BOHR International Journal of Current Research
in Optometry and Ophthalmology
2023, Vol. 2, No. 1, pp. 33–34
DOI: 10.54646/bijcroo.2023.30
www.bohrpub.com

EDITORIAL

Smartphone – a third eye of people with blindness

Suraj Singh Senjam* **and Abhijeet Beniwal**

Dr. Rajendra Prasad Centre for Ophthalmic Sciences, All India Institute of Medical Sciences, New Delhi, India

***Correspondence:**
Suraj Singh Senjam,
drsurajaiims@gmail.com

Received: 26 May 2023; **Accepted:** 31 May 2023; **Published:** 21 June 2023

Keywords: smartphones, assistive technology, visual impairment

Introduction

In the current plethora of the digital world, smartphones have become an integral part of our lives and act as an essential supportive device in executing daily living activities. Until now, most of us believe that smartphones are devices meant for people with a good sight and are not considered assistive devices for visually impaired individuals. It may not be an incorrect statement, particularly in lower-middle-income countries. It is a common presumption that the use of smartphones would need a good vision function, or how can they be used by people with vision loss? However, in the recent past, technological advancement has led to makeshift changes in the interfaces between humans and smartphones in terms of interaction. Instead of relying on vision function, gestures, and even sound, one can interact with a smartphone. For this, various special apps named third-party accessible applications are being developed by many computer engineers and information technology experts or designers. For example, the MANI (Mobile Aided Note Identifier) application helps to identify bank notes. The InstaReader or KiBo accessible app helps to read print materials by converting text to speech. The K-NFB reader converts text to braille or speech, improving access to mail, bills, medical reports, etc. (1, 2) Therefore, using such special accessible apps, a blind person can access print materials even if they are not braille texts. In addition, there are built-in features of smartphones, the so-called screen readers, such as TalkBack in Android and VocieOver in IoS phones, which further help to access various contents and information present in smartphones. In this way, a smartphone can act as a third eye for blind users. Among all smartphone users, including visually impaired people, these features would help them enhance their social participation, networking, and connectedness with the rest of the world.

Established assistive devices like magnifiers and Braille materials pose several barriers to their use in terms of cosmetically low preferences as well as bulkiness and weight of the devices. Its use may be associated with social stigma since the person stands out or is easily noticeable among the crowd. There is a high discontinuance rate of these traditional assistive devices among end users (3). On the contrary, smartphone use, since it is a universal design device, is less likely to draw attention from the public and hence is more acceptable socially and personally. Smartphones have also become very important devices to access information among the visually impaired during the COVID-19 pandemic (4).

Unfortunately, awareness about the utility of smartphones and their various accessible applications among blind users is lacking in lower-middle-income countries, even among healthcare providers (5). Therefore, it requires sensitizing end-blind users as well as healthcare providers in India as well. The government can lead various special initiatives under the National Program for Control of Blindness and Visual Impairment, Ministry of Health and Family Welfare to improve awareness and the importance of smartphone use for blind users. In terms of designing, it also needs collaboration between eye care professionals or providers and technology experts in terms of developing innovative, adaptable, and user-friendly smartphone special apps.

References

1. Hakobyan L, Lumsden J, O'Sullivan D, Bartlett H. Mobile assistive technologies for the visually impaired. *Survey Ophthalmol.* (2013) 58:513–28.
2. Martiniello N, Eisenbarth W, Lehane C, Johnson A, Wittich W. Exploring the use of smartphones and tablets among people with visual impairments: Are mainstream devices replacing the use of traditional visual aids? *Assist Technol.* (2022) 34:34–45.
3. Sugawara A, Ramos V, Alfieri F, Battistella L. Abandonment of assistive products: Assessing abandonment levels and factors that impact on it. *Disabil Rehabil Assist Technol.* (2018) 13:716–23.
4. Senjam S. Smartphone: A smart assistive device for people visual disabilities among COVID-19 pandemic. *Indian J Public Health.* (2022) 66:223–5.
5. Senjam S, Foster A, Bascaran C, Vashist P. Awareness, utilization and barriers in accessing assistive technology among young patients attending a low vision rehabilitation clinic of a tertiary eye care centre in Delhi. *Indian J Ophthalmol.* (2019) 67:1548.