

Development of Computer-Assisted Instruction Program for Child Sexual Abuse Prevention

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Summary

This study describes the development of an interactive, educational computer-assisted instruction (CAI) program using a multimedia CD-ROM for child sexual abuse prevention. Needs assessment was conducted through qualitative and quantitative studies on randomly selected parents, teachers, and lower grade-schoolers in Korea. Assessment results revealed a high number of children having insufficient knowledge on child sexual abuse and a high level of parental concern about the issue. The program was developed and evaluated through a pre- and post-assessment of the subjects' knowledge and attitude regarding child sexual abuse. Evaluation findings demonstrated an increase in the subjects' knowledge after exposure to the CD-ROM. The use of this program will make child sexual abuse a public health issue and will promote further awareness of child sexual abuse among children, parents, teachers, and other concerned authorities.

Key words:

Child Sexual Abuse, Computer-Based Learning, Computer-Assisted Instruction, CD-ROM

1. Introduction

With the increasing incidence in sexual abuse crimes, the publicizing of this trend by the Korean Police National Agency alarmed the nation. There were 8,759 cases of sexual abuse in 2006, representing one case every hour [1]. According to the Korean Institute of Criminology, only 2.2% of the incidences are actually reported out of more than 200,000 sexual abuse cases each year [2]. Issues related to child sexual abuse have been avoided or ignored in Korean society because it has been regarded as a shameful personal experience [5]. Without effective community interventions, this social problem will only facilitate sickness and darkness in the future.

Sexual abuse comes in many forms, from sexual fondling to violent rape, and can occur anywhere. Children being vulnerable and fragile are easy victims of sexual abuse, which could impair their normal functioning and psychosocial development [3,4].

Various measures to reduce child sexual abuse incidents focused on promoting awareness and preventive education through the use of media like books and videotapes [6-13] but these media offer only one-way learning. Most studies [14,15] recommend information and communication technologies (ICT) in providing sexual education, especially to children who are more attracted and engaged to multimedia tools, mainly because ICT like CAI programs are easily accessible at the convenience of their homes and at the same time these programs offer two-way interactive learning.

For these reasons, this study developed a CAI program to raise public awareness and to empower children by providing means to avoid sexual abuse. Also, we evaluated the effects of this educational strategy on improving children's knowledge and attitude on sexual abuse. This project also serves as a reliable and innovative resource material for parents, school teachers and administrators, government agencies, health care providers.

The rest of this paper includes 2 more additional sections. Section 2 elaborates the development process involving needs assessment, program content, multimedia tool (CD-ROM) design and development, and preliminary evaluation on the effectiveness of the program on children's knowledge and attitude. Lastly, section 3 concludes this study.

2. Development of CAI Program CD-ROM

2.1 Needs Assessment

To ensure a systematic implementation of measures, needs assessment was conducted through surveys, interviews, and workshops for children, teachers and parents prior to program development. Among the surveyed 157 1st-3rd grade elementary students majority of the sample (n=127) had no idea what sexual abuse meant and nearly half of the sample (n=66) reported they do not know what to do when they are sexual abused.

332 parents of 1st-3rd grade elementary students completed a survey and majority reported a high concern regarding child sexual abuse as seen in Table 1.

Table 1: Parental Concerns on Child Sexual Abuse n=332

Reported Concerns	No. of response (%)
Sexual education is important and necessary	329 (99.1)
Their children could become a victim of child sexual abuse	299 (87.4)
They did not know what to do regarding sex education	260 (78.6)
Hoped sexual education to become part of the school program	330 (99.4)

These results indicated the strong need for child sexual abuse prevention programs to be put into action.

2.2 Development of Program Content

A task force under the guidance of the principal investigator (PI) was created to oversee the program content development. The team was tasked to prepare the basis for content materials by identifying the problems, setting standards for the program, prioritizing the process, and selecting the methods of implementation and evaluation. The team members consisted of six teachers, five school administrators, and ten parents whose children were enrolled in the 1st to 3rd grades. After weeks of deliberation, Table 2 shows the major resulting concerns identified and prioritized by the team.

Table 2: Major identified concerns on child sexual abuse

Rank	Major Concerns
1	Allowing young children to learn undesirable habits and behaviors that would bother others without knowing
2	Not guarding young children from strangers
3	Leaving children unattended
4	Instantly considering public places safe since the children are not left alone
5	Excluding male children from becoming a victims

2.3 Multimedia CD-ROM design and development

CD-ROM was chosen as the medium or tool to house the program content for its availability, accessibility, and efficiency. Collaborative work between health educators and information technology engineers began to produce a scrupulous program, which would meet the identified goals, contents, and methods. Program Structure and Instructional Design: The software used to produce the

CD included Flash, Adobe Photoshop, Adobe illustrator, Sound edit, and Namo web editor.

Designing this program focused on accommodating the children's educational needs and interests by giving them an opportunity to interact with the program through methods like playing games, modeling, and problem solving. Different scenarios at home, school, and social environment based on the results of the study were constructed, so that the audience could relate with their daily living activities. The instructional designers also selected the materials, characters, and instructions appropriate for the lower grade children of primary school and the parents. A program flow of the CD-ROM flow chart is presented diagrammatically in Fig. 1.

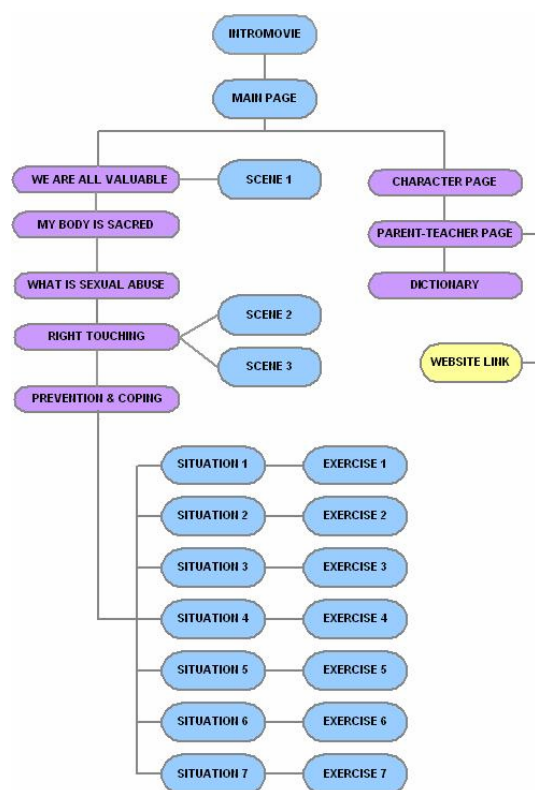


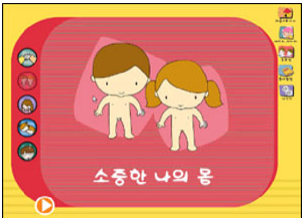






Fig. 1 CD-ROM Flow Chart.

Once the CD is inserted in a computer, the program automatically runs the introductory movie. Next, the homepage appears containing the program's objectives and easy-to-follow navigations for the children's page, parent's page, dictionary, including the link to the Korean Ministry of Education's home page. This program covered topics on safety education on sexual abuse, crisis

Table 3: Contents of the child sexual abuse prevention program

Title	Objectives	Contents
Home page 	<ul style="list-style-type: none"> Identify the purposes of the program Identify the contents and learn how to navigate 	<ul style="list-style-type: none"> The purposes and the emphasis of each section
We are all valuable 	<ul style="list-style-type: none"> View scenes related to ethical behavior toward sexual equality to learn respecting others Gain the insight of sex and its value 	<ul style="list-style-type: none"> The concepts on sexual equality The behaviors of respecting opposite sex
<ul style="list-style-type: none"> Scene 1: "We are all equally important." 		
My Body is Sacred. 	<ul style="list-style-type: none"> Review growth and sexual development Recognize the sacredness of one's body 	<ul style="list-style-type: none"> My body is important. Body parts and functions (What do I have?) Body parts – To show or Not to show?
What is sexual abuse? 	<ul style="list-style-type: none"> Gain insight on sexual abuse 	<ul style="list-style-type: none"> Definitions of sexual abuse The terms used in the program Emphasis on prevention of sexual abuse
Good feeling or bad feeling? 	<ul style="list-style-type: none"> Learn how to express their sexual interest and feelings Differentiate the feeling from good touch and bad touch 	<ul style="list-style-type: none"> Differences between love and sexual abuse Examples of appropriate touch and inappropriate touch Emphasis on respecting other's intentions
<ul style="list-style-type: none"> Scene 2: "Alone in a neighborhood school supply store." Scene 3: "In an elevator, alone with a stranger." 		

<p>What shall I do?</p> 	<ul style="list-style-type: none"> • Identify the potential situations which could lead to child sexual abuse • Gain knowledge on preventive measures • Interact with the program to familiarize with the actions 	<ul style="list-style-type: none"> • Behaviors of perpetrators • Safe/dangerous places • Safe/dangerous situations • Plans for sexual abuse prevention • Self expression training • Self defense • Help! Coping.
Practice	<ul style="list-style-type: none"> • Scenario 1: "Oh, no! I shouldn't be alone!" • Scenario 2: "Ice cream?" "No, thank you." • Scenario 3: "Do not open the door for a stranger." • Scenario 4: "Nice stranger, do I know you?" • Scenario 5: "Wandering in the park." • Scenario 6: "Alone in the campus, after school." • Scenario 7: "Please talk." 	
<p>Early detection & intervention</p> 	<p>For adults</p> <ul style="list-style-type: none"> • Identify the signs and symptoms of child sexual abuse • Participate in the program and learn how to be proactive 	<p>Guidelines for early detection</p> <ul style="list-style-type: none"> • Characteristics of sexually abused children • Typical behavior of sexually abused children • After effects of sexual abuse • Observation technique for sexually abused children
	<p>Intervention practice</p> <ul style="list-style-type: none"> • How to communicate with the child victims • How to support the child victims • How to preserve the evidences • How to face the sex offenders • Medical interventions after the incident • Psychosocial and emotional interventions after the incident <p>Legal actions</p>	
Resources page: available agencies	<ul style="list-style-type: none"> • Identify private & public resources • Learn how to utilize the resources 	<p>Hyperlinked:</p> <ul style="list-style-type: none"> • Internet sites of sexual abuse counseling agencies and the offices of law enforcement agencies • Financial resources and support groups

coping and management techniques, and available resources or directory page of existing counseling agencies, authorities, and support groups.

The objectives of the project and the contents of the program to meet these objectives are laid out in Table 3.

2.4 Preliminary Evaluation of the Program

2.4.1 Measurement tools for knowledge and attitude

The PI developed tools to measure knowledge and attitude based on the literature reviews [16-18] and interviews. Both tools' contents were analyzed by academic professionals in Pediatrics, Nursing, Community Nursing, and Primary Education. After content analysis,

questions with content validity index (CVI) score below 70% were deleted.

The knowledge measurement tool ranges from 19-38 and consists of 19 yes/no items having '1' as wrong answer and '2' as right answer. Items included statements like, "If I am alone at home and a visitor comes, I will open the door", "If a nice person offers me a ride in his car, I may ride with him", and "It's okay for boys and girls to sleep together in the same room if they are related to each other." The score in this tool is proportional to the knowledge score, which means the higher the score, the higher the knowledge. The internal consistency coefficient, Cronbach's alpha, was 0.813.

The attitude measurement tool developed was a 4-Likert scale that ranges from 11 to 44 with 11 questions answerable by 4="strongly agree," 3="agree,"

2="disagree" and 1="strongly disagree." Items included statements like, "Sexual abuse is a shameful experience", "I am to blame if I was sexually abused", and "Students who had been sexually abused should transfer to another school." A higher score indicates a higher degree of negative attitude, and the score. Cronbach's alpha was 0.703.

2.4.2 Methodology

For this phase of the study, a one-group, pretest-posttest design was applied. A sample of 223 Korean school-aged children were given a two-hour lecture using the developed CAI program CD-ROM on the prevention of child sexual abuse, after which they studied the multimedia CD-ROM program by themselves for another two hours. The program included safety education, crisis coping & management, legal options & counseling, resource persons, and phone numbers of available hospitals. Data were collected before and after the exposure to the program and SPSS Win 14 was used to analyze descriptive statistics.

2.4.3 Results on Knowledge and Attitude Scores

After participating in the CAI program, only the knowledge aspect showed significant improvement while the attitude showed no significant statistical change. After education, the score of children's knowledge increased. However, the score of children's attitude on child sexual abuse prevention did not increase significantly as detailed in Table 4.

Table 4: Knowledge and Attitude Before and After Exposure to CD

Factors	(Mean \pm SD)		t(p)
	Before	After	
Knowledge	33.98 \pm 2.86	34.93 \pm 2.82	-4.79(.000)**
Attitude	26.81 \pm 4.20	26.77 \pm 4.29	0.13(.896)

* $<.05$ ** $<.001$

3. Conclusion

Sexual abuse of children has been ignored and most studies focused mainly on child sexual education and a few dwelt on sexual abuse. This paper contributes preventive education regarding sexual abuse in children, proper preventive strategies, and promotional awareness of knowledge and attitude towards child sexual abuse through the development of CAI.

In this study, we found that CAI education is effective on improving knowledge suggesting that continuous and consistent preventive educational programs for children

should be provided to promote attitude change towards child sexual abuse in the future.

This educational CAI program not only provides information about child sexual abuse but also serves as a gateway to access important resources, such as crisis intervention and professional counseling centers. This CD-ROM may also be used as a resource material for educators, administrators, and other public agencies requiring a program to reduce child sexual abuse cases and promote child sexual abuse prevention.

A future work for this study is a wider evaluation of its effectiveness as this study only applied a preliminary one-group test, without a control group. This limitation however, did not hinder the achievement of this study's goal because this paper focuses on the development process of the CAI program on child sexual abuse.

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