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Conference Abstract

Smartphone Breast Apps – is the evidence racking up?

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Abstract

Introduction: Mobile phones have become a ubiquitous technology. Earlier handsets have been replaced by more sophisticated devices called smartphones, which are capable of running standalone software applications (apps). There are currently around 100,000 healthcare apps available for smartphones and their use in clinical practice is increasing. Apps have been reviewed in many medical specialties. Despite the high prevalence of breast disease, apps have not been reviewed in this field. We evaluate breast apps with emphasis on their evidence base (EB) and medical professional involvement (MPI).

Methods: Relevant apps were identified by searching the four major app stores using the most prevalent terms relating to breast presentations (breast lump, breast mass, breast pain, mastalgia, nipple discharge, galactorrhoea, and breast augmentation were used) and diseases (breast cancer, fibroadenoma, fibrocystic breast disease, fibroadenosis, breast cysts, gynaecomastia, mastitis, breast abscess, and Paget's disease). Only apps in English and primarily focusing on breast disease were included. Breast feeding apps were excluded. Data for apps was extracted from app store overviews and publisher websites and included 1) app store category, 2) year of release 3) price, 4) target consumer, 5) focus of the app, 6) main functions, 7) documentation of EB, 8) documentation of MPI, 9) safety concerns, 10) number and length of written reviews, and 11) number and score of star rating reviews.

Results: One-hundred-and-eighty-five relevant apps were reviewed. The majority were targeted at the public (n=135, 73.0%) and focused on breast cancer (n=139, 75.1%). Apps demonstrated 16 different functions the most common being educational (n=94), self-assessment (n=30), breast cancer awareness (n=30), clinical guideline (13), and appointment reminder tools (n=8). EB and MPI was identified in 14.2% and 12.8% of apps respectively. Potential safety concerns were identified in 29 apps (15.7%). Sixty-eight apps (36.8%) were star rated and 40 (21.6%) were given a written review. The mean length of written review was 13.2 words.

Discussion: Smartphone and app technologies offer huge potential in healthcare. A diverse range of functions were demonstrated in this review but there was a concerning lack of EB and MPI in development. Of note, 26 of 30 apps teaching breast self examination had no EB or MPI thereby potentially teaching incorrect examination techniques with consequent delays in the detection of

abnormalities and diagnosis. Two apps connected users to a healer who claimed to remotely heal cancers potentially delaying delivery of evidence-based treatments. Such apps highlight the need for regulation. Furthermore deficiencies in app store review processes (star rating and written reviews) identified through this study highlight the need for alternative and more effective methods of app evaluation. For smartphone and healthcare apps to reach their full potential consumers need a robust method for readily identifying those of higher quality from the thousands available.

Keywords

breast; apps; smartphone; mhealth; mobile health

PowerPoint presentation:

https://www.conftool.pro/digital-health-care-2014/index.php?page=adminPapersDetails&path=adminPapers&form_id=146
