

EVALUATION OF MOBILE EXERCISE PRESCRIPTION APPLICATIONS FOR ADULTS WITH CARDIOVASCULAR RISK FACTORS

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Nearly 50% of American adults live with one or more cardiovascular disease (CVD) risk factors, for which exercise is recommended as a key lifestyle intervention. Yet, clinicians lack guidance on how to design an exercise prescription (ExRx) for patients with CVD risk factors. **PURPOSE:** To conduct a systematic review to determine if evidence-based exercise apps exist that clinicians can use to prescribe individualized ExRx for this patient population.

METHODS: Apple Store and Google Play were searched for exercise apps with terms related to exercise and health. Exercise apps were eligible if they: 1) had ≥ 4 out of 5 overall rating based on ≥ 1000 reviews; 2) were free to download; and 3) were not gender specific. Exercise apps were evaluated via the ExRx standards set by the American College of Sports Medicine (ACSM). The exercise app evaluation criteria were: 1) was evidence-based; 2) provided pre-participation screening; 3) built a CVD risk factor profile; 4) focused on at least one chronic disease or health condition; 5) framed the ExRx by the frequency, intensity, time, and type (FITT) principle; and 6) specified special considerations.

RESULT: Of 488 potential apps, 173 qualified. Of these, only 27.7% built the CVD risk factor profile. Most focused on body composition (63.5%), exercise performance (5.4%), or both (3.4%). Only 4.7% focused on a chronic disease or health condition, while the remainder did not specify their focus (25.7%). Just 9.2% framed the ExRx by FITT, while 52.1% included some component of the FITT and 34.7% did not integrate FITT. The exercise apps were rarely evidenced-based (8.8%), provided pre-participation screening (5.4%), or specified special considerations (1.3%). Overall no app met the ACSM ExRx standards.

CONCLUSION: We did not find a single evidence-based app that guided clinicians on how to design a personalized ExRx for adults with CVD risk factors. Thus, there is a need for a mobile ExRx app for this patient population that has the potential to be used for other chronic diseases and health conditions.