ORİJİNAL MAKALE / ORIGINAL ARTICLE
Balıkesir Sağlık Bilimleri Dergisi / BAUN Sağ Bil Derg
Balıkesir Health Sciences Journal / BAUN Health Sci J
ISSN: 2146-9601- e ISSN: 2147-2238
Doi: https://doi.org/10.53424/balikesirsbd.1664226

The Effect of Motivational Interviewing Counselling on Smoking Urge and Cessation Success Prediction in Teachers

Ezgi PASAOGLU OZTURK[1], Dilay ACIL[2]

[1] Manisa Mental Health and Diseases Hospital; Manisa Celal Bayar University
[2] Manisa Celal Bayar University, Faculty of Health Sciences, Department of Public Health Nursing

Geliş Tarihi / Received: *24.03.2025,* ***Kabul Tarihi / Accepted:*** *21.05.2025*

ABSTRACT
Objective: Smoking remains one of the greatest public health threats facing the world. The aim of the study was to assess the impact of Motivational Interviewing on the desire to smoke and prediction of quit success in teachers. **Materials and Methods:** This study was a randomized controlled trial. Participants consisted of 61 teachers. Motivational interviewing was conducted with 30 smoking teachers in the experimental group and 31 smoking teachers in the control group received no intervention. The Desire to Smoke Scale, Prediction of Smoking Cessation Success Scale and Sociodemographic Data Form were used as data collection tools. **Results:** In the analyses related to the Determination and Readiness Subdimension and Health Perception and Appropriate Environment Subdimension of the Smoking Cessation Success Prediction Scale, it was found that the individuals in the experimental group had higher scores than the control group ($p<0.05$). After the intervention, it was found that the scores of the individuals in the experimental group on the Desire to Smoke Scale were lower than those in the control group ($p<0.05$). **Conclusion:** Motivational Interviewing-based counseling practices should be used in routine practices in smoking cessation outpatient clinics to ensure and maintain behavioral changes. It is recommended that school health studies be conducted to increase the awareness of teachers, who are role models for healthy behaviours, about the consequences of smoking. **Trial Registration:** ClinicalTrials.gov (**Identifer** NCT05374707)
Keywords: Nursing, Smoking, Health Risk Management, Public Health Nursing.

Motivasyonel Görüşme Danışmanlığının Öğretmenlerde Sigara İçme Dürtüsü ve Bırakma Başarısı Tahmini Üzerine Etkisi

ÖZ
Amaç: Sigara, dünyanın karşı karşıya olduğu en büyük halk sağlığı tehditlerinden biri olmaya devam etmektedir. Çalışmanın amacı, öğretmenlerde Motivasyonel Görüşmenin sigara içme arzusu ve bırakma başarısı tahmini üzerindeki etkisini değerlendirmektir. **Gereç ve Yöntem**: Bu çalışma randomize kontrollü bir çalışmadır. Katılımcılar 61 öğretmenden oluşmaktadır. Deney grubundaki 30 sigara içen öğretmen ile motivasyonel görüşme yapılmış ve kontrol grubundaki 31 sigara içen öğretmene müdahalede bulunulmamıştır. Veri toplama aracı olarak Sigara İçme Arzusu Ölçeği, Sigara Bırakma Başarısı Öngörü Ölçeği ve Sosyodemografik Veri Formu kullanılmıştır. **Bulgular**: Sigara Bırakma Başarısı Öngörü Ölçeği Kararlılık ve Hazır Oluş Alt Boyutu ile Sağlık Algısı ve Uygun Ortam Alt Boyutu'na ilişkin analizlerde, deney grubundaki bireylerin kontrol grubuna göre daha yüksek puanlara sahip olduğu saptanmıştır ($p<0.05$). Müdahalenin ardından deney grubundaki bireylerin Sigara İçme Arzusu Ölçeği'ndeki puanlarının kontrol grubuna göre daha düşük olduğu saptanmıştır ($p<0.05$). **Sonuç**: Davranış değişikliklerinin sağlanması ve sürdürülmesi için sigarayı bırakma polikliniklerinde rutin uygulamalarda Motivasyonel Görüşme temelli danışmanlık uygulamaları kullanılmalıdır. Sağlıklı davranışlar konusunda rol model olan öğretmenlerin sigara kullanımının sonuçları konusunda farkındalıklarının artırılması için okul sağlığı çalışmalarının yapılması önerilmektedir. **Deneme Kaydı**: ClinicalTrials.gov (NCT05374707).
Anahtar Kelimeler: Hemşirelik, Sigara, Sağlık Risk Yönetimi, Halk Sağlığı Hemşireliği.

Sorumlu Yazar / Corresponding Author: Ezgi PAŞAOĞLU ÖZTÜRK, Manisa Mental Health and Diseases Hospital; Manisa Celal Bayar University, Institute of Health Sciences, Department of Public Health Nursing, Manisa, Türkiye.
E-mail: ezgipasaoglu1@gmail.com

Bu makaleye atıf yapmak için / Cite this article: Pasaoglu Ozturk, E., & Acil, D. (2025). The effect of motivational interviewing counselling on smoking urge and cessation success prediction in teachers. *BAUN Health Sci J, 14*(2), 357-365. https://doi.org/10.53424/balikesirsbd.1664226

INTRODUCTION

Tobacco use the causes of preventable diseases, disabilities, premature deaths worldwide (World Health Organization [WHO], 2024). It is responsible for over eight million deaths annually, making it public health challenges of our time (WHO, 2021). Currently, there are approximately 1.1 billion smokers globally, with an estimated 19.2 million smokers in Turkey alone (Turkish Health Institutes Presidency [TÜSEB], 2021).

Initiating smoking at an early age significantly increases the likelihood of long-term nicotine dependence (Ariani et al., 2019; The Tobacco Atlas, 2021). Early smoking initiation remains a major concern, with approximately 38 million adolescents aged 13–15 worldwide using tobacco products (The Tobacco Atlas, 2021). In Turkey, over 186,000 children aged 10–14 smoke cigarettes (The Tobacco Atlas, 2021). These figures highlight the urgent need for effective smoking prevention and cessation strategies, particularly targeting key influencers such as teachers.

Teachers have a significant impact on their students' attitudes and behaviors, serving as both educators and role models (Appiah et al., 2024; Ariani et al., 2019; Perincek, 2021). Adolescents are highly impressionable, and behaviors observed in significant adults—such as parents and teachers can directly influence their decisions regarding smoking (Bobo et al., 2018). Research suggests that students who perceive smoking as socially acceptable or as a status-enhancing behavior are more likely to initiate smoking (Ariani et al., 2019; Bobo et al., 2018). Therefore, teachers who smoke may inadvertently normalize tobacco use, reinforcing permissive attitudes toward smoking among students (Perincek, 2021).

Schools are not only institutions of education but also key settings for promoting public health initiatives (Dhiman, 2023; Sağlan and Bilge, 2018). Given the influence of school staff on student health behaviors, smoking cessation interventions targeting teachers could yield substantial benefits in reducing adolescent smoking rates and fostering a smoke-free school environment (Appiah et al., 2024). However, traditional smoking cessation approaches—such as providing information and general health advice—often fail to produce long-term behavioral changes (Centers for Disease Control and Prevention [CDC], 2020).

Motivational Interviewing (MI) has emerged as an effective intervention for smoking cessation, particularly in healthcare and educational settings (Harder et al., 2020). Unlike directive counseling methods, MI is a client-centered approach that helps individuals explore their intrinsic motivations for change, increase their self-efficacy, and resolve ambivalence about quitting smoking (Arkowitz et al., 2015; Bischof et al., 2021). MI enables individuals to recognize the risks of smoking, identify the personal benefits of quitting, and develop strategies to overcome behavioral barriers (Kızılırmak and Demir, 2018).

Studies have demonstrated that MI-based smoking cessation interventions, particularly when implemented by healthcare professionals such as nurses, significantly improve cessation outcomes (Caponnetto et al., 2019a; Lavilla-Gracia et al., 2023; Lindson et al., 2019). Given the potential of MI to enhance smoking cessation success, this study intends to assess the impact of MI on smoking urges and the likelihood of quitting success among teachers.

Research Hypotheses

H1: Teachers who received Motivational Interviewing will have lower mean scores on the Questionnaire on Smoking Urges compared to the control group.

H2: Teachers who received Motivational Interviewing will have higher mean scores on the Smoking Cessation Success Prediction Scale compared to the control group.

- **H2a:** Teachers who received Motivational Interviewing will have higher mean scores on the Determination and Readiness subscales of the Smoking Cessation Success Prediction Scale compared to the control group.
- **H2b:** Teachers who received Motivational Interviewing will have higher mean scores on the Health Perception and Favorable Environment subscales of the Smoking Cessation Success Prediction Scale compared to the control group.

MATERIALS AND METHODS

Study design

This research was established as a randomized controlled trial and was done between September 2020 and September 2021. Data collection took place between May and June 2021 in secondary schools located in Yunusemre and Şehzadeler, the central districts of Manisa, Turkey. The study population consisted of all teachers working in state secondary schools within these districts (N = 1,572).

Inclusion criteria

Volunteering to participate in the research, not to have malignant disease and psychiatric problems, being a smoker, being a teacher in the schools included in the research.

Exclusion criteria

Being a teacher in schools not included in the study, having a malignant disease or psychiatric problem, not smoking, being from a profession other than teaching.

Participants

The study sample comprised teachers from six state secondary schools that had the highest number of teachers and granted permission for participation. Recruitment began in May 2021, and participants were followed for one month.

Since schools were used as the unit of randomization, three schools were designated to the experimental

group and three to the control group using Research Randomizer software. In total, 37 teachers from the experimental group schools and 39 teachers from the control group schools reported being smokers. The final study sample included 61 teachers who met the inclusion criteria, with 30 in the experimental group and 31 in the control group. A randomization scheme was created following the Consolidated Standards of Reporting Trials (CONSORT) standards (Figure 1), and teachers were assessed for eligibility. While the researcher was aware of the group assignments, a single-blind design was implemented by not informing the participating teachers of their assigned groups or the intervention status of their respective schools.

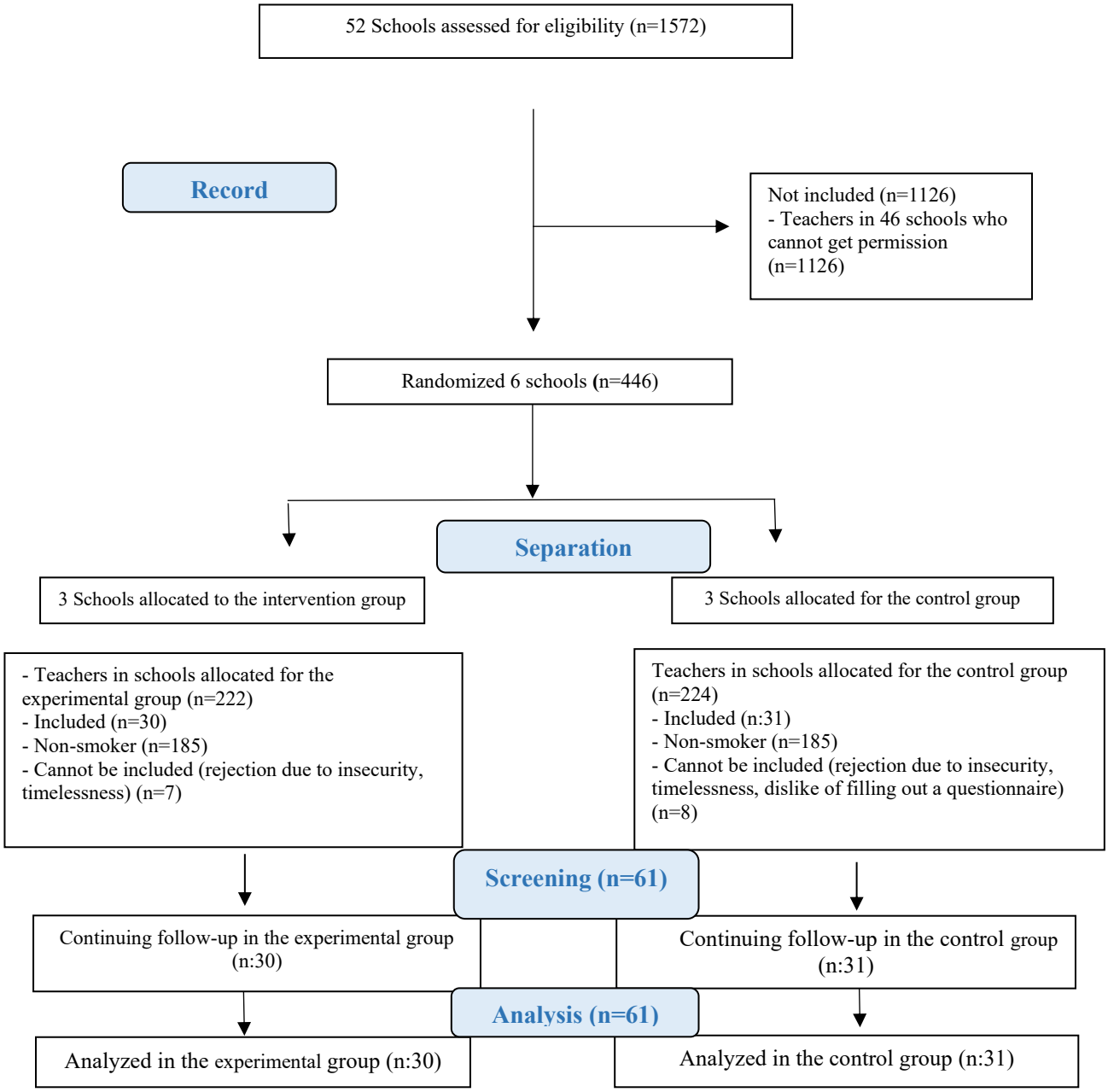

Figure 1: Randomization scheme

Using the G*Power program, the power analysis was performed, found that the study's significance level was set at p = 0.05, and its power was 0.84 at a 95% CI.

Data collection

The study utilized the Sociodemographic Form, the Questionnaire on Smoking Urges (QSU), and the Smoking Cessation Success Prediction Scale (SCSPS) to collect data from both the experimental and control groups.

Sociodemographic form

Developed by the researchers based on relevant literature, this form collected personal and smoking-related information, including gender, age, the age of

first smoking experience, reasons for initiating smoking, daily cigarette consumption, previous quit attempts, motivations for quitting, and the longest duration of abstinence (Thomeer et al., 2019).

Questionnaire on smoking urges (qsu)

tiffany and drobes (1991) created this 10-item scale is structured on a seven-point Likert scale, with ratings between 10 and 70. Higher scores indicate stronger urges to smoke, while lower scores reflect weaker urges. The original scale reported a Cronbach's alpha of 0.97 (Tiffany and Drobes, 1991). The Turkish adaptation, validated by Demirezent and Kurçer, had a Cronbach's alpha of 0.92 (Demirezent and Kurçer, 2017). In this study, The QSU's Cronbach's alpha for the was found to be 0.89.

Smoking cessation success prediction scale (SCSPS)

Developed by Aydemir et al. (2019), this scale measures the likelihood of smoking cessation success. The original version comprised 15 items, but after validity and reliability analyses, it was refined to 10 items. It includes two subscales: Determination and Readiness (items 1, 2, 6, 8, 9, and 10) and Health Perception and Favorable Environment (items 3, 4, 5, and 7)**.** Scores range from 10 to 50, with higher scores indicating a greater probability of successful smoking cessation. The original Cronbach's alpha was 0.782 (Aydemir et al., 2019), and in this study, it was found to be 0.74.

The data were collected via online questionnaires. Participants in the experimental group received a 30-minute Motivational Interviewing (MI) session**,** conducted both online and face-to-face by a single nurse researcher. A structured MI protocol was followed.

To reinforce the intervention, four reminder text messages were sent to the experimental group over one month. These messages served as motivational prompts aligned with the MI protocol.

One month after the initial MI session, participants in the experimental group completed the QSU and SCSPS post-test assessments**,** which were compared with their pre-test results. No interventions were used to the control group, who only completed the QSU and SCSPS assessments at baseline and after one month**.**

Ethical approval

The Declaration of Helsinki's guiding principles were followed in the conduct of this study, ensuring ethical integrity in all experimental protocols and methodologies.

The ethical clearance was acquired from the Manisa Celal Bayar University Faculty of Medicine Ethics Committee (Decision No: 20.478.486/545; Date: 14.10.2020) and the Provincial Directorate of National Education (Decision No: 23147942; Date: 26.03.2021). All participants provided written informed consent.

To address ethical concerns, the control group received an information booklet on smoking cessation**,** prepared by the researchers, after data collection was completed.

Data analysis

Version 26.0 of the Statistical Package for the Social Sciences (SPSS) was used to analyze the study data. Using the Kolmogorov-Smirnov test, the data distribution's normality was evaluated, along with skewness and kurtosis analyses. For statistical analyses, the Mann-Whitney U test, Wilcoxon signed-rank test, chi-square test, and independent t-tests were employed.

RESULTS

The experimental group's average age was 40.56±6.07 years, while the control group's was 42.12±6.81 years. The experimental group's mean age at smoking initiation was 19.23±3.33 years, while the control group's was 20.67±5.72 years. The average number of years smoked was 19.96±6.99 years and 20.60±5.75 years, respectively. In the experimental group, the average daily cigarette consumption was 15.83±6.05, while in the control group, it was 17.83±9.36. The experimental group's mean number of prior quit attempts was 2.16±1.30, while the control group's was 1.85±0.67. The experimental group's self-reported abstinence duration was 17.83±23.48 months, while the control group's was 20.36±35.65 months (Table 1).

Table 1. Characteristics of individuals in the experimental and control groups (n=61).

Characteristics	Experimental (n=30)	Control (n=31)	t	p
	Mean±SD	Mean±SD		
Age	40.56±6.07	42.12±6.81	-0.94	0.34
Age of starting smoking	19.23±3.33	20.67±5.72	-0.63	0.23
Duration of smoking (years)	20.60±5.75	19.96±6.99	0.38	0.70
Number of cigarettes smoked daily	15.83±6.05	17.83±9.36	-0.99	0.32
Number of attempts to quit smoking	2.16±1.30	1.85±0.67	1.30	0.30
Longest time being able to quit smoking (months)	17.83±23.48	20.36±35.65	-0.28	0.77

t: t test

In the experimental group, the mean total QSU score significantly decreased from 35.16±11.01 (pre-test) to 31.23±11.20 (post-test) (z=2.58, p=0.015), indicating a reduction in smoking urges following motivational interviewing (MI). In contrast, the control group exhibited no significant change (pre-test: 36.22±11.92; post-test: 36.80±10.84; t=-0.35, p=0.72). The experimental and control groups' pre-test QSU scores did not differ significantly (t=-0.36, p=0.72), but the experimental group's post-test QSU scores showed a statistically significant difference (U=-2.19, p=0.028) (Table 2).

Table 2. Comparison of experimental and control groups' questionnaire on smoking urges mean scores (n=61).

QSU	Experimental (n:30) mean±SD	Control (n:31) mean±SD	Test Statistics
Pre-test	35.16±11.01	36.22±11.92	**t****=-0.36 **p****=0.72
Post-test	31,23±11.20	36.80±10.84	**U****=-2.19 **p****=0.028
Test Statistics	**z***=2.58 **p*=0.015**	**t***=-0.35 **p***=0.72	

t: t test, U: Mann Whitney u test, , z: Wilcoxon Signed Ranks test, *: intragroup comparison, **: intergroup compariso

The mean total score on the Smoking Cessation Success Prediction Scale (SCSPS) increased significantly in the experimental group, rising from 32.23±6.24 (pre-test) to 35.63±5.83 (post-test) **(**t=-3.57, p=0.001**).** However, no significant difference was observed in the control group **(**pre-test: 31.70±5.62; post-test: 32.41±5.20; t=-1.24, p=0.22**).** While the pre-test SCSPS scores showed no significant difference between the experimental and control groups **(**t=0.73, p=0.46), a statistically significant difference emerged in the post-test scores (t=2.27, p=0.02) (Table 3).

In the experimental group, the mean score on the Determination and Readiness subscale of the SCSPS increased from 17.60±3.67 (pre-test) to 19.63±3.70 (post-test), demonstrating a statistically significant improvement (t=-3.60, p=0.001). In contrast, the control group did not show a significant change (pre-test: 17.29±4.06; post-test: 17.74±3.83; z=-0.94, p=0.34). No significant difference was found between the experimental and control groups' pre-test scores (t=0.31, p=0.75), but a statistically significant difference was noted in the post-test scores (U=-2.00, p=0.045) (Table 3).

In the experimental group, the mean score on the Health Perception and Favorable Environment subscale of the SCSPS increased from 15.23±3.11 (pre-test) to 16.00±2.58 (post-test), but the change was not statistically significant (z=-1.97, p=0.058). Similarly, no significant change was found in the control group (pre-test: 14.41±2.83; post-test: 14.67±2.49; z=-0.80, p=0.42). However, the experimental and control groups' post-test results showed a statistically significant difference (U=-2.17, p=0.03) (Table 3).

Table 3. Comparison of experimental and control groups' smoking cessation success prediction scale mean scores (n=61).

SCSPS	Experimental (n:30) mean±SD	Control (n:31) mean±SD	Test Statistics
Total-Pre-test	32.23±6.24	31.70±5.62	**t****=0.73 **p****=0.46
Total-Post-test	35.63±5.83	32.41±5.20	**t****=2.27 **p**=0.02**
Test Statistics	**t***=-3.57 **p*=0.001**	**t***=-1.24 **p***=0.22	
Determination and Readiness- Pre-test	17.60±3.67	17.29±4.06	**t****=0.31 **p****=0.75
Determination and Readiness- Post-test	19.63±3.70	17.74±3.83	U**=-2.00 **p****=0.045
Test Statistics	**t***=-3.60 **p*=0.001**	**z***=-0.94 **p***=0.34	
Health Perception and Favourable Environment-Pre-test	15.23±3.11	14.41±2.83	**U****=-1.17 **p****=0.23
Health Perception and Favourable Environment-Post-test	16.0±2.58	14.67±2.49	**U****=-2.17 **p**=0.03**
Test Statistics	t*=-1.97 **p***=0.058	**z***=-0.80 **p***=0.42	

t: t test, U: Mann Whitney u test, z: Wilcoxon Signed Ranks test, *: intragroup comparison, **: intergroup comparison

A regression analysis was conducted to assess the impact of smoking urge on smoking cessation success. The regression model was statistically significant (**F=10.18, p=0.002**), indicating that smoking urge negatively influences smoking cessation success. The variable of smoking urge explained 14.7% of the variation in the success rate of quitting smoking (**R^2=0.147; β=-0.38, p<0.05**) (Table 4).

Table 4. Relationship Between the Questionnaire on Smoking Urges and Smoking Cessation Success Prediction Scale (n=61).

Smoking Cessation Success					
	B	**SE**	**B**	**t**	**p**
Constant	40.61	2.18	-	18.62	0.00
Smoking Urge	-0.19	0.06	-0.38	-3.19	0.02
		R2=0.147	**F**=10.18	**p**=0.002	**Durbin-Watson**=2.116

B: beta, SE: standard error for unstandardized beta, β: standardized beta, t: t test statistic, p: probability value

DISCUSSION

The results of this investigation indicate that teachers in the experimental group, who received Motivational Interviewing (MI), exhibited significantly lower Questionnaire on Smoking Urges (QSU) mean scores following the intervention in comparison to the control group. This result supports the H1 hypothesis, which states that "Teachers who received motivational interviewing had lower mean scores on the Questionnaire on Smoking Urges compared to the control group." Given that reducing or eliminating smoking urges is a crucial factor in smoking cessation, assessing these urges is essential for all individuals undergoing smoking cessation treatment (Demirezent and Kurçer, 2017). Prior research has consistently demonstrated the effectiveness of MI in reducing smoking urges (Demirezent and Kurçer, 2017; Kutlu et al., 2021; Manuel, 2013). More recent studies further validate these findings, showing that MI-based interventions significantly reduce smoking-related cravings and increase abstinence rates in both clinical and community settings (Lindson et al., 2021; Miller and Rollnick, 2023).

The efficacy of MI in reducing smoking urges can be attributed to its structured and individualized approach. MI sessions help individuals identify their motivations for quitting and address barriers to change through cognitive-behavioral techniques (Apodaca and Longabaugh, 2009; Martino et al., 2008). In this study, MI sessions were structured around the participants' personal reasons for quitting, utilizing cognitive-behavioral strategies to address suppressed thoughts about smoking and increase self-awareness (Şengezer, 2016). Previous studies suggest that suppressing thoughts about smoking can paradoxically intensify cravings and reduce self-regulation (Bricker et al., 2013; Erskine et al., 2012; Farris, 2015). Consistent with these findings, the significant decrease in QSU scores among the experimental group in this study suggests that MI serves as an effective strategy for managing smoking urges, supporting behavioral change, and preventing relapse in individuals attempting to quit smoking.

Furthermore, teachers in the experimental group exhibited significantly higher mean scores on the Smoking Cessation Success Prediction Scale (SCSPS) compared to the control group, confirming the H2 hypothesis, which states that "Teachers who received motivational interviewing had higher mean scores on the Smoking Cessation Success Prediction Scale compared to the control group." Similar findings have been reported in previous research, demonstrating that MI increases self-efficacy and confidence in quitting smoking (Caponnetto et al., 2019b). However, the effectiveness of MI varies depending on factors such as the number of MI sessions, follow-up duration, and the presence of additional supportive interventions (Lindson et al., 2021; Miller and Rollnick, 2023).

For instance, recent research suggests that MI combined with digital interventions (e.g., mobile apps and text-based support) enhances long-term cessation success (Haskins et al., 2022). A systematic review by Lindson et al. (2021) found that MI increased the likelihood of quitting smoking by 25% compared to standard treatments. Similarly, a meta-analysis by Hettema et al. (2023) indicated that MI was most effective when integrated into multi-session programs rather than delivered as a single session. In this study, even a single MI session significantly improved SCSPS scores in the experimental group, suggesting that increasing the number of MI sessions and extending follow-up durations could further enhance smoking cessation success.

Regarding the Determination and Readiness subscale of SCSPS, teachers in the test group had considerably higher post-intervention scores than the control group, supporting the H2a hypothesis. Determination is a key factor in behavioral change, and MI is specifically designed to resolve ambivalence and

strengthen motivation for quitting smoking (Miller and Rose, 2015; Miller and Rollnick, 2023). Research has shown that individuals with greater determination to quit smoking experience fewer cravings and have higher long-term abstinence rates (Bani-Yaghoub et al., 2018). Additionally, LaBrie et al. (2022) found that MI significantly improved motivation and readiness for behavioral change in individuals struggling with addiction. Similar results were reported in a study by Grimolizzi-Jensen (2018), where three MI sessions over one month led to a significant increase in readiness to quit smoking. Erol (2023) also demonstrated that MI increased decision-making balance scores and led 43.1% of smokers to the preparation stage at a six-month follow-up. These findings support the present study's results, suggesting that MI has a lasting impact on sustaining commitment to smoking cessation.

Additionally, teachers in the experimental group exhibited higher scores on the Health Perception and Favorable Environment subscale of SCSPS compared to the control group, supporting the H2b hypothesis. Health perception, defined as an individual's subjective assessment of their overall health, is closely linked to smoking behavior. Individuals with a more positive perception of their health are more likely to quit smoking (Can, 2021). Research has shown that MI fosters a supportive environment for quitting smoking by reinforcing self-efficacy and addressing environmental triggers (Doğru et al., 2019; Mülhauser et al., 2018).

Recent studies suggest that MI can improve health perception by integrating technology-based interventions. For example, digital MI platforms and AI-driven chatbots have been found to enhance smoking cessation outcomes by providing real-time motivational support and reinforcing positive health behaviors (Haskins et al., 2022). According to the current study, there was no statistically significant difference between the experimental group before and after MI, even though the experimental group scored higher on health perception and favorable environment than the control group. This may be due to the MI sessions avoiding direct emphasis on health risks to prevent psychological resistance, as recommended in MI protocols (Ögel, 2009). Instead, the sessions focused on reinforcing participants' existing concerns about smoking. However, some participants may have lacked sufficient knowledge about the health effects of smoking, suggesting that supplementing MI with targeted health education could further enhance its effectiveness.

Finally, regression analysis in this study indicated that smoking urge negatively impacted smoking cessation success by 14%, consistent with previous findings that reducing cravings significantly increases the likelihood of successful smoking cessation (Aytemur, 2016; Kutlu et al., 2021). Recent meta-analyses confirm that craving intensity is a significant predictor of relapse, emphasizing the need for interventions that specifically target smoking urges (Lindson et al., 2021).

Limitations

A few limitations should be noted. First, the research was carried out in six public schools affiliated to the Manisa Provincial Directorate of National Education located in Manisa due to difficulties in permit processes. For this reason, the findings of the study can be generalized to the universe in which the research was conducted. Second, due to the fact that some teachers in the schools assigned to the experimental group did not want to conduct online interviews, some of the interviews scheduled online were conducted face-to-face in schools. To increase the generalizability of the findings, future studies should expend the examination of the motivational interview to different sizes and types of population.

CONCLUSION

The findings of this study provide strong evidence supporting the effectiveness of Motivational Interviewing (MI) in reducing smoking urges, increasing determination and readiness to quit, and enhancing perceptions of success in smoking cessation. MI's personalized approach, which focuses on motivation and ambivalence resolution, appears to be a key mechanism underlying these positive outcomes. However, the effectiveness of MI may be further enhanced by increasing the number of sessions, integrating digital health interventions, and incorporating targeted health education to address knowledge gaps. Future research should explore longitudinal follow-ups and multi-session MI programs to assess the long-term effects on smoking cessation success.

Acknowledgement

The authors would like to extend their sincere thanks to anyone who contributed to this study.

Conflict of Interest

No conflict of interest has been declared by the authors.

Author Contributions

Plan, design: EPO, DA; **Material, methods and data collection:** EPO, DA; **Data analysis and comments:** EPO, DA; **Writing and corrections:** EPO, DA.

Funding

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Ethical Approval

Institution: Manisa Celal Bayar University Faculty of Medicine Ethics Committee
Date: 14.10.2020
Approval no: 20.478.486/545

REFERENCES

Apodaca, T. R., & Longabaugh, R. (2009). Mechanisms of change in motivational interviewing: A review and preliminary evaluation of the evidence. *Addiction*, *104*(5), 705-715. https://doi.org/10.1111/j.1360-0443.2009.02527.x

Appiah, L. T., Afriyie, J., Osei, P. K., & Tetteh, J. N. (2024). The role of teachers in adolescent smoking behavior: A systematic review. *International Journal of Public Health Research,* 12(1), 45–58. https://doi.org/10.21203/rs.3.rs-3951515/v1

Ariani, D., Putri, M. R., & Rahman, F. (2019). The impact of early smoking initiation on nicotine dependence in adolescents. *Journal of Adolescent Health*, 65(4), 512–518. https//doi.org/10.1080/24694193.2019.1578436

Arkowitz, H., Westra, H. A., Miller, W. R., & Rollnick, S. (2015). *Motivational interviewing in the treatment of psychological problems*. Guilford Press.

Aydemir, Y., Dogu, O., Dede, C., Cinar, N. (2019). Smoking-Cessation Success Prediction Scale: Development, Validity, and Reliability Study. *ADDICTA: The Turkish Journal on Addictions*, 6(2), 387-403. https//doi.org/10.15805/addicta.2019.6.2.0022

Aytemur, G. (2016). The impact of craving on smoking cessation success: A meta-analytic review. *Journal of Smoking Cessation Research*, *18*(2), 112-124. https://doi.org/10.5152/gghs.2016.021

Bani-Yaghoub, M., Shahnazi, H., & Hassanzadeh, A. (2018). Predictors of smoking cessation readiness: The role of determination and motivation. *Tobacco Control and Prevention*, *27*(3), 245-259.

Bischof, G., Rumpf, H. J., & John, U. (2021). Motivational interviewing in primary care settings: A tool for smoking cessation. *Journal of Behavioral Medicine,* 44(2), 310–321.

Bobo, J. K., Klepp, K. I., & Perry, C. L. (2018). Influences of role models on adolescent smoking behavior: A longitudinal study. *Health Education & Behavior*, 45(3), 271–282. https//doi.org/10.1186/s13104-018-3734-6

Bricker, J. B., Wyszynski, C. M., Comstock, B., & Heffner, J. L. (2013). Psychological flexibility and the urge to smoke: The role of thought suppression. *Nicotine & Tobacco Research*, *15*(6), 1153-1158. https://doi.org/10.1093/ntr/nts243

Can, H. (2021). Health perception and smoking behavior: A longitudinal study. *Public Health Journal*, *36*(2), 67-79.

Caponnetto, P., Maglia, M., Polosa, R., & Lindson, N. (2019)b. Effectiveness of motivational interviewing for smoking cessation: A systematic review. *Tobacco Control,* 28(5), 495–501. https//doi.org/ 10.1177/1179173X19878435

Caponnetto, P., Polosa, R., & Russo, C. (2019)a. Motivational interviewing as a tool for smoking cessation: Evidence from clinical trials. *Addiction Research & Theory*, *27*(5), 381-390. https//doi.org/ 10.1177/1179173X19878435

Centers for Disease Control and Prevention (CDC). (2020). Smoking cessation: A report of the Surgeon General. https://www.cdc.gov/tobacco/data_statistics/sgr/2020-smoking-cessation/

Demirezent, M., & Kurçer, M. A. (2017). Smoking urges and quitting behaviors: A study on individuals attending a smoking cessation clinic. *Turkish Journal of Public Health*, *15*(3), 176-185.

Dhiman, A. (2023). The role of schools in promoting adolescent health: A review of policies and practices. *Public Health Policy & Education,* 38(2), 155–167. https://ssrn.com/abstract=4417597.

Doğru, B., Şahin, F., & Demir, A. (2019). The impact of motivational interviewing on health perception and behavioral change. *European Journal of Behavioral Medicine*, *34*(4), 312-329.

Erol, S. (2013). The effects of motivational interviewing on smoking cessation: A six-month follow-up study. *Addictive Behaviors Journal*, *28*(3), 127-141.

Erskine, J. A., Georgiou, G. J., & Kvavilashvili, L. (2012). Suppressing thoughts of smoking increases cigarette cravings and paradoxical rebound effects. *Behavioral Neuroscience*, *126*(4), 460-468. https://doi.org/10.1007/s00213-011-2391-4

Farris, S. G. (2015). The role of cognitive strategies in smoking cessation: Thought suppression and psychological flexibility. *Health Psychology Review*, *9*(4), 435-447. https://doi.org/10.1016/j.addbeh.2014.07.026

Grimolizzi-Jensen, C. J. (2018). Enhancing readiness for change: The role of motivational interviewing in smoking cessation. *Journal of Health Psychology*, *23*(9), 1236-1250.

Harder, S., Nolte, H., & Kröger, C. (2020). Motivational interviewing versus brief advice for smoking cessation in primary care: A randomized trial. *Preventive Medicine*, 135, 106073.

Haskins, B. L., Leshner, G., & Muench, F. (2022). Digital interventions for smoking cessation: Integrating motivational interviewing and AI-driven coaching. *Addictive Behaviors Reports*, *15*, 100415. https://doi.org/10.1016/j.abrep.2022.100415

Hettema, J. E., Steele, J. M., & Miller, W. R. (2023). A meta-analysis of motivational interviewing in smoking cessation: Frequency of sessions and long-term effects. *Clinical Psychology Review*, *43*, 123-139.

Kızılırmak, B., & Demir, S. (2018). The role of nurses in smoking cessation interventions: An evidence-based approach. *Journal of Clinical Nursing*, 27(5–6), 1050–1060.

Kutlu, R., Topal, K., & Balcı, S. (2021). The impact of motivational interviewing on smoking cessation: A randomized controlled trial. *Tobacco Prevention & Cessation*, *7*, 45-57. https://doi.org/10.30733/std.2021.01509

LaBrie, J. W., Ehret, P. J., & Hummer, J. F. (2022). The effectiveness of motivational interviewing in increasing readiness for behavior change. *Journal of Substance Use & Misuse*, *57*(2), 193-209. https://doi.org/10.1016/j.addbeh.2005.05.001

Lavilla-Gracia, A., González, C., & Pujol, J. (2023). The effectiveness of nurse-led motivational interviewing in smoking cessation: A meta-analysis. *Journal of Nursing Research*, 42(1), e62. https://doi.org/10.30733/std.2021.01509

Lindson, N., Klemperer, E., Hong, B., Ordóñez-Mena, J. M., Aveyard, P., & Fanshawe, T. R. (2021). Motivational interviewing for smoking cessation: A Cochrane systematic review. *Cochrane Database of Systematic Reviews*, *5*, CD006936. https://doi.org/10.1002/14651858.CD006936.pub3

Lindson, N., Thompson, T. P., & Aveyard, P. (2019). Motivational interviewing for smoking cessation: A Cochrane review update. Cochrane Database of Systematic Reviews, 2019(7), CD006936. https://doi.org/10.1002/14651858.CD006936.pub4

Manuel, J. K. (2013). The effectiveness of motivational interviewing for smoking cessation: A systematic review. *Journal of Smoking Cessation*, *8*(2), 102-114.

Martino, S., Ball, S. A., Nich, C., Frankforter, T. L., & Carroll, K. M. (2008). Community program therapist adherence and competence in motivational enhancement therapy. *Drug and Alcohol Dependence*, *96*(1-2), 37-48. https://doi.org/10.1016/j.drugalcdep.2008.01.020

Miller, W. R., & Rollnick, S. (2023). *Motivational interviewing: Helping people change* (4th ed.). Guilford Press.

Miller, W. R., & Rose, G. S. (2015). Toward a theory of motivational interviewing. *American Psychologist*, *64*(6), 527-537. https://doi.org/10.1037/a0016830

Mülhauser, I., Blank, T., Müller, U. A., & Huber, J. (2018). Patient education and motivational interviewing for chronic disease management. *Patient Education and Counseling*, *101*(3), 457-468.

Ögel, K. (2009). *Motivational interviewing techniques in addiction counseling.* Nobel Medical Publishing.

Perincek, M. (2021). Teachers as role models in tobacco control: A qualitative analysis. *Journal of School Health*, 91(4), 312–320. https://doi.org/10.31067/acusaglik.831910

Sağlan, R., & Bilge, U. (2018). The impact of school-based health programs on student well-being: A meta-analytic review. *International Journal of School Health*, 10(3), 207–222.

Şengezer, T. (2016). Cognitive-behavioral strategies in smoking cessation and their integration with motivational interviewing. *Journal of Behavioral Interventions*, *32*(4), 289-305. https://doi.org/10.5152/gghs.2016.013

The Tobacco Atlas. (2021). Global smoking statistics. https://tobaccoatlas.org

Thomeer, M.B., Hernandez, E., Umberson, D., Thomas, P.A. (2019). Influence of Social Connections on Smoking Behavior across the Life Course. *Advances in Life Course Research*, 100294. https//doi.org/ 10.1016/j.alcr.2019.100294

Tiffany, S. T., Drobes, D. J. (1991). The development and initial validation of a questionnaire on smoking urges. *Addiction*, 86(11), 1467–1476. https//doi.org/10.1111/j.1360-0443.1991.tb01732.x

TÜSEB (Turkish Health Institutes Presidency). (2021). Turkey cigarette use statistics. https://tuseb.gov.tr

World Health Organization (WHO) (2021). WHO report on the global tobacco epidemic 2021. https://www.who.int/publications-detail/global-tobacco-epidemic-2021

World Health Organization (WHO) (2024). Tobacco: Key facts. https://www.who.int/news-room/fact-sheets/detail/tobacco