Co-designing a conversational AI-driven single session assessment and psychoeducation intervention for eating disorders

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1 INTRODUCTION

Eating disorders (EDs) are some of the most deadly psychiatric illnesses, impacting over 1 million Australians. Single session interventions, which include both a comprehensive assessment of patient's concerns around eating, and an evidence-based, psychoeducational intervention on the physical and mental health risks of ED behaviours, have been shown to reduce treatment waitlists and patient ED symptoms [2]. However, there is a significant lack of trained health professionals to deliver single sessions as well as ongoing treatment. This issue has been further exacerbated by the COVID-19 pandemic with waitlists commonly more than 12 months long. Available online intervention services for EDs, such as "Recovery Record" app, are lacking interactive conversational capabilities and are usually an addition to in-person treatment rather than a stand-alone intervention. In order to reduce time spent on treatment waitlists and to reduce the development of early ED symptoms, we propose to co-design an ED focused digital intervention, delivered by a conversational AI-driven chatbot in an empathic and non-threatening manner.

2 OBJECTIVE

Our overall aim is to create a chatbot that will deliver a single session intervention (SSI) of guided assessment and psychoeducation for EDs across the diagnostic spectrum. This novel service aims to reduce treatment waiting times, increase the likelihood of patients entering treatment, and facilitate early reductions in ED symptoms. The chatbot will also be available 24/7 and free of charge, making it highly accessible.

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3 PILOT STUDY

The Monash University team has previously co-designed a pilot chatbot KIT, which was hosted on the website of an Australian mental health charity. KIT is a generic chatbot focuses on body image and eating issues. The web chat interface has been shown to be useful to users with EDs [1]. In this research, the design and development of SSI chatbot builds extensively upon existing KIT capabilities in delivering general information, but augments KIT via providing multi-round, personalised and curated dialogues with individuals, who need to be referred by a General Practitioner and on a waitlist at a psychology clinic in order to access the new service.

4 CURRENT RESEARCH

This SSI co-design research has followed the UK Design Council's double diamond process that includes four phases of discover, define, develop and deliver. In the first phase, we interviewed both health practitioners and people with a lived experience of an eating disorder (n=12) in order to understand the perceived acceptance of the chatbot concept for SSI. In the second phase, a series of iterative co-design workshops were conducted with health practitioners and lived experience participants (n=12), which defined user characteristics, evidence-based content suitable for SSI, possible chatbot functions, as well as potential dialogues and appropriate language to use. We're now in the third phase of developing and testing the chatbot design solution. Informed by the conducted design activities such as persona co-creation, user journey validation and feedback on mocked dialogues, we are now able to prototype, test and experiment a web chat interface that can actively engage users in the designated journey of SSI through empathic and safe natural language conversations. The resulting SSI chatbot will be firstly piloted in real clinical settings in 2023 supported by a private psychology clinic in Western Australia (Swan Centre).

5 FUTURE WORK

Future research will explore the application of generative AI in creating empathetic responses during SSI. Our current approach provides a limited number of predefined responses based on heuristics. However, recent advances in Large Language Models like ChatGPT shows that it is possible to generate fluent, relevant, empathetic and clinically meaningful responses based on edited conversational histories by using deep generative models. It is imperative to discover how empathic capability of such AI can contribute to the timely treatment of eating disorders.

ACKNOWLEDGMENTS

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