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Mental Health Technology During the Era of COVID-19

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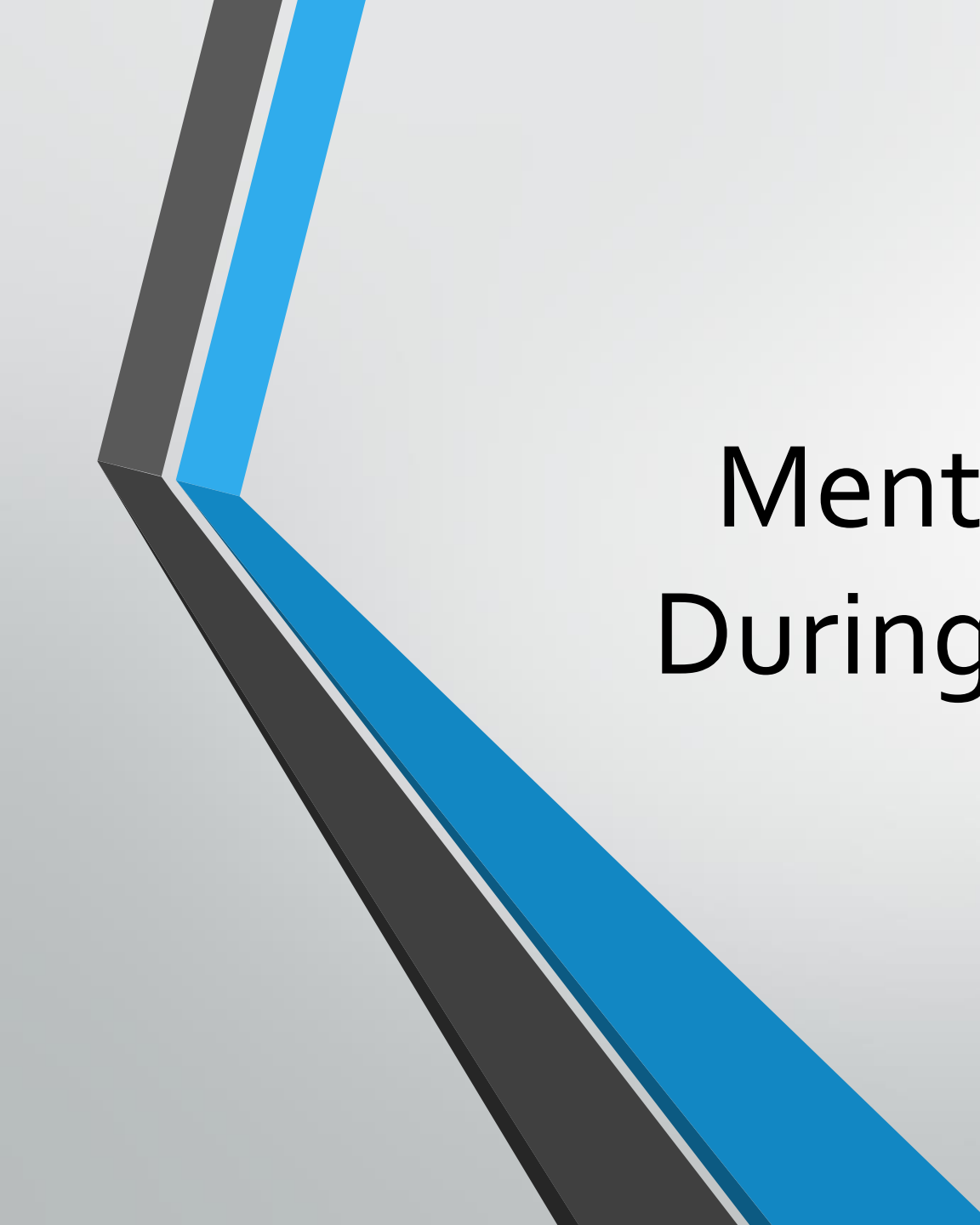
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Mental Health Technology During the Era of COVID-19

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CVPH Family Medicine

Rotation 6, Jan. 19 – Feb. 19, 2021

Mentor: Dr. Lindsey Wilhelm

What is the problem?

- COVID-19 pandemic has increased prevalence of depression and anxiety symptoms among U.S. adults, including among our own community
- Many factors:
 - Drawn-out stay-at-home advisories, limitations on group gatherings, social isolation
 - Economic uncertainty, job insecurities, increasing unemployment rates
 - Anxiety -> reduced sleep/insomnia -> more anxiety
 - Death of loved ones
 - Diagnosis of COVID itself – 1/5 are diagnosed with a psychiatric disorder such as anxiety, depression, or insomnia within 14-90 days
- Lower income, having less than \$5,000 in savings, and having exposure to more stressors were associated with a greater risk of depression symptoms
- Serious consideration of suicide among adults was reported to be 10.7% in June 2020, roughly twice the amount reported in all of 2018 (4.3%)
- Approximately 1 in 10 (13.3%) adults reported starting or increasing substance use to cope with stress or emotions related to COVID

Public Health Cost and Project Cost Considerations

- Public health cost
 - Between 2005 and 2010, the economic burden of major depressive disorder (MDD) in the U.S. increased from \$173.2 billion to \$210.5 billion, a 21.5% increase
 - For every \$1.00 spent on direct costs of MDD (e.g., outpatient and inpatient services, pharmacy costs), \$6.60 was spent on comorbidities, workplace costs, and suicide-related costs
 - Too early to tell the economic toll from COVID's effect on mental health
- Cost consideration – free!*

*Headspace has a 7-day free trial, after which it is \$12.99/month, or \$95/year (~\$8/month)

Community Perspective

1. What has the impact of COVID been on the mental health of your patients?
2. What aspect(s) of COVID have you noticed to play the biggest roles in COVID's effect on the mental health of your patients?
3. What do you think has been particularly difficult about managing your patients' mental health during COVID?
4. Have you noticed an associated increase in high-risk behaviors during this time?
5. Do you see a potential role for technology in helping patients manage their symptoms during this time?
6. Anything else?

- Anonymous, MD (Family Medicine, CVPH Family Medicine)
 1. Increased depression and anxiety symptoms
 2. Isolation, fear of getting sick (patients are "so scared" of getting COVID)
 3. Prior to COVID, patients seemed to improve much better on pharmacotherapy. Now, increasing psych referrals due to refractory symptoms.
 4. Increasing relapse rates on illicit substances
 5. Not really. "The way I see it, people need personal interaction."
 6. Important to keep in mind that children are currently physically out of school. Many high-risk kids depend on early intervention programs (EIPs), which without them, might lead to a tougher time with social development and increased rates of mental health problems down the road.
- Anonymous, MD (Psychiatry, CVPH)
 1. Obvious increase in depression and anxiety symptoms. "I can think of three of my patients off the bat who had been stable for a long time – at least two years – and became unstable in 2020. COVID was the only factor."
 2. Isolation, loss of employment, economic hardship, loss of structure in life
 3. Not being able to see patients in person. Telemedicine is better than nothing, but it is not good enough from a psych perspective. There is a lack of ability to objectify a patient's appearance and behavior, part of the mental status exam. This makes it truly difficult to comprehend the extent of a patient's disease and effectively treat it.
 4. A definite increase in substance use and relapse in patients with depression. Patients with anxiety have often decreased or avoided high-risk behaviors due to hypervigilance and overcaution around COVID.
 5. Definitely, if the apps are evidence-based. Also important to keep in mind cost consideration.
 6. It has been especially difficult on psych consult service for mentally ill patients to not have visitors, and this might be contributing to worsening symptoms or lack of improvement of symptoms, leading to potentially longer stays.

Intervention and Methodology

- How can we help patients have access to certain evidence-based methods to address their mental health symptoms while away from their doctor's office or counselor's office?
- Smart devices have become increasingly ubiquitous in our society
- Recognize that apps exist that utilize evidence-based therapy techniques, making therapy portable and more accessible
- Intervention is simple: a handout listing and describing popular mental health apps that use research-based therapy strategies, in order to raise awareness of these apps among patients struggling with mental health in the community

Technology for Mental Wellbeing

Breathe2Relax: A simple, intuitive, and attractive mobile app designed by the National Center for Telehealth & Technology to teach breathing techniques to manage stress. The skills taught may be applied to those with anxiety disorders, stress, and PTSD.



MoodTools: A self-help app targeting depression. It provides psychoeducation about risk factors and psychosocial approaches to treatment, a depression symptom questionnaire (PHQ-9), a thought diary, a suicide safety plan, and videos such as meditation guides.

MY3: Designed to help those stay safe while having thoughts of suicide, MY3 lets you customize your own personal safety plan by noting your warning signs, listing coping strategies, and connecting you to helpful resources to reach out to when you need them most. At your fingertips is a button that puts you in direct contact (24 hours a day, 7 days a week) with a trained counselor from the National Suicide Prevention Lifeline as well as a 911 alert. Additionally, you can choose three people to contact in the event you're having thoughts of suicide.



Headspace: Targeted to anyone who wants to learn meditation to reduce anxiety and stress and improve their attention and awareness. The skills taught include mindfulness and cognitive diffusion, breathing exercises, meditation practice, tips for increased relaxation, concentration; may be applied to anxiety and depressive disorders, PTSD, and OCD.

Insight Timer: Offers courses on how to meditate, and an expansive free library of more than 35,000 guided meditations (including for sleep) with renowned meditation and mindfulness experts, neuroscientists, psychologists, and teachers from Stanford, Harvard, and more. It will also track your progress and streaks with charts.



CBT-i Coach: CBT-i Coach is for people who have experienced symptoms of insomnia and would like to improve their sleep habits. The app will guide users through the process of learning about sleep, developing positive sleep routines, and improving their sleep environments. It provides a structured program that teaches strategies proven to improve sleep and help alleviate symptoms of insomnia.

MindShift: Targeted to help adolescents, teens, and young adults gain insight into and basic skills to manage their symptoms of anxiety disorders, including GAD, social anxiety, specific phobias, and panic attacks. It's also useful for managing worry, performance anxiety, test anxiety, and perfectionism. The skills taught may be applied to individuals with physical, emotional, cognitive, or behavioral manifestations of anxiety, providing users with more helpful, balanced ways of thinking about feared situations.



While apps alone cannot save lives, they can be a good mental health resource to go along with counseling and other treatments offered by your provider. If you are in urgent emotional distress, please call the National Suicide Prevention Lifeline at 1-800-273-8255 or NY Project

Hope's Emotional Support Helpline at 1-844-863-9314. Help is available.

Evaluation and Limitations

- Evaluate with:
 - Prospective PHQ-9 and GAD-7 trends (possibly compare it to a control population of patients that did not utilize any apps)
 - Follow-up survey that measures how many patients utilized at least one app, frequency of use, and whether they personally found them useful or not
 - Opinions of providers on utility and effectiveness
- Limitations of project:
 - Selection bias – only those patients with a desire for app use will likely accept the handout and try out the apps; also, generational gap may favor younger, more tech-savvy patients
 - Lack of time for objective measure of baseline depression and anxiety among the population
 - While all the recommended apps are basically free, Headspace – one of the most highly recommended and utilized mindfulness meditation apps – does have a fee after the first seven days, which might be a limiting factor in this population

Future Recommendations

- Positive responses from this cohort of patients could lead to more widespread utilization of app recommendations in clinics beyond Plattsburgh, as an extra tool in a patient's arsenal; with more finetuning of the handout, have it UVMHN-certified so that it may be officially distributed to other UVMHN clinical sites
- Further stratify the patient population based on current treatment status (i.e., no treatment, pharmacotherapy, psychotherapy, etc.) and/or symptom severity
 - Do the apps have a significantly positive effect on all patients with mental health symptoms, regardless of treatment status or symptom severity, or do they appear to only help those with worse symptoms and those already being treated by augmenting the effects of treatment?
- Look further into COVID-era prevalence of substance use disorder, relapse, and other high-risk behaviors compared with the prevalence post-COVID and determine whether certain apps might play a therapeutic role – if no such apps exist, this might be a good opportunity for app-developers to create evidence-based apps to address these needs

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