Journal of Health, Medicine and Nursing
ISSN 2422-8419 An International Peer-reviewed Journal
Vol.116, 2024

Psychiatric Disorders and Smoking Behavior: A Comprehensive Examination of Interventions by Psychiatric Nurses

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Abstract

Smoking behavior presents a significant concern among individuals with psychiatric disorders, exhibiting prevalence rates surpassing those in the general population. This systematic review explores the effectiveness of interventions delivered by psychiatric nurses to help patients with psychiatric disorders quit smoking. A systematic search across reputable databases identified 18 relevant articles published within the last five years. These articles comprised nine randomized controlled trials, five experimental studies, one retrospective analysis, and one qualitative descriptive study. The interventions, conducted in various countries, encompassed cognitive-behavioral therapy, motivational interviewing, pharmacological treatments, and psychoeducation. Findings indicate that psychiatric nursing interventions can effectively assist patients in quitting smoking. A multidimensional approach addressing both behavioral and pharmacological components appears crucial for smoking cessation in this population. This review provides insights into the significance of psychiatric nurses in smoking cessation efforts, offering a roadmap for future research and interventions to improve mental health outcomes for individuals with psychiatric disorders.

Keywords: Smoking cessation, Psychiatric disorders, Psychiatric nursing interventions, Cognitive-behavioral therapy, Psychoeducation, Mental health outcomes**.**

DOI: 10.7176/JHMN/116-06

Publication date: June 30th 2024

1. İntroduction

Smoking behavior is a pervasive concern among individuals grappling with psychiatric disorders, showcasing a prevalence that surpasses rates observed in the general population (Krill, Johnson, & Albert, 2016; Palmer et al., 2022). This heightened prevalence, beyond being a notable statistic, manifests itself in a myriad of consequences that extend beyond the act of smoking itself. The impact of smoking on psychiatric symptoms and treatment outcomes is multifaceted and profound, painting a comprehensive picture of the intricate relationship between mental health and tobacco use (Dierker, Avenevoli, Merikangas, Flaherty, & Stolar, 2001; Tidey & Miller, 2015). Specifically, individuals with psychiatric disorders who engage in smoking exhibit patterns such as low medication adherence, elevated relapse rates, reduced treatment success, and exacerbated symptom severity (Smith, Mazure, & McKee, 2014). The implications of these findings reverberate through the realms of healthcare, necessitating a more nuanced and targeted approach to address the unique challenges faced by this population (Dickerson et al., 2018).

The extant literature serves as a repository of knowledge, housing a wealth of studies that delve into the intricate relationship between smoking behavior and severe psychiatric disorders. For instance, an exploration into smoking frequency among patients within psychiatric hospitals unveiled a staggering 80% prevalence of smoking, underscoring the gravity of the issue within the confines of mental health facilities (Havassy, Alvidrez, & Owen, 2004). Moreover, compelling evidence suggests that smoking exerts a detrimental impact on the trajectory of psychiatric disorders. In a study examining patients diagnosed with bipolar disorder, the frequency of smoking was found to be intricately linked with the occurrence of manic episodes, shedding light on the complex interplay between neurobiology and behavioral patterns (Singh, 2018). Given these findings, it becomes imperative to address and promote smoking cessation in individuals with psychiatric disorders. In this context, psychiatric nurses emerge as pivotal actors, positioned at the forefront of patient care, and possessing a unique vantage point to enact meaningful change. Their role extends beyond traditional healthcare paradigms; they are not just healthcare providers but also advocates and catalysts for transformative interventions.

Psychiatric nurses, armed with a deep understanding of the complex interrelation between mental health and smoking, actively contribute to smoking cessation endeavors. Their involvement is characterized by the creation of tailored intervention plans designed explicitly for individuals with psychiatric disorders (Green, 2010; C. T. Okoli, El-Mallakh, & Seng, 2018). These interventions, carefully curated to resonate with the unique needs and challenges faced by individuals in the throes of mental health issues, encompass a spectrum of approaches.

Non-pharmacological methods, such as cognitive-behavioral therapy, stand as pillars in the arsenal of psychiatric nurses, providing a therapeutic framework that extends beyond mere smoking cessation. The amalgamation of psychological and behavioral strategies, inherent in cognitive-behavioral therapy, not only targets smoking behavior but also addresses the underlying psychological factors that contribute to the perpetuation of this habit (Prochaska & Benowitz, 2019). Additionally, psychiatric nurses leverage pharmacological interventions to augment the efficacy of their smoking cessation endeavors. Nicotine replacement therapies, a cornerstone in the pharmacological toolkit, have demonstrated promising results in mitigating the challenges associated with smoking cessation in individuals with psychiatric disorders (Cahill, Stevens, Perera, & Lancaster, 2013; Carson et al., 2013). These pharmacological interventions, when administered under the thoughtful guidance of psychiatric nurses, represent a powerful adjunct to the comprehensive care provided to individuals navigating the complex landscape of mental health. Notably, an intervention program targeting smokers with psychiatric disorders demonstrated a noteworthy increase in smoking cessation rates, offering a glimmer of hope in the often challenging journey towards overcoming nicotine addiction (Baker et al., 2015; Hawes, Roth, & Cabassa, 2021). Another study underscored the efficacy of psychiatric nurses in employing methods such as cognitive-behavioral therapies to instigate behavioral changes in smoking, further highlighting the versatility and impact of nursing interventions in this domain (Prochaska & Benowitz, 2019).

Mental health and smoking behavior intertwine in a complex dance, shaping the well-being of individuals grappling with psychiatric disorders (Yang & Zikos, 2023). The elevated prevalence of smoking within this population accentuates the urgency of comprehensive interventions that extend beyond traditional healthcare paradigms (Greenhalgh, Brennan, Segan, & Scollo, 2022). This study embarks on a journey to scrutinize the intricate relationship between mental health and smoking behavior, with a specific focus on the indispensable role played by psychiatric nurses in crafting and implementing interventions. As the nexus between these two domains is explored, a nuanced understanding of the challenges and opportunities that lie within emerges, paving the way for effective strategies to promote smoking cessation and enhance the overall mental health outcomes for individuals in their care. Therefore, this systematic review by synthesizing existing knowledge and identifying gaps this review seeks to provide a roadmap for future research and interventions that can meaningfully impact the lives of individuals at the intersection of mental health and tobacco use.

1.1 Research Questions

What types of interventions do psychiatric nurses employ to reduce or quit smoking in individuals with psychiatric disorders?

What are the effects of these interventions on the smoking behavior of individuals, who have psychiatric disorders?

2. Methods

2.1. Search Strategy

A systematic search was conducted across reputable databases indexed in SCI, including PubMed, CINAHL, PsycINFO, Scopus, and Web of Science.

2.2. *Search Keywords*

The search strategy employed a combination of controlled vocabulary terms (MeSH terms) and free-text keywords related to mental health, smoking behavior, and psychiatric nursing interventions. The following search terms were used:

Mental Health: "Mental disorders", "Psychiatric disorders", "Mental health", "Behavioral health", Smoking Behavior: "Smoking", "Tobacco use", "Cigarette smoking", "Nicotine dependence", Psychiatric Nursing Interventions: "Psychiatric nursing", "Nursing interventions", "Nursing care", "Behavioral therapy"

Combination Terms: ("Mental disorders" OR "Psychiatric disorders") AND ("Smoking" OR "Tobacco use" OR "Cigarette smoking") AND ("Psychiatric nursing" OR "Nursing interventions" OR "Behavioral therapy")

2.3. Inclusion Criteria

Relevance to the Topic: Articles had to directly address the relationship between psychiatric disorders, smoking behavior, and psychiatric nursing interventions. Studies that focused on individuals with severe psychiatric disorders and evaluated psychiatric nursing interventions for smoking behavior were considered.

Publication Date: Only articles published within the last ten years were included to ensure the incorporation of the most recent research.

Language: Articles written in English were considered for inclusion.

2.4. Exclusion Criteria

Irrelevance to the Topic: Articles that did not directly address the relationship between mental health, smoking behavior, and psychiatric nursing interventions were excluded.

Publication Date: Articles published more than five years ago were excluded.

Language: Articles not written in English were excluded.

Study Design: Animal studies, in vitro studies, and articles lacking clear methodological details were excluded.

Sample Characteristics: Studies focusing solely on populations without severe psychiatric disorders were excluded.

2.5. Study Selection

A systematic literature search was conducted using major databases, including PubMed, CINAHL, PsycINFO, Scopus, and Web of Science. The search aimed to identify articles published within the last five years, focusing on the relationship between mental health, smoking behavior, and psychiatric nursing interventions in individuals with severe psychiatric disorders. The selection of studies to be included in the research was conducted using the PICOS (Population, Intervention, Comparison, Outcome, Study Design) method.

PICOS Criteria:

Population (P): The targeted population consisted of individuals with severe psychiatric disorders, including but not limited to schizophrenia, bipolar disorder, and major depressive disorder.

Intervention (I): Included articles evaluated psychiatric nursing interventions aimed at addressing smoking behavior in the specified population. Interventions encompassed cognitive-behavioral therapy, motivational interviewing, smoking cessation programs, smoking reduction programs, and supportive counseling.

Comparison (C): While not all studies included a specific comparison group, the focus was primarily on the effectiveness of psychiatric nursing interventions, and some studies might have included control groups or alternative interventions.

Outcome (O): The primary outcome of interest was the impact of psychiatric nursing interventions on smoking behavior in individuals with severe psychiatric disorders.

Study Design (S): Quantitative, qualitative, and mixed-methods studies were included. Randomized controlled trials (RCTs), observational studies, systematic reviews, and meta-analyses were also considered.

2.6. Initial Retrieval

The initial search yielded a total of 5236 articles (Fig. 1).

2.7. Title and Abstract Screening

Two independent researchers conducted a title and abstract screening to identify articles directly relevant to the PICOS criteria. Only articles addressing the targeted population, intervention, and outcomes related to smoking behavior were considered (Fig. 1).

2.8. Full-Text Assessment

Articles passing the initial screening underwent a thorough full-text assessment. The researchers scrutinized the methodology, results, and discussion sections to ensure alignment with the PICOS criteria.

2.9. Exclusion Criteria Application

Articles failing to meet the predefined PICOS criteria were excluded. Common reasons for exclusion included studies not focusing on severe psychiatric disorders, lack of psychiatric nursing interventions, or insufficient relevance to smoking behavior outcomes.

2.10. Final Selection

After a meticulous screening process, 18 articles were selected based on their direct relevance to the PICOS criteria, methodological soundness, and contribution to understanding psychiatric nursing interventions for smoking cessation in individuals with severe psychiatric disorders. The study selection process aimed to ensure the inclusion of high-quality articles directly addressing the research question and meeting the specified PICOS criteria. The inclusion and exclusion criteria were established to ensure that selected articles were (Fig. 1).

2.11. Quality Assessment

The quality of each article was assessed using a predetermined set of criteria for quality evaluation. This assessment focused on factors such as internal and external validity, methodological rigor, and the quality of reporting.

2.12. Synthesis of Findings

The synthesis of findings involved identifying the main themes of the selected articles and establishing their interconnections. The results were analyzed to comprehend the impact of psychiatric nursing interventions on smoking behavior in individuals with severe psychiatric disorders.

2.13. Publication Bias Assessment

The assessment of publication bias was conducted to evaluate whether there was any bias among the selected articles. This evaluation aimed to identify publication bias, where published studies tend to report positive results. Additionally, to mitigate publication bias, the studies were assessed by two expert in the field academic researcher.

3. Results

Within the scope of this systematic review, the effectiveness of interventions applied by psychiatric nurses to help patients quit smoking habits has been investigated. Nine randomized controlled trials, five experimental study, one retrospective analysis and one a qualitative descriptive study were found to meet the inclusion criteria. The characteristics of these studies are presented in Table 1.

The studies included in the systematic review were conducted in various countries including the USA, India, China, The Netherlands, Canada, and South Korea. The studies included a total of 4,060 participants, with sample sizes ranging from 32 to 539. The interventions utilized in these studies were diverse, including cognitive-behavioral therapy, motivational interviewing, pharmacological treatments, and psychoeducation.

The results of the systematic review indicate that interventions delivered by psychiatric nurses can be effective in helping patients with psychiatric disorders quit smoking. Furthermore, the review highlights the importance of a multidimensional approach that addresses both behavioral and pharmacological components in smoking cessation interventions for individuals with psychiatric disorders (Table 2-3). Table 2 and 3 displays a synthesis of the systematic review article, providing an overview of the included studies, their characteristics, and the interventions utilized in each study. The studies included in the systematic review showed that interventions delivered by psychiatric nurses can be effective in helping patients with psychiatric disorders quit smoking.

4. Discussion

Tobacco dependence is notably more widespread among adults with mental illness, with prevalence rates ranging from two to four times higher than those observed in the general population (Rüther et al., 2014). Smoking is characterized by both physical and psychological addiction. Consequently, the process of quitting demands careful attention, with a focus on maintaining high motivation levels and providing psychological support to individuals grappling with addiction. This study incorporates data on the types and efficacy of intervention methods administered by nurses. Findings indicate that interventions designed to assist both smokers and psychiatric patients in quitting smoking prove to be effective across various countries.

The first question identified as we proceeded in the research was: What types of interventions do psychiatric nurses employ to reduce or quit smoking in individuals with psychiatric disorders? In the results of the research conducted in this context, psychiatric nurses employ a variety of interventions in experimental studies aimed at reducing or quitting smoking in individuals with psychiatric disorders. These interventions include the Positive Affect (PA) program, Mindfulness-Based Addiction Treatment (MBAT), Acceptance and commitment therapy (ACT), Positive group psychotherapy, and motivational interviewing. Additionally, behavioral therapy,

individual counseling, cognitive-behavioral therapy (CBT), motivational counseling, and the Transtheoretical Model (TTM)-based psychoeducational intervention were identified as interventions utilized in this context. While some of these intervention programs used found positive effects on smoking cessation behavior (Amole, Heath, Joshua, & McLear, 2012; Brown et al., 2021; Hecht et al., 2019; Kahler et al., 2015; Kahler et al., 2018; Lee, 2017; Mak, Loke, & Leung, 2021; C. T. Okoli & Khara, 2014; C. T. Okoli et al., 2011; Rajalu et al., 2023), some reported no significant effect and a need to develop more intervention programs (Smits et al., 2019; Smits et al., 2021; Vidrine et al., 2016).

There are studies comparing intervention programs made by nurses and physicians to quit smoking. In a study comparing the intervention program given by nurses and practitioners, among people seeking help to stop smoking from their general practice, one-off brief advice from a general practitioner appears to be as effective as several sessions of behavioral support from a practice nurse when smoking cessation (van Rossem et al., 2017).

One of the effective methods in quitting smoking is the social support factor. Psychiatric nurses are also social support counselors. In a study comparing the use of social support and the ACT intervention, ACT was not significantly better than social support in helping to quit smoking completely (Mak et al., 2021).

There are new approaches to quitting smoking in the literature. These intervention programs include telephone-based, web-based, or combined telephone and web-based counseling. In the study by Ocoli et al, it was stated that these intervention programs were as effective as medical treatment (C. Okoli, Wiggins, Fallin‐Bennett, & Rayens, 2017).

A review of behavioral interventions associated with smoking cessation was conducted by Roberts et al. As a result of the study, as an intervention program, Brief advice, the 5As approach, individual behavioral counseling, group behavior therapy, telephone counseling, new technologies (new smart phone applications (apps). It has been reported that self-help materials methods were used (Roberts, 2013).

Rice and colleagues conducted a systematic review of smoking cessation interventions implemented by nurses between 2013 and 2017. Rice et al., 2013 Randomized trials of smoking cessation interventions delivered by nurses, Multifactorial lifestyle counseling or rehabilitation The results indicate the potential benefits of smoking cessation advice and/or counseling given by nurses, with reasonable evidence that intervention is effective.

Rice et al., randomized trials of smoking cessation interventions delivered by nurses or health visitors brief advice and self-help materials from the same nurses counseling sessions. There is moderate quality evidence that behavioral support to motivate and sustain smoking cessation delivered by nurses can lead to a modest increase in the number of people who achieve prolonged abstinence (Rice VH, 2017).

The findings of the systematic review suggest that interventions delivered by psychiatric nurses can indeed be effective in helping patients with psychiatric disorders quit smoking. However, there is a need for further research to explore the long-term effectiveness of these interventions and to identify best practices for sustainable smoking cessation in this population.

5. Conclusion

Future studies should also focus on tailoring interventions to specific psychiatric disorders, considering the unique challenges and needs of individuals with different diagnoses. For example, the effectiveness of interventions for individuals with schizophrenia may differ from those with bipolar disorder or depression. In addition, it would be valuable for future research to explore the experiences and perspectives of patients with psychiatric disorders regarding smoking cessation interventions. This qualitative approach can provide insights into the factors that contribute to successful quitting and help in the development of more patient-centered interventions.

Furthermore, psychiatric nurses and other healthcare professionals should consider integrating smoking cessation interventions into routine psychiatric care. This could involve providing training and resources for psychiatric nurses to effectively deliver evidence-based smoking cessation interventions, thereby improving the overall health outcomes for patients with psychiatric disorders. In conclusion, while the findings of this systematic review are promising, there is still much to be explored in the realm of smoking cessation interventions for individuals with psychiatric disorders. With continued research and practice, we can work towards better supporting this vulnerable population in their efforts to quit smoking and improve their overall well-being.

6. Acknowledgment

I would like to express my sincere gratitude to the experts in the field of data selection who provided invaluable support throughout the process. Their expertise and guidance significantly contributed to the meticulous selection of data for this study. I am truly thankful for their dedicated assistance Tuğba Duzcu and Ergün Hasgül which enhanced the quality and reliability of the research.

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Table 1. Included Studies' Characteristic Features

N.	Author	Location	Participants	Populations	İnterventions	Cooperation	Outcomes	Conclucion	Study design
1	Okoli et al., 2011	Canada	258	Ssubstance use disorders (SUD) and/or mental illness	Tobacco dependence clinic (TDC) program	Pre test-post test one group	End-of-treatment smoking cessation was 32.2%	Tailored approaches enhance smoking cessation in this population	Experimental study
2	Amole et al., 2012	ABD	201	Psychiatric patient	The Rx for Change: Clinician Assisted Tobacco Cessation Curriculum	Pre test-post test one group	The posttest relationship between variables using the Pearson correlation coefficient analysis demonstrated a moderately strong positive relationship between self-efficacy, subjective beliefs, normative beliefs, and control beliefs to integrate	Individually and collectively it is critical for all health professionals to transform and accelerate tobacco-control efforts through research, education, advocacy, and practice.	Experimental study
3	Okoli and Khara, 2014	ABD	522	Co-occurring substance use Substance use disorder Psychiatric disorders	Behavioral counseling group, Support group, No-cost pharmacotherapy	Pre test-post test one group	Among all three groups, greater length of treatment remained significantly predictive of successful smoking cessation at the end of treatment	Tobacco cessation treatment for individuals with co-occurring substance use and psychiatric disorders is likely to be as effective as for smokers with either disorder alone.	Experimental study
4	Kahler et al., 2015	ABD	66	Current smoker	Positive affect (PA)	Standard smoking cessation treatment	In a more statistically powerful longitudinal model, participants in PPT-S had a significantly higher odds of abstinence (adjusted odds ratio [AOR] = 2.75; 95% CI = 1.02, 7.42; p = .046) across follow-ups compared to those in ST.	This trial suggests substantial promise for incorporating PPT into smoking cessation treatment.	Randomised, controlled study

5	Vidrine et al., 2016	ABD	412	Current smoker	Mindfulness-Based Addiction Treatment (MBAT)	Usual Care (UC) Cognitive Behavioral Treatment (CBT) that matched MBAT on treatment	Among participants classified as smoking at the last treatment session, analyses examining the recovery of abstinence revealed a significant overall treatment effect, F(2,103)=4.41, p=.015	This study result that Although there were no significant differences in overall abstinence between Mindfulness Based Addiction Treatment (MBAT) and traditional Guideline-based treatments within a diverse and relatively low SES sample of smokers, MBAT may be more efficacious than CBT or UC in facilitating lapse recovery.	Randomised, controlled study
6	Lee, 2017	South Korea	36	Smokers	Positive group psychotherapy and motivational interviewing	Pre test-post test one group	This study found that the intrinsic motivation such as the importance of and confidence in smoking cessation were predictors for smoking cessation.	Motivational interviewing increased motivations, whereas positive group psychotherapy increased positive thoughts and confidence.	A qualitative descriptive study
7	Okoli et al., 2017	ABD	539	Psychiatric disorders	the Butt-Out programme and the Tobacco Dependence Clinic (TDC) Programme Behavioural therapy A support group-style format	Medical treatment	An earlier study, which provided 12 weeks of varenicline while randomizing participants into phone-based, web-based, or combined phone and web-based counselling, found equal 6-month cessation rates for those with a depressive history and anxiety	Future studies are needed to understand the salience of the different predictors of smoking cessation by mental illness groups.	Retrospective analysis

8	Van Rossem et al., 2017	Netherlands	295	Smokers	İndividual counselling by a practice nurse (PN) Medication	Brief advice by a general practitioner (GP) Medication	Values of the Bayes factor indicated that the PN and GP were equally effective.	Among people seeking help to stop smoking from their general practice, one-off brief advice from a general practitioner appears to be as effective as several sessions of behavioural support from a practice nurse when smoking cessation medication is provided.	Randomised, controlled study
9	Kahler et al., 2018	ABD	340	Smokers	Positive psychotherapy	Standard behavioral smoking cessation counseling		Results from this study will provide evidence on whether incorporating positive psychology interventions into smoking cessation treatment can improve smoking cessation outcomes relative to standard behavioral counseling with nicotine patch and text messaging	Randomised, controlled study
10	Smits et al., 2019	ABD	100	Smokers	Standard smoking cessation (ST) Cognitive-behavioral therapy (CBT) and nicotine replacement therapy	Approach bias retraining (ABR)	the effect size for the advantage of ST + ABR over ST + CTRL for smoking cessation.	Smoking remains a significant public health problem and there is a need for more effective interventions.	Randomised, controlled study
11	Hecht et al., 2021	ABD	353	Psychiatric disorders	Sustained Care (SusC) Motivational counseling	Usual Care (UC)		Results from this comparative effectiveness trial will add to our understanding of acceptable and effective smoking cessation approaches for patients hospitalized	Randomised, controlled study

12	Smits et al., 2021	ABD	150	Anxiety	Aerobic exercise program, Standard behavioral support and nicotine replacement therapy, Personel trainer	Standard behavioral support and nicotine replacement therapy	Sixty-one per cent of participants were available at the 6-month follow-up.	An exercise program of high intensity increased abstinence from smoking in people with high anxiety sensitivity, but may not have done so by reducing anxiety sensitivity.	Randomised, controlled study
13	Mak et al., 2021	China	65	Schizophrenia	Acceptance and commitment therapy (ACT)	Social Support	They found significantly greater improvements in smoking-specific and ACT-specific experiential avoidance and less reliance on emotion regulation strategies in the ACT group at some time points	ACT was not significantly better than social support for quitting smoking completely.	Randomised, controlled study
14	Brown et al., 2021	ABD	353	Psychiatric disorders	A multicomponent, sustained care (SusC) smoking cessation intervention	Usual care (UC)	Participants in the SusC group evidenced significantly higher 6-month follow-up point-prevalence abstinence rates than those in the UC group	The findings of this randomized clinical trial provide evidence for the effectiveness of a scalable, multicomponent intervention in promoting smoking cessation treatment use and smoking abstinence in individuals with SMI following hospital discharge.	Randomised, controlled study
15	Rajalu et al., 2023	İndia	170	Persons with schizophrenia and related psychotic disorders	A personalized tobacco cessation intervention package		Reduction of tobacco by at least 50 % (62.4 % vs 40.9 %) with an attrition rate of 15.3 % vs 30.5 % in intervention and control group respectively.	Implementing a tobacco cessation intervention based on the stage of motivation aids in abstinence and reduction of tobacco use in PwS.	A two-group experimental study

Table 2. The Synthesis of Systematic Review Article

Author(s)	Time/Timeline	Selection Criteria	Sources (n)	Nursing interventions	Findings
Rice et al., 2013	2013	Randomized trials of smoking cessation interventions delivered by nurses or health visitors	35	Counselling, Multifactorial lifestyle counselling or rehabilitation	The results indicate the potential benefits of smoking cessation advice and/or counselling given by nurses, with reasonable evidence that intervention is effective.
Rice et al., 2017	2013-2017	Randomized trials of smoking cessation interventions delivered by nurses or health visitors	9	Brief advice and self-help materials from the same nurses Counseling sessions	There is moderate quality evidence that behavioural support to motivate and sustain smoking cessation delivered by nurses can lead to a modest increase in the number of people who achieve prolonged abstinence.

Table 3. The Synthesis of Review Article

Sources	Article	Findings/İntervations
Roberts et al., 2013	Behavioral Interventions Associated with Smoking Cessation	Brief advice The 5As approach Individual behavioral counseling Group behavior therapy Telephone counseling New technologies (new smart phone applications (apps) Self-help materials

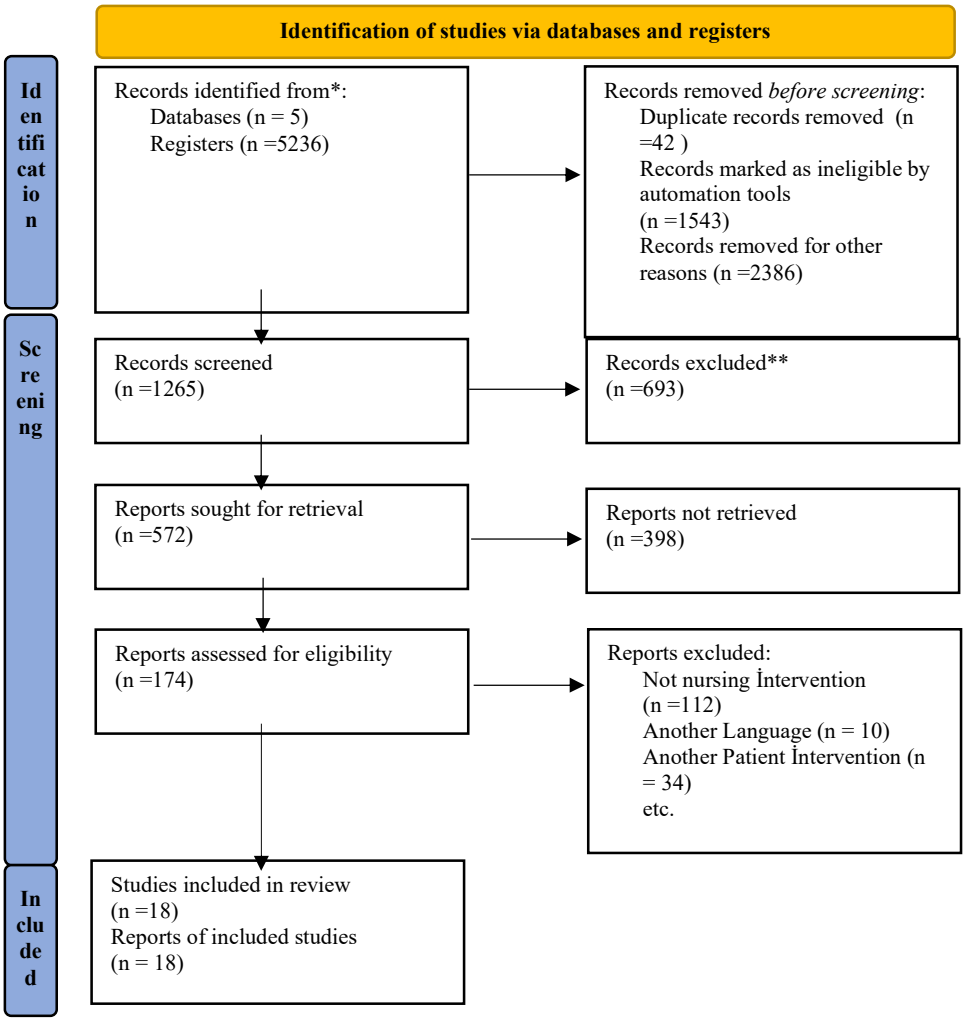

Figure 1. PRISMA Flowcart