RESEARCH COMMUNICATION

Effect of Self-Efficacy on Turkish Children's Perceptions of the Advantages/Disadvantages of Smoking

Hanife Ulgen[1], Candan Ozturk[2], Merry Armstrong[3]

Abstract

Objective: This descriptive, cross sectional study was conducted to examine the effect of levels of self-efficacy on children's perceptions of pros and cons of smoking. Methodology: The sample was 233 fifth-grade students. Data were collected in September 2010 using the Socio-Demographic Data Collection Form, Self Efficacy Scale Child Form and Child Decision Balance Scale and analyzed via percentage calculations and t test with the SPSS 11.00 statistical package program. Results: Average age of the students participating in the research was 11.1±0.41, 49.8 % (n: 116) being female and 50.2 % (n:117) male. The difference between the score averages of the pros of smoking perceptions of children with a high self-efficacy level and of those with a low self efficacy level (t=2.117, p=.042) and the difference between the score averages of the cons of smoking perceptions of children with a high self-efficacy level and of those with a low self-efficacy level (t=2.206, p=.035) were found to be statistically significant. Conclusions: Children's positive perceptions of smoking were low and negative perceptions high when their self efficacy levels were high. Conversely, children's positive perceptions of smoking were high when their self efficacy levels were low.

Keywords: Child - decisional balance - self-efficacy - smoking

Asian Pacific J Cancer Prev, **13**, 795-798

Introduction

The Report On The Global Tobacco Epidemic (2008) states that annually, more than five million people die of smoking and related diseases. Turkey is among one of ten countries where the highest smoking rates are available (Tobacco Control Policies in Turkey, 2010) and every year in Turkey, 100-120 thousand people die of smoking and associated diseases (Ergüder, 2008).

Research indicates that the younger children are more prone to dependency when they start smoking, and children can demonstrate addiction after their second attempt (Ergüder, 2008). Two influential factors determining smoking behaviors of children are their self efficacy levels, (Maher & Rickwood, 1997; Kim, 2004: 2006; Maassen et al., 2004; Chang et al., 2006; Chen et al., 2008) and their perceptions regarding the positive and negative aspects (pros and cons) of smoking (Chen et al., 2008).

Self efficacy is defined as the confidence felt by the individual in doing something or carrying out an action. In other words, it is the conviction of the individual regarding how successful they will be in overcoming the difficulties to be encountered in the future (Bandura, 1997). While the children in one study (Ogel, 2001) who had high self efficacy levels displayed more positive health behaviors by overcoming the problems that they encountered more easily, the children with low self efficacy levels had difficulty in coping with their problems and thus may have been at risk to develop more negative health behaviors. Maassen et al. (2004) stated that low self efficacy (lower self-efficacy expectations regarding emotional situations) is an important risk factor for children who start smoking. Chang et al. (2006) mentioned that self efficacy is the most important factor that contributes to quiting smoking among children.

Maher et al. (1997) also specified that children with low self efficacy levels display more positive perceptions regarding smoking. Chen et al. (2008) emphasized that students who were at the precontemplation stage had higher self-efficacy that supported their efforts to resist smoking initiation than those who were at the decision-making or maintenance stages. In the same study, children's ratings of benefits of smoking were significantly higher for those in the maintenance stage (of non-smoking) than in the precontemplation or decisionmaking stages. In a discriminant function analysis, self-efficacy and decisional balance correctly predicted 77.4% of membership in the three stages (Chen et al., 2008).

Kim (2004) also detected that the most important factor affecting smoking behaviours of students is the child's scores on self efficacy scales. Engels et al. (2005)

*[1]Agri Ibrahim Cecen University, Health School, Agri, [2]Dokuz Eylul University, Faculty of Nursing, Izmir, Turkey, [3]College of Nursing, Washington State University, Spokane, Washington, USA *For correspondence: candan.ozturk1@gmail.com*

focused on 11-14 years olds, findings showed that higher depressive mood, low self-esteem, and low self-efficacy appared to enhanced levels of smoking.

In the literature, studies of programs designed for prevention (Bektaş, 2009) and cessation of smoking are reported (Kim, 2006). Ideally a smoking prevention program should be introduced in grade four and five before smoking onset in order to prevent future adolescent and adult smoking initiation (Chen et al., 2008). Smoking cessation programs are costly and time-consuming. If smoking is prevented, the ratio of healthy individuals in the society will increase and the deaths caused directly or indirectly by smoking will be prevented. Thus, efforts aimed at smoking cessation should be enhanced. A limited number of nursing studies were conducted in Turkey to explore smoking prevention among children (Sarı & Öztürk, 2005; Bektaş, 2009).

The current study discussed in this article was conducted because of the lack of Turkish research that explores the effect of self-efficacy and smoking.

Materials and Methods

Sampling was conducted in elementary schools affiliated with Izmir Provincial Directorate for National Education. In the selection of the schools, all districts of the city of Izmir were clustered as central and provincial districts using the cluster sampling method. After the districts in Izmir were clustered, one central district (Bornova) and two provincial districts (Selcuk and Seferihisar) were chosen using a simple random sampling method. After the districts were selected, all schools in each district were listed. One school from Bornova, one school from Selcuk and one school from Seferihisar were selected, using a simple random sampling method.

Research was carried out in three elementary schools located in İzmir in 2010. Two hundred and eighty eight fifth grade students were included in the sampling. However, the final sample comprised 233 fifth grade students whose families gave permission, and who agreed to participate in the study. Studies conducted with regard to smoking in children and researchers recommendations were taken into consideration in determining the classes and age groups to be included in the sampling (Engels et al., 2005; Chen et al., 2008).

Research Ethics, before starting the research, ethics committee approval was received from The Dokuz Eylul University Directorate of Non-Invasive Clinical Researches Assessment Commission, and individual institution permissions were obtained from İzmir Provincial Directorate for National Education. For the participation of the children in the study, written consent of parents and assent of the children were obtained.

Explanations regarding the research and the questionnaire forms were made to the students by the researchers in the classrooms.

An informed consent form developed by the researchers was sent to the families via students in order to gain the participation of the students in the research. Only students whose families allowed them to participate were included in the research. Students whose families did not give permission were not included in any practice. In the analysis of the research data, The Statistical Package for the Social Sciences (SPSS) 11.0 statistical package program was used. Percentage calculations and tests were used in the assessment of the findings obtained in the study. Results were evaluated in a confidence interval of 95 % and at $p<0.05$ level of significance.

Scales

Data were collected through the Sociodemographic Data Collecting Form, the Self Efficacy Scale Child Form and the Child Decisional Balance Scale. Children were asked to use code names instead of their names in order to enable them answer the questions easily and freely. The researchers provided necessary explanations regarding completion of the paper and pencil scales. Researchers explained that there were 3 questionnaires that there were no wrong answers and that all of the answers helped researchers to a gain better understanding of the adolescents. Data were applied and collected by the researchers in the classroom environment during a course hour for each class. Data collection took almost 40 minutes and was conducted in a classroom provided by the school.

Sociodemographic Data, this form, developed by the researchers, was composed of questions about the age, gender, educational status of father and mother, the number of siblings and the income level of the family. The form also included a question about current smoking status of the child and the parents

Self Efficacy Scale Child Form, the Self Efficacy Scale was developed by Sherer et al., (1982) for adults. Reliability and validity testing of theTurkish version for school-age children in Turkey was conducted by Gürbüz and Aksayan in 2006. Reliability and validity tests of the scale were applied to elementary grade children in the 3^{th} , 4^{th}, and 5^{th} grades (n:112). Experts were consulted regarding the content validity of the scale. Test retest value of the Self Efficacy Scale Child Form was found to be .67 and the internal consistency coefficient was at Cronbach Alfa .78. Composed of 23 items measuring general perception of self efficacy,The Self Efficacy Scale was administered to determine the self efficacy scores of children in the study. It is a likert type scale and the items are scored between 1 and 3. In the scoring of the scale, "Never" corresponds to (1), "Sometimes" corresponds to (2) and "Always" equals to (3) from the scores. The maximum score of the scale is 69 and the minimum is 23. A high total score from the scale shows that general self efficacy perception is high. There is no cut point, if the total point is high, self efficacy perception is high. (There is a positive correlation)

In this study, ROC (Receiver operating characteristic curves) analysis was conducted with the aim of determining scoring of the Self Efficacy Scale Child Form. In Table 1, self efficacy levels of the children and the measurements of the self efficacy scale are indicated. Cutting point of the scale was determined to be 41.5 as a result of ROC analysis. At this point, sensitivity of the scale was found as .833 and its selectivity was found as .872. The average score of students with a high self efficacy level was 46.4±3.7 (n:202) while the average score of students with

Table 1. Perceived Self Efficacy Scale Score Averages of Children, Standard Deviations and the Cutting Point (n:233)

Self Efficacy Level			Cut-off point	
	n	X± SS	n	X± SS
High	202	46.4±3.7		
Low	31	40.3±1.6	233	41.5
All Group	233	45.6±4.1		

a low self efficacy level was 40.3±1.6 (n=31). The average self efficacy level score of the whole group was 45.6±4.1 (n=233).

Child Decisional Balance Scale (DBS), the Decisional Balance Scale was developed by Velicer et al. in 1985 for adults. The reliability and validity test of theTurkish version for school-age children in Turkey was conducted by Bektaş, Öztürk and Armstrong in 2010. Its reliability and validity test was performed on fourth, fifth, sixth, seventh and eighth grade students (n:292) whose average age was 11.9 ± 1.67. Internal consistency analysis of this scale was α = .74 at subdimension of pros and α = .78 at subdimension of cons; its test retest reliability was .85 for subdimension of pros and .70 for subdimension of cons. A statistically significant relationship was detected between the item total score of Child DBS subdimensions, between .53-.74 for the dimension of Pros correlation coefficients (Pearson Moments Multiplication Correlation) and .57-.74 for the subdimension of cons. Eight experts were consulted regarding the content validity and it was observed that there was consistency between the experts (Kendall W= .220 p=.167). Language validity of the scale was performed. Two factors explained the 50 % of total variance. It was determined that factor weights of Child DBS varied between .31 and .79 for the subdimension of pros and, between .39 and .69 for the subdimension of cons. Consistency indices of the scale are Root Means Square Error of Approximation (RMSEA) 0.076, Goodness Fit Index (GIF) .93, Normed Fit Index (NFI) .90, Comparative Fit Index (CFI) .93 and Incremental Fit Index (IFI) .93. Child DBS was applied so as to specify the perceptions of the children regarding the pros/cons of smoking.

The Child DBS is composed of six item- pro and six-item con subscales including 12 items as regards to the pros and cons of smoking. It is likert type scale scored between one (1) "No" and five (5) "Yes". Score distribution of pro and con subdimensions of Child DBS varies between 6-30. There is not a total score in the scale but each subscale is scored itself. Form the subscales, a high score average in the cons subscale shows that the child has strong perceptions regarding the cons of smoking while a high score average in the pros subscale shows that the child has strong perceptions concerning the pros of smoking.

Results

The average age of the students participating in the study was 11.1±0.41. 49.8 % (n:116) of the students in the sample were female, 50.2 % of them (n:117) were male. When the students were asked about whether their parents were smokers or not, results indicated 29.2 % (n:68) of mothers and 55.4 % (n: 129) of fathers were smokers. When the parents' education levels were analyzed, a high percent of mothers (61.4 %, n:143) and fathers (51.5%, n:120) were primary school graduates. Seventy eight of the students (n:183) stated that they came from middle income families. When students were asked about their siblings, 60.5 % (n:141) of the students had one sibling. Average number of siblings is 1.18

Positive Perceptions and Self Efficacy

The average score regarding positive perceptions of smoking was 7.24± 2.54 among children having a high self efficacy level. The score was 9.37 ± 5.41 among children with a low self efficacy level (Table 2). The difference between the averages of positive perceptions of smoking among children with a high self efficacy and low self efficacy was statistically significant (t=2.117, p=.042).

Negative Perceptions and Self Efficacy

While the average score regarding the negative perceptions of smoking was 29.00± 2.20 among children having a high self efficacy level, it was 27.26 ± 4.31 among children with a low self efficacy level (Table 3). The difference between the score averages of smoking cons perceptions of children with a high self efficacy level and low self efficacy level was statistically significant (t=2.206, p=.035).

Discussion

Perceptions regarding the positive aspects of smoking were low and the negative perceptions of smoking were high in children with a high self efficacy level. Conversely, perceptions of the positive aspects of smoking were high and negative perceptions of smoking were low in children with a low self efficacy level.

In the study conducted by Chen et al. (2008) with 401 students between the ages of 11-14, researchers detected a range of medium to high level relationship between self efficacy levels of children and their perceptions of smoking pros/cons. In a study by Maher et al. (1997) with 285 students between the ages of 15-16, found that students with low self efficacy levels displayed more positive attitudes for smoking. Our findings show are similar to the results of previous studies, as noted (Maher & Rickwood, 1997; Kim, 2004; Chang et al., 2006; Chen et al., 2008).

Bandura (1989) stated that social learning plays an important role in the acquisition of behaviors. Studies previously conducted showed that role models, especially mothers, fathers, siblings, admired artists, football players, close friends (Maassen et al., 2004) and advertisements are significantly persuasive for children to initiate smoking and continue smoking (Keskinoğlu et al., 2006). High rates of smoking among parents (mothers 29.2 %, father 55.4 %) are influential in smoking behaviors of their children.

Bandura (1989) emphasized that self efficacy is one of the key factors influencing behavior. Children who have low self efficacy have difficulty in coping with problems they encounter. This is because these children can not

develop positive scenarios that will guide them to solve the problem and can not motivate themselves to implement these scenarios (Ülgen, 1997). Therefore, children with low self efficacy and who have high positive perceptions of smoking may be unable to create positive scenarios for the solution of problems that they encounter and their preference to use cigarettes in order to cope with the problems. However, the children with a high self efficacy are more likely to analyze their past experiences when they encounter problems. They remember the previous successful results in the solution of the problems. They create positive scenarios that will guide them to the solution of the problem and motivate themselves for the solution by constantly visualizing these scenarios in their minds. It may be that children with high self efficacy who have high negative perceptions of smoking may realize the negative aspects of smoking because of what they observe and hear in their environments.

Children having high self sufficiency levels are internal control focused. They are more successful in developing positive environment and health behaviors when compared to the children with low self-sufficiency levels. Thus, children with high self sufficiency levels are more inclined to perform the positive behaviors of the individuals that they take as example or see around them. In other words, these children select the beneficial behaviors out of the harmful behaviors and then, display these beneficial behaviors. and thus, they do not consume cigarettes. Children with high self sufficiency have internal control focus and these characteristics are reported to be effective individual characteristics in developing positive health behaviors and preventing negative health behaviors (Bandura, 1989). Children with high self efficacy quit smoking even under high-risk situations for smoking such as pressure from social circle, changing social relationships, curiosity and isolation (Kim, 2006).

In conclusion, in the current study, it was determined that high self efficacy is a factor associated with the prevention of developing negative health behaviors by affecting the perception of smoking pros/cons. Results of this study will certainly shed light on the determination of the at-risk groups for smoking initiation and contribute to the development of smoking prevention and cessation programs by health educators and other professionals. Thus, recommendations supported by these findings are to

Education programs suitable to the age of children should be prepared in order to decrease their pro perceptions and increase their con perceptions towards smoking, and measures aimed at elevating the self efficacy levels of children should also be developed.

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