

# MOBILE LIBRARIES (M-LIBRARIES) IN HEALTH SCIENCE ENVIRONMENT: AN OVERVIEW OF WEB-BASED INFORMATION RESOURCES GOING ON MOBILE

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## ABSTRACT

This research work elaborates on web-based mobile information resources of health science that have led to improved information and library services in the medical/health discipline. Mobile technology has changed the information-seeking behavior of the users and services being provided by the librarians also making substantial inroads inpatient care and diffusion of health care information. It is changing the way health sciences professionals gain information. They use mobiles and other handheld devices to do things like accessing medical records, getting information on medicine, providing remote patient care through telemedicine facilities, and accessing health care literature due to library resources are increasingly available via either mobile applications or mobile websites in health science. This paper will be helpful to clinicians and other medical science concerned working in remote places to keep abreast with the recent advances in their respective fields by enabling them to access the information at the press of a button on mobile or handheld devices. How much mobile information sources have been used with the provision of Mobile-libraries has also been discussed.

**Keywords:** Mobile Libraries (M-Libraries), Health Science libraries, E- resources

## 1. INTRODUCTION

More and more people accessing the internet from their pocket PCs and mobile phones, libraries are investigating ways to deliver their services to mobile phones and other small-screen devices so their customers can access them any time anywhere[1]. Mobile phones have a function in all aspects of life, and their use is increasing dramatically as well as in clinical routine have the potential to greatly improve the communication, facilitate information access, eliminate double documentation, and increase the quality of patient care in the long run[2]. So the use of mobile devices such as cell phones, iPhones, and Blackberries concerning academic mobile library services is growing [3].

An informally Mobile Libraries (M-Libraries) is a managed collection of information, with associated services, where the information is stored in digital formats and accessible over a mobile phone and combining an on-site collection of current and heavily used materials in mobile form available access by mobile format and mobile-process able to form and the functions of acquisition, storage, retrieval, access, and display are carried out through the use of mobile technologies. At present many libraries in western countries are providing various information services and making access to reference sources available on mobile devices for their users. Using a mobile device the library client of 2013 will be able to: search the library catalogue, select material based on reviews and ratings by fellow clients and view full-text online resources, and reserve print materials [4]. Present trends in mobile tools and application for libraries so topics of m-Health/Mobile Libraries (M-Libraries) and medical informatics are required in the syllabuses of MedLIS in Iranian universities which can help to make the right medical decisions [6]. According to Lippincott (2008), clinical professionals and other researchers working in the field “may find ready access to directories, handbooks, and the like to be of great utility in the field” on mobile devices. Lippincott noted that ‘libraries might want to offer a set of mobile formatted reference materials for students studying ...’[7]. Reviews of some the health science and mobile application using mobile and other handheld devices for a variety of purposes. This paper addresses some of these issues by exploring the web-based mobile information resources in health science libraries. The finding

of the study would help health science libraries and users to better understand the nature of web-based mobile/apps information resources and make a better negotiation with database vendors.

## 2. OBJECTIVES OF THE STUDY

This study aims to achieve the following objectives: To familiar with the concept of Mobile Libraries(M-Libraries); to find out and analyses the web-based mobile information resources for health science libraries; how it has evolved from the library and user awareness regarding resources with academic and special libraries; and to review outstanding web based mobile information resources in health science.

## 3. REVIEW OF RELATED STUDIES

There are several significant efforts as evidenced by many authors who have detailed information regarding the use of mobile devices; web-based mobile information for health science libraries. Baggett and Williams (2012) have recommended mobile applications for library resources [8]. Boruff, Jill T., and Bilodeau, Edward (2012) have attempted to facilitate medical student's access to mobile point-of-care tools directly on mobile devices to provide information [9]. Davies et al. (2012) has evaluated mobile learning in clinical medical students which model for mobile learning in the clinical setting to access up-to-date information for patient care [10]. Kamel Boulos et al. (2011) portrayed health and healthcare smartphone apps (applications) which are the market of today[11]. Shurtz and Isenburg (2011) conducted a study on e-readers loaded with medical textbooks and other relevant material that benefit medical students, residents, and preceptors in clinical settings [12]. Bala, A. and Gupta, B. M. (2010) have found that the positive attitude of the medical respondents towards the provision of library and information services on mobile devices [13]. Chatterley, T. & Chojecki, D. (2010) has mentioned that '49.1 % has accessing clinical textbooks' [14]. Arul Chib (2010) has exerted a study on framework application of mobile technologies for accessing health information [15]. Sanjay Dixit et al. (2010) studied the latest consumer of mobile phones in medical colleges; that's usage at residing in hostels [16]. Holt and Walker (2010) have described "Medical libraries were the first libraries to adapt to the mobile environment debuted ...."[17]. Adams, A. (2008) conversed to mobile devices which have been using healthcare and in hospitals. They articulated that PDAs and smartphones provide rapid information support for accessing medical digital libraries [18]. Carles et al. (2008) found that the attitudes of students to using PDAs in their clinical practices are positive [19]. Iluyemi, A. (2008) has taken a case study and noted that the health workers distributed across the network use the connected PDAs to receive medical e-learning materials [20].

## 4. METHODS

The available literature on the topic has been studied and reviewed to examine the concept of web-based mobile information resources in health science libraries. Most of the data on the mobile information resources taken from different search engines using terms related to mobile information resources, mobile technology, and the internet had taken data from relevant websites. Sometimes the conceptual and textual information related to the present study were collected both from primary and secondary sources of information such as books, professional journals, magazines, conference proceedings, etc.

### 4.1 SEARCH STRATEGY

We searched from differentiating search engines as terms using the following wide concept of publication available on mobile and other handheld devices related to the medical subject and keywords like: mobile, handheld devices, mobile library website; point-of-care systems; PDA; handspring; pocket PC and web-based mobile information sources, mobile publication, medical education, medical students, Mobile Libraries(M-Libraries), medical libraries; attitude of health personnel; attitude towards mobile; medical information apps, etc. Results were got from search engine-related web-based mobile information sources related to health science.

## 4.2 MOBILE LIBRARIES (M-LIBRARIES): BRIEF OVERVIEW IN HEALTH SCIENCE LIBRARIES

The mobile web is all about discovering information at your place when you need it. Its advantages are understandable – information access whenever, wherever. Access to quick information in the health/medical field, mobile devices and handheld devices are now not only changing the way we communicate; they are going to change the way we access information [21]. The use of mobile phone technology for knowledge sharing among academicians in institutions of higher education is being [22]. Some of these possibilities in health science libraries are: transmitting, receiving, and storing information, connecting to the Internet, or running applications is possible in the library with the help of mobile technology in library services.

There are scores of different types, styles, and models of mobile phones and handheld devices, web-based mobile information sources resources are widely used available on the market today which can be supported to getting mobile-based information sources and also in library and its services: basic phones and smart phones; pocket PC devices; palm and other PDAs; Net books, e-reader; tablet PC; GPS devices, media players; pocketcirc, etc. Several universities have established campus-wide mobile initiatives like offered PDAs, smart phones, iPhones, and iPods to students. Academic libraries are making their services, such as the catalog, hour's listings, and computer availability, accessible via mobile devices [23]. The fundamental use of M- libraries is that provide better delivery of information and anywhere searching and browsing; m-library brings the library to the user; information can be shared; to keep information current; information is always available. Following services enable users more efficient access to resources and information whilst moving throughout the library: M-opacs (Mobile library online public access catalogues); reference services via text messaging; audio tours and library instruction; text message alerts and circulation services; a due-day reminder and renewal-request service; new title notification service; multimedia borrowing notification service; request arrival notification service; overdue notification service; library News and event reminder service; the interactive library map service, mobile learning, etc.

In the health sciences field, so many libraries are offering health science-related mobile-based information services. In health science libraries, it can be used in different ways like use of information (data) and communication technologies for health processes (Health System) either locally and at a distance; health workers and health system capacity; Health management information systems, (EHR, DSS, etc) health knowledge systems (Libraries). PDA in work of cardiovascular and medical/ surgical; critical care nurses report using PDAs, decision support tools is being[24], use of Smartphone by researchers was utilized for access of useful links such as journals, reference guides, calculators relevant to their medical field[25] and mobile phone text messaging (Short Message Service, SMS) application is using for many tasks in health care [26]. In the health sciences, field, the library of the University of Alberta[27], Cold Spring Harbor Laboratory[28]library offers a vast array of health science-related reference services and access to other library sources to its users on mobile devices.

## 5. RESULTS

The e-database search on the internet yielded 486 citations. After preliminary screening for eligibility via titles, keywords/subject headings, and abstracts, and full text, we retrieved 156 articles for a more detailed review. Between these, 46 met the filled eligibility criteria. An additional 276 mobile-based journal's, 149 mobile-based databases, 198 major different mobile-based reference/information sources website was identified by searching from search engines of these eligible articles and prior reviews. Including the 16 unique papers selected from journals, books, conference proceedings were searched to identify a review of the literature.

## 6. CONCLUSIONS

In recent years, mobile and other handheld devices have emerged as a powerful educational and informational tool, and Access to quick information in the health/medical field, mobile devices, handheld devices, and web based mobile information sources resources are widely used. In this era of information, the internet and mobiles are very important and useful sources for fulfilling the requirements of the health science concerned. Mobile information resources can be used for efficient retrieval and meeting information needs. It is clear from the study that Mobile information resources are useful to health science professionals. Librarians must familiarize themselves with the models offered by publishers and vendors, checking license agreements to ensure that mobile access is included. It is important to inform patrons about new and updated mobile resources. In conclusion, health librarians have a strong future in the mobile environment, but librarians should evaluate the proper medical apps based on the evidence for the health care professional community and more importance to providing access to mobile information resources.

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