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Examining the Dominant Factors Affecting Smoking Cessation in Patients with Coronary Artery Disease

Ahmad Handayani*[,1,2], Sheila Dhiene Putri[1], Dimas Fujiansyah[3], Fardella Lufiana[4], Riyanda Indrawan Sani[3], Ria Wenny Nasution[3], Rara Khairania Mayfa[3], Diva Rochmana[3]

[1]Department of Cardiology and Vascular Medicine, Faculty of Medicine, Universitas Muhammadiyah Sumatera Utara, Medan, Indonesia.
[2]Department of Cardiology, Mitra Medika Amplas General Hospital, Medan, Indonesia
[3]Faculty of Medicine, Universitas Muhammadiyah Sumatera Utara, Medan, Indonesia
[4]Department of Anatomy, Faculty of Medicine, Universitas Muhammadiyah Sumatera Utara, Medan, Indonesia

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*Corresponding author
Email: ahmadhandayani@umsu.ac.id

Address:
Johor Indah Permai II Blok A-49 Medan

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ABSTRACT

Background: Smoking is a major risk factor for cardiovascular diseases, particularly coronary artery disease (CAD), and remains a significant public health challenge. Effective smoking cessation strategies are crucial for improving health outcomes and reducing mortality among patients with CAD. Objective: This study aimed to identify and quantify the dominant factors influencing smoking cessation compliance in patients with CAD, with a specific focus on family support, environmental support, knowledge, and perception.

Methods: A cross-sectional study was conducted at Mitra Medika Amplas Hospital, Medan, Indonesia, from June to December 2022, involving 100 participants. Data were collected using structured questionnaires. Bivariate and multivariate analyses, including logistic regression, were performed to assess associations between the independent variables and smoking cessation compliance.

Results: Family support emerged as the strongest predictor of smoking cessation compliance, with an odds ratio (OR) of 16.454 (95% CI: 1.080–250.785, p = 0.044). Although environmental support, knowledge, and perception showed significant associations in the bivariate analysis, the multivariate analysis revealed that these factors were not independent predictors after adjustment for other variables, indicating that family support is the dominant factor influencing successful cessation.

Conclusion: This study highlights the critical role of family support in smoking cessation among patients with CAD. Healthcare interventions that enhance family involvement may significantly improve cessation rates and provide valuable insights for developing culturally appropriate strategies in Indonesia and other collectivist societies.

INTISARI

Pendahuluan: Pasien penyakit jantung koroner (PJK) dengan penyakit arteri koroner multivessel (MVCD) memiliki insiden kejadian kejadian kardiovaskular merugikan (MACEs) yang lebih tinggi dibandingkan pasien dengan penyakit arteri koroner pembuluh tunggal (SVCD). Indeks trigliserida-glukosa (TG) merupakan penanda resistensi insulin (IR) yang dikaitkan dengan penyakit kardiovaskular. Namun, bukti mengenai pengaruh indeks TG terhadap kejadian penyakit arteri koroner multivessel (MVCD) pada PJK masih belum banyak dilakukan.

Tujuan: Penelitian ini bertujuan untuk mengetahui hubungan indeks TG dengan kejadian MVCD pada pasien PJK di RS Islam Sultan Agung.

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Metode: Sebanyak 198 subjek menderita PJK di RS Islam Sultan Agung Semarang periode Maret 2022 hingga Desember 2023 dibagi menjadi 2 kelompok kelompok pertama adalah kelompok MVCD jika stenosis ≥ 50% pada minimal dua pembuluh darah arteri koroner utama dan kelompok kedua adalah penyakit arteri koroner non-multivessel (non-MVCD) jika stenosis ≥ 50% pada satu arteri koroner utama. Penelitian ini merupakan penelitian observasional analitik dengan desain cross sectional. Pada penelitian ini dilakukan uji multivariat dilakukan dengan uji regresi logistik. Hasil : Hasil penelitian menunjukkan bahwa semakin tinggi nilai indeks TG (p=<0.001; PR = 4.117; 95% CI = 2.284-7.424) secara signifikan meningkatkan risiko MVCD pada pasien PJK.

Kesimpulan: Peningkatan indeks TG erat kaitannya dengan risiko MVCD pada pasien CAD. Penelitian ini menunjukkan bahwa indeks TG dapat menjadi prediktor tingkat keparahan pada pasien CAD.

INTRODUCTION

Smoking remains a major global health issue, particularly among adults in their productive years, with smoking addiction representing a serious public health problem[1]. The impact of smoking on major smoking-related diseases is influenced by smoking-attributable fraction, dose-response relationships, and cessation duration[2]. Quitting smoking significantly reduces cardiovascular mortality rates[3]. Bafunno et al. recommend comprehensive tobacco control programs to lower smoking rates and shift smoking behaviors[4]. Smoking is an established risk factor for coronary artery disease (CAD), one of the leading global causes of death[6,7]. Beyond health implications, smoking imposes significant economic and social burdens due to its link to chronic diseases and increased healthcare costs[8].

Smoking prevalence remains high in Indonesia at approximately 29-34%, especially among productive age groups. Parmita & Rosyada, based on the 2018 Indonesian National Health Registry, found that the proportion of CAD risk linked to smoking among productive-age workers is substantial[5]. Despite Indonesia's high smoking prevalence and significant cardiovascular impact, limited research examines specific factors influencing smoking cessation success among CAD patients in Southeast Asian populations. Indonesia's collectivist culture, where family bonds and social relationships shape decisions, may influence health behaviors differently than Western individualistic societies. This study addresses this gap by systematically examining which factors most strongly predict smoking cessation compliance among CAD patients in Indonesia.

Social and environmental conditions from households significantly influence smoking behavior. Harahap et al. (2024) reported that family factors, such as family members who smoke and social pressures, decisively influenced indoor smoking habits among household heads, with 73% of smokers having family members who smoked and 65% facing pressures normalizing home smoking[9]. The family plays a key role in ensuring successful cessation. Rohayatun reported that 72% of smokers who received emphatetic family support were most likely to participate in cessation programs compared to only 40% among those least encouraged, indicating that family involvement can almost double a smoker's motivation to quit[10].

Studies have shown that social support, especially from family, is linked to greater success in quitting smoking[13,14]. Other factors such as sociodemographic characteristics like age and health status also impact smoking behaviors and cessation success[11,12]. Although younger individuals often encounter more difficulties in achieving smoking cessation, intensive intervention strategies remain effective, particularly among heavy smokers[15,18]. Quitting smoking at a younger age can lead to remarkable reductions in excess mortality risk[19]. This highlights the critical need for comprehensive strategies to encourage and support smoking cessation.

This study aimed to identify and quantify the dominant factors influencing smoking cessation compliance among CAD patients in Indonesia, with specific focus on family support, environmental support, knowledge, and perception. Addressing a critical gap in existing Indonesian and Southeast Asian literature, where limited data exist on the role of social and familial factors in smoking cessation among CAD patients, this research provides novel, context-specific insights. By systematically examining the factors that most strongly predict cessation success, this study provides evidence-based guidance for developing culturally appropriate healthcare interventions aimed at improving patient outcomes and reducing cardiovascular disease recurrence through effective smoking cessation strategies.

METHOD

The research was conducted at Mitra Medika Amplas Hospital from June to December 2022, involving 100 participants recruited through consecutive sampling. Participants met specific inclusion criteria: diagnosed with CAD, active smokers at diagnosis, aged 20 years or older, and willing to participate. This non-probability sampling approach ensured all eligible patients were sequentially recruited until the desired sample size was achieved.

This study employed a cross-sectional design with multivariate analysis to examine relationships between family support, environmental support, knowledge,

perception, and smoking cessation compliance. The questionnaire was validated by two cardiology experts and pilot-tested with 30 CAD patients not included in the main study. Internal consistency reliability using Cronbach's alpha yielded coefficients of 0.867 (knowledge), 0.864 (environmental support), 0.973 (perception), and 0.829 (family support), with an overall instrument reliability of 0.968, indicating excellent reliability.

Data collection utilized structured questionnaires measuring independent variables (family support, environmental support, knowledge, and perception) and the dependent variable (smoking cessation compliance). Smoking cessation compliance was operationalized as complete abstinence from smoking following CAD diagnosis, assessed solely through self-reported smoking status and documented in the medical records. No biochemical verification was performed. Participants were categorized as 'compliant' if they reported complete cessation, or 'non-compliant' if they continued any smoking after diagnosis.

The questionnaire assessed demographic information, smoking behavior, family support (encouragement, family smoking behaviors, access to cigarettes), environmental support (social influences, cigarette availability, community exposure), knowledge (tobacco content and health risks), and perception (views on smoking risks and healthy lifestyle benefits). This study received ethical approval from the Ethics Committee of Universitas Muhammadiyah Sumatera Utara (Approval No: 899/KEPK/FKUMSU/2022). All participants provided written informed consent before participation.

The collected data were analyzed using bivariate and multivariate statistical methods to determine variable significance and impact on smoking cessation compliance. Demographic variables were recorded as baseline characteristics but excluded from the multivariate logistic regression model, as the study focused exclusively on modifiable behavioral and psychosocial predictors (family support, environmental support, knowledge, and perception) that could inform targeted interventions. The cross-sectional design allows for examination of associations but does not permit causal inferences.

RESULT

Baseline Characteristics

As presented in Table 1, among the participants, 56% were aged 20 to 60, and 44% were over 60. Most were male (78%), and 85% complied with smoking cessation. Family and environmental support were reported by 90% and 69%, respectively. Additionally, 92% had good knowledge, and 91% had positive perceptions. Half of the participants (50%) had a high level of education, and 56% were in the high socioeconomic category.

Factors Influencing Smoking Cessation

The bivariate analysis revealed significant relationships between all independent variables and smoking cessation compliance (Table 2). Family support demonstrated the strongest association (χ^2=43.279, P<0.001, OR=62.250, 95% CI: 10.906–355.321), with 83% compliance among supported participants versus only 9% without support. Environmental support also showed a significant impact (χ^2 = 25.565, p < 0.001, OR = 24.194), with 67% of participants who received environmental support remaining compliant compared to only 13% of those without such support. Knowledge (χ^2=17.647, P<0.001, OR=13.500) and perception (χ^2=56.044, P<0.001, OR=15.167) similarly demonstrated strong associations, with good knowledge and positive perception correlating with 81% and 85% compliance rates, respectively.

Table 1. Baseline Characteristics of Participants

Characteristic	n	%
Age		
20 to 60	56	56%
Above 60	44	44%
Gender		
Male	78	78%
Female	22	22%
Smoking cessation compliance		
Compliance	85	85 %
Non-Compliance	15	15 %
Family		
Supported	90	90 %
Not Supported	10	10 %
Environment		
Supported	69	69 %
Not Supported	31	31 %
Knowledge		
Good	92	92%
Poor	8	8%
Perception		
Good	91	91%
Poor	9	9 %

n: number of respondents; %: percentage of total respondents.

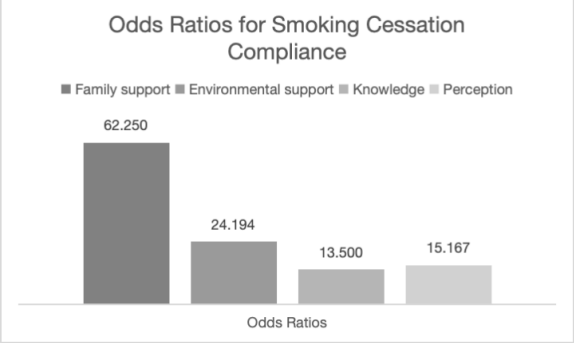

Figure 1. Odds Ratios for Smoking Cessation Compliance by Factor (N=100). Family support showed the highest odds ratio (OR=62.25), followed by environmental support (OR=24.19), perception (OR=15.17), and knowledge (OR=13.50). Error bars represent 95% confidence intervals.

Table 2. Bivariate Analysis of Family Support, Environment, Knowledge, and Perception in Relation to Smoking Cessation Compliance

Variable	Smoking cessation compliance		Total	Chi Squa Statistics	P Value	OR
	Non-Compliance	Compliance				
	n (%)	n (%)	n (%)			
Family						
Not Supported	9 (9.0)	2 (2.0)	11 (11.0)	43.279	0.000	62.250 (10.906-355.321)
Supported	6 (6.0)	83 (83.0)	89 (89.0)			
Environment						
Not Supported	13 (13.0)	18 (18.0)	31 (31.0)	25.565	0.000	24.194 (4.998-117.113)
Supported	2 (2.0)	67 (67.0)	69 (69.0)			
Knowledge						
Poor	6 (6.0)	4 (4.0)	10 (10.0)	17.647	0.000	13.500 (3.197-57.004)
Good	9 (9.0)	81 (81.0)	90 (90.0)			
Perception						
Poor	9 (9.0)	0 (0.0)	9 (9.0)	56.044	0.000	15.167 (6.999-32.866)
Good	6 (6.0)	85 (85.0)	91 (91.0)			
Total	15 (15.0)	85 (85.0)	100 (100.0)			

n: number of respondents; *%*: percentage of respondents; OR: *Odds Ratio*; CI: *Confidence Interval*; Sig.: significance level (*P*-value); χ^2: *Chi-square* statistic. Statistical significance set at $P < 0.05$.

Table 3. Summary of Key Statistical Findings for the Logistic Regression Model

Statistical Test / Parameter	Value	p-value	Interpretation
Omnibus Test of Model Coefficients	$\chi^2 = 63.140$	<0.001	Model significantly improves fit
Hosmer-Lemeshow Test	$\chi^2 = 1.392$	0.708	Good model fit (p>0.05)
Nagelkerke R^2	0.820	–	High explanatory power

χ^2: *Chi-square* statistic; R^2: Coefficient of determination; p-value: Probability value; Significant at $p < 0.05$.

Table 4. Partial Hypothesis Testing of family support, Environment, Knowledge, and Perception in Relation to Smoking Cessation Compliance

Independent Variables	B	Sig.	OR (Lower-Upper)
Family	2.801	0.044	16.454 (95% CI: 1.080-250.785)
Environment	19.485	0.997	289833259.274
Knowledge	0.096	0.944	1.101 (95% CI: 0.074-16.351)
Perception	39.826	0.997	197886099765112320.000
Constant	-40.974	0.997	0.000

B: Regression coefficient; Sig.: Significance level (p-value); OR: Odds Ratio with 95% confidence interval (Lower-Upper bounds); Significant at $p < 0.05$.

Table 5. Dominant Influence of family support, Environment, Knowledge, and Perception on Smoking Cessation Compliance

Pengaruh Dominan		
Independent Variable	Dependent Variable	Wald Coefficients
Family	Smoking cessation compliance	4.060
Environment	Smoking cessation compliance	0.000
Knowledge	Smoking cessation compliance	0.005
Perception	Smoking cessation compliance	0.000

Wald: Wald chi-square statistic; OR: Odds Ratio; CI: 95% Confidence Interval;Sig.:Significance level (p-value); Significant at $p < 0.05$. The variable with the highest Wald coefficient indicates the most dominant predictor.

Logistic Regression Analysis

The purpose of logistic regression analysis was to develop a model that examines how factors such as family, environment, knowledge, and perception affect adherence to smoking cessation efforts.

The Hosmer and Lemeshow test yielded a Chi-square value of 1.392 with a p-value of 0.708, indicating good model fit as the p-value exceeded 0.05. This result suggests that the logistic regression model effectively predicts the relationship between family support, environmental support, knowledge, perception, and smoking cessation compliance.

The Nagelkerke R^2 value of 0.820 indicated that the model accounts for 82.0% of the variability in smoking cessation compliance. This high explanatory power demonstrates that family support, environmental support, knowledge, and perception substantially explain smoking cessation compliance, with only 18.0% of variance attributable to other unmeasured factors.

The Omnibus Test showed a Chi-square value of 63.140 with a p-value <0.001, confirming that the independent

variables collectively exert a statistically significant effect on smoking cessation compliance. This finding validates that family support, environmental support, knowledge, and perception together play a critical role in predicting compliance among coronary artery disease patients.

Partial Hypothesis Testing

The partial hypothesis testing revealed that family support was the only independent predictor of smoking cessation compliance (B=2.801, P=0.044, OR=16.454, 95% CI: 1.080–250.785), indicating that participants with family support were approximately 16.45 times more likely to maintain cessation efforts. In contrast, environmental support (P=0.997), knowledge (P=0.944), and perception (P=0.997) did not demonstrate statistical significance in the multivariate model when adjusted for other variables. These findings suggest that while all factors showed significant bivariate associations, only family support maintained its predictive power as an independent determinant of smoking cessation compliance among CAD patients.

Due to sparse data distribution in certain categories, the estimates for environmental support and perception were unstable, resulting in exceptionally wide confidence intervals and unreliable odds ratios. Therefore, these findings should be interpreted with caution.

B: Regression coefficient; Sig.: Significance level (p-value); OR: Odds Ratio with 95% confidence interval (Lower-Upper bounds); Significant at $p < 0.05$.

Dominant Influence

The results revealed that family support had the highest Wald coefficient, recorded at 4.060. This indicated that family support was the most influential factor affecting smoking cessation compliance compared to the other variables. The pronounced effect of family support highlights the crucial role of a supportive family environment in fostering successful smoking cessation, as demonstrated in Table 5.

Wald: Wald chi-square statistic; OR: Odds Ratio; CI: 95% Confidence Interval;Sig.:Significance level (p-value); Significant at $p < 0.05$. The variable with the highest Wald coefficient indicates the most dominant predictor.

DISCUSSION

The analysis indicates that 85% of participants who received family support succeeded in quitting smoking, while only 10% among those deficient of such support did. Family support demonstrated the most dominant relationship with compliance, with an odds ratio of 62.25 (95% CI: 10.906–355.321) in bivariate analysis and 16.45 in logistic regression analysis. This finding aligns with Rohayatun (2015), who emphasized that family support increased motivation in smoking cessation at Puskesmas Kampung Bali clinic, mainly through positive reinforcement and accountability within the family unit[10]. Wu et al. (2022) confirmed in the Cochrane Database that family and social support is crucial for smoking cessation in cardiovascular disease prevention, with family involvement significantly increasing adherence to cessation programs[17].

The dominance of family support can be understood within Indonesian and Southeast Asian collectivist cultural values, where family bonds are central to individual decision-making. In this context, family encouragement provides emotional support, social accountability, and practical assistance. The questionnaire revealed that 90% of successful quitters received active family support compared to only 10% among those who failed, demonstrating the powerful influence of familial relationships on health behaviors. This aligns with research in Asian populations showing that family motivation significantly enhances cessation outcomes, contrasting with Western populations where individual health concerns and public health programs tend to be more influential[13,14].

The absence of adequate family support for smoking cessation can have profound negative consequences on psychological well-being among CAD patients. Research demonstrates a significant positive correlation between familial social support and psychological well-being, indicating that individuals with strong family support experience better mental health outcomes. When CAD patients attempting to quit smoking lack family encouragement, they may experience increased stress, anxiety, and isolation, which undermine cessation efforts. The psychological burden of managing chronic disease while attempting behavioral change without family reinforcement creates a compounding effect that deteriorates mental health and reduces treatment compliance. This bidirectional relationship suggests that healthcare interventions must address both physical and psychological dimensions through family-centered approaches[13,15].

Environmental support, knowledge, and perception demonstrated significant associations in bivariate analysis (OR=24.194, OR=13.500, OR=15.167, respectively) but lost statistical significance in the multivariate model. This loss of significance likely reflects several methodological and contextual factors. First, ceiling effects reduced variability, 92% of participants had good knowledge and 91% had positive perceptions, limiting their ability to discriminate outcomes once other predictors were included. Second, multicollinearity among these variables suggests that they share overlapping explanatory variance, causing their individual effects to diminish when entered simultaneously in the adjusted model[14,18]. Most importantly, the multivariate findings indicate that family support emerged as the dominant predictor, overshadowing the contributions of environmental support and knowledge[13,14,15].

In other words, environmental resources and adequate knowledge may facilitate cessation only when embedded within strong family support systems[15]. In the Indonesian cultural context—where collectivist norms shape decision-making[9,10], family support likely functions as a mediating pathway, translating environmental conditions and health knowledge into actual behavioral change[13,15]. Thus, while

knowledge and supportive environments are necessary components, they appear insufficient on their own without the reinforcing influence of family support[14,15].

These findings have important implications for healthcare interventions. Healthcare providers should prioritize family-centered approaches by actively involving family members through structured counseling and education[8,13]. Policy recommendations include implementing family-inclusive counseling sessions within routine care[4,8]. Hospital-based cessation programs should incorporate mandatory family participation and provide training for families to deliver effective support[18]. At the hospital level, integrating brief family-centered counseling into cardiac discharge protocols and follow-up visits could enhance cessation outcomes[17,18]. At the national level, Indonesia's smoking cessation programs may be strengthened by formally embedding family involvement into Puskesmas counseling guidelines, Quitline services, and public health campaigns[4,10], positioning smoking cessation as a shared family responsibility rather than solely an individual effort[13,15].

These recommendations align with Indonesia's collectivist cultural framework and could significantly improve cessation rates while reducing cardiovascular disease burden at the population level[2,3,16].

STUDY LIMITATIONS

Several limitations should be considered when interpreting these findings. First, the cross-sectional design limits our ability to establish causal relationships between the studied factors and smoking cessation compliance. Second, the study was conducted at a single hospital in Medan, Indonesia, which may limit generalizability to other regions with different cultural contexts or healthcare systems. Third, smoking cessation compliance was assessed through self-report, which may be subject to social desirability bias. Fourth, the relatively high proportions of participants with good knowledge (92%) and positive perceptions (91%) may have created ceiling effects that limited detection of their independent effects. Finally, other potential confounders such as nicotine dependence severity, comorbid conditions, and the specific mechanisms through which family support influences cessation were not systematically assessed.

CONCLUSION

This study demonstrates that family support, environment, knowledge, and perception significantly influence smoking cessation compliance among Indonesian CAD patients, with family support as the strongest predictor. Interventions for smoking cessation in CAD patients should integrate family-based counseling and behavioral support within secondary prevention programs. Future studies should evaluate family-centered approaches and underlying psychosocial mechanisms to enhance smoking cessation and cardiovascular outcomes in collectivist Southeast Asian populations.

CONFLICT OF INTEREST

The authors stated that they have no significant financial, professional, or personal conflicts of interest that could have influenced the execution or presentation of the work described in this article.

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REFERENCES

1. Huda M, Najih AA, Slamet S. Efektivitas penerapan protection motivation theory (PMT) sebagai formula mengatasi adiksi perokok aktif. *MOMENTUM: Jurnal Sosial dan Keagamaan*. 2023;12(2):201–11.
2. Godtfredsen NS, Prescott E. Benefits of smoking cessation with focus on cardiovascular and respiratory comorbidities. *Clin Respir J*. 2011 Oct;5(4):187–94.
3. Okorare O, Evbayekha EO, Adabale OK, Daniel E, Ubokudum D, Olusiji SA, Odigie OW, Omoraka DU, Chiedozie M, Ige SO. Smoking cessation and benefits to cardiovascular health: a review of literature. *Cureus*. 2023 Mar 9.
4. Bafunno D, Catino A, Lamorgese V, Del Bene G, Longo V, Montrone M, Pesola F, Pizzutilo P, Cassiano S, Mastrandrea A, Ricci D, Perrotti MG, Catino AM, Varesano N, Pizzolante F, Rizzo P, Caldarola L, Di Masi C, Galetta D. Impact of tobacco control interventions on smoking initiation, cessation, and prevalence: a systematic review. *J Thorac Dis*. 2020 Jul;12(7):3844–56.
5. Parmita N, Rosyada A. Faktor resiko penyakit jantung pada pekerja kelompok usia produktif di Indonesia (Analisis data Riskesdas tahun 2018) [skripsi]. Palembang: Universitas Sriwijaya; 2021.
6. Muhafilah I, Saputri VF. Faktor risiko yang berhubungan dengan penyakit jantung koroner pada usia dewasa di Rumah Sakit Haji Jakarta. *Jurnal Ilmiah Kesehatan*. 2019 Sep 10;10(1):68–77.
7. Trisnawati A, Sari YK, Nurmawati T, Ta'adi T. Smoking history as the main factors of chronic kidney disease in hemodialytic patients. *IJNP (Indonesian Journal of Nursing Practices)*. 2024;8(1):12–23.
8. Patel MS, Patel SB, Steinberg MB. Smoking cessation. *Ann Intern Med*. 2021 Dec;174(12):ITC177–92.
9. Harahap S, Lubis NL, Nurmaini N. Hubungan faktor personal dan lingkungan dengan perilaku merokok di dalam rumah pada kepala keluarga yang memiliki balita di Kota Padangsidimpuan. *MAHESA: Malahayati Health Student Journal*. 2024 Oct 1;4(10):4465–75.
10. Rohayatun R. Faktor-faktor yang mendukung dan menghambat perokok untuk berhenti merokok di

Klinik Berhenti Merokok Puskesmas Kampung Bali Pontianak. *Jurnal Cerebellum*. 2015;1(4):266–76.
11. Nugroho AS, Astutik E, Tama TD. Risk factors for coronary heart disease in productive age group in Indonesia. *Malays J Med Health Sci*. 2022;18(2):99–105.
12. Steen DL, Khan I, Andrade K, Koumas A, Giugliano RP. Event rates and risk factors for recurrent cardiovascular events and mortality in a contemporary post acute coronary syndrome population representing 239 234 patients during 2005 to 2018 in the United States. *J Am Heart Assoc*. 2022 May 3;11(9).
13. Daniel JA, Kim-Mozeleski JE, Poudel KC, Sun A, Burke NJ, Tsoh JY, Nguyen TT. Family support and readiness to consider smoking cessation among Chinese and Vietnamese American male smokers. *J Smok Cessat*. 2021 Jan 1;2021:e10.
14. Kim Y, Lee JS, Cho WK. Factors associated with successful smoking cessation according to age group: findings of an 11-year Korea National Survey. *Int J Environ Res Public Health*. 2021 Feb 7;18(4):1576.
15. Kristina SD, Handayani L, Djannah RSN. The role of the family support in the quit smoking decision: a systematic literature review. *Int J Trop Dis Health*. 2024 Feb 12;45(2):40–6.
16. Gallucci G, Tartarone A, Lerose R, Lalinga AV, Capobianco AM. Cardiovascular risk of smoking and benefits of smoking cessation. *J Thorac Dis*. 2020 Jul;12(7):3866–76.
17. Wu AD, Lindson N, Hartmann-Boyce J, Wahedi A, Hajizadeh A, Theodoulou A, Lee CYP, Nolan S, Fanshawe TR, Hajek P, Livingstone-Banks J. Smoking cessation for secondary prevention of cardiovascular disease. *Cochrane Database Syst Rev*. 2022 Aug 8;2022(8).
18. Goettler D, Wagner M, Faller H, Kotseva K, Wood D, Leyh R, Karmann A, Heuschmann PU, Faller H, Karmann A, Deckert S, Bierbaum M, Nowak D, Schulz M, Lenzi A, Varas Lorenzo C, de Montserrat Gomez G, Kotseva K, Wood D, De Backer G, De Bacquer D, Wagner M, Schiele R, Hoefler M, Storck M, Goettler D, Baberg H, Franz I, Leyh R, Frilling B, Annermeier J, Albus C, Faller H, Heuschmann P, Faller H, Heuschmann P, Marz W, Koenig W, Schunkert H. Factors associated with smoking cessation in patients with coronary heart disease: a cohort analysis of the German subset of EuroAspire IV survey. *BMC Cardiovasc Disord*. 2020 Dec 30;20(1):152.
19. Ding N, Sang Y, Chen J, Ballew SH, Kalbaugh CA, Salameh MJ, Blaha MJ, Allison M, Heiss G, Selvin E, Coresh J, Matsushita K. Cigarette smoking, smoking cessation, and long-term risk of 3 major atherosclerotic diseases. *J Am Coll Cardiol*. 2019 Jul;74(4):498–507.