Jordan Journal of Nursing Research, Volume **4**, No. **3**, **2025**
DOI: https://doi.org/10.14525/JJNR.v4i3.07

Jordan Journal of Nursing Research

www.jjnr.just.edu.jo

Association between Telemedicine Use and Perceived Stigma among Psychiatric Outpatients: A Cross-sectional Study

Khaled Mohammad Alamoush, MSN [1]; Asem Abdalrahim, RN, MSN, PhD [2*]; Abdullah Alkhawaldeh, RN, MSN, PhD [2]; Mohammed ALBashtawy, RN, MPH, PhD [2]; Mean Aljezawi, RN, PhD [2]; Zaid AL-Amoush, RN, MSN [3]; Mohammad Suliman, PhD [2]; Ahmad S. Musa, PhD [3]; Omar Al Omari, PhD [4]; Maysa Bani Salameh [5]; Yahya H Al-Rshoud, RN, MSN [2]

1 *Al-Karak University College, Al-Balqa Applied University, Al-Karak, Jordan.*
2 *Department of Community and Mental Health, Princess Salma Faculty of Nursing, Al al-Bayt University, Al-Mafraq, Jordan.*
** Corresponding Author. Email: asemalhmoud@aabu.edu.jo*
3 *Department of Adult Health Nursing, Princess Salma Faculty of Nursing, Al al-Bayt University, Al-Mafraq, Jordan.*
4 *College of Nursing, Sultan Qaboos University, Muscat, Sultanate of Oman.*
5 *Jerash University, Jearsh, Jordan.*

ARTICLE INFO

Article History:
Received: June 23, 2025
Accepted: August 15, 2025

ABSTRACT

Background: Mental health disorders affect one in eight people and remain a significant global concern due to stigma, limited access, and treatment non-compliance. Telemedicine has emerged as a promising solution, offering reduced stigma and improved patient satisfaction. ***Purpose*:** This study aims to examine the relationship between telemedicine use and perceived stigma, satisfaction, and preferences among psychiatric outpatients. ***Methods*:** A cross-sectional design was employed at three private psychiatric clinics in Jordan, using a convenience sampling method. A total of 120 psychiatric outpatients participated: 61 received telemedicine services and 59 attended in-person consultations. Data was collected using the "Client Satisfaction and Experience Survey for Telepsychiatry Services," (Arabic version), which includes sub-scales for perceived stigma (8 items), satisfaction (6 items), and preferences (2 items). Data was collected *via* self-administered paper-based surveys between January 2024 and March 2024. Descriptive statistics, t-tests, ANOVA, and multiple regression were used to examine associations, controlling for age, gender, education, and employment. **Results:** Telemedicine users reported significantly lower stigma scores (2.50 ± 0.71) than in-person attendees (3.08 ± 0.62, $p < 0.001$). They also showed higher satisfaction (3.86 ± 0.70 *vs*. 3.30 ± 0.68) and preference scores ($p < 0.05$). Gender and education significantly influenced stigma levels ($p < 0.05$). Gender and education significantly influenced stigma levels after controlling for key socio-demographic variables. ***Conclusion*:** Telemedicine was associated with lower perceived stigma and higher satisfaction in psychiatric outpatient care. However, the cross-sectional design and convenience sampling limit causal inference and generalizability. ***Implications for Nursing*:** Incorporating telemedicine into mental health care can address stigma and improve accessibility, advancing patient-centered service delivery.

Keywords: Telemedicine, Psychiatry, Perceived stigma, Patient satisfaction, Outpatient clinics, Patient compliance.

What does this paper add?

1. Telemedicine has been reported to be associated with lower perceived stigma among psychiatric patients compared to in-person consultations.
2. Patients using telemedicine report higher satisfaction levels and a stronger preference for remote psychiatric care.
3. Gender and education significantly influence the degree of perceived stigma, highlighting the need for personalized telehealth approaches.

Introduction

Mental health disorders emerge as a critical issue to be addressed during public health campaigns. According to the World Health Organization (WHO), anxiety and depressive disorders are the most commonly reported conditions (WHO, 2022). Such impairments disrupt an individual's emotional and cognitive processes and, more importantly, impair his/her ability to perform everyday activities, leading to substantial social and functional difficulties (Babicki et al., 2021). Despite the availability of medications, many individuals with mental health disorders face significant barriers to accessing treatment, including societal stigma, inadequate support systems, and systemic organizational challenges (Clyburn, 2017).

Stigma remains a significant barrier, often preventing individuals from seeking assistance due to fear, embarrassment, and societal norms (Corrigan & Watson, 2002). This stigma, deeply embedded in societal attitudes, not only leads to ostracism, but also contributes to treatment non-compliance among individuals with PTSD, worsening the condition's effects (Babicki et al., 2021). Addressing these challenges demands innovative strategies that go beyond practical barriers to tackle societal and systemic obstacles, empowering individuals to seek help.

Telemedicine has emerged as an innovative alternative to face-to-face psychiatric consultations, offering dual benefits: reducing the stigma associated with seeking treatment and enabling patients to access care conveniently from their homes, ensuring reasonable access to mental health professionals (Rajgopal et al., 2021). In low- and middle-income countries (LMICs), such as Jordan, access to psychiatric care can be hindered by stigma, limited service availability, and geographic barriers. Telemedicine may help address these challenges by offering a discrete and convenient mode of care delivery.

Telemedicine has been reported to be associated with improved patient satisfaction, treatment compliance, and stigma reduction, particularly in communities hesitant about face-to-face interactions with physicians (Ezeamii et al., 2024). The COVID-19 pandemic accelerated its adoption, establishing telemedicine as a vital solution for delivering mental health services globally. While face-to-face consultations were traditionally preferred, the pandemic highlighted telehealth's advantages, enabling broader access to care (Shaver, 2022). However, gaps remain in understanding telemedicine's relationship with social care services. Importantly, few empirical studies in the Middle East and North Africa (MENA) region have examined telepsychiatry's impact on perceived stigma using validated instruments, making this study one of the first to provide context-specific evidence from Jordan.

In Jordan, the integration of telemedicine into the healthcare system has progressed notably, particularly since the COVID-19 pandemic. The Ministry of Health, university hospitals, and private clinics have expanded the use of telehealth services, including telepsychiatry, to improve access and continuity of care. These initiatives have been crucial for reaching under-served populations and reducing the pressure on physical health facilities. Despite ongoing challenges, such as technological infrastructure, user training, and regulatory frameworks, telemedicine in Jordan shows promising potential to enhance mental health care delivery (Obeidat & El-Salem, 2021).

The present study, therefore, aims to examine the relationship between telemedicine use and perceived stigma, satisfaction, and preferences among psychiatric outpatients in Jordan. Specifically, the study seeks to answer the following research questions: (1) Is telemedicine use associated with differences in perceived stigma compared to in-person psychiatric consultations? (2) How do telemedicine and in-person consultations compare in terms of patient satisfaction and preferences? (3) What socio-demographic factors influence perceived stigma in this population?. By exploring these associations, the findings may help inform future mental health policy and service delivery in similar contexts.

Methods

Study Design and Setting

This study employed a cross-sectional comparative

design to examine the relationship between telemedicine use and perceived stigma, satisfaction, and preferences among psychiatric outpatients. The study was conducted at three private psychiatry clinics in Jordan. Private psychiatric clinics provide cognitive behavioral therapy, pharmacological treatment, and psychological counseling. These clinics serve approximately 250 psychiatric patients monthly, offering both telemedicine and in-person consultations. Data was collected between January 2024 and April 2024, ensuring representation across different seasonal patient flow periods.

Population and Sampling

The study population included adult psychiatric outpatients (aged 18 years and above) who attended either telemedicine or in-person consultations during the study period. The study sample comprised psychiatric patients who had scheduled follow-up appointments during the data collection period. A convenience sampling strategy was adopted due to logistical feasibility and patient availability during clinic hours. While this method facilitated timely recruitment, it may introduce selection bias and limit generalizability beyond similar clinical settings. This limitation was acknowledged in the interpretation of the findings. Participants were recruited into two groups: those who received telemedicine consultations and those who attended in-person psychiatric appointments. Participants were eligible if they had a confirmed psychiatric diagnosis, were able to communicate verbally, and provided informed consent. Patients with severe cognitive impairment or acute psychiatric instability were excluded.

The target sample size of 120 was determined based on a priori power analysis (G*Power 3.1), assuming a medium effect size (Cohen's $d = 0.5$), $\alpha = 0.05$, and power $(1 - \beta) = 0.80$), with an additional 10% to account for possible non-responses or incomplete surveys.

Data Collection Procedure

Data was collected using a self-administered, paper-based survey in the Arabic language (translated and back-translated from the original English version to ensure accuracy). Participants completed the survey in the clinic waiting area after their consultation, with trained research assistants available to clarify any questions.

Measures

The "Client Satisfaction and Experience Survey for Telepsychiatry Services" was utilized to assess perceived stigma, satisfaction, and patient preferences. This instrument was adapted from validated telepsychiatry satisfaction surveys, such as the "Client Satisfaction and Experience with Telepsychiatry" tool developed by Serhal et al. (2020) and implemented by the Ontario Telemedicine Network, which has demonstrated strong psychometric properties in assessing patient experience across multiple quality domains (Serhal et al., 2020). It consists of three sub-scales: (1) Perceived Stigma (8 items), (2) Satisfaction (6 items), and (3) Preferences (2 items). Responses were recorded on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree), with higher scores indicating increased satisfaction and reduced stigma. The Cronbach's alpha for this instrument in the current study was 0.92, indicating excellent internal consistency. Example items include: "I feel more comfortable discussing personal issues *via* telemedicine" (satisfaction) and "I am concerned that others might find out that I am receiving psychiatric care" (perceived stigma).

Ethical Considerations

Ethical approval for this study was obtained from the Institutional Review Board (IRB) at Al al-Bayt University (Approval no. 2024/031). All participants provided written informed consent after receiving a full explanation of the study's purpose, procedures, confidentiality measures, and their right to withdraw at any time without penalty. The study adhered to ethical principles outlined in the Declaration of Helsinki and ensured the protection of all human subjects throughout the research process.

Statistical Analysis

Data analysis was performed using SPSS (version 26). Continuous variables were summarized as means and standard deviations, and categorical variables as frequencies and percentages. Group differences were assessed using independent-sample t-tests and one-way ANOVA. Normality of continuous variables was assessed using the Shapiro–Wilk test. Multiple linear regression analyses were conducted to adjust for potential confounding variables (age, gender, education, employment). These covariates were selected based on

prior literature demonstrating their association with perceived stigma in mental health populations.

No missing data was present; therefore, no imputation procedures were required. Effect sizes (Cohen's d) and 95% confidence intervals were reported to contextualize the magnitude and precision of observed differences. Statistical significance was set at $p < 0.05$. This study adhered to the STROBE (Strengthening the Reporting of Observational Studies in Epidemiology) guidelines (von Elm et al., 2007).

Results

Socio-demographic Characteristics of Participants

A total of 120 psychiatric patients participated in the study, of whom 61 received care *via* telemedicine and 59 attended in-person consultations. The majority were female (60%), employed (55%), and aged between 30 years and 50 years (68%). Additional socio-demographic information, including marital status, education level, and urban/rural residence, is presented in Table 1. Figure 1 illustrates the flow of participants through the study, from initial eligibility screening to final analysis, in accordance with the STROBE guidelines. There were no significant differences in socio-demographic characteristics between the two groups ($p > 0.05$). No missing data was observed for any variable.

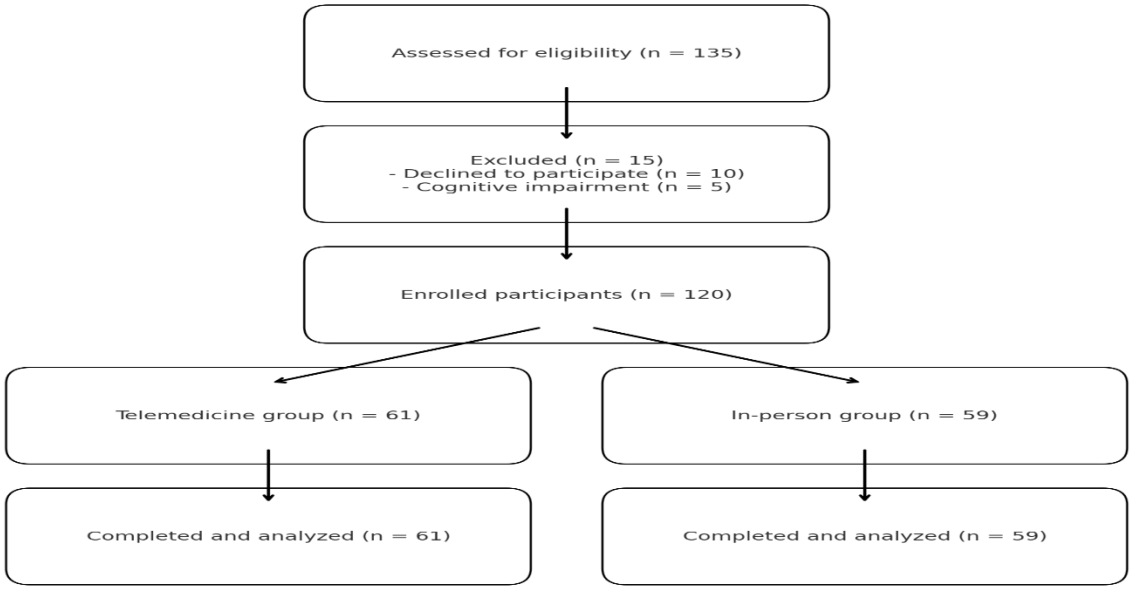

Figure 1. Flow of participants through the study

Table 1. Combined socio-demographic and clinical characteristics of participants

Characteristic	Telemedicine (n=61)	In-person (n=59)	Total (n=120)	p-value
Age, mean (SD)	38.4 (10.2)	39.1 (9.8)	38.8 (10.0)	0.68
Female, n (%)	38 (62.3)	34 (57.6)	72 (60.0)	0.59
Married, n (%)	42 (68.9)	39 (66.1)	81 (67.5)	0.75
Bachelor's degree or higher, n (%)	45 (73.8)	43 (72.9)	88 (73.3)	0.92
Employed, n (%)	35 (57.4)	31 (52.5)	66 (55.0)	0.59
Urban residence, n (%)	52 (85.2)	49 (83.1)	101 (84.2)	0.77

Scores of Perceived Stigma, Satisfaction, and Preferences

Table 2 presents the mean scores, standard deviations, and statistical test results for perceived stigma, satisfaction, and preferences between telemedicine and in-person groups.

For perceived stigma, the telemedicine group had significantly lower scores (mean = 2.12, SD = 0.41) than the in-person group (mean = 2.70, SD = 0.38), $t(118) = -8.53$, $p < 0.001$, Cohen's $d = 0.85$.

Satisfaction scores were significantly higher among telemedicine users (mean = 4.31, SD = 0.46) compared to in-person attendees (mean = 3.85, SD = 0.55), t(118) = 5.04, p < 0.001, Cohen's d = 0.72. Preferences scores followed a similar pattern.

Effect sizes (Cohen's d) and 95% confidence intervals for mean differences are now reported to contextualize the magnitude of these different.

Table 2. Mean scores, standard deviations, and test statistics for study outcomes

Outcome Variable	Telemedicine Mean (SD)	In-person Mean (SD)	Mean Difference (95% CI)	t/F-value	p-value	Cohen's d
Perceived stigma	2.12 (0.41)	2.70 (0.38)	-0.58 (-0.83, -0.33)	t = -8.53	<0.001	0.85
Satisfaction	4.31 (0.46)	3.85 (0.55)	0.46 (0.28, 0.64)	t = 5.04	<0.001	0.72
Preferences	4.05 (0.62)	3.62 (0.68)	0.43 (0.18, 0.68)	t = 3.42	0.001	0.52

Multi-variate Analysis

A multiple linear regression analysis was conducted to adjust for potential confounding variables (age, gender, education, employment). Telemedicine use remained significantly associated with lower perceived stigma (β = -0.54, p < 0.001) and higher satisfaction (β = 0.38, p < 0.001) after adjustment. Table 3 shows multiple linear regression predicting perceived stigma and satisfaction.

Table 3. Multiple linear regression predicting perceived stigma and satisfaction

Predictor Variable	β (Unstandardized)	SE	95% CI (Lower, Upper)	p-value
Perceived Stigma				
Telemedicine use (*vs*. in-person)	**-0.54**	0.07	(-0.68, -0.40)	<0.001
Age (years)	0.01	0.004	(-0.00, 0.02)	0.08
Female (*vs*. male)	-0.12	0.06	(-0.24, 0.00)	0.051
University degree (vs. lower)	-0.18	0.07	(-0.32, -0.04)	0.012
Employed (*vs*. unemployed)	-0.09	0.06	(-0.21, 0.03)	0.14
Satisfaction				
Telemedicine use (*vs*. in-person)	**0.38**	0.06	(0.26, 0.50)	<0.001
Age (years)	-0.00	0.003	(-0.01, 0.01)	0.65
Female (*vs*. male)	0.05	0.05	(-0.05, 0.15)	0.31
University degree (*vs*. lower)	0.08	0.06	(-0.04, 0.20)	0.19
Employed (*vs*. unemployed)	0.06	0.05	(-0.04, 0.16)	0.24

Note: SE = Standard Error; CI = Confidence Interval; β = Regression Coefficient.

Discussion

This study examined the relationship between telemedicine use and perceived stigma, satisfaction, and preferences among psychiatric outpatients in Jordan. The findings demonstrated that patients receiving telemedicine consultations were associated with significantly lower perceived stigma and higher satisfaction compared to those attending in-person sessions, even after adjusting for socio-demographic factors. These results are consistent with previous research suggesting that telepsychiatry may help mitigate stigma by offering anonymity, reducing social exposure, and enhancing convenience (Hubley et al., 2016; Shaver, 2022).

Several factors may explain why telemedicine was associated with lower perceived stigma. First, remote consultations reduce the need for patients to be physically seen entering a psychiatric facility, thus minimizing the risk of social labeling. Second, telemedicine offers greater anonymity and control over the environment in which patients receive care, which may alleviate anxiety about being judged. Finally, the

flexibility and convenience of remote sessions can increase patient empowerment and autonomy, potentially fostering more positive attitudes toward treatment.

The stigma associated with mental illness is reduced by telemedicine in such a way that telemedicine focuses on the patient rather than the provider as would be the case with face-to-face visits. Such practices can contribute to reducing the societal stigma related to seeking mental health services (Fortney et al., 2015). These results are consistent with other research identifying telemedicine as a technological solution to the stigma that prevents many individuals from receiving psychiatric services (Babicki et al., 2021).

When compared to in-person consultation, telemedicine users reported higher satisfaction and preference scores. This aligns with the growing body of literature indicating that convenience, time savings, and reduced travel burden are key contributors to patient satisfaction in telepsychiatry. For individuals in rural or under-served areas, telemedicine also mitigates geographic disparities in access to care.

The study revealed important associations between perceived stigma and socio-demographic variables. Female participants and those with higher education levels reported lower stigma scores. This may be due to greater mental health literacy and more accepting attitudes toward psychiatric care among these groups, as supported by previous stigma research. Conversely, males and individuals with lower educational attainment may face compounded barriers rooted in cultural norms, traditional gender roles, or reduced exposure to mental health awareness campaigns. These findings highlight the importance of targeted interventions for sub-groups at higher risk of stigma.

Generalizability of these findings should be considered cautiously. The sample was drawn from private psychiatric clinics, which may not reflect the experiences of patients in public or community mental health centers, particularly in lower-income groups. Access to technology, internet connectivity, and digital literacy could influence the feasibility and impact of telepsychiatry in more resource-limited settings.

Limitations

This study has several limitations. First, the cross-sectional design prevents establishing causal relationships between telemedicine use and perceived stigma, satisfaction, or preferences. Second, the use of convenience sampling limits the representativeness of the sample, as participants were drawn exclusively from private psychiatric clinics. This may not reflect the experiences of patients in public or community mental health centers, especially in lower-income groups. Third, data was self-reported, introducing potential recall and social desirability bias. Finally, although regression models were adjusted for several socio-demographic variables, unmeasured factors, such as illness severity or treatment history, could still confound the observed associations.

Implications for Nursing

Based on these results, mental health service providers and policymakers should consider expanding telepsychiatry infrastructure, ensuring affordable and secure access for patients in both urban and rural areas. Training programs for clinicians should emphasize culturally sensitive, stigma-reducing communication techniques in virtual settings. Public health campaigns could leverage these findings to promote telepsychiatry as a safe and confidential care option, particularly targeting populations traditionally less likely to seek mental health services.

Conclusion

Telepsychiatry suggests a great approach in lowering perceived stigma and enhancing access to mental health care services. Telehealth helps disguise the fear of being judged, which in turn makes a patient less hesitant to seeking out care. This study adds to the already large and growing body of evidence endorsing the use of telemedicine as a paradigm shift in addressing the problems of mental well-being, especially among the marginalized. This study contributes new empirical evidence from Jordan, demonstrating that telemedicine not only reduces perceived stigma, but also increases satisfaction and preference for psychiatric care compared to in-person consultations. It further highlights the influence of gender and education on stigma levels, offering insight into how telepsychiatry can be tailored for maximum impact in diverse patient populations.

Given these findings, policymakers and healthcare administrators in low- and middle-income countries should prioritize the integration of telepsychiatry into national mental health strategies. Implementation

should include ensuring equitable access to necessary technology, developing clear regulatory frameworks, and training mental health professionals in effective virtual care delivery.

Future research should explore longitudinal impacts, evaluate cost-effectiveness, and examine telepsychiatry's role in public healthcare systems to enhance scalability and sustainability.

Author Contributions

Study Design: **KAAA**. Data Collection: **MBS**, **ZA**, **YA**. Data Analysis: **AA**, **AM**, **OA**. Study Supervision: **AA**. Manuscript Writing: **MBS**, **AA**, **MA**, **AA**. Critical Revisions for Important Intellectual Content: **AA**, **MBS**, **MS**, **MA**.

Conflict of Interests

The authors have no conflict of interests to declare.

Funding or Sources of Financial Support

This research received no funding from any source.

REFERENCES

Babicki, M., Szewczykowska, I., Mastalerz-Migas, A., & Kowalski, T. (2021). Impact of stigma on mental health service accessibility: An analysis of barriers and solutions. *Journal of Mental Health, 28*(3), 245-256. https://doi.org/10.1080/09638237.2020.1714002

Clyburn, A. (2017). Addressing stigma in psychiatric care: Innovations and challenges. *Psychiatric Services, 68*(12), 1202-1208. https://doi.org/10.1176/appi.ps.201600529

Corrigan, P. W., & Watson, A. C. (2002). Understanding the impact of stigma on people with mental illness. *World Psychiatry, 1*(1), 16-20.

Ezeamii, V. C., Akpan, O. E., Mohammed, R., Alagbe, A., & Okwuosa, E. (2024). Revolutionizing healthcare: How telemedicine is improving patient outcomes and expanding access to care. *Cureus, 16*(7), e42200. https://doi.org/10.7759/cureus.42200

Fortney, J. C., Burgess, J. F., Bosworth, H. B., Booth, B. M., & Kaboli, P. J. (2015). Reducing barriers to mental health care through telemedicine: A critical review. *Psychiatric Clinics of North America, 38*(1), 115-124. https://doi.org/10.1016/j.psc.2014.11.006

Hubley, S., Lynch, S. B., Schneck, C., Thomas, M., & Shore, J. (2016). Review of the benefits of telepsychiatry for mental health service delivery. *Canadian Journal of Psychiatry, 61*(6), 401-407. https://doi.org/10.1177/0706743716649075

Obeidat, A.Z., & El-Salem, K. (2021). A national telemedicine program in the Kingdom of Jordan: Editorial. *Annals of Medicine and Surgery, 62*, 145-149. https://doi.org/10.1016/j.amsu.2021.01.009

Rajgopal, A., Li, C.R., Shah, S., & Budhathoki, S.S. (2021). The use of telehealth to overcome barriers to mental health services faced by young people from Afro-Caribbean backgrounds in England during the COVID-19 pandemic. *Journal of Global Health, 11*, 03040. https://doi.org/10.7189/jogh.11.03040

Serhal, E., Lazor, T., Kurdyak, P., & Couturier, C. (2020). Client satisfaction and experience with telepsychiatry: Development and validation of a survey using clinical quality domains. *Journal of Medical Internet Research, 22*(9), e19014. https://doi.org/10.2196/19014

Shaver, J. (2022). The state of telehealth before and after the COVID-19 pandemic. *Primary Care: Clinics in Office Practice, 49*(4), 517-530. https://doi.org/10.1016/j.pop.2022.06.005

von Elm, E., Altman, D. G., Egger, M., Pocock, S. J., Gøtzsche, P. C., Vandenbroucke, J. P., & STROBE Initiative. (2007). Strengthening the reporting of observational studies in epidemiology (STROBE) statement: Guidelines for reporting observational studies. *PLOS Medicine, 4*(10), e296. https://doi.org/10.1371/journal.pmed.0040296

World Health Organization. (2022). *Mental health and COVID-19: Early evidence of the pandemic's impact*. https://www.who.int/mental_health

Zhao, Y. (2019). Telemedicine in psychiatry: Evaluating patient satisfaction and outcomes. *Journal of Telemedicine and Telecare, 25*(7), 430-439. https://doi.org/10.1177/1357633X18782070