possible catalyst for these harms is the financial crisis that followed the pandemic and its disproportionate effect on lower-income Americans.[27] Prior to the pandemic, the rising income inequality in America have left immigrants and people of color in lower-income brackets and financial hardship.[28] The pandemic exacerbated financial difficulties of lower-income populations, leading to significant mental distress, life hardship, and homelessness.

Loneliness has been called the "signature mental health concern" of the pandemic.[22,29] In our study, loneliness in the parent sample is the only general outcome that was not significantly worsened by the pandemic. Families in our sample live in communal housing, sharing spaces such as the kitchen, dining room, bathroom, living room, and computer room. Residents participate in activities together, eat meals, and socialize regularly. These communal activities may be important factors in helping the participants achieve social and community integration. Communal activities for social integration have also been examined in other studies although it should not be presumed that social integration automatically follows housing.[30-32] Initially, we hypothesized that communal activities and the close living arrangements may worsen mental health challenges in residents due to the increased difficulty to social distance. While that may still be the case, communal housing in our sample appeared to reduce social isolation and loneliness, which can be a protective factor against pandemic-related mental health challenges.[33]

The items on depression and anxiety symptoms provide additional insight on specific mental health concerns. For the depressive symptoms, the parent samples reported feeling tired, sleeping issues, and feeling depressed. The parent sample experienced more anxiety symptoms than depression symptoms. Chronic stress is a well-studied cause of depression and anxiety, and stress from the COVID-19 pandemic has been linked to worsening of anxiety and depression in the general population.[34,35] Our sample of families experiencing homelessness reported pandemic-related worsening of mental health symptoms, in addition to their ongoing financial

and life hardships. Prior to the pandemic, routine mental health-related concerns and medication management were frequently addressed at the associated SRFC. Patients with more complicated mental health needs were referred to our institution's psychiatry clinic. Due to the growing complexity and severity of mental health concerns, implementation of specialized mental health services in SRFCs is necessary now more than ever to provide immediate care to individuals experiencing homelessness.

Several groups have identified pandemic-induced increased stress, psychological problems, depression, anxiety, and PTSD in children and adolescents.[36-38] Compared with adults, children face unique challenges from the pandemic, such as school closures and being trapped in stressful family environments.[39] Children and adolescents experiencing homelessness face additional challenges associated with housing insecurity.[40] Our study found that parents reported in their young children no significant worsening of any general health or mental health items. Several explanations could account for this negative finding. First, 43% of the children in our sample were under five years old and likely did not experience the stressful school transitions due to COVID-19. Second, in the communal housing setting, children had more opportunity for social interactions with similar-aged peers that potentially mitigated or disguised mental health challenges.[41] Third, parent-reported assessment of youth mental health may be inaccurate especially for young children who may require more developmentally-focused qualitative assessments to adequately capture their mental health experiences.[42,43]

The impact of the first six months of the COVID-19 vaccination campaigns was estimated to reduce approximately 140,000 deaths in the United States.[44] However, due to vaccine misinformation and governmental distrust, vaccine hesitancy is a major concern and especially in populations experiencing homelessness.[45] Our study took place when the vaccines were in clinical trials and found that 48.0% of participants did not have confidence in the vaccine and would not get themselves or their children vaccinated (Appendix B). Our sample had vaccine hesitancy rates twice as high as found in a nationally representative sample (22.0%) during a similar time and similar rates to other studies exploring vaccine hesitancy in people experiencing homelessness.[46,47] A more recent study taking place two months after the emergency use authorization of the first vaccine compared adults experiencing homelessness living in a shelter to the shelter staff. They also found homeless individuals were approximately twice as reluctant to get vaccinated (28.1% vs 14.1%) and shelter staff were more than twenty times as likely to be vaccinated (13.1% vs 0.6%).[48] Further research are necessary to explore vaccination and pandemic-related health disparities in people experiencing homelessness.

Limitations from our study should be acknowledged. First, our study reflected one sample of families experiencing homelessness. While the sample is a good representation of the shelter's client population (66.0%), due to the limited sample size, these results should not be generalized to other populations of families experiencing homelessness. We suggest the use of our data and conclusions as a gateway for larger representative studies on how families and children experiencing homelessness are being affected by the COVID-19 pandemic. Second, the depression and anxiety items used in this study were originally designed to create a summative score (PHQ-9 and GAD-7). Our item response modification has not been validated and should be treated as an exploratory design. These measures are for symptom assessment purposes while a true diagnosis of mental illness would necessitate a clinical evaluation. Third, while our study investigated the changes between two points (during the pandemic versus before the pandemic), our experimental design was not a pre-post study. Rather, our results demonstrate a snapshot of the health and mental health challenges that a group of sheltered families experiencing homeless were enduring.

Our needs assessment study identified mental health challenges reported by a sample of families experiencing homelessness due to the COVID-19 pandemic. These issues may provide challenges that hinder the recovery of families seeking to exit homelessness. Various existing studies have highlighted some of these issues among individuals experiencing homelessness, but our study contributed to these findings by

providing further information about the well-being of families experiencing homelessness.[49,50] Particular attention may need to be given to parents of young children as they face challenges of raising a family on top of the challenges of homelessness. Specialized mental health SRFCs could help alleviate the prevalent and growing mental health crisis in people experiencing homelessness and in other marginalized communities. Young children experiencing homelessness may require specialized approaches to comprehend and treat mental health concerns. Understanding the reasons for vaccine hesitancy are critical to launching public health vaccination campaigns, especially for families experiencing homelessness who may already be vulnerable to various social determinants of health.

Acknowledgements

We would like to acknowledge SAMMinistries for their collaboration and support of this project. We would like to thank Dr. Robert C. Wood, MPH, DrPH, of UT Health San Antonio for his statistical assistance. This project was supported by the Center for Medical Humanities and Ethics, UT Health San Antonio, through the Community Service-Learning Mini-Grant.

Disclosures

The authors have no conflicts of interest to disclose.

References

1. Fransham M, Dorling D. Homelessness and public health. BMJ. 2018 Jan 29;360:k214. LINK
2. Fazel S, Geddes JR, Kushel M. The health of homeless people in high-income countries: descriptive epidemiology, health consequences, and clinical and policy recommendations. Lancet. 2014 Oct 25;384(9953):1529-40. LINK
3. Baggett TP, Liauw SS, Hwang SW. Cardiovascular disease and homelessness. J Am Coll Cardiol. 2018 June 5;71(22):2585-97. LINK
4. Gutwinski S, Schreiter S, Deutscher K, Fazel S. The prevalence of mental disorders among homeless people in high-income countries: an updated systematic review and meta-regression analysis. PLoS Med. 2021 Aug 23;18(8):e1003750. LINK
5. Gultekin LE, Brush BL, Ginier E, Cordom A, Dowdell EB. Health risks and outcomes of homelessness in school-age children and youth: a scoping review of the literature. J Sch Nurs. 2020 Feb;36(1):10-8. LINK
6. Grant R, Shapiro A, Joseph S, et al. The health of homeless children revisited. Adv Pediatr. 2007 Jan 1;54:173-87. LINK
7. Li JS, Urada LA. Cycle of perpetual vulnerability for women facing homelessness near an urban library in a major U.S. metropolitan area. Int J Environ Res Public Health. 2020 Aug 18;17(16):5985. LINK
8. Interim Economic Projections for 2020 and 2021 [Internet]. Washington (DC): Congress of the United States, Congressional Budget Office. May 19, 2020. [accessed 2021 Apr 24]. Available from: https://www.cbo.gov/system /files/2020-05/56351-CBO-interim-projections.pdf LINK
9. Benfer EA, Vlahov D, Long MY, et al. Eviction, health inequity, and the spread of COVID-19: housing policy as a primary pandemic mitigation strategy. J Urban Health. 2021 Feb;98(1):1–12. LINK
10. Tsai, J., & Wilson, M. COVID-19: a potential public health problem for homeless populations. Lancet Public Health. 2020 Apr;5(4), e186-7. LINK
11. Richard L, Booth R, Rayner J, et al. Testing, infection and complication rates of COVID-19 among people with a recent history of homelessness in Ontario, Canada: a retrospective cohort study. CMAJ Open. 2021 Jan 1;9(1):E1-9. LINK
12. Mosites E, Parker EM, Clarke KEN, et al. Assessment of SARS-CoV-2 infection prevalence in homeless shelters — four U.S. cities, March 27–April 15, 2020. MMWR Morb Mortal Wkly Rep. 2020 May 1;69(17):521–2. LINK
13. Pribish A, Khalil N, Mhaskar R, Woodard L, Mirza A-S. Chronic disease burden of the homeless: a descriptive study of student-run free clinics in Tampa, Florida. J Community Health. 2019 Apr;44(2):249-55. LINK
14. Leifheit KM, Chaisson LH, Medina JA, Wahbi R, Shover CL. Elevated mortality among people experiencing homelessness with COVID-19. medRxiv. Published online 2021 Mar 8. LINK
15. Smith S, Thomas R III, Cruz M, et al. Presence and characteristics of student-run free clinics in medical schools. JAMA. 2014 Dec 10;312(22):2407–10. LINK
16. Hutchison J, Thompson ME, Troyer J, et al. The effect of North Carolina free clinics on hospitalizations for ambulatory care sensitive conditions among the uninsured. BMC Health Serv Res. 2018 Apr 12;18(1):280. LINK
17. Abuelenen T, Khalil S, Simoneit E, et al. Prevent and protect: a vaccination initiative for uninsured patients at a student-run free clinic. J Community Health. 2020 Oct;45(5):910–5. LINK
18. Knoll O, Chakravarthy R, Cockroft JD, et al. Addressing patients' mental health needs at a student-run free clinic. Community Ment Health J. 2021 Jan;57(1):196–202. LINK
19. Smith SD, Yoon R, Johnson ML, Natarajan L, Beck E. The effect of involvement in a student-run free clinic project on attitudes toward the underserved and interest in primary care. J Health Care Poor Underserved. 2014 May;25(2):877–89. LINK
20. Kujawa A, Green H, Compas BE, Dickey L, Pegg S. Exposure to COVID-19 pandemic stress: associations with depression and anxiety in emerging adults in the United States. Depress Anxiety. 2020 Dec;37(12):1280-8. LINK
21. Liu CH, Zhang E, Wong GTF, Hyun S, Hahm H. Factors associated with depression, anxiety, and PTSD symptomatology during the COVID-19 pandemic: Clinical implications for U.S. young adult mental health. Psychiatry Res. 2020 Aug;290:113172. LINK
22. Killgore WDS, Cloonan SA, Taylor EC, Dailey NS. Loneliness: a signature mental health concern in the era of COVID-19. Psychiatry Res. 2020 Aug;290:113117. LINK
23. Hwang T-J, Rabheru K, Peisah C, Reichman W, Ikeda M. Loneliness and social isolation during the COVID-19 pandemic. Int Psychogeriatr. 2020 Oct;32(10):1217-20. LINK

24. Stickley A, Koyanagi A. Loneliness, common mental disorders and suicidal behavior: findings from a general population survey. J Affect Disord. 2016 Jun;197:81-7. LINK
25. Mushtaq R, Shoib S, Shah T, Mushtaq S. Relationship between loneliness, psychiatric disorders and physical health ? a review on the psychological aspects of loneliness. J Clin Diagn Res. 2014 Sep;8(9):WE01-4. LINK
26. McKee C, Bohannon K. Exploring the reasons behind parental refusal of vaccines. J Pediatr Pharmacol Ther. 2016 Mar-Apr;21(2):104-9. LINK
27. K. Parker, R. Minkin, J. Bennett. Economic Fallout From COVID-19 Continues to Hit Lower-Income Americans the Hardest [Internet]. Washington (DC): Pew Research Center. 2020 Sep 24. [accessed 2021 May 14]. Available from: https://www.pewresearch.org/social-trends/2020/09/24/economic-fallout-from-covid-19-continues-to-hit-lower-income-americans-the-hardest/ LINK
28. Katz VS, Gonzalez C, Clark K. Digital inequality and developmental trajectories of low-income, immigrant, and minority children. Pediatrics. 2017 Nov;140(Suppl 2):S132-6. LINK
29. Loades ME, Chatburn E, Higson-Sweeney N, et al. Rapid systematic review: the impact of social isolation and loneliness on the mental health of children and adolescents in the context of COVID-19. J Am Acad Child Adolesc Psychiatry. 2020 Nov 1;59(11):1218-39.e3. LINK
30. Tsai J, Rosenheck RA. Conceptualizing social integration among formerly homeless adults with severe mental illness. Journal of Community Psychology. 2012 Apr 18;40(4):456-67. LINK
31. Tsai J, Mares AS, Rosenheck RA. Does housing chronically homeless adults lead to social integration? Psychiatr Serv. 2012 May 1;63(5):427-34. LINK
32. Baumgartner JN, Herman DB. Community integration of formerly homeless men and women with severe mental illness after hospital discharge. Psychiatr Serv. 2012 May 1;63(5):435-7. LINK
33. Varma MM, Chen D, Lin X, Aknin LB, Hu X. Prosocial behavior promotes positive emotion during the COVID-19 pandemic. Emotion. 2022 Mar 17; Epub ahead of print. LINK
34. Tsai, J., Huang, M., Elbogen, E. Mental health and psychosocial characteristics associated with COVID-19 among US adults. Psychiatr Serv., 2021 Apr 1;72(4), 444-7. LINK
35. Chiba S, Numakawa T, Ninomiya M, et al. Chronic restraint stress causes anxiety- and depression-like behaviors, downregulates glucocorticoid receptor expression, and attenuates glutamate release induced by brain-derived neurotrophic factor in the prefrontal cortex. Prog Neuropsychopharmacol Biol Psychiatry. 2012 Oct 1;39(1):112-9. LINK
36. Liang L, Ren H, Cao R, et al. The effect of COVID-19 on youth mental health. Psychiatr Q. 2020 Apr 21;91(3):1–12.. LINK
37. Courtney D, Watson P, Battaglia M, Mulsant BH, Szatmari P. COVID-19 impacts on child and youth anxiety and depression: challenges and opportunities. Can J Psychiatry. 2020 Oct;65(10):688-91.. LINK
38. Guessoum SB, Lachal J, Radjack R, et al. Adolescent psychiatric disorders during the COVID-19 pandemic and lockdown. Psychiatry Res. 2020 Sep;291:113264. LINK
39. Rousseau C, Miconi D. Protecting youth mental health during the COVID-19 pandemic: a challenging engagement and learning process. J Am Acad Child Adolesc Psychiatry. 2020 Nov 1;59(11):1203-7. LINK
40. Rosenthal DM, Ucci M, Heys M, Hayward A, Lakhanpaul M. Impacts of COVID-19 on vulnerable children in temporary accommodation in the UK. Lancet Public Health. 2020 May 1;5(5):e241–2. LINK
41. Alvis LM, Douglas RD, Shook NJ, Oosterhoff B. Associations between adolescents' prosocial experiences and mental health during the COVID-19 pandemic. Curr Psychol. 2022 Jan 3;1–12. Epub ahead of print. LINK
42. Middleton M, Kelley A, Gleason MM. Clinical assessment of young children. Child Adolesc Psychiatr Clin N Am. 2017 Jul;26(3):441-54. LINK
43. Egger HL. Psychiatric assessment of young children. Child Adolesc Psychiatr Clin N Am. 2009 Jul;18(3):559-80. LINK
44. Gupta S, Cantor J, Simon KI, et al. Vaccinations against COVID-19 may have averted up to 140,000 deaths in the United States. Health Aff (Millwood). 2021 Sep;40(9):1465–72. LINK
45. Coustasse A, Kimble C, Maxik K. COVID-19 and vaccine hesitancy: a challenge the United States must overcome. J Ambul Care Manage. 2021 Jan/Mar;44(1):71-5. LINK
46. Khubchandani J, Sharma S, Price JH, et al. COVID-19 vaccination hesitancy in the United States: a rapid national assessment. J Community Health. 2021 Apr;46(2):270-7. LINK
47. Tucker JS, D'Amico EJ, Pedersen ER, et al. COVID-19 vaccination rates and attitudes among young adults with recent experiences of homelessness. J Adolesc Health. 2022 Mar;70(3):504-6. LINK
48. Rogers JH, Cox SN, Hughes JP, et al. Trends in COVID-19 vaccination intent and factors associated with deliberation and reluctance among adult homeless shelter residents and staff, 1 November 2020 to 28 February 2021 - King County, Washington. Vaccine. 2022 Jan 3;40(1):122–32. LINK
49. Liu M, Richard L, Campitelli MA, Nisenbaum R, Dosani N, Dhalla IA, et al. Drug overdoses during the COVID-19 pandemic among recently homeless individuals. Addiction. 2022 Jun;117(6):1692–701. LINK
50. Crouzet L, Scarlett H, Colleville AC, et al. Impact of the COVID-19 pandemic on vulnerable groups, including homeless persons and migrants, in France: a qualitative study. Prev Med Rep. 2022 Apr;26:101727. LINK