

The Impact of Medical Education on Saudi Medical Students' Awareness of Cell Phone Use and its Health Hazards

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Abstract: The data surrounding the effect of cell phones' electromagnetic radiation on human health, particularly on the auditory and vestibular systems, are controversial. This issue is of particular relevance since it may affect billions of people worldwide. The study aimed to highlight the impact of medical education on the awareness of cell phone use and its health hazards in students at King Abdulaziz University's Faculty of Medicine in Jeddah, Saudi Arabia. In this study, a mixed research design was adopted as a complementary approach. Closed ended questionnaires were distributed to 400 medical students to determine their knowledge and practices regarding the use of cell phones and their possible health risks. The questionnaires were followed by discussions with four focus groups to further analyze the studied area. Both the questionnaires and focus groups covered many points, including the most common health hazards associated with the use of cell phones. The results showed that most of the students were aware of the potential risks arising from the use of cell phones, and at least half of them reported experiencing some of the negative effects.

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1. Introduction

While the use of cell phones has become widespread, many users are unaware of the potential health risks associated with cell phone use. Concerns regarding the potential physiological effects of exposure to radio frequency (RF) radiation have been increased recently. These waves may have a negative impact on the tissues that are near the handset, such as the auditory nerve. These risks include tumors, acoustic neuromas, and other potential concerns [Lönn, 2004]. Audiologic disturbances may be increased with increases in cell phone usage. Other factors may be related to the duration of exposure to radiation or the condition of a person's central nervous system and immune system [Galeev, 2000]. Some medical studies have shown that the use of cell phones might result in health problems, including warmth behind or around the tissues of the ear, brain tumors, headaches, sleep disturbances, impairment of short-term memory, lack of concentration, and high blood pressure [Knaev, 2001].

This research aims to improve the understanding of medical students regarding cell phone use risks, and to gain better knowledge on medical education and a better understanding of the possible health hazards related to cell phone use. We chose King Abdulaziz University because it has two medical education curriculums: traditional and a new hybrid.

2. Subjects and Methods:

Type of study:

This is a mixed methodology study, using both quantitative (cross-sectional descriptive study) and qualitative (focus group discussion) methods. The aim of this design is to triangulate and complement the evidence from both the qualitative and quantitative data. Four focus group discussions (two being with sixth-year students and two with interns) were conducted at the hospital auditorium during break time. Each focus group discussion lasted about thirty minutes. For each group discussion, the research team met with 10 to 12 students.

Target group:

Interns from the old curriculum and sixth-year medical students from the new hybrid curriculum.

Time period of the study:

From October 2011 to January 2012, during the free time of the interns and sixth-year students.

Pilot study:

A pilot study was done with 42 students, including sixth-year students (n=22) and interns (n=20), to enhance the validity of the questionnaire. Modification of the questionnaire was done to avoid the pitfalls of the study and to increase the internal validity of the research. Members from the Faculty of Engineering revised the questionnaire to ensure both the content and discriminant validity.

Tool of the study:

The questionnaire was designed to measure the knowledge, attitudes, and practices of medical students regarding the negative effects of using cell phones. The