Technology- Can it Emancipate the Void in India's Mental Healthcare Delivery?

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ABSTRACT

BACKGROUND

Mobile application-based delivery of mental health awareness programs may help in reducing the knowledge gap in mental healthcare in India. Apps can be used to educate our community about mental health first aid protocols. Apps have shown effectiveness in high-income settings, but they suffer from lack of applicability in low resource scenarios due to challenges of availability of apps in local vernaculars and digital illiteracy. We wanted to determine the potential of technology usage in mental healthcare awareness. We also wanted to explore the acceptability and willingness of caregivers in using mobile based mental health apps.

METHODS

A cross-sectional quantitative survey was conducted in outpatient setting of Dr. Bhimrao Ambedkar Memorial Hospital, Raipur, in which a semi structured questionnaire was provided electronically to collect data. A total of 120 participants, including 60 caregivers of mentally ill patients and rest 60 caregivers of patients suffering from diseases other than mental illness were included in the study. All 120 participants were included for data calculation. Data obtained was analysed statistically, using Cross Tab Analysis which includes chi-square and Cramer's V with the help of SPSS (16th) version.

RESULTS

Out of 120 participants, 85 (70.83%) use smart phone with internet facility. 34 (28.33%) participants already use internet as their primary source of health-related information. 42 (35%) cases and 30 (25%) controls were keen to learn about Mental Health First Aid (MHFA) protocols. Those who had a mentally ill patient in their family were more likely to use a MHFA learning App (Pearson chi square = 11.528; df = 4; p = 0.02 < 0.05; Cramer's V = 0.031; p = >0.021). There was no significant difference in both the groups' eagerness to help their loved ones after learning MHFA protocols. Lack of knowledge and awareness and unavailability of an appropriate app were significant barriers.

CONCLUSIONS

The study looks into the scope and limitations of implementing a mobile technology-based intervention for low resource setting. Handholding of caregivers and frequent encouragement from treating doctors might significantly help in technology adoption and in surmounting the apprehension related to using technology. The scope of delivering mental health services through technology is immense.

KEY-WORDS

Mental Health First Aid, Technology Based Solution, Mental Illness, Mental Health Education

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BACKGROUND

According to the Mental Health Survey of India 2016 data, lifetime prevalence of developing a mental disorder in India is 13.7%.^{(1),(2)} Despite current efforts in augmenting mental healthcare delivery across the country, a huge treatment gap exists in mental health problems ranging from 20 to 83%. Most people with mental illness are unable to access appropriate care due to various factors like social stigma, lack of awareness, affordability and accessibility.^{(3),(4)} Mental health literacy has been described as the ability to access, understand and use of information to promote and maintain good health. Mental health literacy encompasses recognition, causes, self-help, facilitation of professional interventions and navigating the information.⁽⁵⁾ Mental health first aid (MHFA) is an empirically based public education and prevention tool. It improves the public knowledge of mental health problems and connects people with care facilities for their mental health problems. It is a five-step action plan to help persons with mental health problems. Similar to CPR and Physical first aid, MHFA provides help until professional treatment is obtained.⁽⁴⁾

A review of existing literature shows mobile-based technology can potentially reduce the burden of health care system.⁽⁵⁾ WHO policy also recommends use of electronic and mobile devices for self-care in health. However, it suffers from patients and caregivers' lack of interest and willingness to engage because of challenges in using technology.^(6,7) The intervention delivered through mobile technology need to be relevant and acceptable to local population. For this, it is important to understand the perceived needs of end users in mental Health technologies for mental health services.^(8,9,10) Increase in smart phone ownership along with pan India availability mobile internet inspires us to explore a medically relevant and user acceptable mobile Internet based interventions for mental health services.^(11,12)

We wanted to determine the potential of technology usage in mental healthcare awareness. We also wanted to explore the acceptability and willingness of caregivers in using mobile based mental health apps.

METHODS

This cross-sectional study was conducted in the Out Patient Department of Dr. Bhim Rao Ambedkar Memorial Hospital, Raipur. The study was approved by Institutional Ethics Committee, Pt. JNM Medical College & Dr. Bhim Rao Ambedkar Memorial Hospital, Raipur. A total of 120 caregivers fulfilling the inclusion/exclusion criteria and who gave written informed consent were included for the study. Out of 120, 60 participants were caregivers of patients with mental illness and other 60 were caregivers of patients suffering from diseases other than mental illness. Participants were selected through incidental sampling method.

Inclusion Criteria

1. Adults aged between 18-65 years.
2. Educated up to 8th standard or above.

3. Able to understand and participate independently in electronic survey.

Exclusion Criteria

1. Past or current history of any psychiatric illness.
2. Patients whose current condition limits their participation in a prolonged interview (e.g. debilitating physical condition, agitation, intoxication or drug withdrawal, etc.)

Instrument- Digital Mental Health Awareness Questionnaire

An electronic semi structured form (Hindi/English) was used for recording the data. It had two section, - section I was used to record the socio demographic profile such as age, sex, occupation, marital status, education, religion, locality etc. Section II had 17 questions related to the mobile usage and health related help seeking behaviour. The questions were designed and worded to be filled by participants themselves without any external help.

RESULTS

The mean age of participants was 29.36 years (Standard deviation-9.65). Majority of the participants belonged to the age group of 18–34 years (n = 92, 76.7%). Other Group of 35–50 (n=23, 19.2%) and 51–65 (n=5, 4.2%) years. Females (n = 77, 64.2%) were more in number than males (n = 43, 35.8%). Most of the participants were from urban area (n = 99, 82.5%). Detail demographic profile is shown in Table-1.

Variable 120 (%)		
Age Groups (Years)		
18-34	92	76.7
35-50	23	19.2
51-65	5	4.2
Gender		
Female	77	64.2
Male	43	35.8
Religion		
Hindu	95	79.2
Muslim	13	10.8
Christian	2	1.7
Buddhism	9	7.5
Other:	1	.8
Marital Status		
Unmarried	6	5.0
Married	43	35.8
Divorced	55	45.8
Other:	16	13.3
Educational Status		
No formal education (Never attended school)	62	51.7
Formal education	23	19.2
Graduate	33	27.5
Postgraduate	2	1.7
Employment Status		
Employed	59	49.2
Unemployed	58	48.3
Student	3	2.5

Table 1. Sociodemographic Profile

Almost all participants had mobile phone (94.1%). Smartphone with internet access ownership was 70.8%. Only 28 % (n=34) participants used internet as their primary source of health-related information. 42.5% (n=51) participants had used mobile phone to access health-related information in past six months. There is an equitable distribution in categories they had searched, like causes of disease, sign & symptoms, treatment option available or

medication information. Mental health awareness of the participants was quite high 90 % (n=108) participants were aware of one or more mental health disease. Notably, 75.83% (n=91) were eager to learn about MHFA and use this knowledge to help their loved ones with mental health problems. 65.83% (n=79) participants believed that personal mental health app can be useful. Care givers of mental illness patients were significantly more interested to download an app for mental health issue than care givers of other physical illness patients (35%, vs. 25%). The analysis shows a strong association of groups with the interest to download an app category (Pearson chi square = 11.528; df = 4; p = 0.02 < 0.05; Cramer's V = 0.031; p = > 0.021) (Table-2).

Questions		
What kind of mobile phone do you use personally?	Frequency	%
Basic feature phone	20	16.7
Smartphone without internet	8	6.7
Smartphone with internet	85	70.8
Don't own a phone	7	5.8
How often do you use your Smartphone internet		
Daily, many times	83	69.2
Once a day	11	9.2
Weekly (less than 3 days)	2	1.7
Sometimes on a friend's phone	24	20.0
Have you accessed health related information		
Yes	51	42.5
No	69	57.5
Is internet your first source health related information?		
Never	43	35.8
Rarely	5	4.2
Frequently	23	19.2
Very Frequently	15	12.5
Always	34	28.3
Have you heard about mental health problems		
Yes	108	90.0
No	12	10.0
Which of the following is/are mental health problems		
Depression	47	39.2
Mental stress	17	14.2
Psychosis	13	10.8
Anxiety disorders	23	19.2
Substance use disorders	20	16.7
How likely are you to learn about mental health first aid to help your loved one with their mental health problems?		
Not at likely	6	5.0
Not likely	3	2.5
Neutral	12	10.0
Some likely	11	9.2
Very likely	88	73.3
Do you think personal mental health apps can be useful		
Yes	79	65.8
No	4	3.3
Maybe	37	30.8
How likely are you to download an app for mental health issue		
Not at likely	11	9.2
Not likely	5	4.2
Neutral	18	15.0
Some likely	14	11.7
Very likely	72	60.0
What do you suggest as a barrier to lack of approach to an app		
Lack of knowledge or awareness	61	50.8
Unavailability of appropriate app	18	15.0
Language barrier (not comfortable with apps in English)	5	4.2
Social stigma	4	3.3
Don't trust online app methods	5	4.2
Other:	27	22.5

Table 2. Responses for Digital Mental Health Awareness Questionnaire

Both the groups have equitably strong willingness to learn MHFA protocols and there was no significant difference in participant's perception about eagerness to help their loved ones after learning mental health first aid protocols. The major reasons cited by participants as the barrier to use an app was lack of knowledge and awareness about mobile app 50.83% (n=61), Unavailability of appropriate app was second common reason 15% (n=18).

DISCUSSION

Mental health is a major concern worldwide and India is not far behind in sharing this. Barriers include the existing public health priorities, challenges of psychiatric healthcare delivery in the primary care settings due to lack of human resources and inadequate funding.⁽¹³⁾ Smartphone possession and usage have been increasing year on year mainly driven by widespread availability of high-speed mobile internet and a young population. Due to a nationwide digital revolution, people are gaining knowledge about using simple apps to access necessary services in every field. Harnessing this power to reach each and every individual personally can help reduce the gap in mental healthcare delivery. Our study demonstrated that although caregivers wanted health technology solutions to health problems, few, if any, had searched for mental health apps on the Internet or were using them. Unavailability of an appropriate app is the major limiting factor which can prevent its potential benefit. Information available on internet is highly fragmented and cannot be understood by general population even with higher education.

The existing gap between the desired technology-based solution and its adaptation highlights the importance of participation of stakeholders in the technology design process. A pluralistic and ecological approach is required for successful adaptation of mental health apps in India. Considering most conventional strategies have not succeeded over the past six decades to enhance the mental healthcare delivery, time has come to adopt a new approach. In a resource constrained country like India, there is a need to use resources in innovative ways. Creating awareness among community members about basics of Mental Health First Aid can be a practical option. Aggressive utilization of newer technologies might help dispel the blight of mental illnesses. Moreover, these apps will publicize the allopathic methods to treat psychiatric illness and help the patients connect to a reliable qualified professional thereby curbing the menace created by faith healers and quacks.

This is a hospital-based survey so, a community based sample is required for its application in general population. The study can be used as a touchstone to develop a mobile based mental health app for education and delivery of mental health first aid.

CONCLUSIONS

The study looks into the scope and limitations of implementing a mobile technology-based intervention for low resource setting. Handholding of caregivers and frequent encouragement from team effort from public health personnel and treating doctors might significantly help in technology adoption and in surmounting the apprehension related to using technology. The scope of assessment of mental wellbeing and delivering mental health services through technology is immense.

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