Sigma's 30th International Nursing Research Congress
A Systematic Review of mHealth-Based Interventions in Coronary Heart Disease Management
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Background: The rapidly growing of mobile phones makes it an ideal care management for delivering interventions. Focus on Coronary heart disease (CHD) interventions, in which mHealth-based CHD interventions are popular in telephone-based.

Purpose: This systematic review examined the impact of mHealth-based CHD management interventions on CHD outcomes. The specific aims of the systematic review are to (1) describe current mHealth-based CHD interventions and (2) discuss the impact of these interventions on CHD outcomes.

Methods: PubMed, CINAHL Plus, EMBASE, PsycINFO, and Scopus were systematically searched for randomized controlled trials used mHealth interventions, which used the PICO approach provides structure for formatting research questions for systematic review. Studies were included the following criteria: (1) the studies used randomized controlled trial (RCT) design, (2) the intervention instrument used the mobile device, (3) included CHD patients above 18 years old, (4) required full text, (5) published between 2013/6 to 2018/6, and (6) published in English. Studies were excluded if they tested a telehealth or telemedicine-based intervention and only had abstracts or study protocols available. The appraisal tool used the Cochrane Collaboration’s tool (RoB 2.0) for individually randomized, parallel group trial study design.

Results: The initial database search yielded 49 articles. Thirty-four abstracts after duplicates were removed and closed reading. Following the abstract review and filters, activated excluded criteria of 23 articles, selected full-text evaluations of 11 articles. Finally, excluded 7 studies which were not met the criteria again. As such, a total of 5 articles was included in this systematic review. Over reviewed the results of the bias risk assessments which was some concerns to high. Although two articles had some concerns of bias in all categories, three of articles had high risk for bias. Some of the articles were not mention enough information to evaluate the risk of bias. The majority of the studies utilized mobile text messages. The common impact of outcome variable reported medication adherence, which improved after the intervention. Most of the studies were significantly in the intervention of text messages, although different outcome measurements, however, there is a definite need for more studies examining how varying intervention dosages affect outcomes. In addition, the interventions were less to use mobile app to manger the patients’ CHD status. Furthermore, applying relevant theories to m-Health interventions was particularly important which lead to well developed intervention strategies and better outcomes. The most frequently used theory was the health belief model and behavior change that supported mHealth interventions, but there was only one study based on self-efficacy theory by Bandura.

Conclusions: Findings from this systematic review suggest that further studies are critically needed to conclusively determine the impact of mHealth interventions on CHD
outcomes. Researchers should consider the limitations of the current studies when designing future studies. In addition, researchers should involve representatives of their target population in the design mobile application (app) stage in order to inform the design of their patient device interface considering to develop acceptable mHealth interventions.

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Keywords:
Coronary heart disease, Disease management and mHealth

References:


**Abstract Summary:**

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**Content Outline:**

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parallel group trial study design. Results: five articles obtained in this review. The majority of the studies utilized mobile text messages. The common impact of outcome variable reported medication adherence, which improved after the intervention. Conclusions: further studies are critically needed to conclusively determine the impact of mHealth interventions on CHD outcomes. The limitations of small number of systematic review included.

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