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Does Parental Marital Status Matter in Male Adolescent's Smoking Behaviors?

Andrei Ramani✉[1)], Astrid Salsabila Irianti[1)], Mohammad Ardi Setia Prayogo[1)], Devi Arine Kusumawardani[1)]

[1] Faculty of Public Health, University of Jember, Jember, East Java, Indonesia
✉Email: andrei@unej.ac.id

ABSTRACT

***Background**: Globally, approximately 940 million male adolescents and 193 million female adolescents were classified as smokers in 2019. The global prevalence of smoking has continued to decline over the years, but the number of smokers remains high due to population growth. Consistently, reports from the Indonesia Demographic Health Survey (IDHS) and Indonesia Fundamental Health Research have shown an increase in the number of adolescent smokers in Indonesia. **Objective**: This study aimed to investigate the relationships between parental marital status, age of male adolescents, socioeconomic family status, and educational level of male adolescents with tobacco smoking behavior. **Method**: The research design employed was a secondary data analysis using the IDHS 2017 data with n = 5,863 male adolescent respondents. **Results**: Most respondents did not smoke, had married parents, were between 15-17 years old, came from low to very low socioeconomic backgrounds, and had an educational level of junior high school or lower. All variables (parental marital status, age, socioeconomic status, and educational level) were found to be associated with smoking behavior among male adolescents aged 15-19 years. **Conclusion**: Adolescents with divorced parents were at a significantly higher risk, approximately 1.3 times greater, for smoking tobacco compared to those from non-divorced families. Intrinsic factors (age and educational level) emerged as dominant factors in the tobacco smoking behavior of male adolescents.*

***Keywords**: IDHS 2017, Indonesia, Male adolescent smoker, Parent marital status, Tobacco smoking*

INTRODUCTION

The global prevalence of smoking has experienced a decline from 2007 to 2021 with a prevalence rate of 22.7% in 2007 and 17% in 2021. This is attributed to many countries having achieved the global target for tobacco control. However, the absolute number of tobacco smokers worldwide remains high due to population growth. Globally, approximately 940 million males adolescent and 193 million females adolescent were classified as tobacco smokers in 2019. Notably, more than 75% of male smokers reside in countries with medium or high Human Development Index (HDI) scores, whereas over 53% of female smokers are found in countries with very high HDI scores (WHO, 2023).

Tobacco smoking is one of the most significant global health concerns, affecting millions of people worldwide. Annually, 8 million lives are lost due to smoking, with 7 million deaths attributed to active smoking and 1.3 million deaths resulting from passive smoking (Ritchie & Roser, 2023). Nicotine dependence can have both short- and long-term impacts on health. According to the WHO (2018), the effects of smoking on adolescent health include increased risk of cardiovascular disease and stroke, impaired physical health, elevated resting heart rate, enhanced risk of lung cancer, respiratory problems, emotional and psychological distress, and a propensity for engaging in risky behaviors such as alcohol consumption, illicit drug use, violence, and unsafe sexual practices. Apart from its health implications, smoking can also affect an individual's economic well-being, as every dollar spent on cigarettes reduces household

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expenditure, thereby compromising food security, education, and healthcare (Ginting & Maulana, 2020). In addition to the direct costs of purchasing cigarettes, smokers must also bear the financial burden of treating smoking-related illnesses. Smoking-induced diseases can result in substantial economic losses, including lost productive days due to illness and premature mortality during productive years (Agustin, 2019).

Globally, the average prevalence of smoking among young people aged 15-24 years has declined from 20% in 2000 to 13% in 2022 and is projected to reach 12% by 2030. The number of smokers aged 15 years and above in Southeast Asia decreased from 488 million in 2000 to 411 million in 2022 (WHO, 2024). Based on the IDHS report, the percentage of unmarried males aged 15-19 years who started smoking before the age of 15 increased from 56% in 2012 to 57% in 2017 (BPS, BKKBN & Kemenkes, 2017). Meanwhile, data from the 2018 Indonesian Basic Health Research showed that the prevalence of smoking among adolescents aged 10-18 years increased from 7.20% in 2013 to 9.10% in 2018. These results are far from the target set by the 2019-2024 Indonesian Mid-Term Development Plan (RPJMN), which aims to reduce the prevalence of smoking among adolescents aged 10-18 years to 8.7% (Fauzi *et al*., 2019).

Several studies have demonstrated that adolescents from divorced families are at a higher risk of smoking. A study conducted by Doku *et al*. (2019) found that parental divorce increases the risk of smoking behavior among adolescents. The adolescent period is also a susceptible age, as they are more likely to be influenced by others, such as smoking behaviors among their peers (Salsabila *et al*., 2022). Low levels of education are more likely to be associated with smoking behavior. Education can provide individuals with knowledge about the risks and dangers of smoking, which may deter those with higher levels of education from engaging in smoking behavior (Juliansyah & Rizal, 2018). Smoking behavior is also influenced by an individual's socioeconomic status, with those from lower socioeconomic backgrounds being at a higher risk of smoking (Mahdaviazad *et al*., 2022).

Given the preceding background, this study aims to investigate the relationship between parental marital status, age of male adolescents, family socioeconomic status, and educational level of male adolescents with smoking behavior. Moreover, the results of this study are expected to provide a more comprehensive addition to the existing profile of adolescent smokers population in Indonesia.

METHODS

The research design employed was a secondary data analysis using the IDHS 2017 data obtained from The Demographic and Health Surveys (DHS) Program. The IDHS 2017 data collection took place between July 24th and September 30th, 2017 (BPS, BKKBN & Kemenkes, 2017). The datasets utilized for analysis were the IDPQ7AFL and IDML7AFL datasets, with inclusion criteria consisting of male adolescents aged 15-19 years who had a parental relationship as children of married or divorced heads of households.

The variables examined included: parental marital status, adolescent age, educational level, family socioeconomic status (as independent variables), and smoking status as the dependent variable. Data interpretation employed descriptive analysis and contingency coefficient testing through chi-square tests (with α value 0.05) accompanied by risk calculation. A final sample size of 5,863 male adolescent respondents was obtained from the dataset. The sampling selection process can be seen in Figure 1 below.

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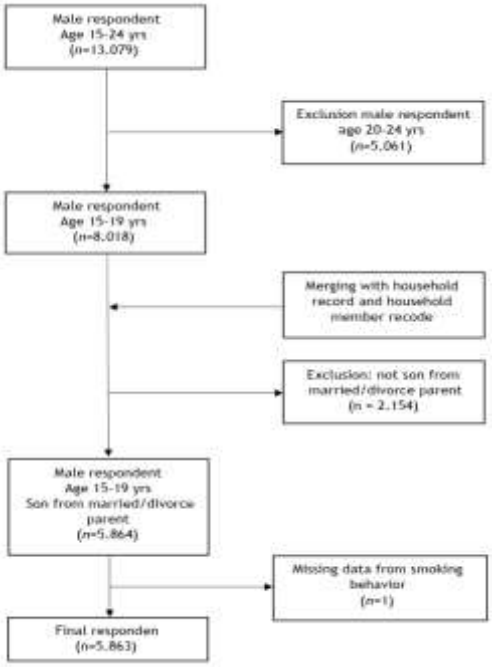

Figure 1. Data selection process

RESULTS AND DISCUSSION

Male adolescent respondents were categorized as smokers if they: 1) occasionally smoked or 2) smoked every day. Conversely, respondents were classified as non-smokers if they: 1) had quit smoking or 2) only tried smoking once or never smoked regularly at the time of the survey. As shown in Table 1, a total of 2,553 male adolescent respondents (43.54%) reported smoking behavior, whereas 3,310 respondents (56.46%) claimed to be non-smokers.

Only 165 parents of male adolescent respondents (2.81%) were divorced. Most respondents, comprising 3,974 individuals (67.78%) were within the age range of 15-17 years, while 1,889 respondents (32.22%) were within the age range of 18-19 years. Most respondents came from low and very low socioeconomic backgrounds, with details as follows: 1,412 respondents (24.08%) had a very low socioeconomic status, 1,150 respondents (19.62%) had a low socioeconomic status, while the remainder had a middle to high socioeconomic status.

Table 1. Parental marital status and 15-19 years male adolescent characteristics in Indonesia, IDHS 2017

Variables	Total (n)	%
Tobacco smoking behavior		
Yes	2,553	43.54
No	3,310	56.46
Total	**5,863**	**100.00**
Parent marital status		
Divorce	165	2.81
Married	5,698	97.19
Total	**5,863**	**100.00**
Age		
15-17	3,974	67.78
18-19	1,889	32.22
Total	**5,863**	**100.00**
Socio-economic status		
Lowest	1,412	24.08
Low	1,150	19.62
Middle	1,095	18.68
High	1,072	18.28
Highest	1,134	19.34
Total	**5,863**	**100.00**
Education level		
No education	251	4.28
Primary	941	16.05
Junior	3,434	58.57
Secondary/higher	1,237	21.10
Total	**5,863**	**100**

In general, most respondents' educational levels were junior high school or below. As shown in Table 1, 3,434 respondents (58.57%) had a junior level education, whereas 1,237 respondents (21.10%) had a secondary/higher level education. A total of 251 respondents (4.28%) had never attended school or did not complete elementary school.

A greater proportion of male adolescent smokers came from divorced families compared to those who came from non-divorced families. Most non-smoking male adolescents originated from non-divorced families. As shown in Table 2, there is a significant association between parental marital status and smoking behavior among 15-19-year-old male adolescents in Indonesia, with those having divorced parents being approximately 1.3 times more likely to smoke compared to those from non-divorced families.

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Table 2. Relationship of parental marital status and 15-19 yrs male adolescents characteristics with smoking behavior in Indonesia, IDHS 2017

Variables	Tobacco smoking behavior				Sig. (Coeff C.)	OR (95% CI)
	Yes (n)		No			
	n	%	n	%		
Parent marital status						
Divorce	98	59.4	67	40.6	<0,001*	1.379(1.211-1.569)*
Married	2,455	43.1	3,243	56.9	(0.054)	1
Age						
15-17	1,491	37.5	2,483	62.5	<0,001*	0.667(0.631-0.706)*
18-19	1,062	56.2	827	43.8	(0.174)	1
Socio-economic status						
Lowest	705	49.9	707	50.1	<0,001*	1
Low	537	46.7	613	53.3	(0.143)	0.879(0.752-1.027)
Middle	520	47.5	575	52.5		0.907(0.774-1.062)
High	453	42.3	619	57.7		0.734(0.625-0.861)*
Highest	338	29.8	796	70.2		0.426(0.361-0.502)*
Education level						
No education	176	70.1	75	29.9	<0,001*	1
Primary	412	43.8	529	56.2	(0.127)	0.332(0.246-0.448)*
Junior	1,378	40.1	2,056	59.9		0.286(0.216-0.377)*
Secondary/higher	587	47.5	650	52.5		0.385(0.287-0.516)*

Note: *Sig ≤ α (0.05)

Adolescents with divorced parents have a higher likelihood of smoking. Parental conflict can trigger stress in children and create an unpleasant home environment, thereby increasing the risk of smoking. Psychological pressures, such as feelings of suppression and high rebelliousness, can also lead to nicotine addiction. Moreover, smoking may become a means for adolescents to seek attention from their parents when the bond between parent and child weakens (Jabbour *et al*., 2020). The smoking behavior of children can originate from unhappy family environments where parents neglect their children, in contrast to those from happy families. If a child has complete parental support, their knowledge and awareness will likely improve (Sekeronej *et al*., 2020).

The majority of male adolescent smokers fall within the 18-19 yrs age range, based on statistical analysis, which reveals a significant association between age and smoking behavior. Male adolescents aged 15-17 years have a one-third lower risk ratio compared to those aged 18-19 years. The adolescent period is a vulnerable stage for initiating smoking, as individuals at this stage are seeking self-identity by trying new experiences and are easily influenced by others. Adolescents require special attention because those who start smoking often do not comprehend the risks and hazards of tobacco, particularly its addictive effects. Furthermore, it can have an impact on others, especially family members, due to the financial burden of cigarette purchases (Salsabila *et al*., 2022). The desire to try new things among adolescents can be attributed to peer influence. Peers play a significant role in shaping adolescent behavior during this stage, as they begin to separate from their parents and affiliate with same-age groups (Almaidah *et al*., 2021).

Nearly half of the male adolescent respondents came from families with a middle to low socioeconomic status. As shown in Table 2, there is an inverse relationship between family socioeconomic status and the prevalence of smoking among male adolescents, with the most significant decline observed in families with very high socioeconomic status. Adolescents from low socioeconomic backgrounds are more likely to engage in smoking behavior compared to those from higher socioeconomic backgrounds. This is because lower socioeconomic status tends to focus on daily basic needs such as food and drink, thereby diverting attention away from children's socialization needs. Unrestricted social interaction provides a platform for adolescents to express themselves and interact with people from diverse backgrounds. Adolescents feel more liberated and freer when they are among their peers, which can easily influence their behavior, including smoking (Ponimin *et al*., 2023). Research by Timban *et al*. (2019), has shown that

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low socioeconomic status is associated with a higher prevalence of smoking compared to high socioeconomic status. This is attributed to the relatively affordable price of cigarettes in Indonesia and the permissive sales policies, which allow cigarettes to be sold individually, making them easily accessible to anyone.

The majority of male adolescent smokers (70.1%) came from those who did not attend school or did not complete elementary school. In terms of numbers, male adolescent smokers were dominated by those in junior high school (1,378 male adolescents respondents), with the number of junior high school smokers nearly three times higher compared to those in elementary school or senior high school and above. A risk comparison of smoking behavior among male adolescents based on educational level reveals that those who received formal education had a three times lower risk of smoking compared to those who never attended school or did not complete elementary school. Educational level is associated with smoking behavior, as an individual's knowledge can influence their behavior. The high prevalence of smoking at low educational levels occurs due to the lack of knowledge regarding the impacts and dangers of smoking. Low educational attainment tends to be less likely to make an effort to quit smoking, but instead will increase nicotine dependence (Salsabila et al., 2022). This study aligns with previous research by Juliansyah & Rizal (2018), which suggests that education plays a crucial role in an individual's decision to adopt healthy behaviors, particularly those related to smoking. Individuals with higher educational attainment are more likely to adapt to the potential consequences of smoking.

Generally, smoking behavior among male adolescents is more strongly influenced by individual factors than parental marital status. This is evident from the relatively small contingency coefficient for parental marital status, which is roughly half the magnitude of the coefficients for age, socioeconomic status, and education. The analysis results show that the factors associated with adolescent smoking behavior, in order of strongest to weakest influence, are: age, socioeconomic status, educational level, and finally, parental marital status.

CONCLUSION

Most respondents who did not smoke had married parents, were between 15-17 years old, predominantly came from low and very low socioeconomic backgrounds, and had an educational level of junior high school or lower. All variables (parental marital status, age, socioeconomic status, and education level) were associated with smoking behavior among male adolescents aged 15-19 years. Adolescents with divorced parents were approximately three times more likely to smoke compared to those from non-divorced families. Intrinsic factors (age and education level) emerged as dominant factors in the smoking behavior of male adolescents.

Divorced parents with adolescent children should be a priority target in the Family Guidance Program for Adolescents (BKR – Bina Keluarga Remaja), aimed at reducing one of the negative consequences of divorce, specifically smoking behavior. Formal educational participation needs to be continuously promoted, as analysis results show that male adolescents who attended school had a significantly lower risk of smoking behavior compared to those who did not attend school or did not complete elementary school.

REFERENCES

Agustin, H. (2019). Peningkatan Awareness Kerugian Ekonomi Akibat Merokok Pada Warga Ponegaran Desa Jambidan, Banguntapan, Kabupaten Bantul. *Jurnal Pemberdayaan: Publikasi Hasil Pengabdian Kepada Masyarakat*, *3*(1), 31–38. https://doi.org/https://doi.org/10.12928/jp.v3i1.589

Almaidah, F., Khairunnisa, S., Sari, I. P., Chrisna, C. D., & Firdaus, A. (2021). Survei Faktor Penyebab Perokok Remaja Mempertahankan Perilaku Merokok. *Jurnal Farmasi Komunitas*, *8*(1), 20–26. https://doi.org/https://doi.org/10.20473/jfk.v8i1.21931

BPS, BKKBN dan Kemenkes, 2017. Survei Demografi dan Kesehatan Indonesia 2017 Kesehatan Reproduksi Remaja. Jakarta: BPS, BKKBN, Kemekes, ICF International.

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Doku, D. T., Acacio-Claro, P. J., Koivusilta, L. dan Rimpela, A., 2019. Social determinants of adolescent smoking over three generations. Scandinavian Journal of Public Health, 47(6), pp. 646-656.

Ginting, I. R., & Maulana, R. (2020). Dampak Kebiasaan Merokok Pada Pengeluaran Rumah Tangga. *Jurnal Kebijakan Kesehatan Indonesia: JKKI*, *9*(2), 77–82. https://doi.org/https://doi.org/10.22146/jkki.55879

Jabbour, N., Rached, V. A., Haddad, C., Salameh, P., Sacre, H., & Hallit, R. (2020). Association Between Parental Separation and Addictions in Adolescents: Resluts of A National Lebanese Study. *BMC Public Health*, *20*(965), 1–8. https://doi.org/https://doi.org/10.1186/s12889-020-09108-3

Juliansyah, E., & Rizal, A. (2018). Faktor Umur, Pendidikan, dan Pengetahuan Dengan Perilaku Merokok di Wilayah Kerja Puskesmas Sungai Durian, Kabupaten Sintang. *Jurnal Kesehatan Masyarakat*, *17*(1), 92–107. https://doi.org/https://doi.org/10.33633/visikes.v17i01.185

Mahdaviazad, H., Foroutan, R., & Masoompour, S. M. (2022). Prevalence of Tobacco Smoking and Its Socioeconomic Determinants. *The Clinical Respiratory Journal*, *16*(3), 208–215. https://doi.org/10.1111/crj.13470

Ponimin, L. G., Simak, V. F., & Kristamuliana. (2023). Hubungan Status Sosial Ekonomi Orang Tua dan Self Efficacy Dengan Perilaku Merokok Elektrik (Vape) Pada Remaja di Beejie Cafe dan Andante Cafe. *Mapalus Nursing Science Journal*, *1*(1), 87–93.

Ridwan Fauzi, Muhammad Ainul Ma'ruf, Bonita, et al, 2019. Hubungan Terpaan Iklan, Promosi, Sponsor Rokok dengan Status Merokok di Indonesia, TCSC Indonesia. Available online at: http://www.tcsc-indonesia.org/wp-content/uploads/2019/05/Booklet-Hasil-Studi-TAPS-dan-Status-Merokok.pdf [Accessed May 10th 2024].

Ritchie, H., & Roser, M. (2023). *Smoking: Tobacco Smoking is One of The World's Largest Health Problems Today*. Our World in Dataa. https://www.who.int/publications/i/item/9789240077164

Salsabila, N. N., Indraswari, N., & Sujatmiko, B. (2022). Gambaran Kebiasaan Merokok di Indonesia Berdasarkan Indonesia Family Life Survey 5 (IFLS 5). *Jurnal Ekonomi Kesehatan Indonesia*, *7*(1), 13–22. https://doi.org/10.7454/eki.v7i1.5394

Sekeronej, D. P., Saija, A. F., & Kailola, N. E. (2020). Tingkat Pengetahuan dan Sikap Tentang Perilaku Merokok Pada Remaja di SMK Negeri 3 Ambon Tahun 2019. *PAMERI (Pattimura Medical Review)*, *2*(1), 59–70. https://doi.org/https://doi.org/10.30598/pamerivol2issue1page59-70

Timban, I., Langi, F. F. L., & Kaunang, W. P. (2019). Determinan Merokok di Indonesia Analisis Survei Demografi dan Kesehatan Indonesia Tahun 2012. *Jurnal KESMAS*, *7*(5), 1–11.

WHO. (2023). *WHO Report On The Global Tobacco Epidemic, 2023*.

WHO. (2024). *WHO Global Report on Trends in Prevalence of Tobacco Use 2000-2030*.

Received: 01-06-2024, Accepted: 01-07-2024, Published Online: 01-08-2024