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DOCTORAL THESIS

*Health Communication and Community Engagement in
the Prevention of Cervical Cancer*

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1 Summary

Health communication and community engagement prove to be essential levers in the prevention of cervical cancer, one of the major global public health issues. Against the backdrop of the alarmingly high incidence and mortality rates in Romania, this paper highlights how communication strategies and community involvement can influence women's perceptions, attitudes, and behaviors toward screening and HPV vaccination programs.

The research conducted within the doctoral studies brings together several analyses based on mixed methodologies (qualitative and quantitative), aimed at capturing the complexity of factors that determine women's participation in screening programs. The approach from different perspectives provides a deeper understanding of the reasons, barriers and socio-cultural context that influence involvement in such initiatives.

Starting from a review of the specialized literature, this thesis analyzes fundamental theoretical concepts in health communication and highlights their relevance in increasing the uptake of testing. The included empirical studies reveal not only cognitive and emotional barriers (fear, shame, stigma, lack of trust in the medical system) but also socio-economic, geographical, and cultural obstacles that can impede access to prevention services. In addition, the role of community engagement, from local leaders, religious and health mediators, to informal support groups, in disseminating information and reducing reluctance is emphasized.

The results indicate that culturally appropriate communication strategies and sustainable partnerships between health institutions, public authorities and the community can significantly increase participation in screening and vaccination programs. Finally, the thesis provides and supports practical recommendations regarding the design of communication campaigns and the involvement of community stakeholders, thus contributing to the shaping of more effective public health policies and reducing the disparities that perpetuate the burden of cervical cancer.

2 Chapter 1 – Introduction

This chapter places in context the importance of health communication for the prevention and control of cervical cancer. It presents the evolution of the field, its impact on individual and collective behaviors, and the essential role it plays in increasing HPV screening

and vaccination rates. It also describes global and national challenges, with a focus on Romania, where cervical cancer incidence and mortality remain high, and outlines the research objectives and questions guiding the entire study, highlighting the need for communication strategies tailored to the cultural and socio-economic needs of the target audience.

Health communication is the foundation of any preventive and treatment intervention, influencing both individual and collective health decisions. It goes beyond merely transmitting information, involving the adaptation of messages to the specific needs and characteristics of the target audience, using varied channels, from social media and mobile apps to doctor–patient interactions, to build trust, reduce access disparities, and encourage healthy behaviors.

The disciplines of health communication officially took shape between the 1970s and 1990s, gradually integrating modern methods of influencing decisions and establishing themselves as an independent public health field.

Global and National Context of Cervical Cancer

Globally, cervical cancer is the second leading cause of death among women after breast cancer, despite being one of the most preventable cancers; if detected early, it can be treated successfully. Persistent infection with oncogenic HPV subtypes is responsible for 99% of cases. Although the development of vaccines and diversified screening tests has significantly reduced the disease burden in many regions, incidence and mortality remain high in low- and middle-income countries.

Romania stands out with the highest incidence and mortality rates in the EU, with over 3,300 new cases and 1,700 deaths annually, meaning a woman dies every six hours. The national free screening program, launched in 2012, tested only 12% of the eligible population in its first five-year round, reflecting a major deficit in information, access, and cultural acceptance.

Research objectives

This thesis aims to evaluate and optimize communication strategies in cervical cancer prevention by:

1. Analyzing women's knowledge, attitudes, and practices regarding screening and HPV vaccination.
2. Assessing the effectiveness of communication strategies, channels, and techniques used by authorities, healthcare professionals, and the media, as well as community mobilization efforts.

3. Identifying socio-cultural and economic barriers to prevention and how tailored communication can mitigate them.
4. Investigating community involvement, the role of local leaders and health mediators, and collaboration with the medical system.
5. Formulating evidence-based practical recommendations for improving information and education campaigns, best practice guidelines, and efficient dissemination mechanisms.

3 Chapter 2 – Theoretical framework

This chapter outlines the theoretical framework of health communication applied to cervical cancer prevention, highlighting general arguments and concrete examples from international and national studies.

Health communication is an interdisciplinary field essential for promoting preventive behaviors, reducing disparities, and increasing access to medical services. Modern strategies, from mass media campaigns and social marketing to SMS reminders and personalized mobile applications, have proven capable of increasing screening participation by up to 25% and overcoming cultural and informational barriers in resource-limited settings, as documented in the literature.

The literature consistently reports low awareness of cervical cancer causes, risk factors, symptoms, and prevention methods (screening and HPV vaccination) in regions like Zimbabwe, Uganda, Ethiopia, and Pakistan. Lack of information breeds negative perceptions, stigmatization, and resistance to testing, leading to late diagnoses and high mortality rates. Proven interventions include traditional and digital media campaigns, radio spots, TV shows, Facebook posts, brochures, and billboards, that significantly raise screening awareness and drive Pap smear appointments. Community education, involving trained mediators from local leaders or clergy spouses, delivers culturally adapted workshops and presentations, increasing testing interest by over 30% in targeted communities. School and university programs, as well as church-based interventions, have shown significant impacts on knowledge and vaccination intent, although their effects on actual vaccination rates vary.

In Romania, limited research indicates similar issues: low screening uptake among Roma women, barriers to follow-up care after a positive test, and the influence of religious beliefs on prevention attitudes. Recent Romanian innovations emphasize culturally tailored

campaigns, vulnerable community engagement, and close collaboration with health professionals.

Converging evidence shows that merely having screening programs is insufficient; sustainable results require integrated strategies combining multiple components. First, messages must be personalized and context-sensitive to align with local values and experiences. Second, communication should leverage both traditional (radio, television, print) and digital (SMS, social media, mobile apps) channels to reach diverse population segments. Third, engaging community mediators and opinion leaders, religious, civic, or social is crucial for building trust and adapting messages for vulnerable groups. Continuous training programs in effective communication for healthcare staff ensure they address patient concerns with empathy and clarity. Finally, each intervention's impact must be closely monitored, with strategies adapted based on community feedback and dynamics. Within this complex context, the present research analyzes Romanian women's knowledge, attitudes, and practices in depth to inform policies and campaigns that encourage screening and vaccination uptake, thereby reducing cervical cancer incidence and mortality.

4 Chapter 3 – Research, studies, and results

Chapter 3 details the methodologies and findings of the five studies forming the core of the doctoral research, illustrating how women's knowledge, attitudes, and behaviors regarding cervical cancer prevention were investigated in Romania. The first section, "Horizontal Aspects," explains each study's objectives, research design, data collection instruments, sample selection, and analysis procedures, qualitative or quantitative. The authors highlight the importance of transparency and acknowledging limitations, such as limited generalizability due to small samples and logistical and financial constraints, while emphasizing the strength of combining rigorous theoretical grounding with context-adapted empirical analysis.

In the data analysis section, empirical and theoretical findings are synthesized. Each study, presented in separate subchapters, integrates qualitative perspectives, semi-structured interviews in disadvantaged rural communities and thematic analysis of experiences and barriers, with quantitative methods - structured questionnaires, statistical analyses, chi-square tests, and logistic regression models. Results indicate personal factors (HPV knowledge level,

risk perception, previous medical experiences), social factors (community support, STI stigmatization), and economic factors (indirect costs, service accessibility) influencing screening participation and follow-up adherence. Psychological barriers, fear of diagnosis and absence of symptoms—compound logistical obstacles like distance to medical centers, transport deficits, bureaucratic, and informational barriers.

A qualitative study of rural women highlights the importance of empathetic-informative communication: a trusting doctor–patient relationship, clear explanations, and emotional support significantly increase compliance with medical recommendations. Additionally, community leaders and health mediators boosted testing interest, and SMS reminders and phone calls enhanced participation and compliance with retesting.

A theoretical analysis study illustrates the applicability of the Health Belief Model (HBM), where perceived vulnerability and screening benefits promote preventive behaviors, and identifying barriers (costs, access, stigma) and proposing practical solutions (free testing, mobile units) reduce reluctance.

The Theory of Planned Behavior (TPB) emphasizes attitudes, social norms, and perceived control, while the COM-B model (Capability, Opportunity, Motivation – Behavior) shows that durable changes require education and information (capability), adequate infrastructure and resources (opportunity), and relevant, frequent, personalized motivational messages (motivation).

Another segment evaluates eight national public health campaigns from 2024 through a comparative grid. Campaigns with positive messaging and community involvement (cardiovascular diseases) were more effective, while those with negative messaging, poor audience segmentation, or lacking feedback mechanisms performed moderately or poorly (measles vaccination). The analysis revealed the need for psychological and cultural segmentation, better exploitation of digital technologies, and implementing a monitoring system with clear behavioral impact indicators.

The final part reconstructs a qualitative study on women's screening perceptions, confirming information gaps about the HPV–cancer link, suboptimal HPV testing levels, result-related anxiety, and psycho-emotional support deficiencies. Practical implications discussed include tailoring educational campaigns to comprehension levels, subsidizing tests and organizing mobile units, training healthcare personnel in empathetic communication, and using diverse information channels from doctors and brochures to social media and online platforms.

Overall, Chapter 3 provides the methodological foundation and empirical evidence supporting the practical recommendations and integrated public policies in the next chapter, aiming to optimize health communication and community engagement in cervical cancer prevention.

5 Chapter 4 – Conclusions and recommendations

The final chapter synthesizes the significant conclusions drawn from the entire research, emphasizing the need for a multidisciplinary and personalized approach to cervical cancer prevention. It highlights crucial elements for successful communication strategies, such as culturally adapting messages, simplifying access to screening services, and involving local communities and influential figures. Based on the results analyzed in Chapter 3, this segment formulates both practical public policy recommendations and future research directions to expand and refine intervention tools in cervical cancer prevention.

Findings depict a comprehensive picture of factors influencing women's participation in cervical cancer screening programs. First, low knowledge levels and lack of awareness about HPV infection's role led to misconceptions about risk, especially in rural areas where cervical cancer is often seen as fatal. This is compounded by socio-cultural and psychological barriers: traditional norms, reproductive health stigmatization, fear of a fatal diagnosis, and resistance to medical procedures.

Second, limited accessibility to testing centers and underdeveloped medical infrastructure significantly hinder screenings, especially for women in disadvantaged areas facing transport and financial constraints.

Moreover, deficient medical communication and sometimes distant healthcare staff attitudes can erode patient trust and lead to abandonment of follow-up investigations. Nevertheless, involving local leaders, priests, social workers, and health mediators positively reduces stigmatization and increases test acceptance, particularly in traditional communities.

Campaigns using positive messaging, accessible language, and success examples effectively stimulate behavior change, especially when supported by online channels and direct interactions with healthcare professionals.

Strengthening research in this field is not merely an academic endeavor but a vital instrument for improving population health and equalizing diagnostic and treatment

opportunities across social categories. By removing information barriers, raising awareness, optimizing interventions, and leveraging new technologies, authorities and health and communication specialists can make informed and effective decisions, leading to more efficient prevention and fairer resource management.

In conclusion, combining efforts across medical, social, and community spheres is essential for increasing screening uptake and reducing cervical cancer incidence.