Title: Assessing the acceptability of a text messaging service and smartphone app to support patient adherence to medications prescribed for high blood pressure.

Problem: Currently in England, over 13.5 million adults are diagnosed with hypertension (high blood pressure; HBP; Public Health England, 2015), and approximately 41% of patients with HBP do not take their medication as prescribed (Chowdhury et al., 2013). Non-adherence to medication reduces the effectiveness of treatment; costing the NHS £390 million per year (York Health Economics Consortium & School of Pharmacy, 2010). GP practitioners have an important role in advising patients, but their time is limited and expensive (Kassavou & Sutton, 2017). One low-cost way to address non-adherence is to provide patients with digital intervention (DI) targeting non-adherent HBP patients.

Approach: The pre-testing study aimed to test the acceptability of the DI with patients diagnosed with HBP. 22 participants tested the DI for 28 days. This study used a unique data collection method of conducting weekly telephone interviews with most participants (as opposed to the more traditional method of conducting one interview at the end of the trial), which resulted in capturing much richer qualitative data. Quantitative data were also collected in the form of follow up questionnaire responses and user log files from the DI.

Findings: Three main themes were uncovered during thematic analysis: 1. Acceptability of the DI for patients diagnosed with HBP; 2. Overcoming stigma, enhancing empowerment and ownership of HBP; and 3. Recommendations to improve the acceptability of the DI. Qualitative results are supported by quantitative data extracted from follow up questionnaires and log files. This study provides evidence that the DI is acceptable by hypertensive patients and thus should be tested for effectiveness and cost-effectiveness in subsequent trials. We found features which encourage self-report of whether or not the target behaviour was performed were particularly effective.

Implications: This mixed methods study suggests the content of this novel DI is acceptable by patients with HBP, and that the two delivery mode options are also acceptable by patients. This means that, for the first time, a DI has been found to be acceptable by patients non-adherent to their prescribed medications. If subsequent effectiveness trials are successful, this intervention could change the course of NHS best practice for patients with long term health conditions.

Furthermore, weekly interviews allowed us to reach data saturation more explicitly and quickly than using the traditional hour-long interview at the end of the trial. This is a data collection technique that was highly effective in our study, but of the present has no literature comparing this method to more traditional qualitative data collection methods. The impact of collecting data from weekly interviews could be huge if used more frequently by researchers, as it builds a higher level of rapport with patients, which has been found to capture richer data from participants (Gill, Stewart, Treasure, & Chadwick, 2008).

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