Usability and Acceptability of S-Check App

Usability and Acceptability of S-Check App: A Harm Reduction and Early Intervention Smartphone Application to Engage People Who Use Methamphetamine and are Not-In-Treatment

Daniel Herman [1, 2], Madeleine Ferrari [2], Alex-Moran Pryor [3], Victoria Malone [1], Nadine Ezard [1, 3]

[1] St Vincent's Hospital Sydney, New South Wales, Australia, [2] Australian Catholic University, Strathfield, New South Wales, Australia, [3] University of New South Wales, Kensington, New South Wales, Australia

Introduction

★ Methamphetamine (MA) use is associated with a number of physical, psychological and social health concerns.

★ Many people who use MA do not identify associated problems or seek professional help.

★ Barriers to traditional treatments include self-perceived non-problematic use, privacy and confidentiality concerns, time demands, poor treatment availability, and difficulty gaining admission to programs.

★ A new smartphone application (app), the S-Check App, was developed to address barriers to treatment.

★ The S-Check App is based on the Stimulant Check-Up Clinic – a 4 session comprehensive biopsychosocial health 'check-up' (screen) where people can explore the impact stimulant use has on their health and day to day functioning.

Aim

★ Evaluation of the usability and acceptability of mobile health (mHealth) apps can help to ensure that interventions are adapted to the users and facilitate a fundamental step in the user centred design process.

★ **Usability** = is the degree to which a system is effective, efficient, and favours positive attitudes and responses from the intended users.

★ **Acceptability** = the degree that people are comfortable or at ease with a service and willing to use it. Acceptability has been found to be an important determinant of intentions to use online mental health resources.

★ Qualitative research has previously been used to engage small or vulnerable populations in mHealth research and design.

★ **Study aim** = Explore the acceptability and usability of a harm reduction and brief intervention smartphone app (S-Check App) to individuals who use MA and are not currently accessing treatment.

Method

★ Participants 18 years or older, MA use in previous 3 months, no counselling for MA use.

★ App used for 15 minutes (+mins if requested)

Measures

★ Mobile Application Rating Scale: user version (**uMARS**) = 20 item measure designed to obtain user feedback on the quality of mHealth apps.

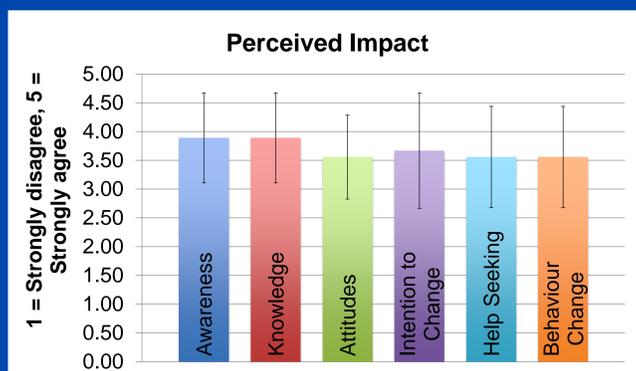★ **Semi-structured interviews:** thematic analysis.

Results

Descriptive statistics for participants and the uMARS are reported, including a total measure of app quality, the four subscales (engagement, functionality, aesthetics, and information), and its perceived impact.

Participants

★ Age – Mean = 33.57, SD = 3.82

★ Gender – Female = 3, Male = 5, Non binary / intersex status = 1

uMARS – App Quality Ratings

Quality Ratings
(1 = Inadequate, 5 = Excellent)
Engagement, Functionality, Aesthetics, Information, Overall Quality Score

DASHBOARD
YOUR PIE
SEX
SEXUAL HEALTH
Let's drill right into the nuts and bolts of your Sexual Health
Your sexual behaviour is regarded as high risk. It's important to get a sexual health check asap!
START SELF ASSESSMENT
JOURNAL   RESOURCES   CHECK IN   ACHIEVEMENTS   HELP NOW

S-Check App – SELF-ASSESSMENT

Methamphetamine Use
[Frequency, amount, previous treatment, Severity of Dependence Scale (SDS)]

Physical Health
[Routes of administration, family history, polysubstance use]

Sexual Health
[Risky sexual practices, Chemsex]

Social Health & Lifestyle
[WHO Quality of Life Scale, S-Check psychosocial assessment]

Psychological Wellbeing
[Mood rating, WHO Well-being index, K10, PHQ-9 (depression), GAD-7 (anxiety)]

Cognitive Health
[General functioning, Quality of Life in Neurological Disorders – cognitive function, PQ-16 (psychosis screener)]

MY THINKING
OVERVIEW
COGNITIVE HEALTH
REALITY CHECK
You've reported experiencing a number of symptoms that mean you're at risk of developing psychosis. To help prevent any associated harms or ongoing issues, it's important that you seek further support from your G.P. or another health professional.

You've finished the My Thinking section, now try one of the other sections.
OK
No   YES

Perceived Impact

Perceived Impact
(1 = Strongly disagree, 5 = Strongly agree)
Awareness, Knowledge, Attitudes, Intention to Change, Help Seeking, Behaviour Change

Themes and Associated Subthemes

Thematic analysis generated three main themes related to participant's experience of the S-Check App, reported here with selected supporting interview extracts.

★ **Initial Impressions:** attitudes towards practical elements of the S-Check App, representing surface level engagement and relating to the look and feel of the app.

Associated subthemes:
- Aesthetics
- Functionality

"It is fairly easy, pretty straightforward, um, it does take a few moments to figure out where you should be putting stuff." **[Participant 3]**

★ **Perceived Impact:** aspects of the intervention that facilitated an increase in participant's awareness and insight into problems associated with their MA use, representing a deeper level of engagement with the app and providing feedback on participant's experience of the app as an intervention tool.

Associated subthemes:
- Consciousness Raising
- Objectivity
- Treatment

"Doing the questionnaires it kind of gives you a bit of like – it makes you stop and think…it is like a bit of self-reflection I guess. Like, 'oh yeah, maybe I have been not sleeping well for the past week..." **[Participant 6]**

"And the feedback you got after completing the assessment section, some of it was freaky! [laughs]. With the sexual health man, I want to get tested ASAP you know? And I thought, wow!" **[Participant 2]**

★ **Broader Relevance:** relates to predicted future engagement with the app, such as why the app would be useful for them, when they may use it, who else may benefit from using the app and how it compares to other healthcare treatments they have engaged with.

Associated subthemes:
- Relevance to Self and Others
- Comparison to Traditional Treatment

"Yeah, I mean I've been asked those questions before, you know the rehabs and stuff like that [for primary opiate use], and I didn't even think about them when they were asking me… it's always a generic box of questions…But doing it on the phone sort of confronts you a bit more. And to come up with an answer saying 'you need help'. And it is sort of like, 'Oh, why didn't they say this last time?" **[Participant 5]**

Conclusion

★ Preliminary evidence that the S-Check App is both a usable and acceptable means of engaging people who use MA and are not receiving counselling treatment.

★ Potential as a harm reduction and early intervention tool through supporting MA users to identify problems associated with their use and facilitate their movement toward change, including seeking further treatment.

★ Minor developments to the app are needed to enhance its usability and consumer engagement.

★ The current study provides the first step in the development an evidence based mHealth intervention for people using MA.

Future Directions

★ Capable of engaging a broader range of people who use MA?

★ Feasible intervention in a real-world context?

★ Promotes helpful behaviour change, where appropriate?