Supporting People Receiving Substance Use Treatment during COVID-19 through a Professional-Moderated Online Peer Support Group

Ou Stella Liang
Drexel University
College of Computing and Informatics
Philadelphia, PA, USA
ol54@drexel.edu

Christopher C. Yang
Drexel University
College of Computing and Informatics
Philadelphia, PA, USA
chris.yang@drexel.edu

Anne Glenney
Drexel University
College of Medicine
Philadelphia, PA, USA
ag3839@drexel.edu

Richard E. Pointer
Drexel University
College of Medicine
Philadelphia, PA, USA
rep56@drexel.edu

Sharlene Irving
Drexel University
College of Medicine
Philadelphia, PA, USA
si327@drexel.edu

Barbara Schindler
Drexel University
College of Medicine
Philadelphia, PA, USA
bs27@drexel.edu

David Bennett
Drexel University
College of Medicine
Philadelphia, PA, USA
db36@drexel.edu

ABSTRACT

The COVID-19 pandemic exacerbated the ongoing opioid crisis in the United States. Individuals with a substance use disorder are vulnerable to relapse during times of acute stress. Online peer support communities (OPSCs) have the potential to decrease social isolation and increase social support for participants. In September 2020, we launched a private, professional-moderated OPSC using the Facebook Group platform to study its effects on the mental health wellness of women undergoing substance use treatment. This study was particularly meaningful as the participants were not able to join in-person treatment sessions due to the COVID-19 pandemic. Preliminary findings indicate that study participants reported decreased loneliness and increased online social support three months after initiating the OPSC. They tended to interact with content initiated by a clinical professional more than those generated by peers.

CCS CONCEPTS

• **Information systems → Social networks**.

KEYWORDS

online peer support community, substance use disorder, mental health, loneliness, social support

1 INTRODUCTION

The ongoing opioid crisis in the United States has been exacerbated by the COVID-19 pandemic. Approximately 47,000 Americans died from an overdose involving opioids in 2018 and two million met the diagnostic criteria for an opioid use disorder (OUD) in 2017 [12]. The Centers for Disease Control and Prevention (CDC) estimated that deaths from opioids increased to 75,673 in 2021, rising 28.5% from the previous year [15]. The use of synthetic opioids (i.e., fentanyl and fentanyl analogs) continues to increase in the U.S. both preceding and during the COVID-19 pandemic [5].

Individuals with substance use disorders (SUDs) are vulnerable to relapse during times of acute stress [13]. During the COVID-19 pandemic, many individuals with SUDs are coping with increased stress and social isolation at a time when their treatment programs have been occasionally closed or replaced with telehealth. In-person group therapy, a key component to substance use treatment, is often eliminated to comply with social distancing guidelines. Loneliness, which has increased for some people during the pandemic, is common among individuals with SUDs and its alleviation might lead to lower substance use risk [10, 17].

The World Health Organization (WHO) recognizes peer support as a promising approach in chronic disease management and health promotion [3]. The rationale behind utilizing peer support to complement clinical care is that individuals with ongoing health conditions such as diabetes, cancer, and mental health conditions require ongoing support to navigate life circumstances that could interrupt their care regimen and potentially interfere with their recovery. Peer support can connect people who share similar conditions and lived experiences, potentially providing instrumental, informational, and emotional support in initiating and sustaining positive health behaviors. In contrast, studies have shown social isolation, both actual and perceived, to increase likelihood of mortality and morbidity [4, 9].

Online peer support communities (OPSCs) allow individuals to interact with their treatment peers, thereby providing social support and even unique insights from peers that professionals may not have [1, 11, 14, 19]. Its online nature allows individuals to connect regardless of physical location, encouraging social interaction that is limited for many while social distancing during the pandemic. With regard to the OPSC format, a study found participants with weight loss goals perceived higher levels of functional social support in a Facebook-based OPSC than those in an anonymous online forum format, possibly owning to the identified user profiles of Facebook that makes people feel that they are connecting with "real" people [20].

A concern with identified OPSCs, however, is whether people would be open to discussing sensitive and potentially stigmatizing health conditions such as substance use. Andalibi found that sensitive self-disclosure of pregnancy loss to one's existing network on Facebook may transform interpersonal relationships to become more supportive, especially if a self-disclosure was reciprocated [2]. Another study of a private Facebook group for people living with HIV suggested that while participants perceived improvement in overall well-being and social support, the participation level was low due to the lack of social media use experience and privacy concerns [6].

Professional-moderated OPSCs provide access to clinical staff, creating a novel way for individuals to remain in contact with both their treatment peers and staff. A meta-analysis found that professional-led psychotherapy and exercise programs were more effective in reducing depressive symptoms than peer support group discussions [19]. A systematic review also suggested that professional moderation could be used to mitigate the potential risk of triggering comments in self-led OPSCs [18].

To summarize, OPSCs have been found to increase perceived social support for participants, which is critical for the self-management of mental health, but a lack of professional supervision may render participants vulnerable to misinformation or triggering comments. Less is known about whether identified, professional-led OPSCs can be a viable supplementary resource for people undergoing substance use treatment. In September 2020, we launched a private OPSC using the FaceBook Group platform with the goals of providing additional support for patients in an outpatient substance use treatment program whose regular programming had switched to telehealth due to the COVID pandemic, as well as gathering data on the association between OPSC participation and clinical outcomes.

We hypothesized that the OPSC may increase participants' perceived social support and decrease loneliness. Next, we will share our study protocol and report preliminary study results.

2 STUDY PROTOCOL

`Participant Recruitment`: Patients were recruited from an outpatient substance use treatment program for women in Philadelphia, PA, USA. They were approached via phone by research staff regarding their interest in participating in a private OPSC. Within one week of enrollment, participants completed all baseline measures. Measures were administered as phone interviews by research staff. Study participants received a $25 gift card for completing the surveys at intake and during follow-up. The study was approved by the Drexel University Institutional Review Board (Protocol Number 1907007282).

`OPSC Intervention`: A private group was set up on Facebook with the privacy setting that only current members of the group could view members and activities within the group. A direct link to join the group was sent to study participants. A credentialed substance use counsellor initiated weekly discussion topics related to substance use recovery, coping skills and wellness. The OPSC also featured daily inspirational messages and COVID-19 best practices generated by research staff. Participants were encouraged, but not obligated, to participate in the discussions and to interact with each other via posting at any time of the day. The discussions were moderated by staff to address informational questions and to provide additional support as needed. Participants agreed to adhere to community guidelines before entering the OPSC.

`Measures`: Loneliness, online social support, and COVID-19 impact were assessed. The Loneliness Scale-6 (LS-6) [7] is a 6-item measure of a respondent's overall sense of loneliness. The Online Social Support Scale (OSSS) [16] assesses perceived social support obtained while engaging with online social media sites. The Epidemic-Pandemic Impact Inventory (EPII) [8] is a 92-item measure that assesses a wide range of impact of the COVID-19 pandemic on individuals' physical health, social activities and home life. A composite score can be used to assess the overall impact of COVID-19 experienced by a respondent. The LS-6 and OSSS were re-administered three months after participants enrolled in the OPSC. In addition, we tabulated participants' OPSC participation frequency over the three months following enrollment.

3 PRELIMINARY STUDY RESULTS

Thirteen women attending the treatment program participated in the OPSC (mean age = 40.2 years, $SD = 13.1$, range: 24-71; 85% Black, 8% Latino, 8% White). Over three months, the study participants generated 53 posts, 187 comments, and 388 likes. Compared to posting, they were more likely to comment ($\chi_1^2 = 74.82$, p < 0.001) or like ($\chi_1^2 = 254.48$, p < 0.001) others' messages.

The weekly discussion topics initiated by the counselor received 101 comments ($M = 3.7$, $SD = 2.8$) and 84 likes ($M = 0.7$, $SD = 1.3$) from study participants, whereas daily motivational messages and health tips created by staff received 45 comments ($M = 0.4$, $SD = 1.0$) and 199 likes ($M = 1.1$, $SD = 1.1$) from participants. Messages originated by study participants received 40 comments ($M = 0.8$, $SD = 1.9$) and 105 likes ($M = 0.4$, $SD = 1.0$) from peers. Unpaired

Supporting People Receiving Substance Use Treatment during COVID-19
through a Professional-Moderated Online Peer Support Group

WWW '22 Companion, April 25–29, 2022, Virtual Event, Lyon, France

two-sample Wilcoxon tests suggested that the study participants commented on the counselor's posts ($p < 0.001$) and liked the staff's posts ($p < 0.001$) significantly more than they did on peer-generated content.

Women who reported greater loneliness also reported experiencing greater impact from the COVID pandemic ($\rho = 0.55$, $p = 0.05$) and less social support from online sources at study intake ($\rho = −0.57$, $p = 0.04$). Among the eleven participants who completed assessments at both baseline and three-month follow-up, loneliness decreased by 18% ($M = 3.0$, $SD = 1.7$ at baseline; $M = 2.4$, $SD = 1.4$ at three-month follow-up) while perceived online social support increased by 30% ($M = 90.6$, $SD = 36.3$ at baseline; $M = 117.8$, $SD = 27.4$ at three-month follow-up). We did not test for statistical significance of these changes due to the small sample size.

4 DISCUSSIONS AND CONCLUSION

Our study provides initial data on the impact of a professional-moderated, identified OPSC for people receiving substance use treatment. In terms of participation patterns, we found that not only were the study participants more inclined to make a comment instead of originating a post, they tended to interact with content initiated by the counselor and staff more than those generated by peers. This provides evidence that professional-moderated OPSCs may be more effective than self-led groups in engaging participation. The overall participation level was low considering, on average, participants made only 0.21 messages (post or comment) per day per person. This is consistent with previous studies that suggest privacy concerns and lack of technology experience may hinder participation in identified OPSCs for sensitive health conditions.

Despite the low level of active participation, we did find that participants in the OPSC enhanced their perceived social support while reporting decreased loneliness. This suggests that those who opted for silent participation, i.e., reviewing group activities without active response in the form of posting may also benefit from the OPSC. Further research, however, is needed both to identify ways to enhance participant engagement in the OPSC as well as to examine the extent that the OPSC, and not competing experiences, might be responsible for observed changes.

To conclude, the current study shows promising results that a professional-moderated OPSC may serve as a social support resource for individuals in an outpatient substance use treatment program. Our next step is to expand the program enrollment to increase the study sample size and to test ways to enhance engagement with continued professional support. With the significant shift to telehealth during the COVID-19 pandemic, there is an expectation that remote components of substance use treatment will continue and will need to be evidence-based to be sustainable. Outcomes of an expanded study of OPSCs may support its need with the expectation that there will be healthcare insurance coverage to ensure its efficacy into the future. In addition, the multiple challenges faced by individuals in SUD recovery can limit time available to participate in onsite group treatment. The use of an asynchronous OPSC could become a strong compliment and component to traditional onsite treatment.

REFERENCES

[1] Kathina Ali, Louise Farrer, Amelia Gulliver, and Kathleen M. Griffiths. 2015. Online Peer-to-Peer Support for Young People With Mental Health Problems: A Systematic Review. *JMIR Mental Health* 2, 2 (May 2015), e4418. https://doi.org/10.2196/mental.4418 Company: JMIR Mental Health Distributor: JMIR Mental Health Institution: JMIR Mental Health Label: JMIR Mental Health Publisher: JMIR Publications Inc., Toronto, Canada.

[2] Nazanin Andalibi. 2019. What Happens After Disclosing Stigmatized Experiences on Identified Social Media: Individual, Dyadic, and Social/Network Outcomes. In *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems - CHI '19*. ACM Press, Glasgow, Scotland Uk, 1–15. https://doi.org/10.1145/3290605.3300367 ZSCC: 0000028.

[3] Renée I Boothroyd and Edwin B Fisher. 2010. Peers for Progress: promoting peer support for health around the world. *Family Practice* 27, suppl_1 (June 2010), i62–i68. https://doi.org/10.1093/fampra/cmq017

[4] John T. Cacioppo, Louise C. Hawkley, Greg J. Norman, and Gary G. Berntson. 2011. Social Isolation. *Annals of the New York Academy of Sciences* 1231, 1 (2011), 17–22. https://doi.org/10.1111/j.1749-6632.2011.06028.x

[5] Daniel Ciccarone. 2021. The rise of illicit fentanyls, stimulants and the fourth wave of the opioid overdose crisis. *Current Opinion in Psychiatry* 34, 4 (July 2021), 344–350. https://doi.org/10.1097/YCO.0000000000000717

[6] Haley Cooper, Susan Reif, Sara Shilling, and Elena Wilson. 2021. Social media support group: Implementation and evaluation. *AIDS Care* 33, 4 (April 2021), 502–506. https://doi.org/10.1080/09540121.2020.1748171 Publisher: Taylor & Francis _eprint: https://doi.org/10.1080/09540121.2020.1748171.

[7] Jenny De Jong Gierveld and Theo Van Tilburg. 2006. A 6-Item Scale for Overall, Emotional, and Social Loneliness: Confirmatory Tests on Survey Data. *Research on Aging* 28, 5 (Sept. 2006), 582–598. https://doi.org/10.1177/0164027506289723 Publisher: SAGE Publications Inc.

[8] Damion J Grasso, Margaret J Briggs-Gowan, Julian D Ford, and AS Carter. 2020. The epidemic–pandemic impacts inventory (EPII). *University of Connecticut School of Medicine* (2020).

[9] Julianne Holt-Lunstad, Timothy B. Smith, Mark Baker, Tyler Harris, and David Stephenson. 2015. Loneliness and Social Isolation as Risk Factors for Mortality: A Meta-Analytic Review. *Perspectives on Psychological Science* 10, 2 (March 2015), 227–237. https://doi.org/10.1177/1745691614568352

[10] Isabella Ingram, Peter J. Kelly, Frank P. Deane, Amanda L. Baker, Melvin C. W. Goh, Dayle K. Raftery, and Genevieve A. Dingle. 2020. Loneliness among people with substance use problems: A narrative systematic review. *Drug and Alcohol Review* 39, 5 (2020), 447–483. https://doi.org/10.1111/dar.13064 _eprint: https://onlinelibrary.wiley.com/doi/pdf/10.1111/dar.13064.

[11] Ou Stella Liang, Yunan Chen, David S. Bennett, and Christopher C. Yang. 2021. Identifying Self-Management Support Needs for Pregnant Women With Opioid Misuse in Online Health Communities: Mixed Methods Analysis of Web Posts. *Journal of Medical Internet Research* 23, 2 (Feb. 2021), e18296. https://doi.org/10.2196/18296 Company: Journal of Medical Internet Research Distributor: Journal of Medical Internet Research Institution: Journal of Medical Internet Research Label: Journal of Medical Internet Research Publisher: JMIR Publications Inc., Toronto, Canada.

[12] Feijun Luo, Mengyao Li, and Curtis Florence. 2021. State-Level Economic Costs of Opioid Use Disorder and Fatal Opioid Overdose — United States, 2017. *Morbidity and Mortality Weekly Report* 70, 15 (April 2021), 541–546. https://doi.org/10.15585/mmwr.mm7015a1

[13] Sean Esteban McCabe, James A. Cranford, and Carol J. Boyd. 2016. Stressful Events and Other Predictors of Remission from Drug Dependence in the United States: Longitudinal Results from a National Survey. *Journal of Substance Abuse*

Treatment 71 (Dec. 2016), 41–47. https://doi.org/10.1016/j.jsat.2016.08.008

[14] Meredith C. Meacham, Ou Stella Lang, Mengnan Zhao, Christopher C. Yang, Johannes Thrul, and Danielle E. Ramo. 2019. Connectedness based on Shared Engagement Predicts Remote Biochemically Verified Quit Status within Smoking Cessation Treatment Groups on Facebook. *Nicotine & Tobacco Research: Official Journal of the Society for Research on Nicotine and Tobacco* (Oct. 2019). https://doi.org/10.1093/ntr/ntz193

[15] National Center for Health Statistics. 2021. Drug Overdose Deaths in the U.S. Top 100,000 Annually. https://www.cdc.gov/nchs/pressroom/nchs_press_releases/2021/20211117.htm

[16] Elizabeth A. Nick, David A. Cole, Sun-Joo Cho, Darcy K. Smith, T. Grace Carter, and Rachel Zelkowitz. 2018. The Online Social Support Scale: Measure Development and Validation. *Psychological assessment* 30, 9 (Sept. 2018), 1127. https://doi.org/10.1037/pas0000558 Publisher: NIH Public Access.

[17] Nagesh Pai and Shae-Leigh Vella. 2021. COVID-19 and loneliness: A rapid systematic review. *Australian & New Zealand Journal of Psychiatry* 55, 12 (Dec. 2021), 1144–1156. https://doi.org/10.1177/00048674211031489

[18] Nada Abou Seif, Rayanne John-Baptiste Bastien, Belinda Wang, Jessica Davies, Mette Isaken, Ellie Ball, Alexandra Pitman, and Sarah Rowe. 2022. Effectiveness, acceptability and potential harms of peer support for self-harm in non-clinical settings: systematic review. *BJPsych Open* 8, 1 (Jan. 2022). https://doi.org/10.1192/bjo.2021.1081 Publisher: Cambridge University Press.

[19] Shefaly Shorey and Joelle Yan Xin Chua. 2022. Effectiveness of peer support interventions for adults with depressive symptoms: a systematic review and meta-analysis. *Journal of Mental Health* 0, 0 (Jan. 2022), 1–15. https://doi.org/10.1080/09638237.2021.2022630 Publisher: Routledge _eprint: https://doi.org/10.1080/09638237.2021.2022630.

[20] Heini Taiminen and Kimmo Taiminen. 2016. Usage of Facebook-and Anonymous Forum – Based Peer Support Groups Online and Their Influence on Perceived Social Support Types in Weight Loss. In *2016 49th Hawaii International Conference on System Sciences (HICSS)*. IEEE, Koloa, HI, USA, 3094–3103. https://doi.org/10.1109/HICSS.2016.389