

View Abstract

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TITLE: Exploring Perceptions of Smartphone-Based Interventions for the Prevention of Common Mental Disorders with three major Asian populations in Singapore: A qualitative study

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PRESENTATION PREFERENCE: Oral

CURRENT PRIMARY TOPIC: Mobile health

CURRENT SECONDARY TOPIC: Implementation science

ABSTRACT BODY:

Context: Common Mental Disorders (CMDs) such as anxiety and depression have a high prevalence in Singapore, especially among young adults. Evidence-based Interventions (EBIs), have been shown to be effective in the prevention of CMDs. However, limited access to smartphone-based interventions at the population level makes digital health interventions a scalable alternative for delivering mental health interventions. This study aims to explore the perceptions of university students, and mental health supporters about smartphone-based interventions for the prevention of CMDs. This study is part of the design and development process of a smartphone-based conversational agent intervention focusing on the prevention of CMDs in Singapore.

Methods: The study used the mixed method approach to collect quantitative data from a survey on sociodemographic and mental health information. Convenience sampling and snowball sampling were employed to recruit the participants. The data of the FGDs and interviews were analyzed using an inductive, reflexive thematic analysis approach using six iterative stages: data familiarization, code generation, theme development, review of candidate themes, theme refinement, and writing up. Two independent researchers analyzed the FGDs and interviews using ATLAS. Ti software. The study was conducted between September 2021 and February 2022.

Results: There were 45 university students who responded to the survey and thirty (30) who participated in six (6) Focus Groups Discussion (FGDs). The majority of the participants were Chinese (38/45, 90%). Twenty-one mental health supporters in Singapore were eligible for this study, and ten of them agreed to participate in a one-to-one interview. The majority of the mental health supporters have more than 10 years of experience (9/21, 42.9%) in the field. Most of them were counsellors (8/21, 38.1%), followed by academics (professors) (4/21, 19.1%). Six themes emerged from the qualitative analysis namely: (1) healthy lifestyle, (2) CMDs and mental health services, (3) mental health campaigns, (4) chatbot interventions, (5) app engagement features, and (6) cultural considerations.

Conclusions: Both university students and mental health supporters provided valuable insights into smartphone-based interventions for CMD prevention. They also shared potential barriers and facilitators in regards to healthy living, mental health services, and mobile interventions. Stigma played an important role in preventing students from seeking mental health services. The students seemed to trust digital resources, as evidenced by their preference to access online resources. Mental health supporters emphasized the preference for a blended approach. Results indicate that a smartphone-based conversational agent may be a viable option for the prevention of CMDs

Implications: Our findings can be used to inform the development of future smartphone-based interventions and similar initiatives that target the prevention of CMDs.

(No Image Selected)

Full Manuscript: Yes

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Exploring Perceptions of Mobile Health Interventions for the Prevention of Common Mental Disorders With Three Major Asian Populations in Singapore: A Qualitative Study

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1. Antecedents

Mental health interventions delivered via mobile technologies (mHealth) can increase access to mental health services, especially among young adults(1). The development of mHealth intervention is complex and needs to be context sensitive (2). There is currently limited evidence on the perceptions, needs, and barriers related to these interventions in the Southeast Asia context (3). This qualitative study aims to explore the perception of university students and mental health supporters on mental health services, campaigns and mHealth interventions with a focus on conversational agent CA interventions for the prevention of common mental disorders such as anxiety and depression.

2.Method

We performed six online Focus Group Discussions with university students (N=30) and one-to-one online interviews with mental health supporters (N=11). The analysis followed a reflexive thematic analysis framework (4). Ethical approval was obtained from the Institutional Review Board of the Nanyang Technological University (NTU; No. IRB-2018-11-03).

3.1.Results: Participants

Variables students		Variables mental health supporters	
	n (%)		n (%)
Gender		Gender	
Female	19 (63.3)	Female	6 (54.5)
Male	11 (36.7)	Male	5 (45.4)
Age		Working Experience	
Mean Age (SD)	22.95, (1.89)	< 1-2 years	2 (18)
Range	21-35	3-5 years	2 (18)
Ethnicity		6-10 years	2 (18)
Chinese	27 (90)	>10 years	5 (45)
Malay	2 (6.7)	Profession	
Indian	1 (3.3)	Clinical	1 (9)
		Psychologist	3 (27)
		Counsellor	3 (27)
		Faculty members	1 (9)
		Psychiatrist	3 (27)
		Others	

3.2. Results: Themes identified

Theme 1: Healthy lifestyle as students	Theme 2: Access to mental health services
<p>"I think that, like a healthy lifestyle will be across all the aspects of health that could possibly be in life, so like, physical, social, emotional, cognitive health... Then what stops me from making healthier lifestyle choices would be like, sometimes I have obligations to fulfil."</p> <p>FGD1:S001</p>	<p>"For me, I'll just most likely talk to friends who I've already established like a connection with, and like we've already talked about mental health issues before, because I feel that I'll receive less stigma lah than trying to talk to someone new" FGD3: S009</p> <p>"If it really gets very serious, then that's when I'll take like therapy or counselling, where it's like a, you know, third party." FGD6: S013</p>
Theme 3: Roles of mental health promotion campaigns	Theme 4: Preferred mHealth engagement features
<p>"I think the programs, the mental health awareness, uh the programs that they bring, they help in terms of like, bringing up, uh, like, for example they... they ... disprove the stigma ... of those with mental health, uh, issues."</p> <p>FGD6:S018</p>	<p>"When you compared to Lumihealth, they do have challenges, but you don't really know what you are doing the challenges for. Of course, you are doing it for own health, but then, it did not feel like very significant... So like if, like these challenges maybe there's like a simple, like story behind it, something that will engage the users right, then at least it would, it would like, it would stay in their heads for longer and so they would be more likely to log back in to that." FGD2:S021</p>
Theme 5: Factors influencing the adoption of mHealth interventions	Theme 6: Cultural relevance in the design and development of mHealth intervention
<p>"Personally, I would prefer something that is more specific, because then it feels like the chatbot like understands what I'm going through and is able to speak to my specific situation, but I feel like that might not work if it needs to be suitable for a large audience."</p> <p>E017, Mental Health First Aider</p>	<p>"The more relatable the chatbot seems, the more effective it is likely to be. I'm reminded of a telegram bot, I think, that was made by a local and let me see... I believe the telegram what was programmed so that it will respond in a very Singlish manner"</p> <p>E019, Associate Psychologist</p>

4.Conclusions and recommendations

- Our findings show that students were reluctant to use mental health services due to concerns such as fear of stigma and a potential lack of confidentiality. .
- mHealth interventions for mental health were seen as important primarily as a part of a blended intervention
- mHealth interventions for mental health should be personalised and able to manage adverse events such as suicidal ideations.

- Delivery format of the intervention [e.g. standalone only or with human support (hybrid)]
- Engagement feature of the intervention [e.g. gamification, rewards, reminders, story-based design]
- Presentation of the CA within the intervention [e.g., tone of the dialogue, content of the dialogues]

Areas of improvement

- Remote human support in-app (hybrid system)
- Embedding the intervention within healthcare system
- Gamification elements e.g., point-based system for completing modules
- Including shared narratives via story-driven intervention
- Include referrals information to public or private mental health institutions

Recommendations

- Lack of "human-touch" in CA-delivered mHealth
- The perception that the intervention could be used as a bridging service toward professional mental health support
- Participants' preference for novel and intrinsic elements in CA intervention
- Normalization of mental health issues via public mental health campaigns

Barriers and facilitators

- Mindfulness, CBT, Psychoeducation
- Transdiagnostic approach
- Blended approach
- contextualized narratives such as transitioning to university/working adult life
- Inclusion of colloquialism and local slang ('Singlish')
- Defining CAs personality and conversation style

Content recommendations

(FHT) FUTURE HEALTH TECHNOLOGIES

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