JomLinerapy: Acceptability Business Sense Therapist on Your Palm

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Abstract— **People are becoming more alert of mental wellbeing struggles. Individuals are seeking psychotherapist advice to alleviate emotions of sadness, distress, and tension. The development of this smartphone application helps individuals who are limited by physical boundaries. A further contribution of this development is to eliminate the inconvenient constraints of typical face-to-face counselling and psychotherapy, as well as to save money, maximize productivity, and enhance public consciousness. The results of the study show that the majority of students at the private institutions are conscious of mental wellbeing problems. Students from the private institutions have been selected based on their access to advanced technologies as measured by a survey and an interview. Our study concluded that using the network as a medium for connecting with a psychiatrist remotely can increase community consciousness of psychological health and provide a relatively practical and cost-effective solution.**

Index Terms— **Mental wellbeing, Psychotherapy, Artificial Intelligence, Mobile Applications, Emotional regulation, Virtual Counseling Sessions, Health services.**

I. Technology in Mental Health Care

According to the 2016 National Health Morbidity Survey, females were found to be more affected than males, with Indians having the highest occurrence [1]. Individuals may be affected by mental health concerns by encountering emotional problems, which may trigger emotions in one's everyday lives [2].

The advancement of technology in mental health care is becoming increasingly widespread nowadays; there have been numerous portals that conduct virtual psychotherapy and consultations with psychiatrists. Whilst none of the portals is flawless, a few of them have flaws [3][4][5]. The technology in mental health care aids in improving the information gathering technique, supervising users' emotional responses, and gaining a broader comprehension of a patient's psychological condition [6]. The technology in mental health care can evaluate patients' behaviors while supervising patients; the more information gathered from the patients' emotional responses, the broader the database [7].

According to the University of Sheffield, professional psychiatric therapies are fundamental in providing individuals with early recovery and enhancing their mental wellbeing condition. [8][9]. The basic examples of mental health support that patients might attempt are such as virtual or face-to-face counselling. [10]

In general, 72% of Malaysians own a smartphone [11]. Virtual psychotherapy is a unique way to offer counselling therapy to patients suffering from mental wellbeing problems by leveraging mobile devices. Bots in a smartphone application that involves programming and mastery of machine learning [12][13].

II. Literature Review

As reported by the Malaysian Healthcare Performance Unit report, several typical prevalent mental health disorders are [1] depression, anxiety, bipolar, personality disorders and Post-Traumatic Stress Disorder. People with severe depressive disorder may have intentions of suicide and lost interest in everyday routines [14]. Depression is a common condition of managing depressive emotions. Depression is treatable with the provision of the right prescription, such as antidepressants, and a good psychotherapist counselling appointment. Workout regularly can benefit the majority of patients suffering from serious depression [15].

There are diverse kinds of anxiety, which commonly happen when relocating to a new location, altering one's society, and so forth. Separation anxiety disorder can affect animals as well due to the abandonment by a few past guardians [16]. People who are suffering from an anxiety disorder may experience panic attacks, which will develop if the emotion is not relieved.

Bipolar disorder causes chronic emotion fluctuations, in which patients can be extraordinarily cheerful or tremendously miserable. Observing their emotional fluctuations is critical for identifying advanced alert indicators. Overall, they are influenced by biological and cultural influences. Depending on the patients' efforts to resolve it, bipolar may be permanent, which may cause a massive hardship for the patients [17].

Personality disorders are classified into three categories: avoidant personality disorder, dependent personality disorder, and obsessive-compulsive personality disorder. An avoidant personality disorder is a condition of "personality disorder" that manifests as the person being exceedingly shy in society and emotionally reactive to criticism [18]. Dependent personality disorder demands consistent reassurance leading to an absence of self that prevents them from making individual decisions. OCPD is associated with high perfectionism; they will expect everything to be done in a certain manner [19].

Post-traumatic stress disorder is related to marginal character syndrome, however, the level of cortisol is different. Cortisol is a hormone that reacts to tension; excessive cortisol will disrupt patients' physiological functions [20]. Extreme anxiety has become one of the PTSD

indicators that the patients have been going through distressing situations [21].

Figure 1. The Maslow Hierarchy of Needs

A person can achieve the Maslow's Hierarchy of Needs by increasing one's psychological condition. Someone in a healthy psychological condition can get a proper sleeping time of 8 hours. The third level of Maslow's Hierarchy of Needs can be achieved by maintaining a positive mental state [22][23]. Linerapy strives to focus on improving individuals' requirements based on the hierarchy of human's needs as per Maslow's Hierarchy.

A comparison of the attributes of such programs is presented in Table 1. With the existence of the chatbots, the user could minimize the discomfort that the patient may feel when communicating with the psychiatrist. The user can also obtain psychiatric treatment by engaging in tasks without having the leakage of personal information to criminals.

Table 1
Psychological condition apps comparison.

Features	Linerapy	PSY	Aurum-Stress, Anxiety, Self-help, therapy	Wysa: stress, depression &anxiety therapy chatbot
Chatbot	/	/	X	/
Mode of therapeutic exercises	/	X	/	/
Premium membership/ subscription	/	/	/	/
Panic SOS button/safety plan	/	X	X	/
Daily Mental Exercise notification	/	X	X	/
Sleep routine	/	X	X	/
Online therapist	/	/	/	/
Excessive notifications	1 per day	2-3 per day	None	3-4 per day

A. Hypothesis Research Model

Users can connect with their psychiatrist virtually. As a result, the consciousness for their mental well-being might be aroused, allowing them to rectify their psychiatric problems and build a better lifestyle. This study proposed the following hypothesis:

H1: Communication between the psychiatrist and patient with psychological issues helps to minimize expenditures on each party;
H2: Communication is accessible when psychiatrists and the affected person is able to gain access to the internet to conduct virtual counselling sessions;
H3: Users can raise consciousness to the public by recommending the mobile application to other users.
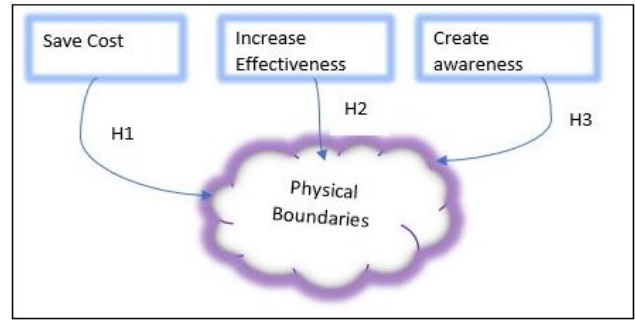

Figure 2. Hypothesis Research Model.

Figure 2 summarises the argument of each hypothesis based on the objectives provided.

The hypothesis above is further explained as below.
H1: Communication among the psychiatrist and individual with psychological issues helps to minimize expenditures on both parties.
The psychiatrist does not have to rent and redecorate a space with intricate pieces and fixtures and fittings. It can facilitate them by minimizing the majority of their operating expenditures. The patient does not have to travel to visit their psychiatrist.
H2: Communication is accessible when psychiatrists and the affected person is able to gain access to the internet to conduct virtual counselling sessions.
The internet connectivity is expected to facilitate the use of mobile applications for virtual appointments with psychiatrists. Users cannot contact the psychiatrist to conduct the virtual counselling session or discussion if they do not have internet access.
H3: Users can raise consciousness to the public by recommending the mobile application to other users.
The ability of user to inspire more people to utilize the mobile application results in higher earnings and marketing relationships.

With the app's present features and functions, individuals can connect with their psychiatrist virtually and communicate with a pre-programmed bot. The consciousness of taking care of their psychological state may be monitored; therefore, individuals can overcome their psychological problems to live a happy and fulfilling life and get greater sustainability in the aspect of psychological condition.

III. METHODOLOGY

A mixed-method approach had been adopted to address the research hypothesis. Surveys and interviews were conducted to collect the data for the research. Table 2 presents the research dimension.

Table 2
Research Dimension [25-29]

Research Dimension	Explanatory Sequential Design
Research Methodology	Mixed Mode
Research Methods	Survey & Interview

According to table 2, a mixed-method approach is used to obtain primary data through a randomized survey and interviews. The sequential design study dimension is illustrated in Figure 3 and it describes the phases of information gathering.
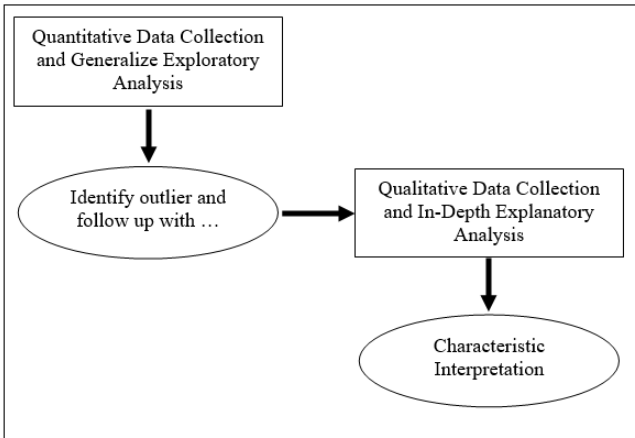

Figure 3. Sequential Design [30-38]

The survey and interview was conducted by selecting random students from private institutions, for example UCSI, UTAR, TARUC, and UniMy. Following that, the data will be aggregated and combined to reach a clear focus.

IV. FINDINGS AND DISCUSSION

As per the collected data, students at several private universities have a moderate understanding of mental health issues. Figure 4 shows a summary of the responses.
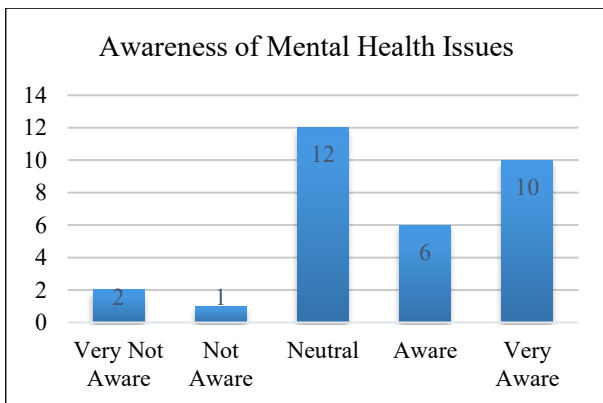

Figure 4. Psychological condition issues awareness

As demonstrated in Figure 4, the majority of participants faced psychological difficulties. This indicate that individuals can be encouraged to participate in virtual psychotherapy despite having no psychological problems.

10% of participants strongly believed that virtual psychotherapy can help people to be more aware of psychological issues. According to the results of the interview, all respondents believed that internet counselling can help people to be more conscious of mental health difficulties. Only 1.7% of participants strongly agree and 23.3% believe that a virtual counselling appointment is more efficient than a traditional face-to-face consultation. This demonstrates, the participant does not believe that having a virtual psychotherapy session is beneficial, 35% of respondents claimed that the virtual counselling session is

more efficient as compared to the traditional face-to-face consultation.
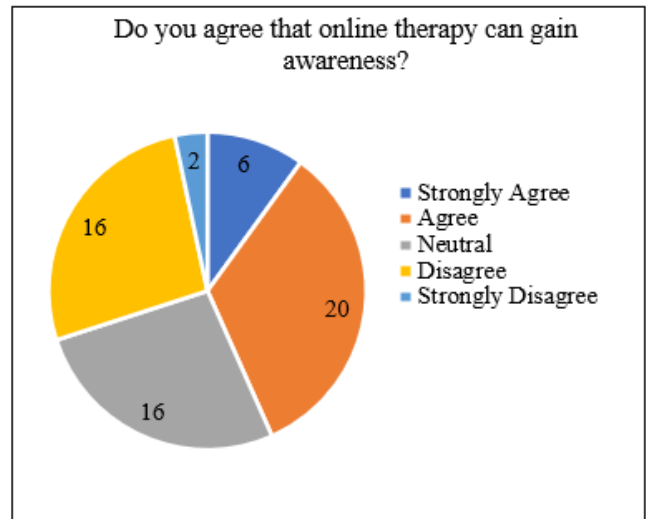

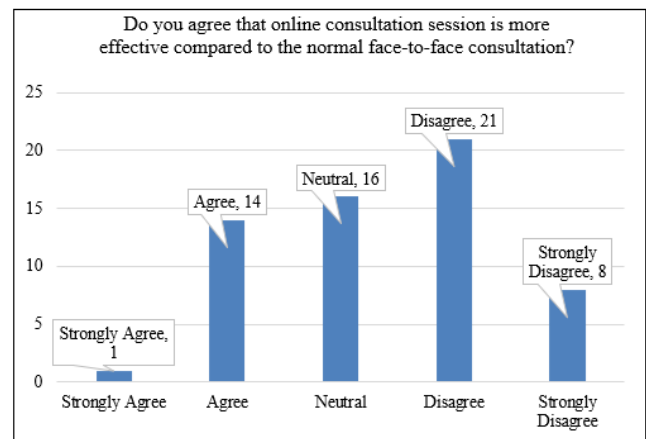Figure 5. Acceptance towards online consultation

Figure 6. Results of opinion on the effectiveness compared to the typical physical discussion.

Figure 6 illustrates that 40.7 percent of the interviewed participants believe that a virtual counselling session is more helpful than a traditional face-to-face counselling session since it is more valuable and the patient does not have to commute. Apart from that, the majority of participants are willing to pay for a premium virtual psychotherapy session which ought to be significantly less expensive than walk-in counselling sessions. Patients do not need to go to the premises for counselling if the virtual counselling system is implemented, which saves them money with respect to commuting fees and time.

Figure 7 above shows approximately 31.6% of participants would recommend a virtual counselling session or any virtual psychotherapy to a friend or family member. As a result, it will likely gain new users via recommendations. Increasing the number of users can allow the app to become a superior application, which supports a larger user group. Furthermore, it provides more assistance for a wider population.
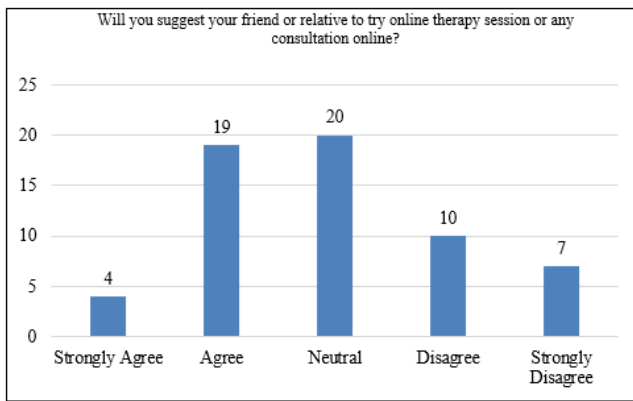
Figure 7. Results of will you suggest your friend or relative try an online therapy session or any consultation online?

V. Conclusion, Limitation and Future Works

As a conclusion, using the network as a medium for connecting with a psychiatrist remotely can increase community consciousness of psychological health and provide a relatively practical and cost-effective solution. The shortcoming of this study is that this application and portal are not appropriate for people with serious psychological health disorders. Throughout the exploration of users' experiences, online counselling will be the new path for this study in the years ahead. In conclusion, every moment is considered, each psychological well-being issues are greater than everything.

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