Mobile Health Apps: Can Behaviour Be Changed?
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Background
- There is an opportunity to use mobile health apps to change behaviour relating to health.\textsuperscript{[1]}
- There are 93 identified Behaviour Change Techniques (BCTs).
- 7 respiratory apps were selected to determine which BCTs were used.

Methods
- Develop a Behaviour Change Technique Taxonomy (BCTT) Study Protocol
- Identify 7 Respiratory Apps
- BCT Training for Coders
- Code Apps and Assess Inter-Reliability
- Develop Recommendations for the Redesign of the Apps

Results
- BCTs were not demonstrated in majority of the apps, instead most focused on data collection.
- There was not a good selection of apps to analyze regarding respiratory diseases.
- 18 BCTs were identified within the apps.
- There is an opportunity to improve the current apps to change behaviour and increase usability.

Discussion & Conclusion
- 10 of the 17 most common BCTs were randomly chosen to demonstrate the opportunity for improvement in respiratory apps. In redesigning an app for respiratory behaviour change, the following are examples:

**Behavioural Rehearsal**
- A video that demonstrates a person doing a breathing exercise that prompts the user to rehearse the breathing exercise.
- Provides feedback on behaviour.

**Feedback on Behaviour**
- Provides information about the health consequences of not taking their respiratory medication, such as an inhaler.
- Alerts the user to record, in a daily diary, their completion of their peak flow.
- Prompts the user to set a respiratory goal such as, doing 3 breathing techniques everyday to make respiratory distress less likely.
- Goals are displayed in a graph that compares the user’s performance to their goals. The user is then asked whether they would like to modify their goals.

**Support Group**
- The user is connected to an online support group for patients with asthma to talk about how to reduce stress.

**Material Reward (Behaviour)**
- A credit is deposited every month when breathing exercise goals are achieved.

**Interventions**
- A notification appears telling users that completion of XX more breathing exercises this week will result in receiving their material reward.

**Action Planning**
- Triggers are identified that could impact respiratory health. Suggestions for avoiding or minimizing their triggers are supplied, which the user incorporates into a daily management plan. For example, if the air quality is poor today, the app could provide different options on how to approach the activities for the day.

Future Work
- Incorporate the BCTs into respiratory apps.
- Test to determine if the BCTs incorporated into apps changes the users behaviour and if users continue using the app.

References

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