A study to assess the effectiveness of computer assisted teaching programme on knowledge regarding adverse effects of electronic gadgets among adolescents in E.S. College of nursing, Villupuram, Tamil Nadu

Karthi R, Porselvi M, Menaga Gandhi B, Tamilvanan K and Thiruvengadam P

Abstract

Background: Electronic devices are an integral part of adolescence's lives in the twenty-first century. The world of electronic devices, however, is changing dramatically. Television, which dominated the media world through the mid-1990s, now competes in an arena crowded with cell phones, computers, iPods, video games, instant messaging, interactive multiplayer video games, virtual reality sites, Web social networks, and e-mail. Adolescents, in particular, spend a significant amount of time viewing and interacting with electronic devices in the form of TV, video games, music, and the Internet. Considering all of these sources together, adolescence spend more than 6 hours per day using media.1

Objectives: To assess the level of knowledge on adverse effect of electrical gadgets among adolescents before and after the administration of computer assisted teaching program. 2. To assess the effectiveness of computer assisted teaching program regarding knowledge on adverse effect of electrical gadgets among adolescents. 3. To find out the association between pre-test level of knowledge score on adverse effect of electrical gadgets among adolescents with their selected demographic variables.

Methods: A pre- experimental research design with one group pre-test post-test design, 50 adolescents were selected.

Results: The study concluded that that the computer assisted teaching program regarding knowledge on adverse effects of electronic gadgets among adolescents was effective in improving the knowledge level.

Keywords: Computer assisted teaching programme, knowledge, adverse effects, electronic gadgets, adolescents

Introduction

Technology is so much fun but we can drown in our technology. The fog of information can drive our knowledge.-Daniel J. BoorstIn Electronic devices are an integral part of adolescence's lives in the twenty-first century. The world of electronic devices, however, is changing dramatically. Television, which dominated the media world through the mid-1990s, now competes in an arena crowded with cell phones, computers, iPods, video games, instant messaging, interactive multiplayer video games, virtual reality sites, Web social networks, and e-mail [2].

Debates on the effects of new technology have recurred especially with regard to the effect on young people. Each new devices technology brought with it great promise for social and educational benefits, and great concern for adolescence’s exposure to inappropriate and harmful content or health hazards [3].

A study was conducted on college students at Spain deals with maladaptive use of the Internet & the mobile phone and its relationship to symptoms of psychological distress and mental disorder. A sample of 365 students from undergraduate university freshmen at Ramon Lull University, Spain were included in the study. Four different studies (Psychology, Education, Journalism & Broadcasting and Health studies) revealed scales assessing the negative consequences of maladaptive use of both the Internet and the mobile phone. Results of the study indicated that psychological distress is related to maladaptive use of both the Internet and the mobile phone; females scored higher than males on the mobile phone questionnaire, showing more negative consequences of its maladaptive use.
Students of Journalism and Broadcasting showed a more maladaptive pattern of Internet use than students of other majors \[4\].

**Need for the study**
Among the total population 75, 25, 7700, People are active user 863, 00,000 people are affected mobile subscribers \[5\]. Among total population of India, Facebook user 195 million people in male 76%, in female 26%, twitter 26 million, You tube 60 million people are subscribers \[6\]. Half of the members are affected current year. Among the total population of 63, 17,181 million are active gadgets subscribers affected in current years \[7\]. Adolescents, in particular, spend a significant amount of time viewing and interacting with electronic devices in the form of TV, video games, music, and the Internet. Considering all of these sources together, adolescence spend more than 6 hours per day using media. Nearly half of that time is spent watching TV, playing, or studying with computer. The remainder of the time is spent using other electronic media alone or in combination with TV \[8\].

A study was conducted to investigate the difference in usage of online communication patterns between children and adolescents with the age of 10-16 years. A survey method is used on about 626 participants with the discussion on the topics like amount of time spent for online communication, purpose of internet communication, and partners engaged with them in communication. Findings of the study revealed that children and adolescents who self-reported being lonely communicated online significantly more frequently about personal and intimate topics than did those who did not self-report being lonely. Results of the study suggested that Internet usage allows them to fulfill critical needs of social interactions, self-disclosure, and identity exploration \[9\].

**Statement of the problem**
A study to assess the effectiveness of computer assisted teaching program regarding knowledge on adverse effect of electronic gadgets among adolescents at E.S. College of Nursing, Villupuram.

**Objectives of the study**
- To assess the level of knowledge on adverse effect of electrical gadgets among adolescents before and after the administration of computer assisted teaching program.
- To assess the effectiveness of computer assisted teaching program regarding knowledge on adverse effect of electrical gadgets among adolescents.
- To find out the association between pre-test level of knowledge score on adverse effect of electrical gadgets among adolescents with their selected demographic variables.

**Hypothesis**
- H\(_1\) - There will be a significant increase in post-test knowledge scores on adverse effect of electrical gadgets among adolescent after administration of computer assisted teaching.
- H\(_2\) - There will be significant association between pre-test level of knowledge scores regarding adverse effect of electrical gadgets among adolescents with their selected demographic variables.

**Delimitations**
The study is delimited to adolescents;
- Adolescents aged between 17 to 20 years.
- Studying in Selected College, Villupuram.
- Data collection period is 4 weeks

**Materials and methods**
**Research Approach:** Quantitative Research Approach

<table>
<thead>
<tr>
<th>Group</th>
<th>Pre test</th>
<th>Intervention</th>
<th>Post test</th>
</tr>
</thead>
<tbody>
<tr>
<td>One group</td>
<td>O(_1)</td>
<td>X</td>
<td>O(_2)</td>
</tr>
</tbody>
</table>

Research Design: Pre-experimental, one group pretest-post test design

**Setting of the Study**
The study was carried out at E.S. College of Nursing, Villupuram.

**Population**
**Target population**
The population for this study was adolescents aged between 17 to 20 years.

**Accessible population**
Adolescents aged 17 to 20 years studying in E.S. College of Nursing, Villupuram.

**Sample**
The samples for the study were, 50 adolescents aged 17 to 20 years studying in E.S. College of Nursing, Villupuram.

**Sampling technique**
The convenience sampling technique was adopted to select the subjects for the study.

**Description of the tool**
**Section A:** It consists of demographic profile of adolescent such as age, religion, education of the parents, and occupation of the parents.

**Section B:** It consists of structured question related to knowledge of adverse effects of electronic gadgets. It has 25 items pertaining to the knowledge on adverse effects electronic gadgets.

**Score Interpretation**

<table>
<thead>
<tr>
<th>S. No</th>
<th>Level of knowledge</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Inadequate</td>
<td>0-50%</td>
</tr>
<tr>
<td>2.</td>
<td>Moderate</td>
<td>51-75%</td>
</tr>
<tr>
<td>3.</td>
<td>Adequate</td>
<td>76-100%</td>
</tr>
</tbody>
</table>

**Results & discussion**

**Table 1:** Frequency and percentage distribution of pre-test and post-test level of knowledge on adverse effect of electronic gadgets among adolescents. (N=50)

<table>
<thead>
<tr>
<th>S. No</th>
<th>Level of Knowledge</th>
<th>Pretest</th>
<th>Post test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>F</td>
<td>%</td>
</tr>
<tr>
<td>1.</td>
<td>Adequate</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2.</td>
<td>Moderate</td>
<td>17</td>
<td>34</td>
</tr>
<tr>
<td>3.</td>
<td>Inadequate</td>
<td>33</td>
<td>66</td>
</tr>
</tbody>
</table>
Table no-1: shows that during pre-test, none of them had Adequate knowledge, 34% of adolescents had moderately adequate knowledge and 66% of adolescents had inadequate knowledge whereas, during post-test 14% of adolescents had moderately adequate knowledge and 86% of adolescent’s had adequate knowledge.

![Fig 1: Frequency and percentage distribution of level of knowledge among adolescents on electronic gadgets.](image)

Table 2: Comparison of pretest and post test scores of knowledge about electronic gadgets among adolescents. (N=50)

<table>
<thead>
<tr>
<th>Category</th>
<th>Criteria</th>
<th>Mean</th>
<th>Standard deviation</th>
<th>Paired t- test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level of knowledge</td>
<td>Pretest</td>
<td>11.28</td>
<td>2.44</td>
<td>C= 25.03</td>
</tr>
<tr>
<td></td>
<td>Post test</td>
<td>21.18</td>
<td>2.30</td>
<td>T=23.69*</td>
</tr>
</tbody>
</table>

Major findings of the study
- Regarding the level of knowledge, in pre-test, none of them had adequate knowledge, 34% of adolescents had moderately adequate knowledge and 66% of adolescents had inadequate knowledge. Whereas, in post-test 14% of adolescents had moderately adequate knowledge and 86% of adolescent’s had adequate knowledge and none of them had inadequate knowledge.
- In experimental group, the pretest mean was 11.28 and standard deviation was 2.44. Whereas in the post test mean is 21.18 and standard deviation 2.30. The calculated value is greater than the tabulated value. Hence, there is a significant difference in the post test then the pretest, the null hypothesis is (H₀) is accepted.
- There was no significant association between post-test knowledge and demographic variables among adolescents. Hence, null hypotheses is accepted

Conclusion
The study concluded that the computer assisted teaching program regarding knowledge on adverse effects of electronic gadgets among adolescents was effective in improving the knowledge level.

References