



e-ISSN: 2319-8753 | p-ISSN: 2347-6710

# IJRSET

International Journal of Innovative Research in  
**SCIENCE | ENGINEERING | TECHNOLOGY**

# INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN SCIENCE | ENGINEERING | TECHNOLOGY

Volume 12, Issue 4, April 2023

**ISSN** INTERNATIONAL  
STANDARD  
SERIAL  
NUMBER  
INDIA

Impact Factor: 8.423

9940 572 462

6381 907 438

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# Mental Health Testing

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**ABSTRACT:** Mobile app development options have been opened up by recent developments in mobile technology to help users achieve various health and wellness objectives. Considering how commonplace mobile phones are, mental health applications have a big potential to help people suffering from a variety of mental health conditions whenever they may need it. To examine and comprehend end users' views, wants, and concerns with regard to such technology, research is necessary. In order to create a next-generation mental health app that would be significantly more interesting and useful than the current apps to promote mental health and well-being, this study aims to explore the opinions, perceptions, preferences, and experiences of people who have dealt with mental health issues based on self-diagnosis. Future development of mental health apps that are practical and widely used will be influenced by an understanding of end users' requirements and concerns.

**KEYWORDS:** mental health, mobile app, focus groups, design recommendation, mobile phone

## I. INTRODUCTION

- The team will need to focus on the following crucial consideration areas in order for the aforementioned project to become possible.
- • Locating qualified personnel for counselling and guidance. In particular, the programme will require:
  - o A life coach who can provide the target young people with helpful guidance and counselling services and, if necessary, meet them at their individual residential settings;
  - o A master therapist with sufficient expertise of mental and social health.
- • Selecting the supportive services that will benefit the target population the most. For the programme to be effective long-term, supportive services for those with mental illnesses and social issues in particular will be essential. Services like the following could be required in this area:
  - o affordable and secure transitional housing; openings at colleges for individuals who want to continue their education; employment for those who want to start working;
  - o Services for mental and general health;
  - o Substance abuse (rehabilitation) services for persons prepared to give up drug use. Additionally, it will be crucial for the project to provide the targeted group with independent living skills like money management, cooking, and housekeeping.
- Identifying and adopting a strategy that will help the target group transition from foster care into young responsible adulthood. Some of the considerations in these areas include availing social opportunities to the young people, and educating and informing members of the society about their role in supporting the target group integrate in the community successfully.
- • Health systems are severely underfunded and have not yet been able to adequately address the needs of people with mental disorders. Around the world, there is a huge gap between the need for treatment and its availability; when it is given, it is frequently of low quality. For instance, just 33% of those with depression and only 29% of those with psychosis receive official mental health care (6).
- • Social support is also necessary for those with mental illnesses, including assistance with establishing and sustaining social, familial, and personal ties. Additionally, people with mental illnesses may require assistance with housing, employment, educational programmes, and other worthwhile endeavours.

## II. RELATED WORK

Smartphone-based mental health apps represent a unique opportunity to expand the availability and quality of mental health treatment. The number of mobile health (mHealth) apps focused on mental health has rapidly increased; a 2015 World Health Organization (WHO) survey of 15,000 mHealth apps revealed that 29% focus on mental health diagnosis, treatment, or support. Additionally, public health organizations like the UK's National Health Service (NHS) and the U.S. National Institute of Mental Health (NIMH) have pointed to mental health apps as cost-effective and scalable solutions to addressing the mental health treatment gap. But though the ubiquity of smartphones is well-poised to address the mental health provider shortage, the efficacy of mental health apps remains contested. As mental health apps are increasingly prescribed to supplement psychiatric treatment and help patients self-manage their mental health conditions, it is key to understand (I) whether, and which, mental health apps have proved effective, and (II) what makes a mental health app effective. Here, we argue that mental health apps do have value in providing psychological treatment, and present four recommendations for high-efficacy mental health apps.

Mental health apps target a broad range of psychological disorders and vary in design and functionality. NIMH classifies mental health apps into six categories based on functionality: self-management, cognition improvement, skills-training, social support, symptom tracking, and passive data collection. Mental health apps span all stages of clinical care provision, including immediate crisis intervention, prevention, diagnosis, primary treatment, supplement to in-person therapy, and post-treatment condition management. Mobile apps are a good choice for psychological treatment delivery compared to other platforms due to (I) ease of habit, (II) low effort expectancy, and (III) high hedonic motivation.

Though evidence supports the use of smartphone-based apps as a vehicle for mental health treatment delivery, there remains debate around whether these apps have demonstrated high efficacy. This is due to both the lack of evidence-based mobile apps available on the market, and the lack of studies that bring together the disorder-specific silos of evidence that do exist. To show that the efficacy of evidence-based mobile apps is comparable to traditional psychiatric treatment, we analyze the efficacy of smartphone-based treatments for three psychological disorders with high 12-month global prevalence rates: depression, anxiety, and schizophrenia.

Depression treatment options may not result in complete alleviation of symptoms, and often fail to address post-treatment subclinical or residual depression symptoms. Mobile apps that use cognitive behavioral therapy (CBT), mindfulness training, mood monitoring, and cognitive skills training to treat depressive symptoms are gaining momentum. A meta-analysis of 18 randomized controlled trials (RCTs) covering 22 mobile apps revealed that using apps to alleviate symptoms and self-manage depression significantly reduced patients' depressive symptoms compared to control conditions ( $g=0.38$ ,  $P<0.001$ ). They also found that smartphone-based therapies yield the greatest benefits for individuals with mild to moderate, rather than major, depression (6).

Though clinical evidence suggests that relaxation training, CBT, and mindfulness can reduce anxiety symptoms, access to these interventions is limited by cost and availability. Using mobile apps to deliver these interventions has thus garnered attention as a supplement to in-person therapy and a mechanism to treat sub-clinical anxiety conditions that may lie below the threshold for anxiety disorder treatment. A meta-analysis of nine RCTs that evaluated the effects of smartphone-delivered interventions on symptoms of subclinical and diagnosed anxiety disorders revealed that users experienced reductions in total anxiety after using anxiety treatment apps ( $g=0.33$ ,  $P<0.001$ ). Additionally, anxiety-focused mobile apps delivered the greatest reductions in anxiety symptoms when paired with face-to-face or internet-based therapies. In fact, replacing outpatient patient-therapist sessions with a mobile app resulted in no significant loss of treatment efficacy.

Antipsychotic medications can relieve schizophrenic hallucinations, delusions, and disorganization, but fail to address its behavioral symptoms. Though psychosocial interventions (e.g., social skills training, cognitive training, and education on illness management) can alleviate behavioral symptoms, these interventions are rarely integrated into clinical treatment due to limited funding and adequately trained staff. Mobile apps may present an opportunity to deliver these services directly to patients, especially given evidence of little difference between how schizophrenic patients and healthy controls use technology . A systematic review of five studies focused on using smartphone apps for treating symptoms of schizophrenia demonstrated app retention was 92%, and approximately 3.95 patient-app interactions took place each day. Self-reported patient experience survey results revealed high adherence, positive user experience, and broad-ranging clinical benefits .

It is important to acknowledge the challenges of using apps for mental health treatment. These challenges can broadly be divided into the following categories: (I) poor regulation of quality and privacy; (II) inconsistencies in engagement; (III) narrow focus on one disorder per app . To be effective and address these challenges, mental health apps must be evidence-based and carefully designed. Developers should integrate the following four characteristics of high-efficacy mental health apps.

Because patients typically use apps on their own time without clinical oversight, they must be intrinsically motivated to engage with the app. Evidence from the literature suggest that patient engagement can be improved through: (I) real-time engagement; (II) usage reminders; (III) gamified interactions () .

Models of technology-based behavior change emphasize the importance of simple, intuitive UIs for driving faster behavior change through reduced cognitive demands. For patients suffering from depression or anxiety, working memory is often impaired. Apps serving these population must be designed to generate a low cognitive load, the total mental activity imposed on working memory. A simple UI reduces cognitive load and increases capacity for learning. Features that reduce cognitive load include: (I) the use of pictures rather than text; (II) reduced sentence lengths; (III) inclusive, nonclinical language .

Psychological disorders are highly comorbid; however, few mental health apps explicitly harness transdiagnostic methods to treat symptoms shared among disorders. Since interventions for comorbid disorders are typically similar in delivery and content, transdiagnostic apps can increase patient engagement and treatment efficacy by reducing the commitment needed to interact with multiple apps for comorbid disorders (1)

App-based features that enable users to self-monitor their mood by periodically reporting their thoughts, behaviors, and actions can increase emotional self-awareness (ESA), which has been found to be implicated in anxiety, depression, and substance abuse . Increasing ESA, defined as the ability to identify and understand one's own emotions, has been shown to reduce symptoms of mental illness and improve coping skills

### **III. PROPOSED METHODOLOGY**

#### **Mobile application development**

Through our application you will first enter and the viewer will be able to access the login page. On the login page it shows the username and password. The app allows you to login through your username and password. If you are a first time user, the app will allow you to register or login through google, twitter account or Facebook account. The app also provides an option of forgot password as if the user forgets their password, they can change their password and login again.



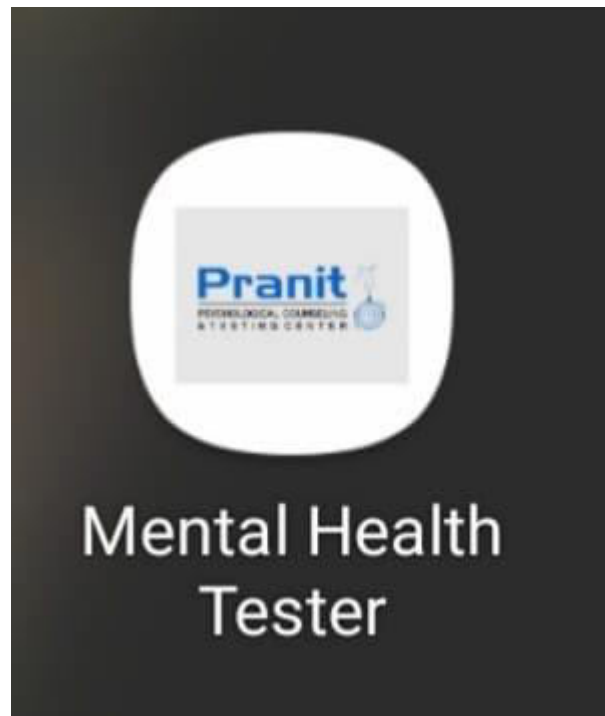
|| **Volume 12, Issue 4, April 2023** ||

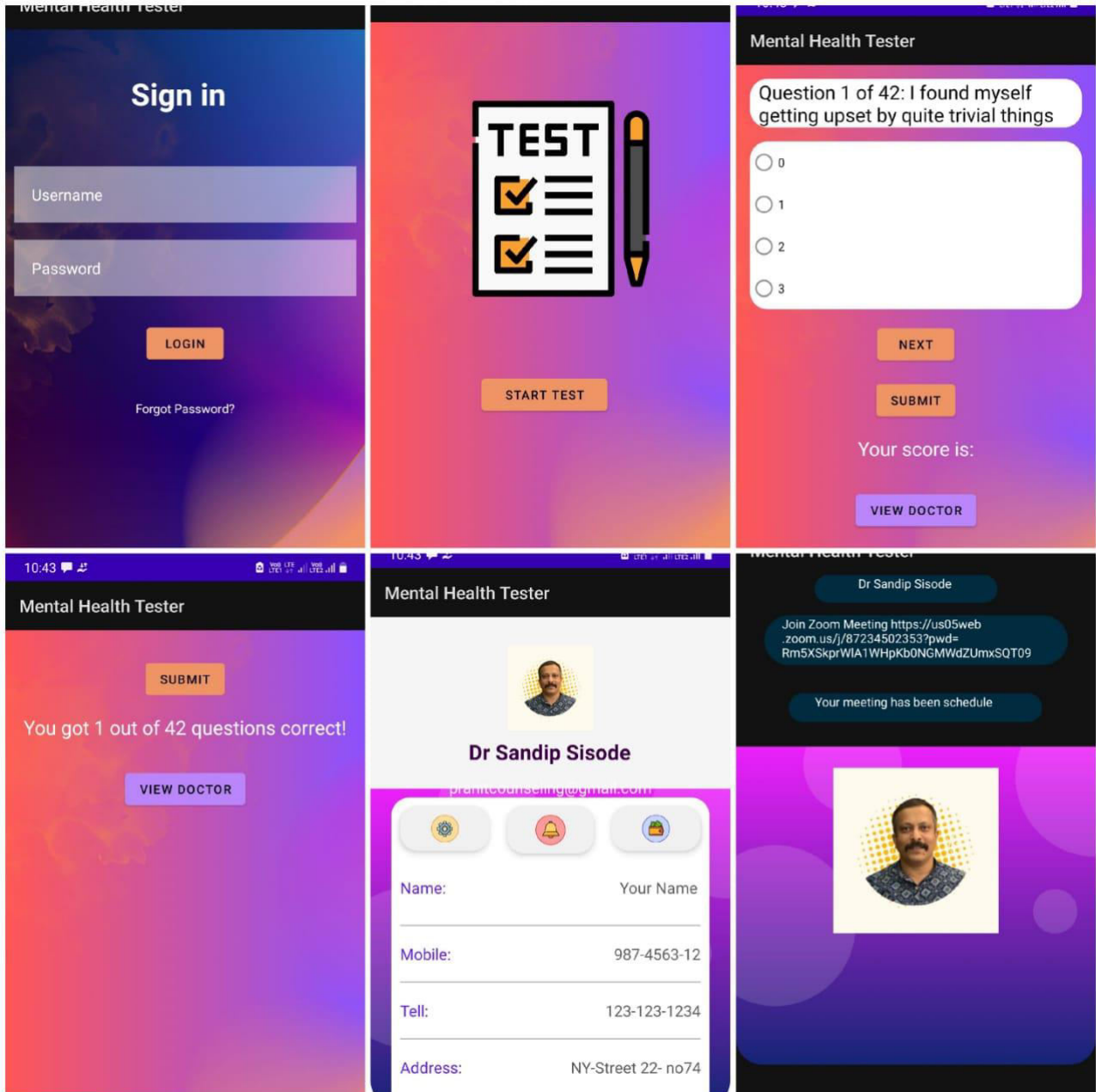
| **DOI:10.15680/IJIRSET.2023.1204368** |

The next page that shows on the application is a start page with a button of start text. This page is only shown once your login is successful.

Once you click on start test button the application takes you to DASS (depression anxiety stress scalability) questions. These are a set of total 42 questions which the user will have to answer on a scale of 0 to 4. 0 meaning the least and 4 being the most. Once the user answers all the questions, the results are reviewed by a doctor, who will later give the stage of which the user is in. Which stage the user is in mentally. As soon as the app suggest which stage the user is in. The app will suggest whether the user should consult a doctor or not.

After pressing the submit button and submitting all the answers the user will get an option to view/consult a doctor. That page will also provide an option to contact a well reputed doctor, under the contact us button. This will provide a google meet link that will help you contact the doctor.





Method, analysis and strategy which is performed is explained as followed:

- First step is we need on enter and login.
- Then when the user gets verified he/she can proceed.
- The next step is filling up the personal details and attempting an aptitude test.
- When the result appears the application recommends a stage based on the test score.
- There are 3 different stages, 1<sup>st</sup> is home remedies and self-upgradation the 2<sup>nd</sup> stage is call/video call session and consultation and the last stage is physical meet interactions
- Day to day record is tracked and the main focus is on improvement.



## **Experimental results**

This app would evaluate your mental health based upon your current conditions and you can also refer to psychologist or psychiatrist after the evaluation from the app

## **V. CONCLUSION**

This App offer various approach to improve mental health. The approaches include relaxation, stress management, symptom tracking, keeping a diary, connect with mental health resources, interpersonal support, meditation, and mood tracking. It is easy to use and very interactive. It would also help to physicians and general users. Future research should focus on the effectiveness of the Apps to improve mental health.

## **REFERENCES**

1. GBD 2017 Child and Adolescent Health Collaborators, Reiner RC, Olsen HE, et al. Diseases, injuries, and risk factors in child and adolescent health, 1990 to 2017: findings from the global burden of diseases, injuries, and risk factors 2017 study. *JAMA Pediatr* 2019;173:e190337.
2. UNFPA. The power of 1.8. billion adolescents youth and the transformation of the future 2014.
3. Rathod S, Pinninti N, Irfan M, et al. Mental health service provision in low- and middle- income countries. *Health Serv Insights* 2017;10:117863291769435–50.
4. Patel V, Flisher AJ, Hetrick S, et al. Mental health of young people: a global public- health challenge. *Lancet* 2007;369:1302–13.
5. Naslund JA, Aschbrenner KA, Araya R, et al. Digital technology for treating and preventing mental disorders in low- income and middle- income countries: a narrative review of the literature. *Lancet Psychiatry* 2017;4:486–500.



**INNO SPACE**  
SJIF Scientific Journal Impact Factor  
**Impact Factor: 8.423**



**ISSN** INTERNATIONAL  
STANDARD  
SERIAL  
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