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Original Research Article

Profile of seekers of an internet-based self-help program for depression in India: observations and implications

Seema Mehrotra[1]*, Paulomi M. Sudhir[1], Satish Kumar C. R.[1], Jagadisha Thirthalli[2], Girish N. Rao[3], T. K. Srikanth[4], Aditi Gandotra[1]

[1]Department of Clinical Psychology, [2]Department of Psychiatry, [3]Department of Epidemiology and Center for Public Health, NIMHANS, Bangalore, Karnataka, India
[4]E-Health Center, IIITB, Bangalore, Karnataka, India

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***Correspondence:**
Dr. Seema Mehrotra,
E-mail: drmehrotra_seema@yahoo.com

ABSTRACT

Background: Growing awareness of treatment gap for common mental health problems has provided an impetus to development of a variety of mental health apps. However there is a dearth of literature on potential users of such apps in India. Information of this nature can be vital in efforts at further development and dissemination of such apps for enhancing their public health impact.
Methods: The paper focuses on examining the profile of individuals who expressed an interest in a newly developed internet based self-help program, called PUSH-D (Practice and Use Self-Help for depression). The PUSH-D pilot-trial was announced on various platforms and participation was solicited from individuals in the community. All those who communicated an interest were requested to participate in an initial evaluation session. Hundred and two individuals completed the evaluation that involved use of interviews and standardized questionnaires to assess depression severity, well-being, and functional impairment.
Results: An average PUSH-D seeker was likely to be a young adult, with at least undergraduate level of education and was equally likely to be a male or a female. PUSH-D seekers were likely to have major depression or dysthymia; with mild to moderate severity of symptoms and significant impairment in functioning. Co-morbidities were evident only in a minority of PUSH-D seekers.
Conclusions: About two third of PUSH-D seekers had never sought mental health services. Various barriers to seeking face to face professional consultations were reported. The results highlight the potential role of internet-based self-help programs for addressing treatment gap in India.

Keywords: Self-help apps, Internet-based interventions, Treatment gap, Depression, Digital mental health, Digital India

INTRODUCTION

Despite availability of efficacious interventions in the field of mental health, majority of individuals suffering from mental health conditions do not avail professional help.[1] The large treatment gap for mental disorders in general and depression in particular has been recognized worldwide as a major public health challenge. Development of low intensity programs such as self-help interventions and utilization of technology as a medium

for delivery of interventions have been recommended as some of the potential approaches to address treatment gap, especially in low-resource settings.[2] This has resulted in a proliferation of different kinds of mental health apps.[3,4]

There is some emergent data on internet use for mental health by clients with psychiatric illness. In a German sample of patients using psychiatry services in a university hospital, 80% were internet users. About 70% used internet for mental health reasons, with more than half using it for information on mental health disorder.[5] In India, internet usage is expected to almost double to 600 million users by 2020.[6] Close to 60% internet penetration in urban India was highlighted in a recent report which also indicated that about 51% users are using it at least once a day. In terms of demographics of internet users, younger age groups were reported to be more prolific users and the gender ratio of daily internet users in urban India was somewhat better than rural daily users, though still tilted towards men.[7] These trends are similar to global figures that suggest that the use of internet is likely to be higher in younger individuals and those from higher socioeconomic strata.[8] Opportunities for use of digital technology in the field of mental health are being increasingly explored in the Indian context too.[9-10]

With the development of internet-based interventions, characteristics of the users of such interventions have also begun to be examined. In a four year long descriptive study of visitors and users of an internet-based depression program designed for women in Mexico; significant level of depression was reported in more than 97% of users who completed assessments. Being a woman, being 30 years or older, reporting disability and having attempted suicide were the predictors of completing at least one module. Also, it was reported that about 40% of the visitors did not register for the program.[11] Another study on a university students' sample also reported higher number of female registrants for an internet-delivered intervention for depression, anxiety and stress. High confidence in using internet has been reported in such samples.[12] Website traffic data related to an online mental health service for depression and anxiety in Australia revealed that an average user was likely to be 36 years of age and most likely to be a female.[13] Previous studies also show that many seekers of internet interventions are likely to have clinically significant levels of depression.[11,14] There are variations in reports of professional help seeking in the past in these studies, with one of these reporting that one third of their participants had sought some form of mental health treatment in the past[11.]Yet another study reported that as many as 64% had sought professional help prior to online intervention.[14]

Though concerns have been raised about people's preferences for online intervention over face to face interactions, internet based intervention is also been seen as advantageous in a population with high treatment gap and shortage of professionals.[11,15-17] In an Australian survey, more than half of the people with disabling levels of depression and anxiety never contacted a health care system thinking that they had no need to do so.[18] Similarly, the recent National Mental Health Survey findings in India highlighted that a large proportion of individuals have unmet mental health needs (60-86%) for various mental health conditions.[19]

Studies on internet based interventions utilize multiple mediums of announcements for recruitment of participants in order to increase the potential exposure to recruitments efforts, and thereby reach out to a larger and heterogeneous group of people who may benefit from a program.[20] Different recruitment strategies may be associated with somewhat different demographic and clinical profiles. Participants recruited through news-papers have been found to be older with relatively lower severity of depressive and anxiety symptoms while recruitment through Google could result in participants with higher severity of depression. On the whole, the recruitment sources that entail effortful and active help - seeking (e.g. active search on Google or on a mental health website) are likely to attract users with higher severity of symptoms than those exposed to more passive sources such as coming across an article in a newspaper/ a poster on an announcement board or referral through family/friends.[20]

Availability of well-designed, empirically tested and culturally appropriate apps for common mental health problems on one hand and their uptake on a large scale in a given population on the other hand, both are required for making a substantial reduction in treatment gap and creating a positive impact on public health.[21] This in turn highlights the potential utility of descriptive studies that provide information on the characteristic of individuals who are inclined to seek such services. There is a paucity of such studies, particularly from India. An enhanced understanding about the growing segment of population with felt needs for mental health apps can be useful in designing, refining and appropriately targeting such apps for reaping maximum benefits from a public health perspective.

Hence the present report is aimed at examining the profile of individuals who expressed an inclination to use a newly developed Indian internet based self-help program for depression, PUSH-D (practice and use self-help for depression). The paper is based on a larger study aimed at the development and pilot testing of this program. The objectives are to examine the profile of individuals who expressed an inclination to use PUSH-D app and subsequently underwent an initial evaluation to determine the suitability of the app for their current concerns. The paper presents the profile of these individuals (henceforth described as seekers) in terms of demographic characteristics, recent life events, perceived support, typical coping strategies, clinical presentation,

patterns of professional help seeking, and self-reported barriers to seeking help from mental health professionals.

METHODS

Announcement process for recruitment

The study was conducted in Bangalore, a metropolitan city in South India after review by the ethics committee of the concerned institute. Participation in the pilot testing of the newly developed program called PUSH-D was solicited through various means. Poster, flyers and write-ups were developed to make the potential participants in the community aware about PUSH-D program and its main features (self-help, internet-based intervention targeting depressive symptoms and utilizing techniques used in psychological interventions for depression in face to face sessions). A few core symptoms of depression were presented in the posters, to help people gauge if the distress they were experiencing could indicate possibility of depression. The fact that depression is a common mental health problem and that many people with depression do not seek professional help was also conveyed in various announcements. In addition, all the announcements indicated that participation in PUSH-D research trial involved initial screening/evaluation to determine the suitability of PUSH-D program for the given individual and in case it was not found suitable, referral related guidance would be provided. Announcements were made on multiple offline and online platforms that included posters on notice boards of various local institutions, emails, announcement on Institute website as well as another website aimed at youth mental health promotion run by the corresponding author and dissemination of flyers during two health related exhibitions in the city. Basic information to increase awareness on depression being a common mental health condition, treatment gap for depression as well as ongoing research trial on PUSH-D as a self-help program for depression was also carried in 9 newspaper write-ups, out of which 4 were multi-city editions. In addition, the home page of PUSH-D website carried detailed information on the rationale underlying development of PUSH-D, its core features, its suitability for dealing with depressive symptoms; outlined what was expected from a PUSH-D user and provided credentials of the resource team.

Evaluation procedure

The announcements in various fora began in September 2016 and responding to the initial inquiries, screening and recruitment process continued till May 2017.

Individuals who came across announcement on PUSH-D and approached the resource team via phone or email were initially provided detailed information about PUSH-D evaluation process, it being a research trial as well as the nature of the PUSH-D program itself. Those interested in participating in the initial evaluation/screening process were contacted and evaluation was carried out either in a face to face session, Skype session or over telephone, with the consent of the participant.

Face to face and Skype sessions were conducted for 45 and 14 participants respectively, while telephonic assessments were carried out for 43 participants. Written informed consent was obtained in the face to face sessions and it was obtained by requesting the participants to send a signed and scanned document over email for those who were interviewed over Skype or telephone.

The initial evaluation process required about 1.5-2 hours and was typically completed in a single session. The evaluation involved listening to the narration of psychological difficulties as described by the interviewees, filling the basic data sheet, administration of structured interview schedules followed by administration of self-report questionnaires. A brief feedback was provided regarding the suitability of PUSH-D for their problems or the need for other forms of mental health interventions at the end of this session. The present paper is limited to examining the profile of all the individuals who underwent the screening/evaluation process.

Tools used during the evaluation session

I. Basic data sheet: Apart from socio-demographics, additional details were captured through Likert type ratings, multiple choice items and open ended items as appropriate: major life events in recent past, availability of support, ways of coping with distress, past consultation with a mental health professional if any and self-report of barriers to seeking professional help for mental health.
II. Mini-International Neuropsychiatric Interview-6.0: was used to serve as a brief structured interview for the major Axis I psychiatric disorders in DSM-IV and ICD-10.[22] The MINI also has a separate section that assesses suicidality to arrive at the impression of low, moderate or high risk.
III. Structured Clinical Interview for DSM-IV Axis II-Personality Disorders (SCID-V PD): The SCID-5-PD, the updated version of the Structured Clinical Interview for DSM-IV Axis II Personality Disorders (SCID-II) was used for assessment of 10 DSM-5 Personality Disorders across clusters.[23]
IV. Beck depression inventory - II : The BDI- II is a 21 item self-report instrument that measures the presence and severity of affective, cognitive, motivational, psychomotor and vegetative manifestations of depression.[24] Guidelines for interpretation of total scores have been suggested as follows- minimal: 0–13; mild: 14–19; moderate depression: 20–28, Severe: 29–63.
V. PHQ-9: This is a popular brief measure used for depression screening, assessment and monitoring of

severity of depressive symptoms in the last 2 weeks.[25] Scores of 5, 10, 15 and 20 have been suggested by the authors to denote mild, moderate, moderately severe and severe levels of depression.

VI. The Work and Social Adjustment Scale: It is a simple 5 item measure of self-reported functional impairment in social, occupational and home domains.[26] Higher scores indicate poorer adjustment/higher levels of impairment.

VII. Global Assessment of Functioning: It was introduced by the APA in the year 1987.[27] Using GAF, a clinician assigns a numeric score based on clinical judgment to denote an individual's overall functioning level while discounting impairments related to physical or environmental limitations. The scores range from 0 (inadequate information) to 100 (superior functioning).

VIII. WHO- FIVE Well Being Index: It has five positively worded items that tap positive psychological well being covering relaxation, vitality and general interest.[28] Scores below 13 are indicative of poor wellbeing.

Analyses

The present paper has used descriptive statistics in terms of frequencies and percentages. Responses to open-ended items required content analysis. The broad themes/categories were arrived at, by joint inspection of the responses by the first and the second authors. Subsequently, the responses were placed in the various categories independently by these two authors. Minor discrepancies were noted (<10%) and resolved through consensus.

RESULTS

Socio-demographic profile of seekers of PUSH-D

The examination of the basic socio-demographic details of those who approached for initial evaluation for registration into the PUSH-D program indicated that both the genders were equally likely to express interest in registration into the program. An average participant was32 years old and an overwhelming majority was between 17-35 years of age range (72%), had studied up to graduation or beyond (83%). Slightly less than half were working, about one fifth were in the process of seeking employment and about a quarter was students and 8% were retired adults. A large number of participants were single (58%) while 37% were married and 5% were separated (Table 1).

Recent life events, perceived support and coping in the Seekers of PUSH-D

Half of the participants responded in affirmative about occurrence of a major life event in the last 6 months while about 14% reported occurrence of more than one life event in this period. On a 0 to 10 scale of perceived stressfulness, majority (93%) rated the stressfulness of this event to be more than 5, indicating high stress associated with these events. (Table2). About 39% responses were classified as significant chronic stressors rather than discrete life events. In terms of major events, loss-events (e.g. bereavement, break-ups, and separation) were the most common, followed by events involving major interpersonal conflicts in personal or work sphere (Table 2).

Table 1: Socio-demographic characteristics of the seekers- sample (N=102).

Variables	Frequency	Percentage (%)
Gender		
Male	51	50
Female	51	50
Age in Mean (SD)	32.28 (12.98)	
17-25	33	32.35
26-35	40	39.21
36-50	21	20.58
Above 50	8	7.84
Region		
Bangalore	76	74.5
Outside Bangalore but within Karnataka	5	4.9
Outside Karnataka in India	21	20.58
Education		
Under graduation	17	16.66
Graduation	46	45.09
Post graduation	39	38.23
Religion		
Hindu	86	84.31
Muslim	11	10.78
Christian	4	3.2
Others	1	0.98
Marital status		
Single	59	57.84
Married	38	37.25
Separated	5	4.9
Work status		
Job seekers/ currently unemployed	22	21.56
Employed	47	46.07
Student	25	24.5
Retired	8	7.84
Living arrangement		
Hostel/PG	32	31.37
With Family	68	66.66
Alone	2	1.96
Individual income in INR (per month)		
Up to 20,000	8	7.9
20,001-30,000	7	6.8
30,001 and above	51	50
Do not wish to answer	36	35.3

Table 2: Self-reported life events and ongoing stressors.

Variable	Frequency	Percentage (%)
Self-report of major life event (past 6 months)		
Yes	52	50.98
No	50	49.02
Self-reported intensity of stress associated with major life event (0-10 scale) Mean (SD)- 7.65 (1.82)		
5/lower	4	7.7
>5	48	92.3
More than one major life event (past 6 months)		
Yes	14	13.7
No	88	86.3
Nature of major life events and ongoing stressors reported (N=52)		
Life event		
Diagnosis of major physical illness in significant other	3	5.77
Experience of Abuse	3	5.77
Interpersonal conflict-event (home or work domain)	10	19.23
Loss - event	11	21.15
Relocation (new city/ job/ institute/living arrangement)	5	9.62
Ongoing chronic stress in work/ academic /financial domain	20	38.46

Almost 35% of those who sought PUSH-D app, reported non-availability of support in times of need. Slightly less than half reported being very satisfied/ fairly satisfied with the informal support they received. (Table 3) The basic data sheet utilized an open-ended item about coping strategies used to deal with stress/distress. Solitary passive pleasurable activities were most commonly reported followed by engagement in active constructive activities, socialization, physical activation and spiritual-inspirational activities. Strategies such as internet surfing, social withdrawal or use of addictive substances were reported by a minority of the study sample. (Table 3)

Clinical profile of seekers of PUSH-D

Nearly 40% of the seekers of PUSH-D program received the diagnosis of a current major depressive episode. Majority of them (69%) reported the duration of current depressive episode to be 2 months or less while the rest reported the episode duration to be 3-6 months. A major depressive episode in the past was reported by 15 participants out of whom 7 were currently depressed, thus meeting the criteria for a recurrent depressive disorder (Table 4).

Table 3: Perceived support and coping.

Perceived support: availability and satisfaction (n=102)		
	Frequency	**Percentage** (%)
Perceived availability of support		
Yes	67	65.7
No	35	34.3
Level of Satisfaction		
Fairly/very satisfied	45	44.11
Slightly satisfied	34	33.33
Slightly dissatisfied	4	3.92
Fairly/very dissatisfied	19	18.63
Nature of coping strategies typically used for dealing with stress (n=237)*		
Coping category		
Solitary passive pleasurable activity (e.g. watching TV shows)	48	20.25
Solitary active constructive/pleasurable engagement (e.g. writing a blog, cooking)	43	18.14
Physical activation/Exercise	31	13.08
Social withdrawal/brooding	22	9.28
Connecting with nature/ with spiritual or other inspirational material	25	10.55
Internet surfing /video games	6	2.53
Connecting to others face to face	38	16.03
Attempts to reflect	4	1.69
Use of addictive substances	6	2.53
Others/miscellaneous	14	5.91

*More than one coping strategy was mentioned by many participants and hence the total n is more than the number of participants.

About 56% had chronic low grade depressive symptoms, clinically amounting to dysthymia. About half of them (53%) had depressive symptoms for 2-3 years while the remaining reported dysthymia of >3 years' duration. Fourteen percent of those with dysthymia also had an ongoing major depressive episode. About one fourth were experiencing varying degrees of suicidal thinking with most of them scoring low on suicidal risk. Comorbid Axis I and II conditions were evident in about 10% of the sample with a predominance of anxiety spectrum disorders and Cluster C disorders (Table 4).

The scores of the study sample on various measures indicate that a typical PUSH-D seeker had mild to moderate severity of depressive symptoms, low levels of

well- being and significant functional impairment (Table 5).

Help seeking patterns and barriers

Almost two third (65%) of the seekers of PUSH-D program (on whom an initial evaluation was carried out) had never consulted any professional for their mental health concerns in the past. About 18% had consulted a mental health professional in the last 3 months for their current issues and most of them had a psychiatric consultation. About 28% had consulted a mental health professional in the past. (Table 6) An open-ended item inquired about barriers experienced in seeking professional help for their mental health concerns. Low self-awareness about having a mental health problem requiring professional help was the commonest barrier reported. This was followed by insufficient awareness about where and how to access mental health services and time constraints. Stigma, preference for self-reliance, financial constraints and dissatisfaction and apprehensions related to treatment emerged as other barriers (Table 7).

Table 4: Clinical profile of the sample.

Diagnosis	Frequency	Percentage (%)
Current major depressive episode	39	38.24
Dysthymia	57	55.88
Bipolar disorder-current episode depression	1	0.98
Co morbid conditions (with major depression/dysthymia)		
Alcohol/other substance dependence	2	1.96
Other Axis I disorders*		
Social anxiety (3), OCD (2), Post-traumatic stress disorder(1) Specific phobia (1) Generalized Anxiety disorder(1)	8*	9.8
Personality disorders: Avoidant (6), Dependent (1) Borderline (4)	11	10.78
Suicidality (on MINI items)	None : 77	
	Low : 16	
	Moderate : 6	
	High: 3	

Generalized Anxiety disorder, social anxiety and OCD: 1 each without co morbid depression.

Table 5: Mean scores of the sample on study measures.

Measures	Mean (standard deviation)
Depression (BDI)	23.8 (11.19)
Depression (PHQ-9)	10.49 (5.89)
Well-Being (WHO-5)	10.05 (6.06)
Functional impairment (work and social adjustment scale)	18.39 (9.47)
Global assessment of functioning (professional rated)	73.22 (8.72)

Table 6: Professional help seeking patterns for mental health concerns (N=102).

Variables	Frequency	Percentage (%)
Mental health professional consultation at any point in life		
Yes	36	35.29
Never	66	64.71
Mental Health professional consultation sought for current concerns (last 3 months)		
Yes	18 (Type of professional consulted- Psychiatrist:15; Psychologist/counselor: 1 Both: 2)	17.65
No	84	82.35
Mental health professional consultation sought any time in the past for any mental health concern		
Yes	29 (Type of professional consulted- Psychiatrist: 17 Psychologist/counselor: 9, Both: 3 Duration of treatment in the past- 6 months/ less: 17; 1 year or more: 12)	28.43
No	73	71.57

Table 7: Self-reported barriers to seeking professional help for mental health concerns (N=83).

Categories	Frequency	Percentage (%)
Insufficient awareness about mental health services	15	18.07
Low Self-awareness	25	30.12
Preference for self-reliance	7	8.43
Dissatisfaction with the contact with mental health service/ apprehensions related to treatment	4	4.82
Stigma	10	12.05
Time constraints	15	18.07
Lack of motivation	2	2.41
Financial constraints	5	6.02

DISCUSSION

Demographic profile of PUSH-D seekers

The preponderance of young adults in the sample of individuals who expressed an interest in participating in PUSH-D (an internet based self-care program on depression) is likely to have been influenced by a) relatively high prevalence of distress and common mental health concerns in this segment of the population b) the demographics of the country that suggest a youth bulge and c) probable greater access to the internet in this population.[7,29-30]

As PUSH-D is currently available only in English, it may explain the preponderance of individuals with higher levels of education. Unlike a few other existing studies mentioned earlier, males and females were equally likely to express an initial inclination to use the PUSH-D program.

Self-reported life events and typical patterns of coping

The relationship between depression and recent life events, and especially the role of interpersonal events and loss events, is well established in the literature, however not all instances of clinical depression are preceded by a major life event.[31] Interpretation of depressive symptoms is likely to be influenced by their perceived association with life events and this in turn can influence decisions to seek help from mental health professionals.[31,32] In the present study too, presence of a major life event could be coded in 31% of participants. About half of the sample did not report major life events in the preceding 6 months. This pattern suggests that individuals experiencing depressive symptoms with as well as without preceding life events are likely to be open to/ reach out for internet based self-help for managing their distress. Similarly, it appears that self-help methods for dealing with depression may be appealing to distressed individuals with felt needs, irrespective of their satisfaction with informal support systems. A wide range of coping strategies were reported by the PUSH D seekers.

Clinical profile of PUSH-D seekers

The clinical profile of those seeking PUSH-D app suggests that 38% were experiencing a major depressive episode. Fifty six percent had chronic low grade depressive symptoms (dysthymia) not amounting to a major depressive episode. The PUSH-D announcements had mentioned the suitability of the app for milder severity of depressive symptoms. The way in which the program was publicized in conjunction with motivational factors may have resulted in a higher preference for internet based self-help program by individuals with relatively lower severity of depression as reflected in the large proportion of individuals with dysthymia.

Only about 10% had a diagnosable personality disorder, predominantly belonging to Cluster C category. Whether depressed individuals with co-morbid personality disorders and significant long standing dysfunction may prefer to avail direct face to face consultations with mental health professionals or experience low inclination/motivation to participate in an internet based self-care program requires examination. However, predominance of Cluster C disorders co-morbidity in unipolar depression is well established.[33] Almost all the participants interested in registering for PUSH–D reported not using alcohol or any other addictive substances as a way of coping with stress and substance dependence as a co-morbidity was very low. The rates of co morbidity between substance use disorders and psychiatric disorders have been observed to be lower in Asian countries than those typically reported in Western studies.[34] Reaching out to individuals with substance dependence and co-morbid depression may require internet based motivation enhancement interventions. A few studies suggest the utility of integrated approaches for such co morbidities.[35] Only 3% had other Axis I conditions without depression. This is likely to reflect successful communication through announcements that highlighted core symptoms of depression and depicted PUSH-D as a self-care program for management of depression.

Professional help seeking patterns and perceived barriers to professional help seeking in PUSH-D seekers

As per the National Mental Health Survey, one in every 20 Indians is likely to be depressed and slightly more than 80% of individuals with major depression are not

receiving any form of treatment.[19] In line with this, the present study revealed that 82% of the seekers had not contacted a mental health professional service for their current concerns and only one third reported ever having sought help from a mental health professional. The observation that the majority of those seeking registration for PUSH-D were treatment naïve and had never sought professional help earlier highlights that making a free internet based self-help intervention for depression (PUSH-D) accessible on a large scale can serve as an important avenue to reduce treatment gap in the country. Moreover, even among those who did report seeking help; several had not received any form of psychological intervention, perhaps reflecting paucity of professionals providing such services. Multiple factors have been examined in terms of their role in treatment gap, e.g. shortage of mental health professionals, lack of easy access to services, stigma, poor mental health literacy, high preference for self-reliance and informal sources of help, even when these are insufficient.[19,36-37] In the present study, an attempt was made to ascertain the reasons associated with not seeking professional help/ not continuing to avail such services despite distress. Insufficient self-awareness about having a significant mental health problem, insufficient awareness about professional services and time constraints in addition to stigma were some of the salient emergent reasons. Individuals showing inclination to use internet based self-help intervention in urban India report various reasons such as preference for flexibility of use, time constraints, desire to learn ways to prevent problems in future, perception of one's problem as low in severity and lack of access to mental health services that make a program like PUSH-D, a preferred option.[38]

Implications

Based on the observations made during PUSH-D launch, it appears that several strategies can help in increasing the uptake of this program by individuals with felt needs in the community. Availability of PUSH D in Indian languages, especially Hindi might help in reaching out to a larger segment of non-English speaking Indian population. Increase in internet accessibility might help in reaching out to retired persons/homemakers/ young student groups as well as those from lower socioeconomic strata who may currently have limited internet access.

In view of time-bound nature of the pilot study and limited resources, PUSH D was tried on a small scale on a pilot basis and despite that it could reach out to a significant proportion of distressed individuals who had never sought professional help. Various modes of announcements were used including e-mails, flyers on the Institute websites, posters on notice boards of educational institutes and announcements in two health related exhibitions in the city apart from newspaper write ups. However, the utility of audio-visual media for enhancing uptake needs examination. Also, previous research suggests that Google ads can reach out to people who are actively searching for various sources of mental health help on the internet.[20] The utility of this strategy needs to be explored in detail. Research also suggests that newspaper announcements tend to result in recruitment of participants who are older. This is difficult to establish in the present study as the different modes of announcements were not analyzed for their utility in reaching out to distressed individuals. However, surges in email requests and phone calls following appearance of newspaper write-up were seen during the active recruitment phase. This suggests the scope for using print media in a systematical manner for enhancing uptake of such self-help programs in India. Participants outside Bangalore city often reported becoming aware of PUSH-D through newspapers. It was noted that several of them came from metropolitan cities/ towns that did have local mental health services available. This again reiterates the view that mere availability of mental health services may be insufficient to ensure that these are sought by people who may be in need and highlights the role of other factors that may act as barriers to help seeking. The appeal of PUSH D may stem from convenience of use, flexibility in terms of when and how much time to invest in the program, perceptions of credibility as well as bypassing of the costs related to commuting and service charges for availing face to face consultations for depression.

A large scale uptake of PUSH-D and thereby its positive impact on reducing the prevailing treatment gap for depression in the country can be facilitated with appropriate use of social marketing principles, more widespread announcements on various platforms including social media, as well as availability of this program in major Indian languages.

CONCLUSION

The profile of individuals who expressed an interest in a newly developed internet based self-help program for depression, called PUSH-D was examined. A typical seeker of this program was a young adult, with undergraduate level of education, who had not sought professional consultation previously for mental health, experiencing major depression or dysthymia, with mild to moderate severity of depressive symptoms, and significant functional impairment. The results highlight the potential utility of PUSH-D in addressing the treatment gap for depression in the country.

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