### Chapter 2

### Knocking at Alternate Doors: Survey of Android-Based Smartphone Applications for Alternate Medicines

#### Rafiullah Khan

https://orcid.org/0000-0002-0229-7747

The University of Agriculture, Peshawar, Pakistan

#### Mohib Ullah

The University of Agriculture, Peshawar, Pakistan

#### **Bushra Shafi**

The University of Agriculture, Peshawar, Pakistan

#### Urooj Beenish Orakzai

Government Girls Degree College, Peshawar, Pakistan

#### Seema Shafi

Charssada Homeopathic Medical College, Pakistan

#### **ABSTRACT**

Despite the extraordinary progression in modern medicines, alternative medicine has always been practiced. Alternative medicine or complementary medicine is a term referring to any practice that aims to achieve healing effects using pseudoscience or without biological explanation. The major drawback of alternative medicine is that these medicines are not scientifically tested as claimed by different studies. Nevertheless, according to the World Health Organization, more than 70% of the population of developing countries prefer alternative medicine systems. In this work, a review of ten most popular Android based smartphone applications that belongs to two most popular alternative medicines systems i.e. Homeopathy and Ayurveda are presented. The apps are selected based on the number of reviews, user rating, and the number of downloads provided by Google's play store. From the reviews of users, it was noted that most of the users are satisfied with the selected smartphone app. Based on this fact, it can be implicitly concluded that these medical systems can effectively solve user health-related issues.

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#### 1. INTRODUCTION

With the evaluation and development in the societies of different civilizations, the approach to the disease and illness also evolved. The current medical practices are based on the approaches introduced and evolved in different societies such as the concepts of diagnosis and prognosis introduced in India (Wikipedia, n.d.b), medical ethics in Greece (the famous Hippocratic Oath (Hulkower, 2016)), extensive work on human anatomy and surgery by Muslim scholars (Rosenthal, 2015) and many others. Although the invention of the microscope revolutionized the medical practices, still there are still a number of alternative medicines systems are still in practice that follow old healing philosophy. According to one estimate, more than 80% of the population of the developing countries prefer alternative medicines (Bodeker & Kronenberg, 2002). The major reasons behind their preference are faith in the healer, family pressure, religious and spiritual belief, affordable fee and medicine, lack of awareness, proximity, availability, and many others. However, one cannot deny the success stories of some alternative medical systems such as homeopathy and herb-based medicines (Ayurveda, Hakeem, etc.). Since herbs have their own effect on the human body which is verified by scientists. This work presents a review of the major smartphone applications based on alternative medicine practices.

Alternative Medicine or Complementary Medicine is a term referring to any practice that aims to achieve the healing effect using pseudoscience or without biological explanation (contributors). The major drawback of alternative medicine is that these medicines are not scientifically tested as claimed by different studies (contributors). Furthermore, the research in alternative treatments often fails to follow standard scientific experimental protocols. According to some researchers, alternative medicine is usually based on tradition, supernatural energies, pseudoscience, religion, or other unscientific sources (Beyerstein, 2001; Durant, Evans, & Thomas, 1989; Hines, 1988; Sampson, 1995). Yet a survey conducted in the United States reports that 38.3% of adults use alternative medicine in 2007 which was 36% in 2002 (Barnes, Bloom, & Nahin, 2008).

Based on their philosophy and employed methods the National Center on Complementary and Integrative Health classify the complementary or alternative medicine into five major classes (Shorofi & Arbon, 2017): (i) Whole medical systems (e.g. Homeopathy, and Ayurveda), (ii) Mind-body intervention (e.g. cognitive behavioral therapy), (iii) Biology-based practices, (iv) Manipulative and body-based practices, and (v) Energy medicines (e.g. Bio-electromagnetic therapies). In this work, we present the review of most popular Android-based smartphone applications that belongs to the two most popular alternative medicines systems i.e. Homeopathy and Ayurveda.

The rest of the chapter is organized as follows: In Section 2 we present a brief introduction, way of treatment and survey of smartphone apps related to Homeopathic way of treatment. Section 3 gives a brief introduction, way of treatment and survey of smartphone apps related to Ayurvedic way of treatment. While the conclusion is presented in section 4.

#### 2. HOMEOPATHY

In 1796, Samuel Hahnemann created one of the most popular alternative medicine system Homeopathy based on the philosophy, "like cures like" (or in Latin "similia similibus curentur"). More precisely, according to Homeopathic philosophy, a substance that causes the symptoms of a disease in a person can cure similar symptoms in a sick person (Hahnemann, 1833). Originally the concept of "like cures like"

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