

The Impact of Mindfulness Apps and Cognitive Behavioral Therapy on Prisoners' Mental Health

Xuyang Xiao^{1,a,*}

¹University of Sydney, Sydney, NSW2006, Australia

a. x.xuyang08@outlook.com

*corresponding author

Abstract: Prisoners' mental health and overall wellbeing are given significant consideration throughout the COVID-19 pandemic. The correctional facility's setting separates prisoners from the outside world, and their lack of access to modern medical care will result in depressive symptoms and other mental health issues. Prisons can benefit from the cost-effective and useful usage of CBT and mindfulness apps to enhance the mental health and general well-being of their inmates. This study provides an overview of possible ways to use smartphone apps to lessen mental health problems among prisoners. Applications of mindfulness have shown potential benefits in reducing mental health issues, including anxiety, depression, and stress. This paper reviews existing research on the effectiveness of these interventions and explores the feasibility of implementing such applications in prison settings. Although long-term effects are not yet well-documented, preliminary findings suggest that these apps could serve as a valuable tool for enhancing mental health care in correctional facilities. It is worthwhile to employ these applications as a pilot test to investigate their benefits further. By integrating technology with traditional practices and addressing challenges such as noncompliance and lack of personalization, prison systems can develop more effective and engaging mental health interventions. These efforts can contribute to better mental health outcomes, reduced recidivism, and a more rehabilitative prison environment. Future research should focus on long-term studies and strategies to improve adherence to online psychological treatments.

Keywords: Yoga, Mental health, Mindfulness, CBT, Meditation.

1. Introduction

Incarcerated individuals are more likely to be depressed, dissatisfied with their lives, and use illegal drugs [1]. In addition, prisoners have been shown to have "higher levels of mental health problems, risky alcohol consumption, tobacco smoking, illicit drug use, chronic disease, and communicable diseases than the general population" [2]. Inmates in overcrowded and inadequately ventilated prisons are at a heightened risk of contracting severe COVID-19 during the pandemic. Furthermore, the mental health of prisoners has been significantly impacted by policies like social distance, fewer visits to the jail, and fewer mental health services [3]. The prisoners' mental health and general well-being were adversely affected by their sense of isolation and separation from their loved ones in England [4]. Finding replacement methods for prison visitors, like online communications and other

treatments, is essential; they can reduce the feelings of separation and isolation among inmates, eventually improving inmates' mental health and well-being.

This study aims to investigate the potential of CBT and mindfulness apps as interventions. The research method includes a literature review and analysis of existing studies on the effectiveness of these applications in prison settings. The research informs future developments in mental health interventions for prisoners, providing evidence-based recommendations and addressing possible challenges.

2. Research of Cognitive Behavioural Therapy and Mindfulness

The prisoners have a lot of time to think back on their lives while incarcerated. Yoga and meditation techniques can help prisoners look back on their lives with a positive outlook [5]. The practice of yoga requires both meditation and concentration [6]. Meditation seeks to attain a state of peaceful inner awareness and mental relaxation, whereas mindfulness entails maintaining an open mind while focusing on one's thoughts and feelings in the present moment [7]. By enhancing the connection between the body (physical movement) and mind (nervous system), these activities can help people with depression and PTSD better understand their thoughts and feelings [8]. A 10-week yoga program was found to decrease participants' aggressive and antisocial behavior in nine Swedish jail facilities [9]. According to Shapiro and associates, mindfulness can lessen anxiety and depressive symptoms [7]. Furthermore, Alexander and colleagues proposed that meditation is a useful tool for reducing criminal conduct, inmate animosity, sadness, and anxiety [10]. According to the results of the first jail yoga study, participants said that the practice had lessened their stress and depression [11].

Numerous studies attest to the beneficial effects of yoga, mindfulness, and meditation on prisoners' mental health and general wellbeing. These studies do, however, have certain shortcomings, including the requirement for a smaller sample size and longer-term follow-up. For instance, the majority of studies are completed in ten weeks or less and don't have any long-term effects. Longer-term, less rigorous programs have a greater impact on mental health and well-being than short-term, more intensive programs, as indicated by Auty and colleagues [5]. In this instance, long-term projects to test the effect should be the main focus of future research. Furthermore, Derlic noted that since yoga, mindfulness, and meditation sessions are time-consuming and costly, it is likely that after inmates are freed, they will not be offered any [6]. It is suggested that the government take into account introducing yoga to the public or providing them with simple access, like through electronic devices via apps or brief messaging.

3. Impact of Mobile Applications on Prisoners' Mental Health

The feasibility, effectiveness, and usability of SMS and mobile applications as physical and mental health therapies were examined by Rathbone and Prescott [12]. After analyzing 27 studies, Rathbone and Prescott discovered that apps significantly reduce stress, anxiety, and depression on a minor to moderate basis [12]. Despite many limitations, including a limited sample size and no long-term follow-up, this research indicates that SMS and apps may have the ability to lower stress, anxiety, and depression. Additionally, Eva and their associates carried out a meta-analysis to examine the impact of mindfulness meditation applications on enhancing users' mental health and overall wellbeing [13]. According to Eva and colleagues there are "significant small to medium effects of mindfulness apps for psychological well-being, burnout, life satisfaction, quality of life, stress, symptoms of depression and anxiety, and positive and negative affect [13]. However, the lack of follow-up studies limits conclusions about the long-term impact of these apps. Non-adherence in online psychological treatment is a significant problem, with completion rates of mindfulness meditation sessions varying widely [13].

Additionally, Nagamitsu and colleagues carried out a CBT app for teenagers that had a one-week psychoeducation component and a one-week self-monitoring component [14]. Depressive symptoms and other variables were assessed at baseline and one, two, and four months after baseline. It was discovered that the CBT software greatly reduced depression symptoms and helped users develop self-monitoring abilities [14]. In addition, Amo and associates have created an application that integrates mindfulness-based interventions (MBIs), acceptance and commitment therapy (ACT), and cognitive behavior therapy (CBT) to assist individuals in acquiring metacognition abilities [15]. "A single session with the app will improve people's emotional state, the degree to which they believe adaptive versus maladaptive thoughts, and their perceived likelihood of acting in value-congruent versus unwanted ways," according to the results, and these effects are equally large when people use the app frequently over the course of a week [15].

Furthermore, mindfulness applications, such as yoga apps, have been successful in reducing anxiety, sleeplessness, and depression. The Yoga of Immortals (YOI) app, which incorporates traditional yogic techniques, demonstrated significant reductions in symptoms of despair, anxiety, and sleeplessness. These symptoms are very similar to prisoners experienced during COVID-19 [16]. During the COVID-19 lockdown in India, elderly participants reported that practicing yoga and meditation through a smartphone application improved their mental and physical well-being [17]. In summary, while there are numerous positive findings, the studies often lack long-term follow-up and have issues with non-adherence. Future research should focus on long-term effects and strategies to improve adherence to online psychological treatments.

4. Recommendation

To address noncompliance, it is essential to develop applications that are user-friendly and engaging for prisoners. Features such as gamification and personalized feedback can help increase adherence to mindfulness and CBT practices [18, 19]. Moreover, providing structured schedules for app use within prison routines can ensure consistent participation. Incorporating social features, such as peer support and community building within the app, can further enhance engagement and provide inmates with a sense of connection and support. Additionally, combining modern technology with traditional practices like yoga and meditation can enhance the effectiveness of mental health interventions [20, 21]. Developing hybrid programs that incorporate both in-person sessions and digital applications can provide a comprehensive approach to mental health care for inmates [22].

Training prison staff to facilitate these hybrid programs can ensure that inmates receive consistent and supportive guidance. Furthermore, personalized and customized interventions can significantly enhance the effectiveness of mental health programs [23, 24]. By utilizing AI and machine learning algorithms, applications can be tailored to meet the individual needs of inmates, addressing specific mental health issues, preferences, and learning styles [25, 26]. This personalization can lead to more effective engagement and better outcomes.

Additionally, collaboration with mental health professionals is crucial for developing and implementing effective mental health interventions in prisons. Mental health experts can provide valuable insights into the design of CBT and mindfulness apps, ensuring that they are evidence-based and tailored to the unique needs of inmates. Regular consultation and collaboration can also help in the ongoing evaluation and improvement of these programs. Incorporating holistic approaches to mental health care can provide comprehensive support to inmates by integrating physical health initiatives, such as exercise and nutrition programs, with mental health interventions. Physical health improvements can complement and enhance the benefits of mental health programs, leading to better overall well-being for prisoners [27].

Given the diverse nature of prison populations, with inmates from various cultural and linguistic backgrounds, developing multilingual and culturally sensitive versions of CBT and mindfulness apps

can ensure that these interventions are accessible and effective for all inmates. Tailoring content to reflect cultural differences and preferences can improve engagement and outcomes.

Furthermore, identifying and addressing barriers to access is critical for the success of mental health interventions in prisons. Factors such as limited access to smartphones, internet connectivity issues, and lack of private spaces for practicing mindfulness can hinder the effectiveness of these programs. Addressing these barriers through infrastructure improvements and policy changes can enhance the feasibility and impact of mental health interventions. Implementing pilot programs in selected prison facilities can help evaluate the effectiveness of CBT and mindfulness apps before scaling up. These pilot programs can provide valuable insights into the practical challenges and benefits of these interventions. Incremental implementation, with continuous feedback and adjustments, can ensure a smoother and more successful rollout of mental health programs across prison systems. Moreover, continuous monitoring and evaluation are essential for the success of mental health interventions [28].

Regular assessments of inmate mental health, app usage patterns, and program outcomes can provide valuable data for ongoing improvements. Establishing a robust feedback mechanism, where inmates can share their experiences and suggestions, can further enhance the effectiveness and relevance of these programs. Additionally, involving the families of inmates in mental health interventions can provide additional support and improve outcomes [29].

Family members can be encouraged to participate in mindfulness and CBT practices through linked applications or facilitated sessions, fostering a supportive environment for the inmate. This holistic approach can strengthen family bonds and contribute to the inmate's mental well-being. By incorporating these recommendations, prison systems can develop more effective, engaging, and comprehensive mental health interventions that significantly improve the well-being of inmates. These efforts can contribute to better mental health outcomes, reduced recidivism, and a more rehabilitative prison environment.

5. Conclusion

This study focusses on the potential of CBT and mindfulness apps to improve the mental health and overall well-being of prisoners. Findings suggest that features such as gamification, personalized feedback, and social elements can significantly enhance engagement and adherence to mental health practices. Additionally, integrating technology with traditional practices like yoga and meditation, providing personalized interventions, and involving mental health professionals are essential strategies for improving inmate mental health. Furthermore, addressing barriers to access, implementing pilot programs, and involving inmates' families can create a more supportive and rehabilitative environment. However, this study has limitations, including the lack of long-term data and potential issues with noncompliance. Future research should focus on developing user-friendly applications with engaging features, conducting long-term studies to assess sustained impact, and exploring strategies to improve adherence. Additionally, further studies should consider larger and more diverse sample sizes, as well as the potential benefits of incorporating holistic approaches to mental health care.

For future study, it will be essential to investigate the long-term effects of these interventions on inmates' mental health and recidivism rates. Studies could also explore the integration of AI and machine learning to further personalize mental health interventions. Furthermore, research should focus on developing culturally sensitive and multilingual versions of these applications to ensure inclusivity and accessibility for diverse prison populations. By addressing these areas, future research can contribute to the development of more effective and comprehensive mental health interventions for prisoners, ultimately improving their quality of life and reducing recidivism.

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