

Effect of behavioral weight management interventions using lifestyle mhealth self-monitoring on weight loss: A systematic review and meta-analysis

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Alongside an increase in obesity, society is experiencing the development of substantial technological advances. Interventions that are easily scalable, such as lifestyle (including diet and physical activity) mobile health (mHealth) self-monitoring, may be highly valuable in the prevention and treatment of excess weight. Thus, the aims of this systematic review and metaanalysis were to estimate the following: (i) the effect of behavioral weight management interventions using lifestyle mHealth self-monitoring on weight loss and (ii) the adherence to behavioral weight management interventions using lifestyle mHealth self-monitoring. MEDLINE via PubMed, EMBASE, the Cochrane Central Register of Controlled Trials and the Web of Science databases were systematically searched. The DerSimonian and Laird method was used to estimate the effect of and adherence to behavioral weight management interventions using lifestyle mHealth self-monitoring on weight loss. Twenty studies were included in the systematic review and metaanalysis, yielding a moderate decrease in weight and higher adherence to intervention of behavioral weight management interventions using lifestyle mHealth self-monitoring, which was greater than other interventions. Subgroup analyses showed that smartphones were the most effective mHealth approach to achieve weight management and the effect of behavioral weight management interventions using lifestyle mHealth self-monitoring was more pronounced when compared to usual care and in the short-term (less than six months). Furthermore, behavioral weight management interventions using lifestyle mHealth self-monitoring showed a higher adherence than: (i) recording

on paper at any time and (ii) any other intervention at six and twelve months. © 2020 by the authors.

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MHealth

Obesity

Self?monitoring