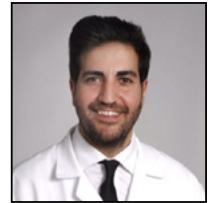# Medical Mobile Applications for Stroke survivors and caregivers

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Abstract

Background: Recent studies estimate nearly half of the US population can access mobile medical applications (apps) on their smartphones. There are no systematic data available on apps focused on stroke survivors/caregivers.

Objective: To identify apps (a) designed for stroke survivors/ caregivers, (b) dealing with a modifiable stroke risk factor (SRF), or (c) were developed for other purposes but could potentially be used by stroke survivors/caregivers.

Methods: A systematic review of the medical apps in the US Apple iTunes store was conducted between August 2013 and January 2016 using 18 predefined inclusion/exclusion criteria. SRFs considered were: diabetes, hypertension, smoking, obesity, atrial fibrillation, and dyslipidemia.

Results: Out of 30,132 medical apps available, 843 (2.7%) eligible apps were identified. Of these apps, (n = 74, 8.7%) apps were specifically designed for stroke survivors/ caregivers use and provided the following services: language/speech therapy (n = 28, 37%), communication with aphasic patients (n = 19, 25%), stroke risk calculation (n = 11, 14%), assistance in spotting an acute stroke (n = 8, 10%), detection of atrial fibrillation (n = 3, 4%), direction to nearby emergency room (n = 3, 4%), physical rehabilitation (n = 3, 4%), direction to the nearest certified stroke center (n = 1, < 2%), and visual attention therapy (n = 1, <2%). 769 apps identified that were developed for purposes other than stroke. Of these, the majority (n = 526, 68%) addressed SRFs.

Conclusions: Over 70 medical apps exist to specifically support stroke survivors/caregivers and primarily targeted language and communication difficulties. Apps encompassing most stroke survivor/caregiver needs could be developed and tested to ensure the issues faced by these populations are being adequately addressed.

Biography:

Pirouz Piran is currently serving as a clinical and research neurocritical care fellow physician at the Johns Hopkins University hospital. He finished his vascular neurology fellowship training at the Weill Cornell Medical Center in New York City. His neurology residency training was at the Cleveland Clinic in Florida where he served as the chief resident during his final year. He received his medical degree from Behshti University of Medical Sciences in Tehran, Iran. He Piran is currently serving as a clinical and research neuro-critical care fellow physician at the Johns Hopkins University hospital. He finished his vascular neurology fellowship training at the Weill Cornell Medical Center in New York City. His neurology residency training was at the Cleveland Clinic in Florida where he served as the chief resident during his final year. He received his medical degree from Behshti University of Medical Sciences in Tehran, Iran. Piran's research work has been mainly focused on ischemic and hemorrhagic strokes. And his area of interest is to individualize treatment of emergent neurological diseases based on patient's unique characteristics. His current research focus is noninvasive measurement of intracranial perfusion.

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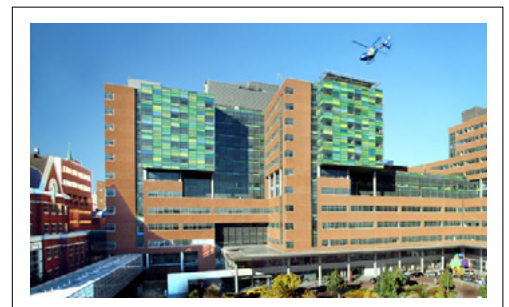
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