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Summary
I'm Learning to Protect Myself with Mika: Efficacy of Sexual Abuse Prevention Program

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Sexual abuse of children is an important social and public health problem with a wide range of short and long-term outcomes in childhood and adulthood. The research shows that both male and female children in preschool years are at risk (Synder, 2000). School-based programs to prevent child sexual abuse are one of the most widely applied preventive strategies in several countries. School programs vary widely in terms of their content and many of them also involve parents (Finkelhor & Strapko, 1992; Wurtele & Kenny, 2012). These programs are generally designed to teach children how to recognize threatening situations and to provide them with skills about protecting themselves against abuse. Children are generally taught about the concepts of good and bad touching and how to tell an adult if they are asked to do something they find uncomfortable (Finkelhor, 2009).

There is an agreement among researchers that after the prevention program preschool children can develop knowledge (Fryer, Kraizer, & Miyoshi, 1987; Kenny, 2009; Poche, Yoder, & Miltenberger, 1998; Wurtele & Owens, 1997) and acquire skills (Wurtele & Owens, 1997) to protect themselves in case of abuse. In accordance with these, there has been an increase in the number of disclosure of abuse and children have begun to recognize potential abusive situations (Wurtele & Owens, 1997). Although several prevention studies have reported that a small minority of children showed negative side effects such as fear and anxiety (Finkelhor & Dziuba-Leatherman, 1995), some other studies haven't found any differences between pre-test and post-test results for anxiety (Hazzard, 1991; Hébert et al., 2001; Ratto & Bogat, 1990; Wurtele, Kast, Miller-Perrin, & Kondrick, 1989) and sexual problems (Gibson & Leitenberg, 2000).

In Turkey, sexual abuse prevention studies are limited or the prevention studies have mostly been conducted with school-age children (Çeçen-Eroğul & Kaf Hasırcı, 2013; Uçar, 2014). To our knowledge, there is no prevention study done with preschool children in Turkey. Therefore, it is important to develop child sexual abuse prevention programs for preschool children. The main purpose of this study was to develop a child sexual abuse prevention program for preschool children and to evaluate the efficacy of this program.

Method

Participants

The sample of this study consisted of 175 children, between 50-72 months old (M = 61.80, SD= 6.1) and their parents. Ninety three female (53%) and 82 male children (47%) from six preschools participated in this study. The participants were randomly assigned as to either education (n_{female}= 49, n_{male} = 53) or control groups (n_{female}= 44, n_{male} = 29). One education group and one control group were selected from each school in order to counterbalance them in terms of age, socio-economic status, gender etc. Mothers' age ranged between 22 and 47 (M = 24.32, SD = 5.25), fathers' age ranged between 25 and 53 (M = 37.67, SD = 5.59).

Measures

Demographic Information Form. This form was developed by the researchers of this study to obtain demographic information including gender, age, and parents' education level of the participants and their families.

Child Sexual Abuse Knowledge Form. This form was developed for this study to assess children's level of knowledge about prevention from child sexual abuse. The form consists of 17 questions that can be answered as ''Yes'', ''No'' or ''I don't know''. Three relatively neutral questions were added such as ''You bought a cake for your father's surprise birthday, would you keep as a secret?''

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Self-protection Skill Form. The researchers developed this form in order to examine prevention skills of children from sexual abuse. The form consists of one open-ended question (What do you do if someone wants to touch you?). Two postgraduate students in developmental psychology coded the answers of the children.

Firstly, the answers of children were counted up and answer number categories were created. Secondly, the coders categorized the answers of children under two main themes as effective and ineffective. For example, running away, and telling to someone were coded as effective answers; while playing, and telling a tale to someone were identified as ineffective answers. Number of effective answers were calculated and comprised 'effective answer' variable. Lastly, diversity of effective answers was coded. For example, a child may have three effective answers including telling to mother, telling to father, and running away. When these three effective answers were analyzed according to diversity, there were two diverse effective answers appeared. Reliability between observers was ranging from .86 to .99.

The Parent Evaluation Form. The Parent Evaluation Form was developed by the researchers of the current study to examine the positive and negative effects of the intervention program on children's level of such as having nightmare, fear, and talking about their emotions. This form consisted of 17 items. The parents were asked to report the frequency of their children's behavior, ranging from zero (never) to four (ten and more).

Procedure

Program description

The authors of this study developed the program, namely "I am learning to protect myself with Mika", by reviewing the literature. The prevention program was a 5-days program which contained daily modules. The topics were mainly about personal rights ('my body belongs to me'), emotional awareness, good touch-bad touch, body safety rules, saying "No", good and bad secrets, and the concept indicating sexual abuse is never a child's fault etc.

Results

This section is composed of socio-demographic information of education and control groups as well as the results regarding the effectiveness of the education program.

Socio-demographic Characteristics of the Education and Control Group

Table 1 represents the socio-demographic characteristics of the participants. In order to make comparisons between the education and control groups in terms of their characteristics, chi-square and *t*-test analyses were conducted. Gender [$\chi^2(1) = 2.98$, $p > .05$], education of the mother [$\chi^2(2) = .58$, $p > .05$] , education of the father [$\chi^2(2) = .63$, $p > .05$], being only child or having siblings [$\chi^2(1) = 2.61$, $p > .05$] were not found to be significantly different between the participants of education and control groups. Moreover, the time spent for preschool education was observed to be similar for control group ($m = 1.03$, $sd = 1.32$) and education group ($m = 1.12$, $sd = 1.26$), $t(173) = .43$, $p > .05$.

Efficacy of the Program

Results about Participants' Child Sexual Abuse Knowledge. The answers given to the question of "Are you the boss of your body?" were similar in pre-test and post-test. Majority of both education and control group participants responded it as "Yes". However, education and control groups didn't know the correct answers of some questions such as " If someone touches your private parts and tell you keep this as a secret, do you keep it as secret?" in the pre-test. Nevertheless, in the post-test education group tended to answer correctly. In order to provide a deeper understanding about this change, we used latent Markov analysis.

Results of Latent Markov Analysis. First, latent class analysis was conducted separately to decide the number of latent classes. A three-class solution was found as the best model. According to the item response probabilities, Status-1 named as 'self-protecting group'. Status-2 was named as 'the group of children who knows to be touched is wrong but keeps it as a secret'. Status-3 was named as 'risk group' which consists of participants who does not know to be touched is wrong and keeps it as a secret as well.

Two different educators gave the education. Before investigating the efficacy of the education program, we looked at the transition probabilities of the different educators. Transition matrix (A^t) of the two groups is as follows:

$$\mathbf{A}_{\text{educator-1}}{}^{(t)} = \begin{bmatrix} .98 & .01 & .01 \\ .60 & .40 & .00 \\ .33 & .13 & .54 \end{bmatrix} \qquad \mathbf{A}_{\text{educator-2}}{}^{(t)} = \begin{bmatrix} .96 & .01 & .03 \\ .74 & .26 & .00 \\ .27 & .00 & .73 \end{bmatrix}$$

The model with the educator as a covariate variable showed poorer fit than the model without covariate ($\Delta\chi 2 = 74$, $df = 8$ $p > .05$). As a result, it could be concluded that educators did not have an effect on the results and further analysis could be made for both educators' groups.

The model with the education and control groups as covariates had better fit than the model without covariates. Transition matrix of this model is as follows:

$$\mathbf{A}_{\text{education}}{}^{(t)} = \begin{bmatrix} .99 & .00 & .01 \\ .70 & .30 & .00 \\ .35 & .00 & .65 \end{bmatrix} \qquad \mathbf{A}_{\text{control}}{}^{(t)} = \begin{bmatrix} .99 & .01 & .01 \\ .15 & .85 & .00 \\ .00 & .11 & .89 \end{bmatrix}$$

As it can be seen from the matrix, in the education group, the probability of members of Status-2 moving to Status-1 after education was .70. This probability equals to .15 in the control group. Moreover, in the education group the probability of members of Status-3 moving to Status-1 after education was .35. This probability equals to .00 in the control group.

Results of the Capability of Protecting Themselves from Abuse. We evaluated the children's capability of protecting themselves from abuse by asking open-ended questions. The number of the answers and effective answers as well as the diversity of the answers was evaluated.

The number of the answers, the effective answers, and the diversity of the answers were analyzed by using a 2 (Group: education and control) X 2 (Time: pre-test and post-test) ANOVA with repeated measures on the last factor. The interaction effects between group and time was significant for the number of the answers, the effective answers, and the diversity of the answers [Wilk's $\lambda = .76$, $F(1, 155) = 6.72$, $p = .01$, $\eta^2 = .04$; Wilk's $\lambda = .96$, $F(1, 155) = 6.40$, $p = .01$, $\eta^2 = .04$; Wilk's $\lambda = .953$, $F(1, 155) = 7.65$, $p = .01$, $\eta^2 = .05$, respectively]. Contrast analyses were conducted for the source of these interactions. However, there was no difference found between education and control groups in the pre-test for the three variables. On the other hand, the number of answers of education group ($M = 2.56$, $SD = 1.45$) was seen to be significantly higher than the scores of the control group ($M = 1.98$, $SD = 1.15$) in the posttest. In regards to effective answers, education group ($M = 2.43$, SD = 1.43) had significantly higher scores than the control group ($M = 1.74$, $SD = 1.45$) in the post-test. Similarly, the diversity of effective answers of education group ($M = 1.81$, $SD = .91$) was seen to be significantly higher than the scores of the control group ($M = 1.36$, $SD = .93$) in the posttest. Both education and control groups increased the scores from pre-test to post-test; however education group had higher scores than the control group.

Negative and Positive Effects of the Program. To test the positive and negative effects of the sexual abuse prevention program on children, parents were asked to fill out a form about their children's behavior. The parents of the education group reported increments in their children's anger ($z = -2.18$, $p = .03$), crying easily ($z = -2.18$, $p = .01$), appreciation of their own body ($z = -2.74$, $p = .01$), and talking about emotions ($z = -2.42$, $p = .02$) after the education program. On the other hand, the parents of the control group reported an increase in terms of fear from dark ($z = -2.25$, $p = .02$), and talking about their emotions ($z = -3.16$, $p = .00$), sleeping problems ($z = -2.22$, $p = .03$), crying easily ($z = -2.40$, $p = .02$) in the post-test.

Discussion

The aim of this study was to investigate the efficacy of child sexual abuse prevention program on preschool children. According to latent Markov analyses, three latent classes were identified including Status-1 (self-protecting group), Status-2 (group who knows to be touched is wrong but keeps it as a secret), and Status-3 (risk group). We expected that members of Status-2 and Status-3 would move to Status-1 in the education group rather than in the control group. As expected, it was found that transition probabilities from the other status to Status-1 were higher in the education group than in the control group. The results of this study were parallel to the previous literature (e.g., Fryer et al., 1987; Kenny, 2009; Poche et al., 1988; Wurtele, 2009; Wurtele & Owens, 1997). After the sexual abuse prevention education, children gained greater knowledge.

The number of the answers, the effective answers, and the diversity of the answers were used to evaluate the participants' protection skills. Along with the knowledge about sexual abuse, there was an increase observed in terms of protection skills of the children. This result was also consistent with the previous literature (e.g., Fryer et al., 1987; Poche et al., 1988).

In order to investigate the positive and negative effects of the program, the parents were asked to assess their children's behavior. Parents of the children in the present study reported that their children have been more likely talking about their emotions and more likely appreciating their own body after the education program. In the control group, the children were also reported as have been more likely talking about their emotions. There are some possible explanations for these positive effects on both of the groups. One possible explanation is that both groups may have shown higher positive effects due to the preschool education or maturation. Besides, the pre-test may have led to questioning and communication with parents about the subject (i.e., sexual abuse) which might lead to an increase in positive effect in the control group.

The literature on the relationship between negative effects and prevention program is contradictory. Some studies found negative effects of prevention programs on children (Finkelhor et al., 1995; Hébert et al., 2001), other studies have not found any negative effect on children (Hazzard et al., 1991; Hébert et al., 2001; Ratto & Bogat, 1990; Wurtele et al., 1989). In this study, there were a few negative effects on education and control groups. There are some possible explanations regarding the negative effects of prevention program on both education and control groups. Crying, sleeping problems, fear from dark, and anger are already existing behaviors for preschool children. Because these prob-

lems have occurred in both groups, it can be concluded that there is no relationship between prevention program and these negative effects. Moreover, the negative effects related to the program content such as fear from strangers and separation fear from parents have not been observed after the prevention program.

To our knowledge, there is no study conducted in Turkey examining the effects of a sexual abuse prevention program on preschool children. This study does contribute to the current literature in that sense. One of the strengths of our study is to include a large number of participants from three different socio-economic levels. We think that sexual abuse prevention programs are needed to be disseminated for preschool children.

This study has three limitations. First, the current study has investigated the knowledge level and protection skills, but not protection behaviors. Further studies should observe children's protection behaviors in real life situations after the prevention programs. Secondly, measures used in the assessment were not standardized. Lastly, a follow-up measure hasn't been presented to the children.