



Social Marketing Approaches Amidst the COVID-19 Crisis:

A Study on Addressing Vaccine Hesitancy

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Abstract

Amidst the global crisis of the Covid-19 pandemic, governments have turned to social marketing as a pivotal instrument for effecting behavioral change. This paper delves into the strategic application of an individual-centered social marketing approach during the Covid-19 crisis, specifically focusing on its role in mitigating vaccine hesitancy. As societies grapple with the imperative to actively engage in vaccination campaigns, understanding and addressing vaccine hesitancy becomes paramount. Through an exploration of the evolving landscape and consideration of public health priorities, this study aims to elucidate the multifaceted nature of vaccine hesitancy and underscore the critical role played by social marketing in fostering a positive transformation in public attitudes and behaviors towards Covid-19 vaccination initiatives.

✓ **Key-words:** Social Marketing; Covid-19; Vaccine hesitancy; Ethics;

1. INTRODUCTION

In public health, vaccines against various diseases, including preventable, contagious, and life-threatening diseases, are considered the best response after water sanitation. However, after the golden age in the 1950s, they became a “generic” product offering little financial incentive to the pharmaceutical industry.

Governments and public health institutions are increasingly applying social-marketing behaviour to promote the application of global vaccination programs and to understand the behaviour of populations to cope with the enormous growth of vaccine hesitancy. Social marketing is the appropriate tool for sustainable behaviour change using a consumer-centered approach.

The rapid adoption of social marketing, especially during the era of Covid-19, was evident. Governments encouraged their populations to participate massively in the Covid-19 vaccination campaign, utilizing social marketing techniques to positively influence people’s sustainable behaviour in the fight against the pandemic. These techniques were based on knowledge of the public, segmentation, targeting, implementing actions on the ground in connection with partners (services, access, reduction of obstacles, communication), and evaluating the prevention program (Gallopel Morvan, Thanh, Arwidson, & Hastings, 2019, p. 14). While the urgency of the Covid-19 pandemic has diminished, the experience has underscored the efficacy of social marketing in public health initiatives. Governments continue to leverage these strategies to encourage vaccination and address broader health challenges.

The purpose of this study is to present and analyse the role of social marketing in effectively addressing and counteracting vaccine hesitancy, with a specific focus on health professionals dealing with COVID-19 vaccines. The study will concentrate on the factors that determine this hesitation and will attempt to answer the following question: «*What is the role of social marketing in counteracting the hesitancy of health professionals for COVID-19 vaccines?* ».

Indeed, communication is an essential public health asset. In addressing vaccine hesitancy, effective communication emerges as a crucial factor. While high-quality vaccines are well-established in rich countries, the challenge lies in providing comprehensive information to both the general population and health professionals, fostering knowledge and confidence. Misinformation and data about the safety and efficacy of vaccines present considerable obstacles for public health professionals, policymakers, and patients, paving the way for vaccine licensing and integration into universal programs.

2. THE THEORETICAL FRAMEWORK OF SOCIAL MARKETING

Social marketing is a secular concept that is at the heart of the processes of change (French, Blair-Stevens, McVey, & Merritt, 2009, p. 1). For centuries, people have tried to convince new believers of their opinions through various means of instruction, persuasion, influence, motivation, and confidence. Therefore, in the broadest sense, social marketing is just a new way of bringing together old human activities.

In an article published in 1969, entitled "Broadening the Concept of Marketing", Philip Kotler and Sidney Levy proposed a new direction for traditional marketing and a list of criticisms that can be directed towards social marketing (Kotler & Levy, 1969). According to the authors, non-commercial organisations have a growing influence and are as crucial to the media as large companies. In addition, it was not until 1971 that the concept of social marketing was formally used for the first time in Kotler and Zaltman's article, "Social Marketing: An Approach to planned social change" (Kotler & Zaltman, 1971).

2.1. Definition of social marketing

The interpretation of social marketing varies depending on contextual factors such as the industry under discussion, the individuals involved, and their respective

professional cultures. Despite these variations, there is a shared perspective that views social marketing as a holistic approach.

The initial definition of social marketing was formulated by Philip Kotler and Gerald Zaltman, centering around the application of commercial marketing concepts to social activities. They describe social marketing as «***The design, implementation, and control of programs designed to influence the acceptability of social ideas, taking into account product planning, pricing, communication, distribution, and marketing research considerations. It is the intentional application of marketing capabilities to transform social action initiatives into better-planned and articulated programs that elicit a desired response from the targeted audience. In other words, marketing techniques bridge the gap between knowledge and socially appropriate use*** » (Kotler & Zaltman, 1971, p. 5).

Over time, several changes were made to the original definition of social marketing, such as the definition adopted by P. Kotler, N.R. Lee and M. Rothschild, which defines social marketing as «***a process that applies marketing principles and techniques to create, communicate and deliver value to influence the behaviors of the target audience that benefit society and the target audience***».

Another perspective, presented by Nedra Kline Weinreich, characterizes social marketing as «***the utilization of commercial marketing ideas and strategies to encourage habits that enhance the health or well-being of the target audience or society*** ». She added that these are the same techniques and strategies that a commercial company uses to sell its products, including focusing on the company's customers, conducting market research and following a methodical process to design a marketing campaign. She notes that «***cross-pollination of disciplines with marketing, including anthropology, social psychology, design, public health, behavioral economics and persuasive technology, maintains the field's momentum and brings the best reflection on behavior change together in a cohesive process*** » (Weinreich, 2011, p. 4).

2.2. Social Marketing Objectives

A social marketing campaign necessitates well-defined marketing objectives tailored to accommodate the social, cultural, and regulatory nuances of each region. This customization is pivotal for optimizing effectiveness and achieving behavioral goals, knowledge enhancement, and belief modifications. The objectives should adhere to the SMART criteria, ensuring they are specific, measurable, achievable, relevant, and time-bound. This encompasses targeted changes in knowledge, attitudes, and behaviors, with explicit delineation of desired behaviors and the anticipated evolution in knowledge, attitudes, and beliefs (Cheng, Kotler, & Lee, 2011, p. 20).

Quantifiable public health measures, often shaped by the social, cultural, and regulatory landscape of the countries or regions where campaigns are implemented, must be delineated in social marketing initiatives. It is imperative to meticulously consider these environments, as they can impact budgetary allocations and influence decisions regarding the marketing mix and evaluation techniques during the post-campaign planning phase. The ultimate success of social marketing endeavors and their objectives hinges on aligning with public health sector goals, especially in the context of managing epidemics.

The objectives of the social marketing campaign encompass the following aspects:

- A behavioral objective for the target audience post-campaign, focusing on specific behaviors (selecting nutritious food and beverages from vending machines);
- A knowledge objective, identifying the essential information or facts that the target audience needs to comprehend (such as understanding the components of a healthy lifestyle and its associated benefits);

- A belief goal, emphasizing the convictions that the target audience must adopt to foster a change in mindset (cultivating the belief that a healthy lifestyle is attainable through simple daily actions).

To comprehend individuals and induce enduring positive behavior change, social marketing emerges as a particularly apt tool. In this scenario, a consumer-focused strategy becomes imperative as it alone possesses the capability to motivate individuals towards change or the application of newfound knowledge (Kerdad, Ibn cheikh, & Alaoui, 2017, p. 86).

2.3. Strategic approach and social marketing mix

The anticipated public response is attained through the deliberate application of marketing expertise, aiming to refine and enhance existing social initiatives by converting them into well-structured and effectively implemented programs. In essence, marketing techniques are viewed as a means to bridge the gap between possessing knowledge and its socially beneficial application (Kotler & Zaltman, 1971, p. 3).

Social marketers have embraced numerous commercial marketing techniques, incorporating strategies such as audience analysis and segmentation, consumer studies, product conceptualization and development, message development and testing, targeted communication, facilitation, exchange theory, and the engagement of paid agents, volunteers, and incentives. The analysis of the audience is crucial not only for identifying segmentation but also for understanding the specific approaches required. Consumer studies, in particular, offer valuable insights into the desires and needs of target segments, serving as the foundation for product design and message creation.

Furthermore, face-to-face communication, facilitated by both paid and unpaid agents, plays a pivotal role in reinforcing and facilitating the distribution of products and the dissemination of messages. This involves the strategic selection of channels

tailored to the specific characteristics of the targeted groups (Ling, Franklin, Lindsteadt, & Gearon, 1992, p. 354).

In this context, we review the five fundamental principles that characterize Social Marketing before discussing its tools and its impact on behavior change:

- Marketing Mix;
- The main contribution of social marketing to social change is represented by the slogan “Let’s make a Deal”, which indicates that voluntary human behavior is achieved through an exchange of value;
- The principle of changing conditions before messages. Behavior is difficult to change;
- It is about behavior, not consciousness. Three characteristics of social marketing behavior are the action observable by a population segment under certain conditions. Therefore, a call to action is the centerpiece of a social marketing campaign. People want to know what to do, not what to think;
- Differences in people’s behaviors.

To identify the underlying problems of social marketing for public health programs, there is an excellent technique to compare its realities with the requirements of commercial marketing. The search for new products, market research on the interest of consumers for potential new products, the manufacture of products with quality control, the dynamic triangle price-product-need, interactions with wholesale and retail networks for products to be distributed and made accessible, commissions and bonuses to motivate the sales force, dismissal of incompetents, bankruptcies for mismanagement, dividends for shareholders and the government are generally included in the business equation. Each of these factors impacts the others as they act as a counterweight for the entire company. Many of these components should be more present in public health programs (Ling, Franklin, Lindsteadt, & Gearon, 1992, p. 356).

3. SOCIAL MARKETING IN PUBLIC HEALTH

The integration of health into the marketing domain has been a relatively recent development, rapidly evolving to become an integral component of the public health field. This evolution has been facilitated by the incorporation of theories, tactics, and concepts derived from health communication and social marketing. The validation of techniques derived from commercial marketing and cause marketing has enhanced the rigor of this interdisciplinary field, incorporating diverse disciplines.

Effecting changes in complex habits necessitates a comprehensive consideration of environmental constraints, legislation and regulations, social norms, and the individual's living environment. This extends beyond conventional pedagogical or communication approaches and demands collaborative efforts and resources to ensure success. Associations have been established to foster active dialogue between social marketing and communication professionals within the public health sector, as well as communication professionals in the health sector. This collaborative platform serves to enhance the exchange of knowledge and strategies, contributing to the continued advancement of this dynamic field.

The strengths of the social marketing approach to public health manifest in its positive impact on the public health sector's ability to educate the public and persuade communities and individuals to embrace healthy practices.

Social marketing has demonstrated a heightened capability to precisely target audiences by prioritizing a customer-centric approach and refining audience analysis and segmentation. The inclusion of psychographic data, encompassing attitudes, preferences, and personality traits, as well as an understanding of social structures such as hospitals, workplaces, and families, is increasingly recognized as crucial in project design, complementing traditional demographic data. This broader set of data points is instrumental in crafting messages that are not only better targeted but also more effective. Most significantly, these refined messages are better received by the general

population, contributing to the overall success of public health measures in this direction (Ling, Franklin, Lindsteadt, & Gearon, 1992, p. 356).

The integral connection between advertising and marketing prompts a discussion about its ethical implications, closely tying it to the discourse on social marketing. According to many experts in humanities and social sciences, advertising is seen as a force that diminishes authentic experiences. It is criticized for promoting materialism, cynicism, anxiety, a lack of age and tradition, erosion of self-esteem, and an increased focus on issues like sex and competition, among other concerns. Some argue that regardless of the intended purpose, the drawbacks of advertising outweigh the benefits of social marketing efforts.

Conversely, proponents argue that advertising merely reflects cultural norms, embodying positive values such as family attachment, education, health, charity, patriotism, optimistic expectations, and happiness. Moreover, social advertising has become so ingrained in certain Western societies that the debate has shifted from whether it should be used to how it should be used. Its effectiveness varies, proving successful in some cases and unsuccessful in others. It's essential to note that social marketing is a much broader concept than social advertising and even social communication (Kotler & Zaltman, 1971).

And before continuing in the same context of public health and addressing the role of social marketing in the latter and addressing its role in promoting public health and the fight against vaccine hesitation, we present below: and a brief definition of public health and its main characteristics.

3.1. Definition of public health

C.E.A.Winslow defined public health as: « ***Science and the art of preventing disease, prolonging life, and promoting physical health and efficiency through organised community efforts to clean up the environment, control communicable***

diseases, the education of the individual in personal hygiene, the organisation of medical and nursing services for the early diagnosis and preventive treatment of the disease, the development of the social mechanism that will ensure that each individual has an adequate standard of living for the maintenance of health; To organise these benefits in such a way as to enable each citizen to realise his right to health and longevity » (Cheng, Kotler, & Lee, 2011).

We would like to point out that public health has several distinctive features, including:

- uses prevention as the primary intervention strategy (such as prevention of illness, death, hospital admissions, days away from school or work, or consumption of fiscal resources);
- is based on a wide range of sciences (including epidemiology, biological sciences, biostatistics, economics, psychology, anthropology and sociology);
- has as its central pillar the philosophy of social justice (thus, the knowledge acquired on how to ensure a healthy population must be equally extended to all groups in any society);
- is linked to government and public policy (which strongly impacts many public health activities conducted by non-profit organisations and the private sector).

3.2. The role of social marketing in promoting public health

When marketing, primarily centered on selling goods and services, is driven solely by profit motives, it can potentially clash with the overarching societal goal of advancing public health. Within the public health profession, the perception of social marketing is nuanced, viewed as a distinct adaptation with inherent contradictions. In the past two decades, social marketing has evolved into a recognized health discipline, marking its significance in the intersection of marketing and public health objectives (Ling, Franklin, Lindsteadt, & Gearon, 1992, p. 341).

In shaping personal choices and decisions, a multitude of messages from various sources simultaneously, often with conflicting purposes, disseminate valuable information that impacts an expanding audience and enhances health prospects. However, within the same channels of information, detrimental words and images are also conveyed (Ling, Franklin, Lindsteadt, & Gearon, 1992, p. 341). In this dynamic communications environment, social marketing efforts capitalize on this fluidity to effectively influence the attitudes and behaviors of the target audience.

Social marketing strategically employs commercial marketing concepts and strategies within the social context to influence the knowledge, actions, and values of the target population. Notably, medical journals, health organizations, scientific societies, and patient advocacy groups harness the power of platforms like Twitter, Facebook, Google, and YouTube. These channels serve as swift and effective mediums for delivering scientific information to both physicians and patients, facilitating rapid dissemination and engagement within the medical and healthcare domains (Sonawane, Troisi, & Deshmukh, 2021, p. 1).

Public health campaigns originating from Anglo-Saxon countries and international organizations have embraced social marketing strategies, leveraging a comprehensive understanding of target audiences and their environments. This approach allows for a nuanced analysis of behaviors and needs, enabling the adaptation of public health programs to better align with the specific context. In contrast, in France, professionals in the health, social, and medico-social sectors who incorporate social marketing strategies face criticism for what is perceived as incongruity between the terms "marketing" and "social." This critique reflects a tension around the application of marketing principles within social and public health domains in certain cultural and professional contexts (Césa, et al., 2014, p. 26).

Vaccines and their administration stand as one of the most triumphal endeavors in public health, having saved innumerable lives and significantly curtailed the incidence

of vaccine-preventable diseases to a mere fraction of their pre-introduction prevalence. The impact of vaccines extends beyond immediate benefits, as researchers can foresee substantial individual and societal savings throughout the lifespans of those receiving vaccinations today. Examining a hypothetical scenario involving a population of four million children born in 2009 and adhering to the recommended pediatric vaccination schedule, projections indicate the prevention of approximately twenty million diseases and forty-two thousand deaths within this cohort. Beyond these health benefits, vaccines contribute to substantial economic savings, amounting to \$14 billion in direct costs and an additional \$69 billion in indirect costs when adjusted for inflation. Despite the evident success and proven benefits of vaccination, a noteworthy segment of the population exhibits reluctance or harbors anti-vaccination sentiments, posing challenges to achieving comprehensive vaccine coverage and the associated public health advantages (Callender, 2016).

4. SOCIAL MARKETING FACE TO VACCINE HESITATION – STATUS AND ISSUES

The challenging phenomenon of vaccine hesitancy is garnering heightened attention in contemporary research. The escalating apprehension regarding vaccine hesitancy across various countries prompted the Strategic Expert Advisory Group (SAGE) Vaccine Hesitancy Working Group (WG) to advocate for an in-depth study on effective approaches to tackle this issue. This recommendation stems from a preliminary investigation delving into the root causes of vaccine hesitancy, laying the groundwork for a comprehensive understanding and targeted interventions.

4.1. An overview of vaccine hesitation

Vaccination decision-making spans a spectrum, ranging from outright rejection to wholehearted acceptance. Categorical rejection of vaccinations often stems from the most vehement opponents, whose reservations about safety issues undermine their trust in health professionals. This extreme stance reflects a significant challenge in

cultivating confidence and addressing concerns among certain segments of the population (Callender, 2016 , p. 2466).

Vaccine hesitancy manifests across varying levels of uncertainty concerning specific vaccines or vaccinations in general. The adoption of vaccines falls along a spectrum of indecision, influenced by additional factors that contribute to an individual's acceptance or rejection of a particular vaccine. Numerous models exist to characterize the heterogeneity of vaccine hesitation, drawing insights from diverse fields including behavioral theory, social psychology, bioethics, and behavioral economics. These models incorporate a range of social, cultural, political, and personal elements that play a significant role in shaping vaccine-related decisions (Kestenbaum & Feemster, 2015, p. 72).

During the 2009 influenza A (H1N1) pandemic, numerous countries in the Americas effectively implemented the pandemic vaccine for the general public. However, despite endorsements from healthcare providers and national immunization programs, coupled with the documented increase in influenza-related morbidity and mortality, a notable proportion of pregnant women exhibited reluctance towards receiving the pandemic vaccine. This hesitancy persisted even with improved access to vaccination services, underscoring the challenge of addressing resistance.

Instances of vaccine reluctance have also been observed in other regions and for various vaccines. In parts of Europe, there is hesitancy towards the measles vaccine, while Japan and India exhibit reluctance towards the human papillomavirus (HPV) vaccine. Additionally, certain areas in Nigeria and Pakistan demonstrate resistance to the use of the polio vaccine. These examples underscore the global and multifaceted nature of vaccine hesitancy, reflecting the need for tailored approaches to address specific concerns and barriers in different contexts (Malengraux & Lambert, 2021).

4.2. Vaccine Hesitation for Covid-19

Prior to the emergence of SARS-CoV-2, the World Health Organization (WHO) had identified vaccine hesitancy as one of the top 10 global health hazards in 2019. This phenomenon is marked by individuals refusing vaccines, delaying their administration, or reluctantly getting vaccinated, including vaccinating their children despite reservations. Despite the remarkable achievement of developing effective COVID-19 vaccines in a relatively short period—previously deemed unprecedented—vaccine hesitancy persisted as a tangible threat during the pandemic. This underscores the complex nature of vaccine acceptance and the importance of addressing public concerns and perceptions even in the face of rapid scientific advancements (Gagneux-Brunon & Launay, 2022, p. 100).

In this context, comprehending the attributes that aid social marketers in crafting effective public health campaigns to curb the spread of the virus becomes imperative. Research has delved into elucidating the psychological processes underpinning collectivism and actions related to COVID-19 control, aiming to enhance our understanding of collectivism's role in health-related activities. This study contributes valuable insights to the realm of social marketing research, providing practical tips for designing impactful health campaigns geared towards elevating vaccination rates and fostering preventive behaviors (Yafei Guo & Torelli, 2022, p. 1).

As per the World Health Organization (WHO), a vaccine deemed substantial and acceptable should offer enduring protection while being effective, safe, cost-effective, and readily accessible. The concept of herd immunity can be actualized through a comprehensive vaccination program, wherein a substantial portion of the population is immunized and the COVID-19 vaccine garners widespread acceptance. Undoubtedly, the pivotal role played by both populations and health professionals in embracing vaccination is instrumental in effectively controlling the ongoing pandemic (Sellam, 2021).

Early reports from the onset of the current pandemic highlight a notable hesitancy among a substantial portion of the population to receive the Covid-19 vaccine. Recent research underscores that for vaccination to serve as a singular intervention capable of "stopping a persistent epidemic," its efficacy must reach a minimum threshold of 80%, accompanied by an adoption rate of 75%. Moreover, if the vaccination rate falls below this critical level, the need for a more potent vaccine becomes imperative. This underscores the intricate interplay between vaccine efficacy, adoption rates, and the overarching goal of halting the spread of the pandemic.

Various surveys on vaccine acceptance rates have been conducted globally, revealing significant disparities between countries (refer to Table N°21). These surveys aim to uncover the underlying causes of hesitancy in receiving the Covid-19 vaccine. The factors contributing to vaccine hesitancy encompass opinions about vaccination, public attitudes, and beliefs regarding the credibility of the government, medical authorities, and public communication. Understanding these diverse perspectives is crucial in formulating targeted strategies to address and mitigate vaccine hesitancy on a global scale.

Table 1: COVID-19 vaccine acceptance rates in many countries across continents

Country	Survey Date	N	Acceptance Rate
Ecuador	April 2020	1050	97.0%
Malaysia	April 2020	1159	94.3%
Indonesia	April 2020	1359	93.3%
China	March 2020	2058	91.3%
France	June 2020	669	58.9%
USA	April 2020	1003	56.9%
Poland	June 2020	666	56.3%
Russia	June 2020	680	54.9%
Italy	September 2020	1055	53.7%
Kuwait	December 2020	771	23.6%
Jordan	Décembre 2020	2173	28.4%

Source: Based on the results of the Sellam study (2021)

In a recent Ipsos MORI global survey conducted in July and August 2020 involving 20,000 adults across 27 countries, findings indicated that 74% of people would opt for vaccination if the vaccine were available. However, the degree of favorability towards vaccination is nuanced, with only 37% expressing strong agreement, while an additional 37% conveyed a more tepid endorsement. Furthermore, acceptance rates exhibit significant variations from one country to another, ranging from a high of 97% in Ecuador to a lower rate of 54% in Russia. The primary reason cited by individuals refusing the vaccine is fear of adverse events, followed by doubts regarding the vaccine's efficacy and a lack of concern about contracting Covid-19. These insights underscore the multifaceted nature of public sentiment towards vaccination and highlight the importance of tailoring communication strategies to address specific concerns in different regions (Williams, Flowers, McLeod, Young, & Rollins, 2021).

Recent research indicates that certain subpopulations exhibit lower acceptance intentions for Covid-19 vaccination. In France, as of the end of March 2020, 26% of the sample expressed reluctance to receive the vaccine. This hesitancy was more prevalent among low-income individuals, young women, and those over the age of 75, with notable links to political views. Conversely, in Australia, more favorable opinions were reported in April, just after the introduction of lockdown measures, with 4.9% expressing outright refusal to be vaccinated and 9.4% indicating indifference. In this context, hesitancy towards Covid-19 vaccination in Australia was associated with lower levels of education and health knowledge, coupled with a perception that the threat of Covid-19 had been exaggerated. These findings highlight the importance of tailoring vaccination strategies to address the specific concerns of diverse subpopulations.

Two months later, following the relaxation of restrictions in Australia, research revealed an additional 10% of individuals expressing reluctance or uncertainty about adopting a Covid-19 vaccine. This suggests that vaccination rates against Covid-19

may fluctuate depending on the contextual factors of infection rates and restrictions. In the United States, another study found a 67% acceptance rate, with lower acceptance rates observed among unemployed individuals and the Black population (Williams, Flowers, McLeod, Young, & Rollins, 2021). Conversely, compared to other developed countries, the UK exhibited relatively low levels of reluctance to receive the Covid-19 vaccine. These observations underscore the dynamic nature of public sentiment towards vaccination and highlight the influence of contextual and demographic factors on acceptance rates (Sonawane, Troisi, & Deshmukh, 2021, p. 1).

In the Algerian context, a cross-sectional questionnaire survey was undertaken, engaging 1,705 Algerian citizens through online platforms (Facebook, Instagram, and LinkedIn) between September 16 and December 28, 2021. The study, focused on vaccine hesitancy in Algeria, elucidates that the prevalence of vaccine hesitancy stands at a considerable 88.5%, significantly surpassing the rate of vaccine acceptance, which stands at 11.4%. A nuanced examination of hesitant subgroups reveals a predominant hesitancy among respondents, encompassing 91.8% of women and 77.4% of men (Chami, Lahrache, & T, 2022).

The analysis further extends to different age cohorts, where hesitancy rates persistently remain elevated. Among respondents aged 18-24 (403 participants), the hesitancy rate is notably high at 88.6%. Similarly, the cohort aged 25-34 (747 participants) exhibits a hesitancy rate of 89.1%. The hesitancy trend persists across other age groups: 87.3% for those aged 35-49 (240 participants), 79.3% for individuals aged 50-64 (23 participants), and 100% for those aged 65 and above (3 participants). This comprehensive examination underscores the pervasive nature of vaccine hesitancy, highlighting distinctive patterns across demographic categories.

The initial inquiries suggest that the acceptance of the COVID-19 vaccine exhibits variability across countries and sub-populations within the same region. Current research has predominantly employed cross-sectional models, leaving unanswered

questions regarding how COVID-19 vaccine acceptance may fluctuate within a population based on factors such as infection rates or access restrictions. A prospective survey conducted in Scotland sought to address this gap by examining COVID-19 vaccination intent during two distinct time intervals, corresponding to the national lockdown and the subsequent easing of restrictions.

4.3. Factors of vaccine hesitancy

The factors contributing to vaccine hesitancy can be elucidated through the lens of the epidemiological triad, which entails the intricate interplay of **environmental** (external), **agent-related** (vaccine), and **host-specific** factors (such as parents for conventional vaccines, or the broader public and health professionals in the case of the current research). The determinants of vaccine hesitancy are diverse, context-dependent, and while presented separately, it is crucial to comprehend and acknowledge their interconnectedness. These factors are explored within the two principal categories: those associated with vaccination itself and those influenced by specific anti-vaccine movements.

Vaccine hesitancy finds justification within the epidemiological triangle, a framework encompassing the intricate relationship between environmental (external), agent (vaccine), and host (target population) factors. The myriad reasons for vaccine resistance, often investigated in isolation, must be viewed through the lens of their interdependence. These reasons can be categorized into two primary groups: those associated directly with the act of vaccination and those fueled by the influence of anti-vaccination movements. Recognizing and understanding the interplay between these factors is essential for comprehending the complexities of vaccine hesitancy (Malengraux & Lambert, 2021).

4.3.1. Factors related to vaccination

These factors are frequently linked to vaccine confidence, a broad concept that can lead to either the defense or rejection of vaccines (Dubé, et al., 2013, p. 1768). Low

confidence in a vaccine typically manifests not as outright refusal but often as hesitation or reluctance. In the context of conventional vaccines, individuals categorized as "hesitant observers" may include parents who express concerns about vaccinating their children, with their reservations rooted in community rather than personal reasons (Enkel, Attwell, Snelling, & Christian, 2017, p. 4). Individuals with low confidence in vaccination may exhibit resistance, questioning aspects such as the originality, content, or timing of vaccines. It's important to note that confidence levels can vary based on the type of vaccine, and an overall lack of confidence in vaccines doesn't necessarily correlate with reluctance to receive a COVID-19 vaccine. The premise is that individuals who trust a particular vaccine are more likely to embrace it, suggesting that confidence in the COVID-19 vaccine could significantly influence vaccination intentions (Wassler, Del Chiappa, Hai Nguyen, & Fedeli, 2022, p. 38).

In considering the risks associated with conventional vaccination, parents may, for instance, overly focus on secondary indicators such as rashes, swelling, or discomfort, and express heightened reluctance regarding potential long-term impacts of vaccination. Concerns may also stem from factors like short intervals between doses, simultaneous administration, perceived intolerance of the immune system, and the rapid approval of new vaccines. While these concerns align with individuals' logic and apprehensions, they may not align with the findings of medical research. This discrepancy underscores a level of public ignorance regarding vaccines and the rigorous safety controls in place. Despite the overwhelming benefits of vaccines outweighing potential risks, a lack of comprehensive information can contribute to mistrust, highlighting the importance of disseminating accurate and accessible information to address public concerns (Callender, 2016).

According to the findings from our survey of the Algerian population, vaccine hesitancy predominantly stems from concerns related to the potential side effects of vaccines (26.4%), followed by issues of ignorance and a lack of information about

vaccines (22.6%), skepticism regarding the efficacy of vaccines and the speed of clinical trials (21.6%), a general mistrust in health authority decisions (14.9%), hesitancy to be among the first individuals vaccinated (7.3%), reliance on immunity acquired after infection (4%), and a perception of the severity of the disease (3.2%). On the other hand, respondents expressing a willingness to accept the vaccine cited motivations such as a desire for personal protection (28.3%), the presence of personal risk factors (3.5%), a wish to safeguard those around them (34.9%), or a commitment to contribute to pandemic control efforts (33.2%). These diverse motivations underscore the complexity of factors influencing vaccine acceptance and hesitancy within the Algerian population (Chami, Lahache, & T, 2022, p. 9).

4.3.2. Factors related to the "Anti-Vaccine Movement."

The term "anti-vaccine movement" is commonly employed to describe individuals who actively invest their time and resources in publicly expressing concerns about vaccines, actively working to persuade others to join the movement with the hope of influencing changes to vaccination policies.

Opponents of vaccination primarily include anti-vaccine activists and groups advocating for vaccine victims. Additionally, other entities such as political parties, whose primary focus extends beyond vaccination to broader causes (political philosophy, interests of specific social groups, religion, etc.), incorporate vaccinations as examples to illustrate the significance of their overarching objectives.

The inclination to perceive vaccine skepticism as stemming from ignorance, irrationality, and anti-scientific bias significantly influences our understanding of the critical discourse surrounding vaccines, often portrayed as a manifestation of traditional and superstitious forces opposed to scientific progress. To appreciate the significance of vaccination across diverse historical contexts, it is imperative to distinguish between elements rooted in tradition and those representing new perspectives.

4.4. The impact of vaccine hesitation on public health promotion strategies

The COVID-19 landscape is characterized by distinctive features that contribute to vaccine hesitancy. Factors such as the swift development of vaccines, the rampant spread of misinformation through social media channels, critiques of the political and financial complexities associated with vaccination, the emergence of new virus variants, and uncertainties regarding the duration of vaccine immunity collectively foster skepticism and negative attitudes toward the vaccine.

Beyond those who are explicitly skeptical, a segment of the population can be classified as vaccine apathetic. Indifferent to vaccination concerns, these individuals detach themselves from the decision-making process, deeming it a non-priority. Attempts to reassure them about the efficacy and safety of vaccines often yield limited results. The key lies in developing strategies to motivate them to consider vaccination. While it might seem unconventional to view vaccines akin to consumer products, the realms of marketing, particularly social marketing, offer valuable insights into addressing vaccine reluctance (Gagneux-Brunon & Launay, 2022, p. 101).

In health promotion and disease prevention, addressing vaccine distrust is crucial. Despite the abundant evidence supporting vaccine efficacy and safety, socio-cultural shifts, the elimination of mandatory vaccination, and the reliance on non-institutional sources of information have played a role. This has led to confusion among citizens, with mandatory vaccinations seen as necessary and safe, while recommended vaccinations are considered less important; the associated risks of diseases prevented by vaccinations are often overlooked. Health promotion efforts need to provide pragmatic responses to the clinical and economic concerns frequently raised by vaccine opponents (Sonawane, Troisi, & Deshmukh, 2021, p. 1).

4.4.1. Public health promotion strategies

As per the World Health Organization, vaccine hesitancy ranks among the top ten public health risks, causing disruptions to vaccination systems worldwide and posing a substantial impediment to achieving optimal vaccination objectives (Alami, Gagnon, & Ghandour, 2017).

In addressing public health challenges, health promotion necessitates the application of various specialized concepts. The Ottawa Charter, established in 1986, articulates foundational principles of health promotion, stating, « **Health promotion is the process by which people are empowered to exercise greater control over and improve their health** » (Revue électronique, 2022).

The Ottawa Charter represents a significant paradigm shift in the global understanding of health, encompassing means and strategies that extend beyond the individual clinical concept of health. While health promotion was traditionally strongly focused on pathology, the Charter expands its scope to include disease prevention and the promotion of health.

This evolved perspective on health, embedded within a comprehensive framework, has prompted the embrace of a broader definition of health. Beyond its traditional biological dimension centered on the individual, health now incorporates socio-economic, political, cultural, and environmental aspects. This expanded vision was officially articulated by the Ottawa Charter, seeking to integrate it into forthcoming action strategies. To achieve this integration, the Charter delineates five key action plans (Alami, Gagnon, & Ghandour, 2017, p. 180):

- The development of sound public policy;
- Creating supportive environments;
- Strengthening Community action;
- The development of individual skills; and

- Reorientation of public health services.

However, despite health promotion's focus on the essential, decisions often prioritize the urgent, necessitating a thorough exploration of the urgency inherent in what is truly necessary. The industry wields significant influence, potentially shaping decisions and directing expenditures toward increasingly expensive technologies and pharmaceuticals, thereby promoting their use or consumption through strategies like lobbying, marketing, and communication.

Throughout the pandemic, health promotion activities persist. The approach, objectives, and messages may undergo modifications based on its evolution or if there is insufficient adherence to the messages and impact from the actions. As of July 2021, approximately 50% of the Italian population had completed the vaccination cycle. Italy serves as an empirical case study for examining social marketing factors that could enhance the intention to vaccinate against Covid-19. However, certain subgroups, including healthcare workers who remain unvaccinated, express concerns about potential suspension (Wassler, Del Chiappa, Hai Nguyen, & Fedeli, 2022, p. 39).

Although Italy was an exemplary case study due to the availability and wide distribution of Covid-19 vaccines, certain subpopulations showed low vaccination intentions. To detect and assess Covid-19 vaccination intention among 3839 Italian respondents, the study examined these concerns and provided insights into how social marketers could encourage vaccination uptake in Italy and possibly abroad.

Social marketing strategies for administering the COVID-19 vaccine needed to educate the public beyond safety and effectiveness, promoting positive social norms while combating disinformation across various platforms. The resumption of non-essential activities was identified as a potential factor to increase vaccination rates. Social marketing campaigns were suggested to specifically target economically

vulnerable and essential communities (Wassler, Del Chiappa, Hai Nguyen, & Fedeli, 2022, p. 39).

To address vaccine hesitancy effectively, it is crucial to comprehend the scale of the problem, understand its context and underlying causes, and identify evidence-based interventions tailored to specific sub-issues. Ongoing evaluation of intervention effectiveness and continuous monitoring of vaccine acceptance are essential. Vaccine hesitancy can stem from various interconnected factors, such as concerns about vaccine safety or challenges in accessing vaccination services. Campaigns should focus on enhancing access to vaccination services to alleviate safety concerns and improve acceptance.

SAGE's recommendations can be broadly categorized into three areas. Firstly, there is an urgent need to deepen our understanding of vaccine hesitancy, its root causes, and the evolving challenges it presents. Secondly, attention should be directed towards establishing organizational structures and capacities at international, national, and local levels to mitigate vaccine hesitancy and enhance acceptance. Lastly, there is a call to share insights and best practices from diverse countries and contexts, along with developing, validating, and implementing new tools to address vaccine hesitancy. SAGE has also outlined a list of research topics spanning various categories to further explore this emerging area (Eskolaa, Duclosb, Schusterb, MacDonald, & SAGE, 2015, p. 2).

Many experts advocate for a population-level approach in the battle against vaccine hesitancy. This involves enhancing transparency in the formulation of vaccination policies, ensuring the dissemination of current information to both the public and healthcare providers regarding the rigorous procedures preceding the introduction of new vaccines, and conducting thorough post-marketing surveillance of vaccine-related events.

Public health, particularly in health promotion, often addresses politically sensitive issues such as social inequalities and ecology. Effectively navigating these areas requires a concerted effort to demonstrate and, most importantly, reassure stakeholders that the intent is to influence policies without engaging in partisan politics. To facilitate the robust development and broader recognition of health promotion, strategies emphasizing knowledge transfer and sharing are essential, with a paramount focus on ensuring a quality-driven approach.

4.4.2. The ethical and ethical framework of the medical profession

One of the primary ethical responsibilities of physicians and all health professionals is to safeguard their patients. This commitment is embedded in medical ethics, which encompasses the standards governing the physician-patient relationship. Medical ethics encourages professionals to introspect on the values guiding their actions and to adopt the most appropriate behavior.

Given that all health professionals can now receive the Covid-19 vaccine, there exists an ethical imperative for universal immunization. Vaccination plays a crucial role in significantly reducing the transmission of the virus. In this context, the College of Physicians underscores the ethical obligation for physicians, who are yet to be vaccinated, to do so promptly. Throughout the ongoing health crisis, the dedication and sacrifices of doctors and healthcare providers have been instrumental in saving lives, alleviating suffering, and fulfilling their professional duties with unwavering commitment (CNOM, 2021).

Active participation by doctors in vaccination campaigns, whether in dedicated centers or within their practices, has been instrumental in granting people widespread access to vaccines, thus contributing to the accelerated progress of vaccination campaigns globally. Additionally, the significant uptake of vaccination among healthcare professionals serves as a compelling testament to their dedication and

underscores the collective urgency for everyone to embrace vaccination as a pivotal strategy for overcoming the ongoing epidemic.

The triumph of COVID-19 vaccination initiatives and the official launch of vaccines in the UK have intensified efforts directed towards efficient vaccine distribution and management.

Within an extensive online survey encompassing 32,361 adult participants in the UK, opinions on general vaccination, assessed through the VAX (Vaccination Attitudes Examination) scale, and the intent to procure the COVID-19 vaccine were scrutinized. The findings revealed that 16% of participants harbored a high level of distrust, reflecting an extremely negative attitude (scoring 5-6 on a scale of 1-6). On at least one of the four dimensions of reluctance, including concerns about vaccine safety (16.3%), a preference for natural immunity (6.6%), concerns about business profits (5.8%), and general skepticism about the benefits of vaccines (5.3%), more than one-third of participants expressed reluctance or doubt about the COVID-19 vaccine (Sonawane, Troisi, & Deshmukh, 2021, p. 1).

According to certain experts, mandating COVID-19 vaccination for health professionals and other exposed occupations might compromise autonomy and contribute to vaccine mistrust. Insights into this matter may emerge from observing the results of the 2022-2023 seasonal influenza vaccination campaign among health professionals (Gagneux-Brunon & Launay, 2022, p. 102).

Up to 20% of general practitioners may be influenced by vaccine reluctance among health professionals. Doctors, in particular, hold a high level of patient trust and serve as the primary point of contact for vaccinations. Besides contending with their own vaccine hesitancy, they also face the challenge of patients being exposed to misinformation, which may be challenging to counter. The Director-General of the World Health Organization has labeled the Covid-19 outbreak as an "infodemic" due to the proliferation of misinformation.

Health professionals also engage with social networks, but these platforms often function as echo chambers, with limited interaction between pro-vaccine and anti-vaccine communities. Despite being sources of misinformation, social media can be an effective tool in combating false information when actively utilized. Numerous studies on vaccines, including those for seasonal flu, papillomavirus, and Covid-19, have identified language components that can be persuasive (Malengraux & Lambert, 2021).

The critical health review must be underpinned by reliable information to enable informed decision-making, a process that can be compromised by the infodemic context accompanying the pandemic. Therefore, it is essential to attend to and support the population when they have questions about vaccination.

When healthcare providers lead by example and adhere to immunization recommendations, it strengthens the relationship between the clinician and the patient. Proposed strategies to address families' vaccine reluctance often focus on leveraging the close relationship between practitioners and their patients. Simultaneously, public health policies can be implemented to enhance vaccination rates. In some countries, school admission requirements serve as a notable example of policies that have significantly contributed to improved vaccination rates (Kestenbaum, MD, & Feemster, 2015, p. 74).

According to a recent American Academy of Arts and Sciences report, it will be more crucial to focus on how individuals make their vaccination decisions, how their attitudes and beliefs change, and where they get information. We can find the best communication tactics to inform and bargain with refractory parents by focusing on the medical examination.

5. CONCLUSION

In conclusion, this comprehensive exploration sheds light on the critical phenomenon of vaccine hesitancy, particularly in the context of the Covid-19

vaccination. Our analysis has delved into regions where vaccine hesitancy prevails, aiming to unravel the socio-cultural intricacies that shape decision-making. It is evident that vaccine reluctance is a complex puzzle with multifaceted determinants.

Addressing the resurgence of vaccine-preventable diseases demands a multidisciplinary strategy. The public health implications of vaccination underscore the urgency of effective interventions. Social marketing, employing personalized communication strategies through diverse channels, emerges as a key tool not only for disseminating information but also for understanding and mitigating factors contributing to vaccine hesitancy.

As we move forward, collaboration across various disciplines becomes paramount. This challenge extends beyond the realms of healthcare, involving cultural, societal, and communication facets. The game plan involves sustained efforts in articulating the significance of vaccinations for public health. The study advocates ongoing dialogues among healthcare professionals, community leaders, and the public to foster understanding and trust.

In essence, the study serves as a foundational step, emphasizing the need for continuous engagement, communication, and collaborative efforts. By nurturing open conversations, debunking misinformation, and fostering trust, we aspire to fortify global vaccination efforts and effectively combat vaccine hesitancy.

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