Review Article

Navigating Challenges in Tobacco Control: A Systematic Review of Barriers to Implementing Article 5.3 of the WHO Framework Convention on Tobacco Control (FCTC)

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Abstract

Background: Tobacco control efforts face substantial obstacles from industry interference and regulatory weaknesses. This review synthesizes qualitative evidence on barriers to implementing effective tobacco control measures, offering actionable recommendations for policymakers and practitioners.

Objective: To identify barriers to implementing tobacco control measures, specifically Article 5.3 of the WHO FCTC, and propose solutions to overcome them.

Methods: A systematic search was conducted across PubMed, EBSCO, and the Cochrane Library, using keywords like "tobacco," "industry," and "interference." The search, limited to English-language studies published until July 15, 2024, included qualitative studies addressing barriers to implementing Article 5.3. Eligible studies focused on government policies, institutional actions, economic measures, and public awareness. The protocol was registered in PROSPERO (CRD42024565548). Study quality was assessed using the CASP checklist, and confidence in findings was evaluated with GRADE-CERQual.

Findings: Twelve qualitative studies were included, covering regions such as Bangladesh, Ethiopia, India, Uganda, and the UK Overseas Territories. Key barriers identified were conflicts of interest involving government officials, lobbying by the tobacco industry, resource constraints, weak regulatory frameworks, and limited awareness of Article 5.3. Economic considerations often overshadowed public health priorities, further enabling industry influence.

Conclusion: Addressing these barriers requires strengthened regulations, improved coordination, and enhanced support for tobacco control initiatives. Efforts should prioritize reducing conflicts of interest, increasing awareness of Article 5.3, and balancing public health and economic interests. Public health dentists and policymakers must collaborate to ensure effective tobacco control measures are implemented and sustained.

Keywords: Tobacco control, Industry interference, Regulatory frameworks, Public health, GRADE-CERQual, Qualitative synthesis

Introduction

The implementation of tobacco control measures is crucial for public health. The World Health Organization (WHO) Framework Convention on Tobacco Control (FCTC) Article 5.3 plays a significant role in protecting public health policies from the vested interests of the tobacco industry.

Article 5.3 of the WHO Framework Convention on Tobacco Control (FCTC), adopted in 2003, is designed to protect public health policies from the interference of the tobacco industry. It stresses that tobacco control measures should be free from industry influence, ensuring that policies prioritize public health. The article advocates for transparency in government dealings with the tobacco industry, avoidance of conflicts of interest, and strict regulation of industry participation in policymaking.

Overall, Article 5.3 aims to ensure that tobacco control efforts are not compromised by commercial interests, safeguarding public health.[1]

Article 5.3 of the World Health Organization Framework Convention on Tobacco Control (WHO FCTC) is designed to protect public health policies from the influence of the tobacco industry. It mandates that parties to the convention must ensure that their tobacco control policies are protected from commercial and other vested interests of the tobacco industry. The guidelines for implementing Article 5.3 emphasize transparency, accountability, and the need to avoid conflicts of interest. This provision is crucial in preventing the tobacco industry from undermining public health measures by utilizing strategies including advocacy, promotional campaigns, and corporate social responsibility efforts.[2]

Despite its critical importance, the implementation of Article 5.3 faces numerous challenges worldwide. Governments and health organizations encounter barriers ranging from political and economic pressures to insufficient awareness and enforcement mechanisms. Research has underscored the pervasive influence of the tobacco industry, which employs a range of strategies— including lobbying, litigation, and deceptive marketing practices—to subvert tobacco control initiatives.[3] The tobacco industry's strategic use of corporate social responsibility (CSR) initiatives to gain favor and legitimacy among policymakers and the public further complicates efforts to enforce Article 5.3.[4] Additionally, the industry's interference often exploits regulatory weaknesses and lack of transparency in governmental processes, making it difficult to achieve uniform and stringent implementation of tobacco control measures.[5]

Political will and commitment to tobacco control vary significantly across different regions, impacting the effectiveness of Article 5.3 implementation. In many low- and middle-income countries (LMICs), limited resources and competing public health priorities exacerbate the challenge.[4] Furthermore, the tobacco industry has been known to target these countries with aggressive marketing and lobbying strategies, leveraging economic arguments to resist stringent regulations.[6] The lack of awareness and training among policymakers and health professionals about the importance and mechanisms of Article 5.3 also hinders effective implementation.[5]

This systematic review aims to elucidate the barriers hindering the effective implementation of Article 5.3, drawing from a comprehensive analysis of existing literature. By identifying and understanding these obstacles, policymakers, and public health advocates can develop more targeted strategies to strengthen tobacco control measures and protect public health policies from industry interference. Addressing these challenges is essential to advance global tobacco control efforts and reduce the burden of tobacco-related diseases.

In summary, this review seeks to answer the following question: What are the main barriers to implementing Article 5.3 in different countries, especially concerning tobacco industry interference in public policy? Previous studies, such as those by Doku et al[3] and Gilmore et al,[4] have documented similar issues, including lobbying and corporate social responsibility initiatives. However, this study differed from those studies in that it synthesized qualitative evidence from diverse global contexts, with a focus on low- and middle-income countries, and applied the GRADE-CERQual approach to assessing evidence quality. It provided new insights into institutional, economic, and regulatory challenges, offering actionable recommendations to strengthen tobacco control efforts and protect public health policies.

Methods

We used the international PICOS format[7] – an established approach used to structure systematic reviews by defining the Population (P), Intervention (I), Comparator (C), Outcome (O), and Study design (S).

In this review, the "Population" (P) includes policymakers, public health officials, and other relevant stakeholders involved in tobacco control. The "Intervention" (I) pertains specifically to the implementation of Article 5.3 of the WHO Framework Convention on Tobacco Control (FCTC), an article aimed at protecting public health policies from tobacco industry interference. Due to the nature of this review, a "Comparator" (C) was not applicable, as we are not comparing alternative interventions. The primary "Outcome" (O) was defined as the barriers to effectively implementing Article 5.3. Finally, the "Study design" (S) was limited to primary qualitative research studies that explore barriers to implementing Article 5.3.

This systematic review was conducted according to the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) guidelines.[8] The review protocol for this review was registered in PROSPERO (CRD42024565548).

Search Strategy

We conducted a search using relevant keywords and databases. The search strategy included terms such as "Tobacco," "Industry," "Interferences," and variations thereof. We primarily focused on academic databases such as PubMed, EBSCO, and Cochrane Library. The search strategies were confined exclusively to studies published in the English language, encompassing research up to July 15, 2024. The main search keywords were tobacco and industry and digital interferences. The search strategies are attached as supplement file 1.

The inclusion criteria for this study cover research involving various stakeholders such as government officials, public health practitioners, non governmental organizations (NGOs), policymakers, and representatives of the tobacco industry. Eligible studies must specifically address the implementation of Article 5.3 of the WHO FCTC, including government policies, institutional actions, economic measures, legal actions, and public awareness and advocacy efforts related to Article 5.3. The review exclusively includes primary qualitative studies focused on the barriers to implementing Article 5.3 of the WHO Framework Convention on Tobacco Control. The exclusion criteria eliminated studies that did not discuss barriers to Article 5.3 implementation or lacked relevant data on challenges faced, were not published in English without reliable translation, or focused on general tobacco control measures without addressing industry interference or protecting public health policy. Studies employing observational, case-control, cohort, and other

quantitative designs were excluded.

Evidence Selection
Initially, the search results were imported into Zotero referencing software[9], where duplicates were removed. The refined library was then transferred to Rayyan,[10] a platform designed for screening systematic reviews. The search included articles published till 15/07/2024. Two independent reviewers, N.R. and S.S., meticulously screened the titles based on the established inclusion criteria, identifying potentially relevant publications for further examination of the abstracts. All papers whose abstracts could not be excluded were assessed in full-text, and publications meeting the inclusion criteria were incorporated into the review. Reasons for excluding studies at the full-text stage were documented, and disagreements were resolved by consensus or a third reviewer, M.W.

Data Extraction
Selected papers were thoroughly reviewed, and two independent reviewers, N.R. and M.W., diligently extracted and organized essential data into an Excel extraction table utilizing Microsoft Office Excel software. The data extraction sheet included author names, location, year of publication, study design, participant description, sample size, barriers to implementing Article 5.3, tobacco industry interference impacts on public policy, and recommendations to overcome the barriers shown in Tables 1 and 2. Key information and author disclosures were meticulously gathered, ensuring comprehensive coverage of all relevant aspects.

Quality Assessment
The quality of the qualitative studies included in this systematic review was evaluated using the Critical Appraisal Skills Programme (CASP) qualitative checklist.[23] This checklist provides a structured approach to appraising the methodological rigor and relevance of qualitative research. Two reviewers, N.R. and S.S., independently assessed each qualitative study using the CASP criteria, which focus on several key aspects: the clarity of the research aims, the appropriateness of the qualitative methodology, the rigor of data collection and analysis, and the coherence of findings. The CASP checklist ensures that studies have clearly defined aims, use appropriate methods for data collection and analysis, and provide a thorough and transparent interpretation of the data. Any disagreements between reviewers were resolved through discussion, and a third reviewer, M.W., was consulted to reach a consensus. This process aims to include relevant qualitative evidence in the review. However, the robustness and reliability of the findings related to the barriers to implementing Article 5.3 of the WHO FCTC depend on both the inclusion of diverse perspectives and the rigorous quality appraisal of each study. The CASP checklist for the included studies has been presented in Table 3.

Analytic Strategy
The synthesis of qualitative studies examining the barriers to implementing Article 5.3 of the WHO Framework Convention on Tobacco Control (FCTC) employed the GRADE-CERQual framework to evaluate the confidence in the findings. The analysis was structured around three primary themes: Barriers, Tobacco Industry Interference Affecting Public Policy, and Recommendations to Overcome Barriers, each of which included specific sub-themes for a more nuanced understanding.

Key concepts were systematically extracted and translated across the studies to maintain consistency and contextual relevance. The reviewers conducted independent assessments of the data, comparing their findings and resolving any discrepancies through a consensus-driven approach. The GRADE-CERQual criteria—comprising methodological limitations, coherence, adequacy, and relevance—were rigorously applied to assess the confidence in each synthesized finding. This systematic methodology, bolstered by the collaborative efforts of multiple reviewers, ensured a thorough analysis of the barriers to implementing Article 5.3 of the WHO FCTC.

Summary of Qualitative Findings Table and Evidence Profile
We provide a concise overview of the findings along with our confidence assessments in the Summary of Qualitative Findings Table (Table 4).

Results
From a total of 374 records identified across databases (PubMed 293, Cochrane Library 14, EBSCO 67), 248 remained after removing duplicates (20) and non-free full-text records (106). After excluding 154 records, 94 reports were sought. The 79 papers that were found were assessed for eligibility. Finally, 12 studies were included in the review. (Figure 1)

Description of the Studies
The studies explored diverse aspects of tobacco control through various methodologies and locations. S. M. Abdullah et al[11] conducted in-depth, semi-structured interviews in Bangladesh with government officials, civil society members, and academics engaged in tobacco control. Balwicki Ł et al[12] analyzed 257 documents in Poland obtained via freedom of information requests, revealing interactions between the tobacco industry and government officials. Rachel Ann Barry et al[13] used semi-structured interviews in Bangladesh, Ethiopia, India, and Uganda, engaging officials and advocates from

Table 1. Characteristics of studies

S. No.	Author's name	Year of publication	Location	Study design	Participants description	Sample size
1	Abdullah et al[11]	2022	Bangladesh	Qualitative research using in-depth, semi-structured interviews	The study involved government officials, representatives from civil society, think tanks, media organizations, and academic researchers who are engaged in tobacco control efforts.	The specific sample size is not mentioned in the excerpts provided, but the study involved multiple participants from various sectors related to tobacco control in Bangladesh.
2	Balwicki et al[12]	2016	Poland	The study utilized a qualitative research design, focusing on the analysis of documents obtained through freedom of information requests. This approach allowed the researchers to gather and examine a comprehensive set of data related to the interactions between the tobacco industry and government officials.	The study analyzed 257 documents from freedom of information requests, including communications from eight major tobacco companies, importers, industry associations, and government ministries. These documents revealed industry influence and interactions with officials, covering 99% of the Polish cigarette market in 2006.	The researchers analyzed a total of 257 documents that were collected through these freedom of information requests. These documents included communications between the tobacco industry and various government ministries, providing insights into the nature and extent of industry lobbying efforts from 2006 to 2012
3	Barry et al[13]	2022	The study was conducted in four countries: Bangladesh, Ethiopia, India, and Uganda.	The study utilized a qualitative research design, specifically through semi-structured interviews with key stakeholders involved in tobacco control.	Participants included officials from health and other relevant ministries (such as trade, agriculture, finance, revenue and customs, environmental protection, and law enforcement), legislators, non-governmental organizations, and health advocates. The focus was primarily on national-level policy implementation, but also included state-level and district-level initiatives, particularly in India.	The total sample size consisted of 131 semi-structured interviews.
4	Barry et al[14]	2022	The study focuses on the United Kingdom's Overseas Territories (UKOTs), which include jurisdictions such as Bermuda, the Cayman Islands, and others.	The study employed a qualitative research design, utilizing interviews to gather insights from participants regarding tobacco control governance and industry interference.	Participants included health officials and policymakers from various UKOTs who have experience in developing tobacco control legislation and policies. Their insights provided a nuanced understanding of the challenges faced in implementing effective tobacco control measures.	The exact sample size is not specified in the excerpts provided, but it is indicated that interviews were conducted with tobacco control leads in four participating UKOTs.
5	Charoenca[15]	2012	Thailand	The study employs a policy analysis approach, examining the strategies used by transnational tobacco companies (TTCs) to interfere with tobacco control efforts and the counter-strategies developed by public health advocates in Thailand. It includes qualitative analysis based on interviews and publicly available documents.	The study involves participants from the public health community in Thailand, including governmental and non-governmental health organizations, as well as academics who have been involved in tobacco control efforts.	The specific sample size is not explicitly mentioned in the excerpts provided. However, the study references findings from interviews conducted by tobacco control organizations and analysis of publicly available documents, indicating a qualitative approach rather than a quantitative one with a defined sample size.
6	Erku[16]	2019	Ethiopia	The study employed a qualitative review approach, analyzing Ethiopia's tobacco legislative history, the National Tobacco Control Directive (NTCD), the National Tobacco Control Strategic Plan, and related media stories from 2009 to 2018.	The study does not specify individual participants, as it focuses on legislative and policy analysis rather than direct participant involvement. It reviews the compliance of the NTCD with the WHO FCTC and examines the broader context of tobacco control efforts in Ethiopia.	The study does not have a defined sample size in the traditional sense, as it is a review of existing documents and policies rather than a survey or experimental study involving human participants.
7	Goel et al[17]	2021	India	Qualitative scoping study using a cross-sectional design with in-depth interviews	The participants included key stakeholders involved in tobacco control, such as civil society representatives, program managers, researchers, and policymakers. They had varying years of experience in tobacco control activities, most having been engaged for 5-10 years or more.	The study included a total of 26 participants, with 14 from one institute and 12 from another.

Table 1. Continued.

S. No.	Author's name	Year of publication	Location	Study design	Participants description	Sample size
8	Kumar[18]	2022	Karnataka	Qualitative research based on semi-structured interviews	The study involved diverse government and civil society stakeholders across four districts in Karnataka, including officials from health, agriculture, education, law enforcement, and public administration. Participants were selected based on their involvement in or knowledge of tobacco control issues.	33 Participants
9	lie et al [19]	2016	The study focuses on the Netherlands, particularly examining the implementation of the EU Tobacco Products Directive (TPD) within the Dutch context	The study employed a qualitative analysis, which included a review of Dutch government documents obtained through Freedom of Information Act requests, in-depth interviews with key informants, and secondary data sources such as publicly available government documents, scientific literature, and news articles	The participants included key informants from various sectors related to tobacco control, including policy officers from the Ministry of Health, representatives from tobacco manufacturers' associations, and experts in health warnings. This diverse group provided insights into the interactions between the tobacco industry and policymakers	The study involved a total of 12 key informants, with 4 face-to-face interviews and 8 telephone interviews
10	Male et al [20]	2022	Uganda	A qualitative study utilizing semi-structured interviews	Policy officials from various government ministries, including the Ministry of Health, Ministry of Agriculture, Ministry of Trade, and others	35 semi-structured interviews were conducted with representatives from across the Ugandan government.
11	Matthes et al[21]	2020	The study focuses on low- and middle-income countries (LMICs), but specific countries are not detailed in the provided text.	Qualitative study using semi-structured interviews.	The participants included advocates working on tobacco control measures across various LMICs.	The sample size varied by country, with a total of 22 interviewees across different countries and contexts.
12	Shahriar MH et al [22]	2023	Bangladesh	Qualitative research utilizing media analysis and document review	The study does not involve direct participants but analyzes media articles and documents related to tobacco industry interference and government interactions.	The study reviewed 161 media articles and 11 relevant documents from industry and government sources.

(NTCC: National Tobacco Control Cell; TTCs: Tobacco Testing Centers; FCTC: Framework Convention on Tobacco Control; LMICs: low- and middle-income countries)

multiple sectors to understand national and regional tobacco control efforts. Another study by Rachel Ann Barry et al[14] focused on the UK Overseas Territories, interviewing health officials and policymakers about tobacco control challenges. Naowarut Charoenca[15] employed policy analysis in Thailand, examining tobacco industry interference through interviews and document reviews. Daniel Asfaw Erku[16] reviewed Ethiopia's tobacco legislation and policies, focusing on existing documents rather than direct participant involvement. Sonu Goel et al[17] and Praveen Kumar[18] conducted qualitative interviews with stakeholders in India and Karnataka, respectively. Lie et al [19] examined the EU Tobacco Products Directive in the Netherlands through document analysis and interviews with key informed individuals. In Uganda, Male et al[20] conducted semi-structured interviews with policy officials. Matthes et al[21] focused on low- and middle-income countries, interviewing tobacco control advocates. Finally, Shahriar M.H. et al[22] analyzed media

and documents in Bangladesh to investigate industry interference.

Methodological Limitations of the Studies
The methodological limitations identified in the reviewed studies highlight several key issues impacting the robustness and reliability of findings. One significant limitation is the insufficient consideration of ethical issues, such as the relationship between researchers and participants and the processes for informed consent. Studies such as those by Balwicki et al[12] and Barry et al [13] did not adequately address these aspects, potentially affecting the credibility of their conclusions. Recruitment strategies were another notable limitation, as some studies, like Shahriar et al,[22] lacked precise details on participant selection, raising concerns about the representativeness and relevance of the findings.

Additionally, the rigor of data analysis was found to be insufficient in some instances, with studies like Charoenca

Table 2. Findings of studies

S. No.	Author's Name	Barriers to implementing Article 5.3	Tobacco Industry Interference affect public policy	Recommendation to overcome barriers
1	Abdullah et al[11]	**Conflicts of Interest**: Close ties between government officials and the tobacco industry create significant conflicts, such as senior officials sitting on the board of British American Tobacco Bangladesh (BATB), hindering policy formulation and enforcement. **Industry Interference**: Reports reveal significant interference by the tobacco industry in public policy, with no protective measures implemented, as noted in the 2020 Framework Convention on Tobacco Control report. **Institutional Weakness**: The National Tobacco Control Cell (NTCC) faces resource and authority limitations, compounded by its isolation from other ministries, which undermines its ability to enforce tobacco control measures effectively.	The tobacco industry exerts significant influence over government decisions, as evidenced by instances where government officials prioritized the interests of tobacco companies over public health. For example, during the COVID-19 lockdown, a government directive was issued to ensure the continued production and distribution of tobacco products, following requests from tobacco companies. This reflects a prioritization of revenue generation from tobacco over health considerations.	**1. Strengthening the NTCC:** Enhancing the capacity and authority of the NTCC is crucial for advancing the implementation of Article 5.3. This includes developing a code of conduct and guidelines to minimize industry interference. **2. Promoting Multisectoral Coordination:** Improving coordination across various government departments and agencies is essential to effectively address the challenges posed by tobacco industry interference. **3. Utilizing Opportunities for Policy Change:** The authors emphasize the importance of taking advantage of the current momentum to drive forward the tobacco control agenda, which aligns with the government's stated ambition of becoming tobacco-free by 2040.
2	Balwicki et al[12]	**Lack of Regulatory Framework:** Many countries lack regulations to limit government interactions with the tobacco industry, enabling lobbying and policy influence. **Industry Influence and Lobbying:** The industry complicates efforts by submitting prewritten legislative proposals, overstating contributions, and misrepresenting public health data. **Political and Economic Pressures:** Governments hesitate to enforce strict regulations due to economic reliance on the tobacco industry. **Insufficient Awareness and Training:** Policymakers and officials lack knowledge of Article 5.3 and industry tactics, weakening resistance to influence. **Cultural and Social Norms:** Smoking's cultural acceptance hinders the enforcement of control measures. **Weak Enforcement Mechanisms:** Existing policies are poorly enforced, allowing the industry to bypass regulations.	**Delaying Policy Implementation**: Lobbying is used to stall or block tobacco control measures, prolonging decision-making processes. **Misleading Information**: The industry exaggerates economic contributions, discouraging policymakers from supporting stricter regulations. **Undermining Public Health Initiatives**: Legal threats and government pressure are employed to weaken anti-smoking campaigns. **Creating Confusion**: Corporate social responsibility initiatives are used to mislead policymakers about the industry's actual impact. **International Challenges**: The industry exploits weaker political systems in some countries to weaken global tobacco control efforts.	**Implement Article 5.3 of WHO FCTC**: Enforce regulations to limit and ensure transparency in interactions between government officials and the tobacco industry. **Strengthen Legal Frameworks**: Develop laws to regulate lobbying, set boundaries for industry interactions, and protect public health policies. **Increase Awareness and Training**: Train policymakers and health officials on industry tactics and the importance of protecting public health policies. **Promote Public Health Advocacy**: Mobilize community support and advocacy to counter the industry's influence and strengthen political will. **Enhance Research and Monitoring**: Conduct ongoing research to monitor industry activities and address interference effectively.
3	Barry et al[13]	**Limited Awareness**: Article 5.3 is understood mainly by health ministries, with little knowledge in other sectors. **Coordination Challenges**: Poor interdepartmental coordination hinders the effective implementation of measures. **Institutional Constraints**: Conflicts of interest and barriers complicate ministry interactions with the tobacco industry. **Industry Influence**: Tobacco industry lobbying poses significant obstacles to policy development and enforcement.	**Weakening Legislation**: Lobbying reduces the strength and effectiveness of public health laws. **Influencing Policy Decisions**: Lobbying, funding, and CSR initiatives create conflicts of interest, prioritizing industry over public health. **Spreading Misinformation**: Misleading information confuses policymakers and the public, weakening regulatory support. **Inappropriate Government Engagement**: Officials treat the industry as legitimate stakeholders, compromising policies and failing to limit industry influence. **Diverting Resources**: Lobbying shifts government focus and resources away from tobacco control efforts.	**Enhancing Awareness**: Train government officials across sectors on Article 5.3 to counter tobacco industry interference. **Strengthening Coordination**: Establish mechanisms for seamless collaboration across all levels of government to ensure consistent policy implementation. **Empowering Local Authorities**: Provide resources, training, and support to subnational governments for effective enforcement of tobacco control laws. **Engaging Civil Society**: Involve civil society organizations to build public support and include diverse perspectives in policymaking. **Promoting Transparency**: Ensure accountability by implementing measures to make government interactions with the tobacco industry transparent.
4	Barry et al[14]	**Political and Economic Ties**: Politicians' financial interests in the tobacco industry create conflicts of interest, hindering policy advancement. **Limited Awareness**: Low familiarity with Article 5.3 and tobacco policies among officials reduces effective application and cross-sector integration. **Geographical and Resource Constraints**: Isolation and limited capacity hinder coordinated government approaches, leading to fragmented efforts. **Industry Pressure**: Tobacco companies use lobbying and legal threats to block legislation and influence policymaking.	**Conflict of Interest**: Lawmakers' financial ties to the tobacco industry hinder the prioritization of public health. **Local Industry Resistance:** Retailers and businesses oppose control measures, fearing economic losses. **Limited Awareness:** Policymakers lack knowledge of industry tactics and FCTC Article 5.3, weakening safeguards. **Fragmented Policies**: Small bureaucracies lead to inconsistent and ineffective tobacco control strategies. **Building Capacity**: Strengthening local public health infrastructure reduces reliance on external support and enhances resistance to industry influence.	**Enhanced Awareness and Training**: Educate policymakers and public health officials on Article 5.3 and industry tactics through targeted training programs. **Strengthening Collaboration**: Foster intersectoral coordination across sectors like commerce and education for a unified response to tobacco industry influence. **Leveraging International Frameworks**: Use agreements like the FCTC to justify strict measures and counter industry opposition. **Building Local Capacity**: Invest in local public health infrastructure to enable effective policy development, enforcement, and resistance to industry pressure.

Table 2. Continued.

S. No.	Author's Name	Barriers to implementing Article 5.3	Tobacco Industry Interference affect public policy	Recommendation to overcome barriers
5	Charoenc et al[15]	**Tobacco Industry Influence:** The industry interferes with policymaking by influencing officials, intimidating advocates, and undermining regulations. **Historical Context:** The longstanding relationship between the government, Thailand Tobacco Monopoly (TTM), and transnational tobacco companies complicates efforts to exclude these entities from policy processes. **Resource Limitations:** Insufficient financial and human resources hinder the enforcement and implementation of comprehensive tobacco control measures.	**Manipulating Public Perception:** TTCs use both legal and illegal means to shape public perceptions about tobacco use and control, which can lead to weakened regulations and policies that favor their interests. **Delaying Legislative Processes:** The industry's tactics can delay the passage and implementation of strong tobacco control laws, undermining public health efforts 8	**Vigilant Surveillance:** Monitor tobacco industry activities to detect and counter interference. **Exclusion from Policymaking:** Prevent tobacco companies from participating in policy decisions to avoid conflicts of interest. **Strengthening Regulations:** Enforce strict rules on tobacco advertising, promotion, and sponsorship (TAPS) to limit industry influence. **Sustained Advocacy:** Use public awareness campaigns to expose the harms of tobacco and maintain pressure on transnational tobacco companies (TTCs). **Adequate Resource Allocation:** Ensure sufficient funding and support for enforcing regulations and advancing tobacco control initiatives.
6	Erku et al[16]	**Conflict of Interest:** The state-owned tobacco company (SOTC) creates tension between government financial interests and public health goals, complicating policy separation from industry influence. **Lack of Political Commitment:** Limited government willpower undermines the enforcement of the National Tobacco Control Directive (NTCD) and WHO FCTC guidelines. **Privatization Risks:** The growing presence of international tobacco companies, such as Japan Tobacco International (JTI), increases lobbying and compromises the integrity of public health policies.	Tobacco industry interference affects public policy in Ethiopia by creating opportunities for the industry to exploit legislative loopholes, such as the allowance of designated smoking areas. This undermines the effectiveness of tobacco control measures and can lead to increased tobacco consumption.	**Addressing Legislative Gaps:** The NTCD should be revised to close loopholes that allow designated smoking areas, preventing the tobacco industry from undermining public health policies. **Institutionalizing Tobacco Control Policies:** Tobacco control should be integrated across sectors to ensure effective implementation. **Engaging in a 'Sun-Setting' Approach:** A long-term strategy to phase out tobacco use, rather than privatizing state-owned tobacco companies, is recommended to reduce consumption. **Strengthening Regulatory Frameworks:** Passing the proposed Food and Medicine Administration Proclamation is essential to strengthening regulations and protecting public health from tobacco industry influence.
7	Goel et al[17]	**Tobacco Industry Influence:** The tobacco industry actively opposes and undermines government efforts to implement effective tobacco control measures. This includes lobbying against regulations and creating a perception of being socially responsible to gain a foothold in policy discussions. **Legal Challenges:** The industry often resorts to litigation to delay or obstruct the implementation of tobacco control laws, creating a chilling effect on public health policies. **Lack of Political Will:** There is often insufficient political commitment to enforce tobacco control measures, partly due to the significant tax revenue generated from tobacco products, which can lead to reluctance to impose stricter regulations.	TII significantly hampers the development and enforcement of tobacco control policies. The industry employs various tactics, such as intimidation and creating alliances with other stakeholders, to dilute or delay the implementation of health policies. This interference can lead to fragmented and ineffective tobacco control efforts, as policymakers may be swayed by the industry's arguments regarding economic impacts and job losses associated with stricter regulations	**Strengthening Policies:** The authors recommend that policymakers should be aware of the tactics used by the tobacco industry and develop clear policies that limit interactions with the industry. This includes ensuring transparency in official dealings and fostering a strong public health narrative. **Building Alliances:** Collaboration among public health advocates, researchers, and policymakers is crucial to counteract TII effectively. This can help in creating a unified front against the industry's influence. **Empowering Stakeholders:** The study emphasizes the need for ongoing education and training for stakeholders involved in tobacco control to recognize and respond to TII effectively.
8	Kumar et al[18]	**Challenges in Restricting Engagement:** Limiting government officials' interactions with tobacco industry CSR initiatives is challenging, with some officials reluctant to see this as interference. **Low Awareness and Competing Agendas:** There was generally low awareness of Article 5.3 guidelines among officials and differing views on engaging with the tobacco industry further complicated implementation. **Resource Constraints:** Limited public service funding, such as for education, led to a willingness to accept tobacco industry sponsorship, weakening adherence to Article 5.3. **Institutional Conflicts:** Conflicts and competing mandates, especially influenced by the National Tobacco Board, created additional barriers to effective implementation.	**Influence on Legislation:** The tobacco industry pressures policymakers to shape legislation in its favor, weakening regulations on sales, marketing, and public health initiatives and prioritizing economic benefits over health concerns. **CSR Initiatives:** The industry's CSR activities create a facade of goodwill, leading officials to view it as a partner. This perception results in conflicts of interest, compromising officials' commitment to tobacco control policies. **Public Perception and Awareness:** Industry interference shapes public perception, downplaying tobacco's risks through CSR initiatives and community program sponsorship, hindering public awareness campaigns. **Resource Allocation:** The economic significance of the tobacco industry in Karnataka leads to reluctance among policymakers to implement strict measures, fearing job losses and economic repercussions, affecting public health outcomes.	**Increase Awareness and Training:** Boost awareness and provide training on Article 5.3 to help officials understand the risks of engaging with the tobacco industry. **Promote Cross-Sector Collaboration:** Encourage collaboration among government sectors to align health, economic, and agricultural agendas for unified tobacco control. **Strengthen Anti-Interference Policies:** Establish policies prohibiting officials from accepting tobacco industry CSR support to prioritize public health. **Address Resource Constraints:** Seek alternative funding for public services to lessen reliance on tobacco industry sponsorship, supporting stronger Article 5.3 adherence.

Table 2. Continued.

S. No.	Author's Name	Barriers to implementing Article 5.3	Tobacco Industry Interference affect public policy	Recommendation to overcome barriers
9	lie et al [19]	**Industry Influence:** The tobacco industry established itself as a "political insider," gaining influence over the implementation process, including setting agendas and shaping technical specifications in its favor. **Government-Industry Interactions:** Required interactions with the industry during implementation allowed the tobacco industry to interfere with public health measures, as policymakers struggled to limit these engagements. **Ambiguity in Legislation:** The industry exploited ambiguities in the EU Tobacco Products Directive, particularly on labeling, to minimize health warning sizes and influence compliance.	**Diluting Health Measures**: The industry's ability to negotiate and influence technical specifications can lead to weaker health policies, undermining the intended public health benefits of regulations. **Creating Compliance Costs**: The industry often emphasizes the additional costs associated with compliance, which can pressure policymakers to adopt less stringent measures to avoid financial burdens.	**Proactive Government Role:** Officials should actively set technical specifications for tobacco control instead of letting the industry influence terms. **Limit Industry Access**: Implement stricter guidelines to limit necessary interactions with the tobacco industry during regulation. **Policy Risk Awareness:** Policymakers should recognize the risks of industry interactions, as even minor technical discussions can impact public health policy significantly.
10	Male et al[20]	**Variable Awareness and Understanding**: Awareness of Article 5.3 varies across ministries, with many officials, especially outside health sectors, lacking knowledge of its guidelines, often viewing tobacco control as only the Ministry of Health's responsibility. **Ambiguity and Uncertainty**: Ambiguity around tobacco control obligations leads to a fragmented, unaccountable approach across ministries. **Competing Economic Interests**: Conflicts between health and economic priorities arise, with some officials prioritizing economic benefits over public health, influenced by the tobacco industry's role in policy discussions. **Institutional Barriers**: Resource limitations and bureaucratic silos restrict effective coordination and collaboration between government departments on tobacco control.	Tobacco industry interference significantly affects public policy in Uganda by shaping the discourse around tobacco control and influencing government priorities. The study notes that the tobacco industry often engages in corporate social responsibility initiatives that can undermine public health policies. This interference creates a perception among policymakers that tobacco control measures may conflict with economic growth, leading to reluctance to adopt stringent regulations. Additionally, the industry's ability to engage with various government sectors complicates efforts to establish a unified approach to tobacco control.	**Awareness-Raising Initiatives**: Conduct activities to improve government-wide understanding of Article 5.3, promoting clarity in accountability and a unified approach to tobacco control. **Strengthening Intersectoral Coordination**: Create a national coordination mechanism to support collaboration across government sectors, aligning interests and recognizing tobacco control as a shared responsibility. **Clarifying Responsibilities**: Develop clear guidelines to define each ministry's role in implementing Article 5.3, reducing the perception that tobacco control is only the Ministry of Health's duty.
11	Matthes et al [21]	**Lack of Awareness**: Policymakers outside health sectors were often unaware of FCTC Article 5.3's protections against tobacco industry interference. **Conflicts of Interest**: Direct ties to the tobacco industry among some policymakers hindered tobacco control efforts. **Limited State Capacity**: Insufficient resources and capacity posed barriers to implementing and enforcing Article 5.3 policies. **Tobacco as a Cash Crop**: Some states viewed tobacco as economically beneficial, conflicting with public health priorities and complicating tobacco control efforts.	**Influencing Policymakers:** The tobacco industry often maintains informal links with policymakers, particularly in the finance and trade sectors, leading to a prioritization of industry interests over public health. **Misinformation:** The industry disseminates misinformation that can mislead policymakers and the public, undermining efforts to implement effective tobacco control measures. **Financial Incentives:** Policymakers may perceive financial benefits from the tobacco industry, which can lead to a lack of engagement with tobacco control initiatives.	**Training and Capacity Building**: Provide tailored training to enhance advocates' skills in research, monitoring, and investigation, adapted to each LMIC context. **Engage Non-Health Stakeholders**: Train non-health stakeholders on FCTC Article 5.3 to counterbalance the tobacco industry's influence on policymakers. **Strengthen Media Collaboration**: Partner with media to increase awareness of tobacco industry interference and highlight industry practices. **Build Coalitions**: Form coalitions with development-focused CSOs to position tobacco control as a broader development priority.
12	Shahriar MH et al[22]	**Lack of Transparency**: The absence of a formal mechanism to disclose interactions between government officials and the tobacco industry undermines accountability and allows continued industry influence. **Weak Regulatory Framework**: The current regulatory framework fails to enforce Article 5.3 guidelines effectively, enabling the tobacco industry to exploit loopholes and influence policymakers. **Confusion Among Advocates**: Confusion within the tobacco control community, partly due to a self-proclaimed tobacco control organization with unclear motives, weakens collective efforts for stronger tobacco control. **Industry Lobbying and Influence**: The tobacco industry uses lobbying and creates conflicts between government agencies to delay and weaken tobacco control measures, sidelining public health priorities.	**Delaying Policy Implementation**: The industry's lobbying efforts and influence over government officials have led to significant delays in the implementation of GHWs, which are crucial for public health. **Creating Confusion**: The tobacco industry's tactics create confusion among policymakers and within the tobacco control community, making it difficult to establish a unified front against industry interference. **Weakening Regulatory Measures**: The industry's influence can lead to the dilution of proposed regulations, resulting in weaker public health policies that do not adequately address the harms of tobacco use.	**Strengthening Regulatory Frameworks**: A robust framework is needed to enforce Article 5.3 guidelines, ensuring all interactions with the tobacco industry are disclosed and regulated. **Enhancing Transparency**: Measures should be implemented to increase transparency in government-tobacco industry interactions, including formal disclosure requirements for officials and industry representatives. **Building a Unified Tobacco Control Coalition**: A strong, united coalition of tobacco control advocates is essential to effectively counter industry interference and push for stronger tobacco control measures. **Ongoing Monitoring and Research**: Continuous monitoring and research on tobacco industry activities are vital to understanding their influence on public health policies and informing advocacy efforts.

(NTCD: National Tobacco Control Division; TII: Tobacco Institute of India)

Table 3. CASP quality assessment

Author(s), Year	Was there a clear statement of the aims of the research?	Is a qualitative methodology appropriate?	Was the research design appropriate to address the aims of the research?	Was the recruitment strategy appropriate to the aims of the research?	Was the data collected in a way that addressed the research issue?	Has the relationship between the researcher and participants been adequately considered?	Have ethical issues been taken into consideration?	Was the data analysis sufficiently rigorous?	Is there a clear statement of findings?	How valuable is the research?
Abdullah et al 2022 [11]	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Valuable
Balwicki et al 2016 [12]	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Valuable
Barry et al 2022 [13]	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Valuable
Barry et al 2022 [14]	Yes	Yes	Yes	Yes	Yes	Unclear	Unclear	Yes	Yes	Valuable
Charoenca et al 2012 [15]	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Valuable
Erku et al 2019 [16]	Yes	Yes	Yes	Yes	Yes	Unclear	Yes	Yes	Yes	Valuable
Goel et al 2021 [17]	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Valuable
Kumar et al 2022 [18]	Yes	Yes	Yes	Yes	Yes	Yes	Yes	yes	Yes	Valuable
Lie et al 2016 [19]	Yes	Yes	Yes	Yes	Yes	Unclear	Yes	Yes	Yes	Valuable
Male et al 2022 [20]	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Valuable
Matthes et al 2020 [21]	Yes	Yes	Yes	Yes	Yes	yes	Yes	Yes	Yes	Valuable
Shahriar et al 2024 [22]	Yes	Yes	Yes	No	Yes	No	No	Yes	Yes	Valuable

et al[15] and Shahriar et al (2023)[22] displaying limited depth in thematic coding or a lack of triangulation. Such gaps may reduce the reliability of the interpretations. Studies that relied heavily on secondary data, such as media analysis and document reviews, also faced minor concerns regarding adequacy and relevance. For instance, Shahriar et al[22] risked introducing biases due to the exclusive use of existing materials.

Transparency and potential biases were highlighted as minor concerns in studies like Abdullah et al,[11] where affiliations with tobacco control organizations might have influenced the objectivity of the research. Furthermore, a recurring theme across multiple studies was the limited awareness and understanding of Article 5.3 among policymakers outside the health sector. This gap indicates a broader methodological challenge in capturing diverse and comprehensive perspectives. These limitations, drawn from the CASP quality assessment and GRADE-CERQual evaluations, are detailed in Tables 3 and 5.

Confidence in the Review Findings
Confidence in the review findings varies across topics, with detailed assessments made for each CERQual domain. For barriers, confidence ranges from moderate to high depending on specific concerns in methodological

limitations, coherence, adequacy, and relevance. High-confidence findings typically involve studies with minimal methodological concerns, strong coherence, sufficient data adequacy, and direct relevance to the context of the review. In contrast, moderate confidence reflects minor to moderate issues, such as sample size limitations, minor inconsistencies across findings, or context-specific relevance.

For findings related to tobacco industry interference in public policy, confidence is consistently rated as moderate. Minor concerns exist across domains, including potential selection bias, contextual variations affecting coherence, and varying applicability of findings across different policy environments.

In contrast, recommendations to overcome barriers show a strong pattern of high confidence, with most studies presenting minimal methodological concerns, consistent findings, comprehensive data, and high relevance. This detailed, domain-specific assessment provides a nuanced understanding of confidence in each topic area, strengthening the review's conclusion. The complete GRADE-CERQual evidence profile is available in Table 5.

Review Findings
The review revealed several key findings regarding

Table 4. Summary of qualitative findings

#	Summarized review finding	GRADE-CERQual assessment of confidence	Explanation of GRADE-CERQual assessment	References
		1. Barriers		
1	Conflicts arise from government officials' ties to the tobacco industry, complicating the adoption of tobacco control measures. These include conflicts between state-owned tobacco companies and public health objectives and challenges in limiting government engagement with industry CSR initiatives.	High confidence	No/very minor concerns regarding methodological limitations, no/very minor concerns regarding coherence, no/very minor concerns regarding adequacy, and no/very minor concerns regarding relevance	Abdullah et al [11] 2022; Kumar et al [18] 2022; Matthes et al [21] 2020; Erku et al [16] 2019;
2	The tobacco industry significantly interferes in public policy through various lobbying tactics, including influencing policymakers, creating conflicts among government agencies, and using litigation to oppose regulations.	Low confidence	Serious concerns regarding methodological limitations, moderate concerns regarding coherence, no/very minor concerns regarding adequacy, and no/very minor concerns regarding relevance	Balwicki et al [12] 2016; Abdullah et al [11] 2022; Goel et al [17] 2021; Shahriar et al [22] 2024; Charoenca et al [15] 2012; Barry et al [13,14] 2022;
3	The NTCC and similar institutions face resource constraints and a lack of authority, resulting in coordination challenges and institutional barriers among ministries. Limited state capacity and government-industry interactions further complicate and hinder the implementation of tobacco control measures.	Moderate confidence	Minor concerns regarding methodological limitations, no/very minor concerns regarding coherence, no/very minor concerns regarding adequacy, no/very minor concerns regarding relevance	Abdullah et al [11] 2022; Kumar et al [18] 2022; Matthes et al [21] 2020; Barry et al [13,14] 2022; Lie et al [19] 2016;
4	The absence of specific regulations and a weak regulatory framework allow the tobacco industry to exploit interactions with government officials.	Moderate confidence	Minor concerns regarding methodological limitations, minor concerns regarding coherence, no/very minor concerns regarding adequacy, and no/very minor concerns regarding relevance	Balwicki et al [12] 2016; Shahriar et al [22] 2024;
5	Governments often prioritize economic interests, including tax revenue from tobacco products and its promotion as a cash crop, over strict tobacco control measures, resulting in a lack of political commitment to enforce such policies.	Moderate confidence	Minor concerns regarding methodological limitations, minor concerns regarding coherence, no/very minor concerns regarding adequacy, and minor concerns regarding relevance	Balwicki et al [12] 2016; Goel et al [17] 2021; Shahriar et al [22] 2024; Matthes et al [21] 2020; Erku et al [16] 2019;
6	There is limited and variable awareness of Article 5.3 among policymakers and officials, particularly outside the health sector, leading to competing agendas and insufficient understanding of its guidelines.	Moderate confidence	Moderate concerns regarding methodological limitations, minor concerns regarding coherence, minor concerns regarding adequacy, and no/very minor concerns regarding relevance	Balwicki et al [12] 2016; Kumar et al [18] 2022; Shahriar et al [22] 2024; Matthes et al [21] 2020; Barry et al [13] 2022;
7	Weak enforcement, insufficient resources, and ambiguous legislation allow the tobacco industry to undermine and exploit tobacco control measures.	Moderate confidence	Minor concerns regarding methodological limitations, minor concerns regarding coherence, no/very minor concerns regarding adequacy, and no/very minor concerns regarding relevance	Balwicki et al [12] 2016; Charoenca et al [15] 2012; Lie et al [19] 2016;
		2. Tobacco Industry Interference Affecting Public Policy		
8	The tobacco industry wields significant influence over public policy, prioritizing economic benefits over public health. Studies show that government officials support industry interests due to economic ties or pressures. During COVID-19, a government directive prioritized tobacco production following industry requests. Lobbying efforts delay policy implementation, weaken legislation, and influence decisions through CSR initiatives and legal threats, while TTCs manipulate public perception and legislative processes.	Moderate confidence	Minor concerns regarding methodological limitations, minor concerns regarding coherence, no/very minor concerns regarding adequacy, and no/very minor concerns regarding relevance	Balwicki et al [12] 2016; Abdullah et al [11] 2022; Charoenca et al [15] 2012;
9	The tobacco industry employs aggressive lobbying, misinformation, and legal threats to block or weaken tobacco control measures. These tactics undermine public health campaigns, restrict government engagement, and delay policy implementation by creating confusion and forming alliances to dilute health policies.	Moderate confidence	Moderate concerns regarding methodological limitations, minor concerns regarding coherence, minor concerns regarding adequacy, and no/very minor concerns regarding relevance	Barry et al [13,14] 2022; Goel et al [17] 2021; Shahriar et al [22] 2024;
10	Many policymakers and government officials have financial ties to the tobacco industry, leading to conflicts of interest that hinder effective tobacco control. These ties complicate public health efforts, with CSR initiatives and financial incentives compromising officials' commitment to tobacco control and causing them to prioritize industry interests.	Moderate confidence	Minor concerns regarding methodological limitations, minor concerns regarding coherence, minor concerns regarding adequacy, and no/very minor concerns regarding relevance	Balwicki et al [12] 2016; Kumar et al [18] 2022; Matthes et al [21] 2020;

Table 4. Continued.

#	Summarized review finding	GRADE-CERQual assessment of confidence	Explanation of GRADE-CERQual assessment	References
11	The tobacco industry weakens and dilutes proposed regulations, leading to less effective public health policies. Misleading economic arguments and lobbying efforts result in fragmented policy approaches and additional compliance costs, ultimately making regulatory measures ineffective.	Moderate confidence	Moderate concerns regarding methodological limitations, minor concerns regarding coherence, no/very minor concerns regarding adequacy, and no/very minor concerns regarding relevance	Balwicki et al [12] 2016; Barry et al [13,14] 2022; Shahriar et al [22] 2024; Lie et al [19] 2016;
12	The tobacco industry spreads misinformation to confuse policymakers and the public, undermining support for tobacco control measures. This misleading information creates confusion about health impacts and effectiveness, hinders efforts, and complicates unified action within the tobacco control community.	Moderate confidence	Minor concerns regarding methodological limitations, minor concerns regarding coherence, no/very minor concerns regarding adequacy, and no/very minor concerns regarding relevance	Shahriar et al [22] 2024; Matthes et al [21] 2020; Barry et al [13,14] 2022;
13	Governments frequently prioritize the economic benefits of the tobacco industry over public health, resulting in weak political commitment to enforce stringent tobacco control policies. This is evident in prioritizing tobacco revenue during the COVID-19 lockdown, local industry influence complicating policy implementation, and reluctance to adopt strict measures due to the industry's economic significance and financial benefits to policymakers.	Moderate confidence	Minor concerns regarding methodological limitations, minor concerns regarding coherence, minor concerns regarding adequacy, and no/very minor concerns regarding relevance	Abdullah et al [11] 2022; Barry et al [13,14] 2022; Kumar et al [18] 2022; Matthes et al [21] 2020; Barry et al [13] 2022;
3. Recommendation To Overcome Barriers				
14	Enhance the capacity and authority of tobacco control bodies like NTCC. Implement robust legal frameworks to regulate industry interactions and enforce transparency.	Moderate confidence	Minor concerns regarding methodological limitations, minor concerns regarding coherence, minor concerns regarding adequacy, and no/very minor concerns regarding relevance	Balwicki et al [12] 2016; Abdullah et al [11] 2022; Erku et al [16] 2019;
15	Improve coordination across government departments and sectors. Encourage cross-sector collaboration to ensure a unified approach to tobacco control.	Moderate confidence	Minor concerns regarding methodological limitations, minor concerns regarding coherence, minor concerns regarding adequacy, and no/very minor concerns regarding relevance	Abdullah et al [11] 2022; Barry et al [13,14] 2022; Kumar et al [18] 2022;
16	Increase awareness and understanding of Article 5.3 among government officials and stakeholders. Provide training on recognizing and managing industry interference.	High confidence	Minor concerns regarding methodological limitations, no/very minor concerns regarding coherence, no/very minor concerns regarding adequacy, and no/very minor concerns regarding relevance	Balwicki et al [18] 2016; Barry et al [13,14] 2022; Goel et al [17] 2021; Matthes et al [21] 2020;
17	Ensure tobacco companies are excluded from policymaking to prevent conflicts of interest. Implement guidelines to limit industry access and interaction	High confidence	Minor concerns regarding methodological limitations, no/very minor concerns regarding coherence, no/very minor concerns regarding adequacy, and no/very minor concerns regarding relevance	Erku et al [16] 2019; Charoenca et al [15] 2012; Lie et al [19] 2016;
18	Promote transparency in government interactions with the tobacco industry. Implement disclosure requirements and ongoing monitoring of industry activities.	High confidence	Minor concerns regarding methodological limitations, no/very minor concerns regarding coherence, no/very minor concerns regarding adequacy, and no/very minor concerns regarding relevance	Barry et al [13,14] 2022; Shahriar et al [22] 2024;
19	Provide technical and financial support to subnational governments. Empower stakeholders through education and capacity-building initiatives.	High confidence	Minor concerns regarding methodological limitations, no/very minor concerns regarding coherence, no/very minor concerns regarding adequacy, and no/very minor concerns regarding relevance	Barry et al [13,14] 2022; Goel et al [17] 2021;
20	Encourage public health advocacy and community engagement to counteract the tobacco industry's influence. Mobilize public support for tobacco control measures.	Moderate confidence	Minor concerns regarding methodological limitations, no/very minor concerns regarding coherence, minor concerns regarding adequacy, and no/very minor concerns regarding relevance	Balwicki et al [12] 2016;
21	Develop coalitions among public health advocates, researchers, and civil society organizations. Engage non-health stakeholders to create a broader support base for tobacco control	High confidence	No/very minor concerns regarding methodological limitations, no/very minor concerns regarding coherence, no/very minor concerns regarding adequacy, and no/very minor concerns regarding relevance	Shahriar et al [22] 2024; Matthes et al [21] 2020;
22	Implement and enforce strict regulations on tobacco advertising, promotion, and sponsorship. Close legislative gaps and address resource constraints	High confidence	Minor concerns regarding methodological limitations, no/very minor concerns regarding coherence, no/very minor concerns regarding adequacy, and no/very minor concerns regarding relevance	Erku et al [16] 2019; Charoenca et al [15] 2012;
23	Leverage international agreements like the FCTC to justify strict tobacco control measures. Utilize current momentum to drive policy changes.	High confidence	Minor concerns regarding methodological limitations, no/very minor concerns regarding coherence, no/very minor concerns regarding adequacy, and no/very minor concerns regarding relevance	Abdullah et al [11] 2022; Barry et al [13,14] 2022;

(GRADE: Grading of Recommendations, Assessment, Development and Evaluation; CERQual: Confidence in the Evidence from Reviews of Qualitative Research; CSR: corporate social responsibility; NTCC: National Tobacco Control Cell; TTCs: Tobacco Testing Centers; FCTC: Framework Convention on Tobacco Control)
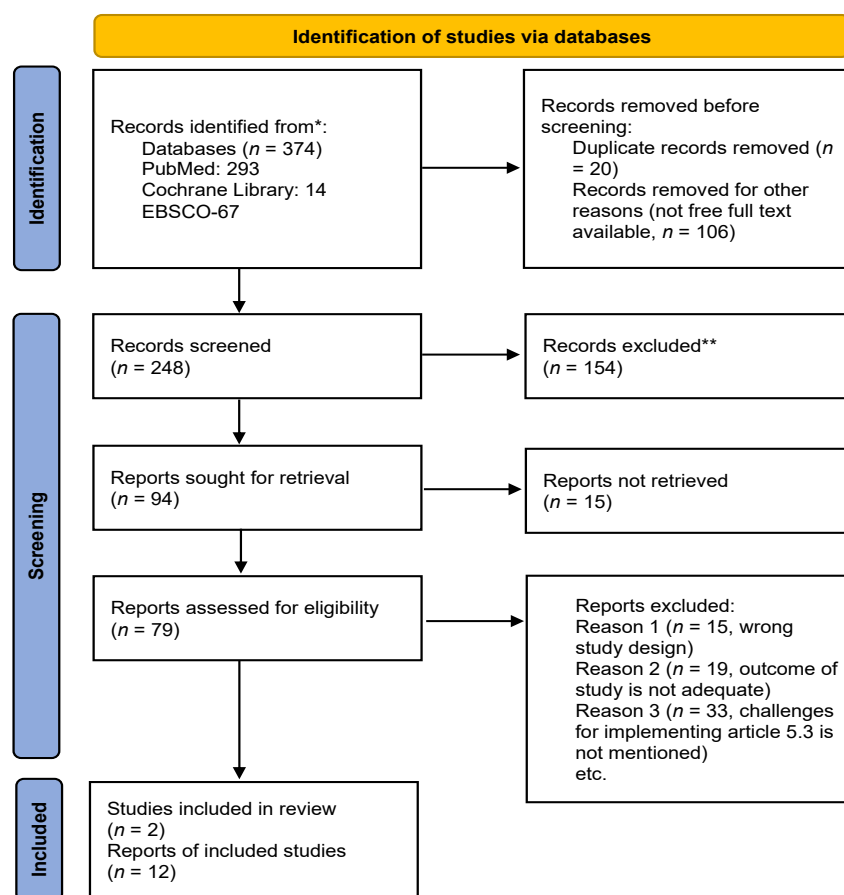
Figure 1. PRISMA flow chart

the barriers to implementing Article 5.3 of the WHO Framework Convention on Tobacco Control (FCTC) and the pervasive influence of the tobacco industry on public policy. A significant issue is the conflict of interest arising from ties between government officials and the tobacco industry, which complicates efforts to prioritize public health over industry profits. For instance, in Bangladesh, senior officials' associations with British American Tobacco have led to decisions favoring industry interests. In Ethiopia, the government's partial ownership of the tobacco industry has further hindered the implementation of robust tobacco control policies.[11,16] This conflict is compounded by government engagement in tobacco industry-led corporate social responsibility (CSR) initiatives, as reported in Karnataka, India, where such partnerships create challenges in limiting industry interference.[18]

The review also highlighted the tobacco industry's deliberate interference in public policy through a range of tactics, including lobbying, delaying the implementation of regulations, creating confusion among policymakers, and employing litigation to weaken tobacco control efforts. In Poland, the industry influenced policymakers by providing prewritten legislative proposals and overstating its economic contributions.[12] Similar tactics were observed in Bangladesh, where lobbying delayed the implementation of graphic health warnings and diluted proposed regulatory measures.[22] Furthermore, coordination challenges and institutional barriers were evident across countries. Limited intersectoral collaboration and resource constraints of tobacco control bodies, such as the National Tobacco Control Cell (NTCC) in Bangladesh, hindered effective enforcement.[11] In Uganda, fragmented governance and competing priorities across ministries further obstructed progress.[20]

Weak regulatory frameworks were another critical barrier, allowing the tobacco industry to exploit policy gaps and influence decision-making. In Poland, the lack of specific regulations to limit industry-government interactions facilitated continued lobbying[12], while in Bangladesh, inadequate enforcement mechanisms and limited transparency in industry interactions weakened public health measures.[22] Economic and political pressures also play a significant role, with governments often prioritizing economic benefits, such as tax revenue from tobacco products or the promotion of tobacco as a cash crop, over stringent tobacco control measures. For instance, the privatization of the state-owned tobacco company in Ethiopia increased industry lobbying efforts, complicating public health objectives.[16] Similarly, in Karnataka, India, the economic significance of the tobacco industry influenced policymakers, making them reluctant

Table 5. Evidence profile table

#	Summarized review finding	Methodological limitations	Coherence	Adequacy	Relevance	GRADE-CERQual assessment of confidence	References
			1. Barriers				
1	Conflicts arise from government officials' ties to the tobacco industry, complicating the adoption of tobacco control measures. These include conflicts between state-owned tobacco companies and public health objectives and challenges in limiting government engagement with industry CSR initiatives.	No/very minor concerns	No/very minor concerns	No/very minor concerns	No/very minor concerns	High confidence **Explanation:** No/very minor concerns regarding methodological limitations, no/very minor concerns regarding coherence, no/very minor concerns regarding adequacy, and no/very minor concerns regarding relevance	Abdullah et al[11] 2022; Erku et al[16] 2019; Kumar et al[18] 2022; Matthes et al[21] 2020;
2	The tobacco industry significantly interferes in public policy through various lobbying tactics, including influencing policymakers, creating conflicts among government agencies, and using litigation to oppose regulations.	Serious concerns **Explanation:** Serious concerns regarding methodological limitations because ethical issues have not been taken into consideration, and the relationship between the researcher and participants has been either unclear or not adequately considered.	Moderate concerns **Explanation:** Moderate concerns regarding coherence because the study underscores the extensive and multifaceted tactics used by the tobacco industry to interfere with tobacco control policies	No/very minor concerns	No/very minor concerns	Low confidence **Explanation:** Serious concerns regarding methodological limitations, moderate concerns regarding coherence, no/very minor concerns regarding adequacy, and no/very minor concerns regarding relevance	Abdullah et al[11] 2022; Balwicki et al[12] 2016; Barry et al[13,14] 2022; Charoenca et al[16] 2012; Goel et al[18] 2021; Shahriar et al[23] 2024;
3	The NTCC and similar institutions face resource constraints and a lack of authority, resulting in coordination challenges and institutional barriers among ministries. Limited state capacity and government-industry interactions further complicate and hinder the implementation of tobacco control measures.	Minor concerns **Explanation:** Minor concerns regarding methodological limitations because the relationship between the researcher and participants, as well as ethical issues, have not been clearly addressed.	No/very minor concerns	No/very minor concerns	No/very minor concerns	Moderate confidence **Explanation:** Minor concerns regarding methodological limitations, no/very minor concerns regarding coherence, no/very minor concerns regarding adequacy, and no/very minor concerns regarding relevance	Abdullah et al[11] 2022; Barry et al[13] 2022; Kumar et al[18] 2022; Lie et al[19] 2016; Matthes et al[21] 2020;
4	The absence of specific regulations and a weak regulatory framework allow the tobacco industry to exploit interactions with government officials.	Minor concerns **Explanation:** Minor concerns regarding methodological limitations because the study does not focus on direct participant relationships and relies on secondary data sources and the absence of explicit ethical considerations, despite the reliance on publicly available media and documents, raises questions about the comprehensiveness of the ethical review process.	Minor concerns **Explanation:** Minor concerns regarding coherence because of the reliance on secondary data sources and the potential biases due to the authors' affiliation with PROGGA, an organization involved in tobacco control efforts, may affect the objectivity of the findings.	No/very minor concerns	No/very minor concerns	Moderate confidence **Explanation:** Minor concerns regarding methodological limitations, minor concerns regarding coherence, no/very minor concerns regarding adequacy, and no/very minor concerns regarding relevance	Balwicki et al[12] 2016; Shahriar et al[22] 2024;

Table 5. Continued.

#	Summarized review finding	Methodological limitations	Coherence	Adequacy	Relevance	GRADE-CERQual assessment of confidence	References
5	Governments often prioritize economic interests, including tax revenue from tobacco products and its promotion as a cash crop, over strict tobacco control measures, resulting in a lack of political commitment to enforce such policies.	Minor concerns **Explanation:** Minor concerns regarding methodological limitations because relying on secondary data and potential biases from the authors' affiliation with PROGGA may impact objectivity. The absence of explicit ethical considerations raises concerns about the review process's comprehensiveness.	Minor concerns **Explanation:** Minor concerns regarding coherence because Relying on secondary data and potential biases from the authors' affiliation with PROGGA may impact objectivity. The absence of explicit ethical considerations raises concerns about the review process's comprehensiveness.	No/very minor concerns	Minor concerns **Explanation:** Minor concerns regarding relevance because the reliance on secondary data and possible biases from the authors' PROGGA affiliation may affect objectivity. Additionally, the lack of explicit ethical considerations raises concerns about the review's comprehensiveness.	Moderate confidence **Explanation:** Minor concerns regarding methodological limitations, minor concerns regarding coherence, no/very minor concerns regarding adequacy, and minor concerns regarding relevance	Balwicki et al [12] 2016; Erku et al [16] 2019; Goel et al [17] 2021; Matthes et al [21] 2020; Shahriar et al [22] 2024;
6	There is limited and variable awareness of Article 5.3 among policymakers and officials, particularly outside the health sector, leading to competing agendas and insufficient understanding of its guidelines.	Moderate concerns **Explanation:** Moderate concerns regarding methodological limitations because the relationship between the researcher and participants, as well as ethical issues, have not been mentioned.	Minor concerns **Explanation:** Minor concerns regarding coherence because the relationship between the researcher and participants, as well as ethical issues, have not been clearly addressed.	Minor concerns **Explanation:** Minor concerns regarding adequacy because the relationship between the researcher and participants, as well as ethical issues, have not been clearly addressed.	No/very minor concerns	Moderate confidence **Explanation:** Moderate concerns regarding methodological limitations, minor concerns regarding coherence, minor concerns regarding adequacy, and no/very minor concerns regarding relevance	Balwicki et al [12] 2016; Barry et al [13] 2022; Kumar et al [18] 2022; Matthes et al [21] 2020; Shahriar et al [22] 2024;
7	Weak enforcement, insufficient resources, and ambiguous legislation allow the tobacco industry to undermine and exploit tobacco control measures.	Minor concerns **Explanation:** Minor concerns regarding methodological limitations because the relationship between the researcher and participants, as well as ethical issues, have not been clearly addressed.	Minor concerns **Explanation:** Minor concerns regarding coherence because the relationship between the researcher and participants, as well as ethical issues, have not been clearly addressed.	No/very minor concerns	No/very minor concerns	Moderate confidence **Explanation:** Minor concerns regarding methodological limitations, minor concerns regarding coherence, no/very minor concerns regarding adequacy, and no/very minor concerns regarding relevance	Balwicki et al [12] 2016; Charoenca et al [15] 2012; Lie et al [19] 2016;
	2. Tobacco Industry Interference Affecting Public Policy						
8	The tobacco industry wields significant influence over public policy, prioritizing economic benefits over public health. Studies show that government officials support industry interests due to economic ties or pressures. During COVID-19, a government directive prioritized tobacco production following industry requests. Lobbying efforts delay policy implementation, weaken legislation, and influence decisions through CSR initiatives and legal threats, while TTCs manipulate public perception and legislative processes.	Minor concerns **Explanation:** Minor concerns regarding methodological limitations because the document does not explicitly detail ethical considerations	Minor concerns **Explanation:** Minor concerns regarding coherence because the document does not explicitly detail ethical considerations	No/very minor concerns	No/very minor concerns	Moderate confidence **Explanation:** Minor concerns regarding methodological limitations, minor concerns regarding coherence, no/very minor concerns regarding adequacy, and no/very minor concerns regarding relevance	Abdullah et al [11] 2022; Balwicki et al [12] 2016; Charoenca et al [15] 2012;

Table 5. Continued.

#	Summarized review finding	Methodological limitations	Coherence	Adequacy	Relevance	GRADE-CERQual assessment of confidence	References
9	The tobacco industry employs aggressive lobbying, misinformation, and legal threats to block or weaken tobacco control measures. These tactics undermine public health campaigns, restrict government engagement, and delay policy implementation by creating confusion and forming alliances to dilute health policies.	Moderate concerns **Explanation:** Moderate concerns regarding methodological limitations because the document does not provide detailed information on ethical considerations, the involvement of various stakeholders, and the sensitivity of the topic suggest that issues such as informed consent and confidentiality need to be addressed.	Minor concerns **Explanation:** Minor concerns regarding coherence because potential biases from secondary data sources and lack of explicit ethical considerations raise some concerns about reliability.	Minor concerns **Explanation:** Minor concerns regarding adequacy because potential biases from secondary sources and the lack of explicit ethical considerations may impact the data's richness and reliability, lowering confidence in the review's conclusions.	No/very minor concerns	Moderate confidence **Explanation:** Moderate concerns regarding methodological limitations, minor concerns regarding coherence, minor concerns regarding adequacy, and no/very minor concerns regarding relevance	Barry et al[13] 2022; Goel et al [17] 2021; Shahriar et al[22] 2024;
10	Many policymakers and government officials have financial ties to the tobacco industry, leading to conflicts of interest that hinder effective tobacco control. These ties complicate public health efforts, with CSR initiatives and financial incentives compromising officials' commitment to tobacco control and causing them to prioritize industry interests.	Minor concerns **Explanation:** Minor concerns regarding methodological limitations because the review has not addressed ethical considerations.	Minor concerns **Explanation:** Minor concerns regarding coherence because lack of detailed ethical considerations	Minor concerns **Explanation:** Minor concerns regarding adequacy because Issues such as varying levels of detail and scope in the studies	No/very minor concerns	Moderate confidence **Explanation:** Minor concerns regarding methodological limitations, minor concerns regarding coherence, minor concerns regarding adequacy, and no/very minor concerns regarding relevance	Balwicki et al [12] 2016; Kumar et al[18] 2022; Matthes et al[21] 2020;
11	The tobacco industry weakens and dilutes proposed regulations, leading to less effective public health policies. Misleading economic arguments and lobbying efforts result in fragmented policy approaches and additional compliance costs, ultimately making regulatory measures ineffective.	Moderate concerns **Explanation:** Moderate concerns regarding methodological limitations because the relationship between the researcher and participants, as well as ethical issues, have not been addressed.	Minor concerns **Explanation:** Minor concerns regarding coherence because the relationship between the researcher and participants, as well as ethical issues, have not been addressed.	No/very minor concerns	No/very minor concerns	Moderate confidence **Explanation:** Moderate concerns regarding methodological limitations, minor concerns regarding coherence, no/very minor concerns regarding adequacy, and no/very minor concerns regarding relevance	Balwicki et al[12] 2016; Barry et al[13,14] 2022; Lie et al[19] 2016; Shahriar et al[22] 2024;
12	The tobacco industry spreads misinformation to confuse policymakers and the public, undermining support for tobacco control measures. This misleading information creates confusion about health impacts and effectiveness, hinders efforts, and complicates unified action within the tobacco control community.	Minor concerns **Explanation:** Minor concerns regarding methodological limitations because the relationship between the researcher and participants, as well as ethical issues, have not been clearly addressed.	Minor concerns **Explanation:** Minor concerns regarding coherence because the relationship between the researcher and participants, as well as ethical issues, have not been clearly addressed.	No/very minor concerns	No/very minor concerns	Moderate confidence **Explanation:** Minor concerns regarding methodological limitations, minor concerns regarding coherence, no/very minor concerns regarding adequacy, and no/very minor concerns regarding relevance	Barry et al[13,14] 2022; Matthes et al[21] 2020; Shahriar et al[22] 2024;

Table 5. Continued.

#	Summarized review finding	Methodological limitations	Coherence	Adequacy	Relevance	GRADE-CERQual assessment of confidence	References
13	Governments frequently prioritize the economic benefits of the tobacco industry over public health, resulting in weak political commitment to enforce stringent tobacco control policies. This is evident in prioritizing tobacco revenue during the COVID-19 lockdown, local industry influence complicating policy implementation, and reluctance to adopt strict measures due to the industry's economic significance and financial benefits to policymakers.	Minor concerns **Explanation:** Minor concerns regarding methodological limitations because the relationship between the researcher and participants, as well as ethical issues, have not been clearly addressed.	Minor concerns **Explanation:** Minor concerns regarding coherence because variations in study contexts, scope, and specific barriers identified.	Minor concerns **Explanation:** Minor concerns regarding adequacy because of variations in detail and scope across studies.	No/very minor concerns	Moderate confidence **Explanation:** Minor concerns regarding methodological limitations, minor concerns regarding coherence, minor concerns regarding adequacy, and no/very minor concerns regarding relevance	Abdullah et al [11] 2022; Barry et al[13,14] 2022; Kumar et al[18] 2022; Matthes et al[21] 2020;
	3. Recommendation To Overcome Barriers						
14	Enhance the capacity and authority of tobacco control bodies like NTCC. Implement robust legal frameworks to regulate industry interactions and enforce transparency.	Minor concerns **Explanation:** Minor concerns regarding methodological limitations because the review has not addressed ethical considerations.	Minor concerns **Explanation:** Minor concerns regarding coherence because of differences in the specific contexts and details of industry interference and policy gaps.	Minor concerns **Explanation:** Minor concerns regarding adequacy because the depth and richness of the data may not be sufficient to cover all aspects of the barriers thoroughly.	No/very minor concerns	Moderate confidence **Explanation:** Minor concerns regarding methodological limitations, minor concerns regarding coherence, minor concerns regarding adequacy, and no/very minor concerns regarding relevance	Abdullah et al[11] 2022; Balwicki et al[12] 2016; Erku et al[16] 2019;
15	Improve coordination across government departments and sectors. Encourage cross-sector collaboration to ensure a unified approach to tobacco control.	Minor concerns **Explanation:** Minor concerns regarding methodological limitations because the relationship between the researcher and participants, as well as ethical issues, have not been clearly addressed.	Minor concerns **Explanation:** Minor concerns regarding coherence because studies highlight unique challenges that may not be universally applicable.	Minor concerns **Explanation:** Minor concerns regarding adequacy because of varying depth and scope of data across studies.	No/very minor concerns	Moderate confidence **Explanation:** Minor concerns regarding methodological limitations, minor concerns regarding coherence, minor concerns regarding adequacy, and no/very minor concerns regarding relevance	Abdullah et al[11] 2022; Barry et al[13,14] 2022; Kumar et al[18] 2022;
16	Increase awareness and understanding of Article 5.3 among government officials and stakeholders. Provide training on recognizing and managing industry interference.	Minor concerns **Explanation:** Minor concerns regarding methodological limitations because the relationship between researcher and participants as well as ethical issues are not addressed.	No/very minor concerns	No/very minor concerns	No/very minor concerns	High confidence **Explanation:** Minor concerns regarding methodological limitations, no/very minor concerns regarding coherence, no/very minor concerns regarding adequacy, and no/very minor concerns regarding relevance	Balwicki et al[12] 2016; Barry et al[13,14] 2022; Goel et al[17] 2021; Matthes et al[21] 2020;
17	Ensure tobacco companies are excluded from policymaking to prevent conflicts of interest. Implement guidelines to limit industry access and interaction.	Minor concerns **Explanation:** Minor concerns regarding methodological limitations because the relationship between researcher and participants as well as ethical issues are not adequate.	No/very minor concerns	No/very minor concerns	No/very minor concerns	High confidence **Explanation:** Minor concerns regarding methodological limitations, no/very minor concerns regarding coherence, no/very minor concerns regarding adequacy, and no/very minor concerns regarding relevance	Charoenca et al[15] 2012; Erku et al[16] 2019; Lie et al[19] 2016;

Table 5. Continued.

#	Summarized review finding	Methodological limitations	Coherence	Adequacy	Relevance	GRADE-CERQual assessment of confidence	References
18	Promote transparency in government interactions with the tobacco industry. Implement disclosure requirements and ongoing monitoring of industry activities.	Minor concerns **Explanation:** Minor concerns regarding methodological limitations because the relationship between the researcher and participants, as well as ethical issues, are not adequately addressed.	No/very minor concerns	No/very minor concerns	No/very minor concerns	High confidence **Explanation:** Minor concerns regarding methodological limitations, no/very minor concerns regarding coherence, no/very minor concerns regarding adequacy, and no/very minor concerns regarding relevance	Barry et al[13,14] 2022; Shahriar et al[22] 2024;
19	Provide technical and financial support to subnational governments. Empower stakeholders through education and capacity-building initiatives.	Minor concerns **Explanation:** Minor concerns regarding methodological limitations because the relationship between researcher and participants as well as ethical issues are unclearly addressed.	No/very minor concerns	No/very minor concerns	No/very minor concerns	High confidence **Explanation:** Minor concerns regarding methodological limitations, no/very minor concerns regarding coherence, no/very minor concerns regarding adequacy, and no/very minor concerns regarding relevance	Barry et al[13,14] 2022; Goel et al[17] 2021;
20	Encourage public health advocacy and community engagement to counteract the tobacco industry's influence. Mobilize public support for tobacco control measures.	Minor concerns **Explanation:** Minor concerns regarding methodological limitations because ethical issues has not been considered.	No/very minor concerns	Minor concerns **Explanation:** Minor concerns regarding adequacy because the overall quantity of studies may be insufficient to capture the full diversity of barriers across different contexts, potentially limiting the generalizability of the review's conclusions.	No/very minor concerns	Moderate confidence **Explanation:** Minor concerns regarding methodological limitations, no/very minor concerns regarding coherence, minor concerns regarding adequacy, and no/very minor concerns regarding relevance	Balwicki et al[12] 2016;
21	Develop coalitions among public health advocates, researchers, and civil society organizations. Engage non-health stakeholders to create a broader support base for tobacco control.	No/very minor concerns	No/very minor concerns	No/very minor concerns	No/very minor concerns	High confidence **Explanation:** No/Very minor concerns regarding methodological limitations, no/very minor concerns regarding coherence, no/very minor concerns regarding adequacy, and no/very minor concerns regarding relevance	Matthes et al[21] 2020; Shahriar et al[22] 2024;
22	Implement and enforce strict regulations on tobacco advertising, promotion, and sponsorship. Close legislative gaps and address resource constraints.	Minor concerns **Explanation:** Minor concerns regarding methodological limitations because the researcher did not mention ethical issues.	No/very minor concerns	No/very minor concerns	No/very minor concerns	High confidence **Explanation:** Minor concerns regarding methodological limitations, no/very minor concerns regarding coherence, no/very minor concerns regarding adequacy, and no/very minor concerns regarding relevance	Charoenca et al[15] 2012; Erku et al[16] 2019;

Table 5. Continued.

#	Summarized review finding	Methodological limitations	Coherence	Adequacy	Relevance	GRADE-CERQual assessment of confidence	References
23	Leverage international agreements like the FCTC to justify strict tobacco control measures. Utilize current momentum to drive policy changes.	Minor concerns **Explanation:** Minor concerns regarding methodological limitations because the relationship between the researcher and participants, as well as ethical issues, are not addressed	No/ very minor concerns	No/very minor concerns	No/very minor concerns	High confidence **Explanation:** Minor concerns regarding methodological limitations, no/very minor concerns regarding coherence, no/very minor concerns regarding adequacy, and no/very minor concerns regarding relevance	Abdullah et al [11] 2022; Barry et al [13,14] 2022;

(GRADE: Grading of Recommendations, Assessment, Development and Evaluation; CERQual: Confidence in the Evidence from Reviews of Qualitative Research; CSR: corporate social responsibility; NTCC: National Tobacco Control Cell; TTCs: Tobacco Testing Centers; FCTC: Framework Convention on Tobacco Control)

to impose stricter controls.[18]

Another key finding was the low awareness and understanding of Article 5.3 provisions, particularly outside the health sector. In India, awareness varied significantly across government ministries, creating competing agendas and impeding unified action on tobacco control.[13] Similar gaps were observed in Uganda, where officials from non-health sectors often viewed tobacco control as the sole responsibility of the Ministry of Health.[20] Finally, the tobacco industry's ability to influence public perception and policy through CSR initiatives, misinformation, and legal threats was a recurring theme. In the Netherlands, the industry weakened public health measures during the implementation of the EU Tobacco Products Directive by presenting itself as a legitimate stakeholder.[21] Similarly, in Karnataka, India, CSR activities created a false perception of the industry as a policymaking partner, complicating efforts to limit its influence.[18] These findings underscore the urgent need for stronger regulatory frameworks, enhanced intersectoral coordination, and greater awareness of Article 5.3 across all sectors and levels of government.

Discussion

This review elucidates the considerable barriers obstructing the implementation of effective tobacco control measures, primarily stemming from the pervasive influence of the tobacco industry and internal governmental conflicts of interest. The affiliations of government officials with the tobacco industry present significant challenges as tensions emerge between the interests of state-owned tobacco enterprises and public health objectives. Such relationships complicate efforts to curtail governmental involvement with industry-sponsored corporate social responsibility initiatives.[11,16,18,21] These findings are consistent with those of Smith et al,[24] who highlighted the tobacco industry's strategic use of CSR to shape policy and public opinion. Comparable challenges have been observed in other contexts, such as Indonesia and Malaysia, where state-owned tobacco companies significantly impede tobacco

control efforts.[25,26]

The tobacco industry's interference in public policy through lobbying, influencing policymakers, creating conflicts among government agencies, and using litigation to oppose regulations is well-documented.[11,12,13,15,17,22] This review's findings align with those of Gilmore et al,[4] who detailed how the industry uses its economic power to obstruct tobacco control initiatives globally. Additionally, resource constraints and lack of authority within institutions like the NTCC exacerbate these barriers, leading to ineffective coordination and enforcement of tobacco control measures.[11,13,18,19,21] These findings echo those of Chantornvong,[27] who found that limited resources and weak institutional authority are significant barriers to effective tobacco control in low- and middle-income countries.

The absence of specific regulations and a weak regulatory framework further enable the tobacco industry to exploit government interactions. This scenario is compounded by the prioritization of economic interests, such as tax revenue from tobacco products, over public health imperatives.[11,15,16,20,22] Studies like those of Lee et al[28] have illustrated how economic dependencies can undermine public health policies. Limited awareness of Article 5.3 among policymakers outside the health sector results in competing agendas and inadequate implementation of its guidelines.[11,13,18,21,22] This finding is supported by Crosbie et al,[29] who emphasized the need for increased awareness and training on Article 5.3 to mitigate industry interference.

The review recommends several strategic interventions to address these challenges. Strengthening the capacity and authority of tobacco control bodies like the NTCC and implementing robust legal frameworks to regulate industry interactions and enforce transparency are essential steps. This aligns with recommendations from Fooks et al[30], who advocate for strong regulatory frameworks to counteract industry influence. Improving coordination across government departments and encouraging cross-sector collaboration can ensure a unified approach to tobacco

control.[11,12,16] Raising awareness and understanding of Article 5.3 among government officials and stakeholders through targeted training can help manage and mitigate industry interference effectively.[12,14,17,21]

Additionally, excluding tobacco companies from policymaking processes is crucial to prevent conflicts of interest. Promoting transparency in government interactions with the tobacco industry through disclosure requirements and ongoing monitoring can enhance accountability.[13,15,16,19,22] These recommendations are echoed by Mamudu et al,[31] who highlight the importance of transparency and accountability in tobacco control governance. Providing technical and financial support to subnational governments and empowering stakeholders through education and capacity-building initiatives can strengthen tobacco control efforts at all levels.[13,17]

Public health advocacy and community engagement play vital roles in countering the tobacco industry's influence. Developing coalitions among public health advocates, researchers, and civil society organizations can create a broader support base for tobacco control measures.[12,21,22] Implementing and enforcing strict regulations on tobacco advertising, promotion, and sponsorship, addressing legislative gaps, and leveraging international agreements like the FCTC can drive significant policy changes.[11,13,14,15] These strategies are consistent with the conclusions of Gravely et al,[32] who underscored the importance of comprehensive tobacco control policies and international cooperation.

Strength and Limitation
The review presents several strengths. It offers a comprehensive synthesis of qualitative studies, providing deep insights into barriers to effective tobacco control. The application of GRADE-CERQual to evaluate confidence in evidence enhances the rigor and transparency of the findings. By identifying various barriers and offering actionable recommendations, the review serves as a valuable resource for policymakers and practitioners.

However, the review has limitations. It relies exclusively on published literature, which may exclude relevant unpublished studies and introduce publication bias. The focus on low- and middle-income countries could limit the applicability of findings to high-income contexts. The diversity in study methodologies and the subjective nature of qualitative data may impact the synthesis and accuracy of results. Additionally, the evolving nature of tobacco industry tactics and policies may make some findings less current. Ongoing research and updated evaluations are necessary to address these limitations.

Practical Implications
The practical implications of these findings highlight the need for strategic, coordinated approaches to counter tobacco industry interference and strengthen tobacco control policies. The identification of barriers, such as conflicts of interest, lobbying tactics, and weak enforcement frameworks, underscores the importance of establishing more robust regulatory systems and enhancing the authority of tobacco control bodies like the NTCC. Governments should implement clearer guidelines to prevent industry influence, promote transparency in government-industry interactions, and educate officials on the importance of Article 5.3 to mitigate conflicts of interest and competing agendas. Additionally, cross-sector collaboration and improved resource allocation are essential to ensure that tobacco control policies are uniformly applied and adequately enforced.

For future research, further exploration of industry influence on public policy across varied cultural and economic contexts would provide valuable insights into the global applicability of these findings. Longitudinal studies tracking the outcomes of specific regulatory changes could also offer practical evidence for effective interventions. Research focusing on the economic impact of tobacco control measures could help counter industry arguments that prioritize short-term economic benefits over public health. Moreover, studies that assess the effectiveness of training programs aimed at raising awareness of Article 5.3 among government officials and stakeholders would be beneficial in establishing best practices for combating industry interference.

Conclusion
The review underscores significant barriers to effective tobacco control, particularly the influence of the tobacco industry and conflicts of interest within government agencies. The findings highlight the need for strengthened regulatory frameworks, increased awareness of tobacco control policies, and enhanced coordination among stakeholders. By identifying these challenges, the review provides a foundation for developing more effective strategies to combat tobacco use and protect public health.

Supplementary Files
The supplementary file contains search strategy.

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