



Introduction

Uncontrolled hypertension is a public health issue, with increasing prevalence worldwide. The Dietary Approach to Stop Hypertension (DASH) diet is one of the most effective dietary approaches for lowering blood pressure (BP). Dietary mobile applications (apps) have gained popularity and are being used to support DASH diet self-management, aiming to improve DASH diet adherence and thus lower BP.

Objective

To assess the effectiveness of smartphone apps that support self-management to improve DASH diet adherence and, consequently, reduce BP, as well as assess user engagement, satisfaction and acceptance, and usability related to DASH mobile app use.

Results

All studies found a positive trend related to the use of DASH smartphone apps, but the three RCTs had a high risk of bias, and one was still under review. One pre-post study had a high risk of bias, the other a low risk. All the apps appeared to be accepted and easy to use in all the examined studies.

Contact

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Methods

Databases: EMBASE (OVID), Cochrane Library, CINAHL, Web of Science, Scopus and Google Scholar. Search terms: dietary approaches to stop hypertension, DASH diet, smartphone apps.

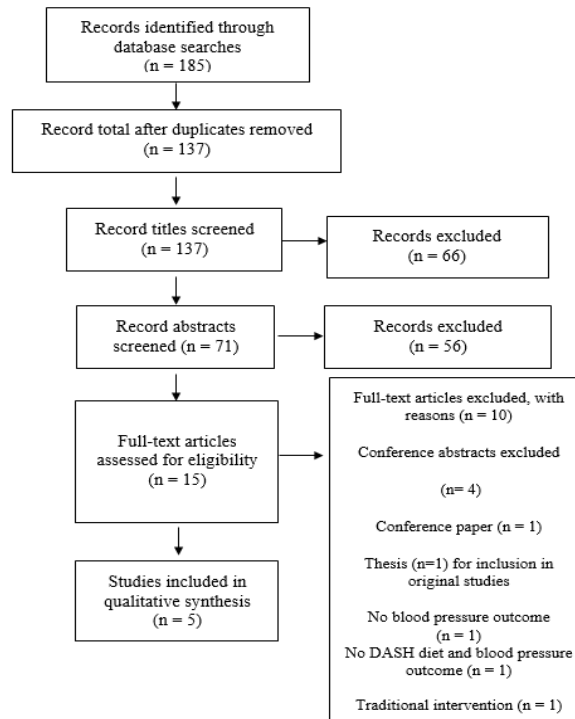


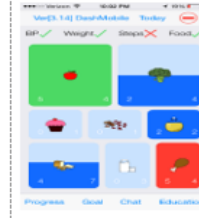



Figure 1, PRISMA flow diagram

Table 1. App characteristics

Name of app	Type of app	Picture	App description	Additional Intervention Functionalities
Noom Healthy weight loss and more	Commercial		Self-management Educational information Feedback – motivation message Goal setting – reminder	communication with coach by phone call
Nutritionix	Commercial		Diet self-management	Educational information by video and DASH booklet Feedback – motivation message communication with research team
DASH mobile	Non-commercial apps		Self-management Educational information Feedback – motivation message Goal setting	communication with coach by email, SMS, text message
DASH-related recommendations	Non-commercial apps	Not available	Educational information	Feedback – text message as reminder communication with research team by phone
Blood Pressure Management Application (BPMAP)	Non-commercial apps		Self-management Educational information Feedback – motivation message reminder	-----

Conclusion

There is weak emerging evidence of a positive effect of using DASH smartphone apps supporting self-management to improve DASH diet adherence and, consequently, lower BP.