

RESEARCH ARTICLE

FAMILIAL PREDICTORS OF SMOKING IN ADOLESCENTS; A COMPARISON OF SMOKERS AND NON-SMOKERS

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Abstract

Adolescence stage is filled with enormous changes and challenges. At this stage, adolescents are not mentally mature so they failed to adjust to the changes of their life and are at greater risk of developing smoking habit. Many psychosocial factors contribute to adolescents' smoking, among them family role is prominent. So, the present correlational study aimed to highlight the familial predictors of smoking in adolescents. It was hypothesized that parenting styles, lack of parent-child communication, less parental monitoring, parents and sibling smoking would be related to adolescents smoking. Data was collected from 150 adolescents (smokers: 70, non-smokers: 80) through convenient sampling technique. Parental bonding instrument and parental monitoring questionnaire were used. Binary Logistic regression revealed less Parental care and father's monitoring, lack of mother-child communication and siblings' smoking as significant predictors of smoking. The study implications are discussed with its application in health, social and counseling psychology. *ASEAN Journal of Psychiatry, Vol. 22 (4): April 2021:1-11.*

Keywords: Parenting Styles, Parent Child Communication, Parental Monitoring, Parents and Sibling Smoking

Introduction

Adolescence is a period, often described to comprise at the age of 10 to 19 years, is filled with enormous behavioral, social and psychological changes and challenges [1]. At this stage adolescents are not mentally mature so some of them failed to adjust to the changes of their life [2] and are at greater risk for developing smoking habits [3]. Smoking behaviors are instigated primarily during adolescence. Adolescents are also putting themselves at high risk of physical and psychological injuries by using alcohol and cigarette etc.

Cigarette smoking is the most common addiction around the world. Approximately over 1.1 billion people around the world are cigarette smokers [4]

with an increase in Eastern region. The prevalence of smoking is alarming in youth and it is becoming the leading cause of deaths worldwide. Therefore, initiation and progression of preventive techniques is necessary but for the development of effective techniques it is essential to understand the root causes and risk factors of smoking.

It is widely recognized that adolescents do not start smoking in vacuum [5,6]. Many psychosocial factors lead them toward deviant behaviors such as smoking habit. Among these factors, family contributes a lot to adolescents smoking. Family environment provides an important contextual background for behaviors shaping [7] 'nature of children' relationship with parents in early stages influences their behaviors later in their life. Weak parent-child relationship leads to higher level of

smoking in children while supportive parent-child relationship serves as protective factor against smoking habits [8]. Child development theories suggest that family characteristics play an important role in risk to initiate smoking and other problematic conducts [9]. Parents are not only role model for their children; their behavior and characteristics are also significant determinant of smoking initiation [10].

Parenting is one of the most important predictors of smoking. One ways through which parents influence their children is with their parenting styles [11,12] identified four parenting styles authoritarian, authoritative, disengaged and permissive which parents mostly use. Authoritarian parents expect a high level of obedience, restrict autonomy, set disciplinary rules, and expect their child to accept their orders without questioning. In result, their children become anxious, unhappy, and hostile; display anger and become dependent. Researchers have confirmed that Authoritarian parenting is related with greater risk of substance use [13].

On the other hand, Authoritativeparentsexert fair control, autonomy, negotiate and take responsibility of their children thus providing a sense of happiness, self-confident, social maturity and high self-esteem to their child. Researchers highlighted that Authoritative parenting help in reducing the smoking risk among their children [14,15]. Adolescents scoring high on protective and authoritative parenting style have been found more ready to make attempt to quit smoking than those who have lower scores on parenting styles [16]. Furthermore, children of permissiveparents face trouble in controlling their impulses and are less determined in their task. Disengagedparentingalso results in more developmental and attachment problems followed by lack of emotional and social skills, delinquent behaviors and tendency toward drug usage [17].

Besides parenting styles, parent-child communication is also an important construct which is reflection of the interpersonal relationship

of parents with their children. This communication provides fundamental understanding of how parents influence their children' smoking related decisions. Through effective and positive communication, parents can not only explain the house rules but can also explain the reasons for not smoking. Positive discussion of parents with their children regarding smoking harms is effective in preventing them from adopting smoking habits while,lack of communication leads to destructive outcomes [18].

Parental monitoring is also an important strategy that prevents adolescents from smoking and associating with drug users group. It provides parents the knowledge of the activities of their children [19]. Parents who know what their children are doing can detect their activities that might cause risk to them. Greater monitoring increases the chances of healthy parent-child relationship whereas lack of parental monitoring and parent's smoking is positively related with the current smoking of children [20].

The risk of smoking among children also increases when they follow some role models in their environment. Thus family especially parental and older siblings smoking behaviors influence adolescence's smoking pattern both positively and negatively. Children are twice likely to start daily smoking in 13 to 21 year of age if their parents smoke [21]. They have a higher risk to start smoking when one or both parents are smokers [22]. Even smoking behaviors of step parents also play a role in adolescents smoking habits [23].Mother smoking habit increases the risk of children smoking more than father smoking [24]. Researchers has also provide indication of gender difference highlighting that boys' proportion of heavy smoking is twice as high in families where both parents are smokers while girls' proportion is seven times as high in families where both parents are non-smoker [25]. Hence, availability of cigarette at home increases the risk of smoking among adolescents [26].

Parent's education also predicts smoking prevalence among adolescents. Highly educated parents can lower the risk of smoking conversely low education of parents is associated with high risk of smoking initiation [27].

Hence, several familial predictors play an important role in initiation and cessation of smoking. Exploring these familial factors of smoking would help parents in understanding and reducing such behaviors in their children. This study was also helpful in giving awareness to the parents about what familial factors contribute to adolescents' smoking, so they can deal with them virtuously. Considering the significance of these factors, following hypotheses were examined in present study:

H1: Parenting styles (care and overprotection) would likely to be related with adolescents smoking.

H2: Lack of parent-child communication would be positively related with adolescent smoking.

H3: Parental monitoring would be negatively related to adolescents' smoking.

H4: Parental and sibling smoking would be positively related to adolescents' smoking.

H5: Parental education would likely to predict adolescents' smoking.

Methods

Research design

Correlational research design was used in order to find out the relationship of familial predictors with smoking.

Sample

Sample was recruited by using Non probability convenient sampling technique. Total sample of the study comprised of 150 boys, smokers (n=70) and non-smokers (n=80) with the age range of 17-19 (M=18.49, SD= .69). Sample was recruited from educational institutes. Adolescents living with both parents were selected. Among them, 53

participants were from joint family system and 97 were from nuclear family.

Assessment Measures

Parental Bonding Instrument (PBI)

Parental Bonding Instrument was used to assess parenting styles and parent child communication. Developed a 25-item scale to measure fundamental parental styles as perceived by the child. The scale focused on two major dimensions including parental care and over protection. 12 items of PBI measure care dimension and 13 items measure overprotection dimension. Parental communication was measured by three items 1, 11 and 18 on PBI. Participants completed measure for both mothers and fathers separately. Participants responded on 4 point Likert rating scale (very unlike: 3, moderately: 2. unlike, moderately like: 1 and Very like: 0).

Parental monitoring

Parental monitoring was assessed through 5-items of self-made questionnaire. The questionnaire was completed by participants for both mothers and fathers separately (e.g. Does your mother/father ask you (i) Where you spend your leisure time after college/university, (ii) Who your friends are, (iii) By calling you to check where you are when you are not at home, (iv) Where you spend your pocket money and (v) Where you go at night and with whom). Participants responses was measured on a 4-point Likert scale (Never: 0, rarely: 1, Often: 2, Always: 3). Cronbach alpha was .64 for the mother's monitoring and .62 for the father's monitoring in our sample.

Procedure

First of all, Institutional approval was taken to collect the data. Questionnaires were administered on both smokers and non-smokers. Participants were brief about the study, and informed consent was taken. Participant who want to participate voluntarily were included and they were assured

about the full confidentiality of all the information obtained from them. Average time to complete the questionnaire was 15-20 minutes. Participants were recruited by asking a question do you smoke cigarettes. Response rate was 84%.

Results

Point biserial Correlation analysis was performed to find out the relationship between smoking status

and familial predictors of smoking. Co relational analysis revealed significant negative relationship between smoking status and mother’s care, father’s care, mother’s communication, father’s communication, mother’s monitoring and father’s monitoring while positive relationship was found between smoking status and mother’s overprotection and father’s overprotection (Table 1).

Table 1. Summary of correlation between smoking status and familial predictors (N=150)

Variables	1	2	3	4	5	6	7	8	9
Smoking status	-	-.78**	-.72**	.59**	.46**	.75**	-.65**	-.20*	-.30**
Mother’s care		-	.78**	-.69**	-.58**	.89**	.73**	.17*	.27**
Father’s care			-	-.63**	-.64**	.67**	.86**	0.13	.25**
Mother’s overprotection				-	.73**	-.58**	-.53**	-0.08	-.25**
Father’s overprotection					-	-.47**	-.57**	0.003	-.12**
Mother’s communication						-	.70**	0.14	.21**
Father’s communication							-	0.09	.19*
Mother’s monitoring								-	.62*
Father’s monitoring									-

Note: For Smoking Status. 0: No, 1: Yes, *: $p < 0.05$. **: $p < 0.01$.

Further, binary Logistic regression was performed to ascertain the parental factors associated with smoking of adolescence by using enter method with smoking status as the DV and parental factors (Parental care, parental over protection, parental communication) as predictor variables. The model of binary logistic regression was statistically significant, $\chi^2(6)=157.87$, $p < .001$. The model

explained 86.9% (Nagelkerke R^2) of the variance in smoking status and correctly classified 93.3% cases. Among the factors mother care, father care and mother communication were found to be significant predictors of smoking. A unit decrease in mother’s care was associated with increase in the odds of smoking by a factor of .708. A unit decrease in father’s care was associated with

increase in the odds of smoking by a factor of .721.
 A unit decrease in mother communication was

associated with increase in the odds of smoking by
 a factor of 526 (Table 2).

Table 2. Binary logistic regression for parenting styles (care and overprotection) and parental-child communication (N=150)

Predictors	Mother			Father		
	B	SE B	Exp(B)	B	SE B	Exp(B)
			OR (95% CI)			OR (95% CI)
Parental Care	-.35**	0.13	.71 (.55-.92)	-.33**	0.11	.72 (.59-.86)
Parental overprotection	0.01	0.11	1.01 (.82-1.25)	-0.05	0.13	.95 (.74-1.22)
Parent-child communication	-.64*	0.32	.53 (.28-.98)	0.2	0.3	1.23 (.68-2.20)

Note: OR: Odd Ratio; CI: Confidence Interval; **: $p < .01$, *: $p < .05$

Again, binary Logistic regression was performed to ascertain the association of parental monitoring (mother’s monitoring and father monitoring), father’s smoking, and sibling’s smoking and with adolescence smoking status by using enter method with smoking status as the DV and parental monitoring, father’s smoking and sibling’s smoking as predictor variable.

The model was statistically significant, $\chi^2(3)=57.006$, $p < .001$. The model explained 42.2% (Nagelkerke R^2) of the variance in smoking status

and correctly classified 53.3% cases. Among the factors father’s monitoring and sibling’s smoking was found to be a significant predictor of adolescent smoking. Father’s monitoring was low in smokers than non-smokers. The value of the coefficient revealed that each unit decrease in score of father’s monitoring is associated with increase in the odds of smoking status by a factor of .77. Sibling’s smoking predicted positively, indicating more evidence of sibling’s smoking in smoker’s sample (Table 3).

Table 3. Binary logistic regression for parental monitoring, Father’s smoking and sibling’s smoking among smokers (n=70) and non-smokers (n=80).

Predictors	B	SE B	EXP (B)
			OR (95% CI)
Mother’s monitoring	0.04	0.08	1.04(.89-1.21)
Father’s monitoring	-.26**	0.08	.77(.67-.89)

Father's smoking	0.47	0.52	1.59(.58-4.37)
Sibling's smoking	4.09***	1.07	60.19(7.35-493.07)

Note: OR: Odd Ratio; CI: Confidence Interval; SE: Standard Error, **: $p < 0.01$, ***: $p < 0.001$

Chi-square was used to examine the relationship between parenting styles (affectionate constraint, affectionless control, optimal parenting and neglectful parenting styles) and smoking status (Yes, No). Analysis revealed significant relationship between mother parenting styles and

smoking status, $\chi^2(3, N=150)=66.95, p < .001$ and father's parenting styles and smoking status, $\chi^2(3, N=150)=71.55, p < .001$. Affectionless control was more likely to be related with smokers while affectionate constraint was more likely to be related with non-smokers (Table 4).

Table 4. Chi-square for independence for relationship between parenting styles and smoking status (n=150)

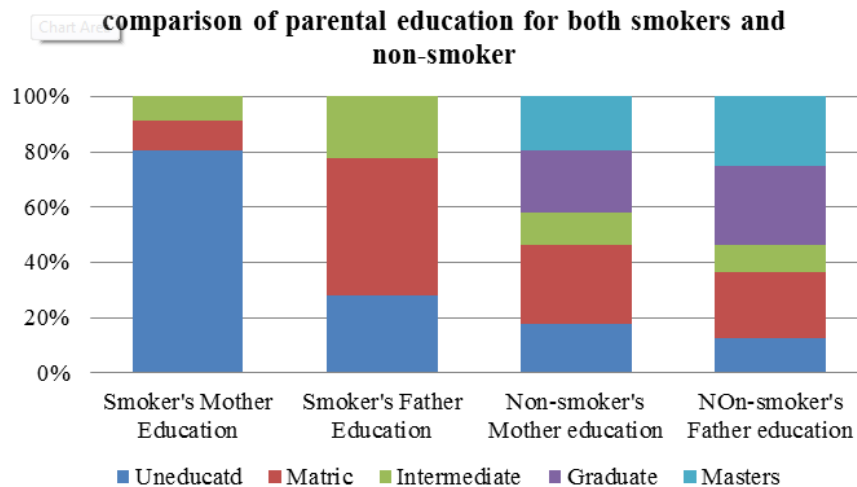
	Smoking status	Mother parenting styles				χ^2 V
		Affectionate constraint	Affectionless control	Optimal parenting	Neglectful parenting	
Mother parenting styles	Yes	1	67	0	2	66.95***
		-1.40%	-95.70%	0.00%	-2.90%	
	No	27	25	22	6	.67
		-33.80%	-31.20%	-27.50%	-7.50%	
Father parenting styles	Yes	3	65	1	1	71.55***
		-4.30%	-92.90%	-1.40%	-1.40%	
	No	37	20	22	1	.69
		-46.20%	-25%	-27.50%	-1.20%	

Note: ***: $p < .001$, df: 3. Numbers in parentheses indicate column percentages.

Lastly, it was hypothesized that parental education is related to adolescents smoking as adolescents whose parents are highly educated are less likely to smoke cigarette. A bar chart is used to show parental education status for both smokers and non-smokers. Parental education showed a significant difference between smokers and non-smokers as smokers belong to less educated parents than non-smokers. 80% mothers of

smokers are uneducated while only 20% are educated and 28% fathers of smokers are uneducated while 72% are educated. 18% mothers of non-smokers uneducated while 82% are educated and 13% fathers of non-smokers are uneducated while 87% are educated. It revealed that low parental education is associated with smoking of children (Figure 1).

Figure I. Showing comparison of parental education status of both smokers and non-smokers using bar chart



Discussion

Keeping in view the harmful effects of cigarette smoking on health, prevention of adolescents from initial smoking is important duty of the society. But before developing and applying intervention strategies, there is a need to find out the root cause of smoking. Therefore, current research attempted to explore the factors related to adolescents smoking.

Previous researches have confirmed that smoking is a major public health issue in Eastern countries [28,29]. It is one of the leading factors of many illnesses. Adolescents are found to be vulnerable population to adopt smoking habits [30]. Many studies reported that 14% of school children were involved in smoking habits [31,32]. If smoking does not start in adolescent there are chances that it will not occur ever.

It was hypothesized that parenting styles (care and overprotection) would likely to be related with adolescents smoking. Among these styles low parental care was found to be a significant predictor of smoking while no significant results were found for parental overprotection. Further dimensions of care and overprotection were explored including affectionate constraint (high care and high protection), affectionless control (high protection and low care), optimal parenting (high care and low protection) and neglectful parenting (low care and low protection). Results

from these dimensions revealed that affectionless control was more likely to be related with smokers while affectionate constraint was more likely to be related with non-smokers. These results were consistent with previous researches. Researches on parenting styles suggested that strict, inconsistent and punishing parenting increased the risk of children smoking. Low parental care is important determinant of adolescents' smoking [33]. Found that adolescents of smoking parents with low care had highest smoking rate while adolescents of non-smoking parents with high care had lowest smoking rate.

It was further hypothesized that lack of parent-child communication is related to adolescent's smoking. It was found that less mother-child communication was associated with adolescent's smoking but no significant association was found between father-child communication and adolescent's smoking. The previous literature also confirmed this finding as [34] found that communication with mothers was negatively related to smoking among sons. Fathers are more likely to be seen as less effective, involved and significant than mothers with regards to family connections [35]. Found negative association between high quality of smoking specific communication and adolescents smoking. Mothers were found to communicate with their children more openly than fathers.

It was hypothesized that parental monitoring would likely to be negatively related with adolescents' smoking. Low father monitoring was found to be related with adolescents smoking but no results were found for mother monitoring. Previous researchers have found negative association of parental monitoring with substance use and supported the claimed that low monitoring by parents increases the risk of smoking [36]. Found that adolescents who perceived low parental monitoring were at high risk of drug use. Also find out that low parental monitoring and parental smoking was related with adolescents' current smoking.

Researcher has explained that Low monitoring by parents can increase the risk of smoking while high parental monitoring serve as protective factor against adolescents' smoking [37]. Low monitoring by both father and mother is related with risk of adolescents' smoking [38]. In line with these studies, the current study found only low paternal monitoring as significant predictor of smoking among smokers than non-smokers but no results were found for maternal monitoring.

It was further hypothesized that parental smoking is positively related with adolescents smoking. Contrary to the expectation no significant results were found for parental smoking. Wide range of studies have found that adolescents whose parents smoke or who live in families where family members smoke are more vulnerable toward smoking initiation [39,40] found no relationship between adolescents smoking and parental smoking.

Smoking effect on children and adolescents also differ for both mother and father smoking. A number of researches find out that the effect of mother smoking was stronger [41] than father smoking [42]. Despite of many researches on maternal smoking, in the current study no data for mother smoking was obtained. None of the participants respond to the question for mother smoking because the data was collected from public university students where majority belongs

to middle class and maternal smoking is not acceptable in this class. If the data was collected from elite class there could be a chance to obtained information regarding maternal smoking status. Another main reason for not finding any data for maternal smoking could be due to the cultural, social and religious norms of Eastern society. Social theories proposed that social norms influence people behavior so people tend to adopt those behaviors more that are acceptable in society [43]. In most of the eastern counties, religious and cultural norms discourage the use of smoking especially for women [44]. Also supported that religious norms influence on smoking behaviors and found that religious group compared to secular group perceived the influence of their religion in discouraging smoking.

Effect of sibling smoking was also assessed. Researchers have proposed that sibling smoking influence adolescents' smoking as elder siblings become role model for their younger ones. In line with previous researches current study found siblings' smoking a significant predictor of adolescents smoking [45]. Model of social development suggested that adolescents are more likely to initiate smoking if their siblings smoke. Lastly, parental education was also assessed in relation with adolescents' smoking [46,47]. It was supposed that adolescents with highly educated parents are less likely to smoke. Smoker's parents were found to be uneducated compared with non-smokers.

Parental education has significant influence on children toward passive smoking. Children living in highly educated families are less exposed to passive smoking compared to those living in low or middle educated families because educated parents have knowledge regarding the risk of smoking so they can guide their children well and protect them [48,49].

Implications and future suggestions

Hence, the findings of present study hold importance due to its theoretical as well as

practical contribution. It can be helpful in guiding parents to deal with their children in a more constructive way and to follow and impart the principles that will prevent adolescents from smoking initiation. Furthermore, this study may also help counselors in therapeutic intervention.

Like other studies, this research also contributed to existing literature but faced some shortcomings as well so future research can fill the gap of this study. Sample for the study was not large enough. Large sample could be obtained. Parents could also be included to observe actual rather perceived parenting. Mix method approach can be helpful in exploring the phenomenon in depth. Only male sample was taken, smoking pattern and familial predictors for female smoking may also be observed.

Conclusion

In conclusion, we hypothesize that enhanced susceptibility to environmental tobacco smoke in childhood increases the risk of nicotine-seeking behavior in adolescence. If proved correct, this would be valuable information to use in the ongoing campaign against smoking in teenagers.

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