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Addressing vaccine hesitancy in the training of healthcare professionals: Insights from the VAX-TRUST project

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ABSTRACT

Background: Evidence suggests that healthcare professionals often feel uncomfortable discussing vaccination with patients, largely due to a lack of training on the topic. In line with the scientific evidence gathered from the VAX-TRUST project, it is crucial to invest in training healthcare professionals and developing political measures to effectively address vaccine hesitancy. This paper explores the importance of training healthcare professionals to address vaccine hesitancy and provides concrete strategies for its implementation.
Study design: A quantitative research design was used.
Methods: The findings are based on a comprehensive Delphi survey conducted with a panel of 112 experts. Additionally, the study involved practical interventions carried out across seven European countries, engaging a total of 694 participants. These participants included general practitioners (GPs), paediatricians, nurses, as well as medical and nursing students. This robust and diverse dataset provides a well-rounded perspective on the subject matter, ensuring that the insights gained are both extensive and representative of various healthcare professionals across Europe.
Results: Three key themes emerged from the findings: the need for effective strategies to address communication challenges with vaccine-hesitant individuals, the importance of using evidence-based communication practices to improve these interactions, and the necessity of integrating social scientific knowledge on vaccination into the training of healthcare professionals.
Conclusions: Training healthcare professionals is essential to equip them with skills and knowledge needed to deal with the complexities of vaccine hesitancy. Evidence was gathered on ways to reflect and act to develop this capacity, namely, by increasing the ability to communicate empathetically, responding to patients' concerns with evidence-based information, and to building stronger and more collaborative relationships with them.

What this study adds

- This study highlights the crucial need for training healthcare professionals to effectively address vaccine hesitancy.
- It reveals that participatory methods are particularly effective in enhancing the training of healthcare professionals.
- The study advocates for embracing a person-centred approach to healthcare delivery as a promising alternative.

Implications for policy and practice

- The study provides practical recommendations to improve the effectiveness of training healthcare professionals in addressing

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vaccine hesitancy. These recommendations emphasize the importance of adopting effective communication strategies, using evidence-based practices, and incorporating insights from social scientific research on vaccination into both academic and professional training.

1. Introduction

Vaccine hesitancy represents a persistent social phenomenon characterized by its high complexity and multifaceted nature [1]. In 2014, the World Health Organization defined vaccine hesitancy as a "delay in acceptance or refusal of vaccination despite availability of vaccination services" [2]. Currently, there is a growing consensus that vaccine hesitancy encompasses both practices and varying levels of reflexivity, leading to different motivations for adopting this stance. Additionally, the contextual nature of vaccine hesitancy is widely recognized, marked by significant variations over time, location, population, and specific vaccines [1].

Healthcare professionals, as key actors in the vaccination process, frequently face challenges to their expertise in daily practice [1]. Evidence suggests that healthcare professionals often feel uncomfortable when discussing vaccination with patients, largely due to a lack of training on the topic [3]. Therefore, in line with the scientific evidence gathered from the VAX-TRUST project, it is crucial to invest in the training of healthcare professionals. There is a notable lack of guidelines designed for these professionals to help them manage individuals hesitant about vaccination [4]. Since these professionals directly confront vaccine hesitancy, they must be equipped with effective strategies to encourage and promote vaccination among the populations they serve. This paper explores the importance of training healthcare professionals to address vaccine hesitancy and provides concrete strategies for its implementation.

2. Methods

The VAX-TRUST project aimed to develop recommendations to effectively support healthcare professionals for addressing vaccine hesitancy in Europe. The Delphi approach was used to reach consensus among European experts and stakeholders on the best recommendations. A final list of 21 recommendations was developed, reflecting the results of an extensive systematic literature review, a comprehensive review of grey literature, media coverage analysis, ethnographic studies, and evaluations from external experts and project consortium members. The Delphi survey was designed using the online survey tool Qualtrics®. Ethical clearance was obtained from the Instituto de Ciências Sociais, Universidade de Lisboa.

The Delphi Survey was applied to 112 experts, with replies collected in two rounds using a five-point Likert scale. Data analyses were conducted using SPSS®. An agreement threshold of 85 % was used in this survey. Additionally, a Principal Components Analysis was performed to explore associations between the different items based on panellists' ratings. The resulting ASTARE model - comprising Awareness, Support, Training, Agency, Recognition, and Engagement - represents a culmination of expert consensus across Europe. Unlike the other dimensions of the model, training emerged as a key dimension in all the countries of the consortium. In parallel with the development of the ASTARE model recommendations, educational sessions were designed, implemented, and externally evaluated in the seven countries of the consortium. These sessions were conducted either online or face-to-face, involving 694 healthcare professionals. The recommendations regarding training and the lessons learned from the educational sessions merged into three key themes, which will be presented in the following sections.

3. Results

3.1. Effective strategies to address communication challenges with vaccine-hesitant parents

The evidence collected indicates that one of the main barriers in the relationship between healthcare professionals and hesitant individuals is related to communication challenges. Observations and interviews reveal that individuals often feel unheard and do not always receive direct and clear answers to their concerns. A common issue associated with communication problems is the lack of information about the adverse effects of vaccines and guidelines on how to manage them to minimize pain and discomfort. These communication challenges are not merely about the transmission of information but also involve the emotional and relational aspects of interactions. Patients often seek reassurance, empathy, and a sense of partnership in decision-making from their healthcare providers. Healthcare professionals should be equipped to create a supportive environment where patients feel comfortable expressing their concerns and confident that their questions will be answered thoroughly and respectfully. When these elements are missing, it can exacerbate patients' concerns and reduce their confidence in the healthcare system.

Utilizing role play or theatrical dynamics can effectively raise awareness and train healthcare professionals to assess their practices and attitudes while embracing a more effective communication style. During the VAX-TRUST project, training sessions for healthcare professionals incorporated role-play dynamics. Participants re-enacted real-life vaccination consultation scenarios gathered from ethnographic studies. These sessions included simulations of both exemplary and problematic practices exhibited by healthcare professionals. Reflecting on these scenarios and the practical insights gained actively stimulated reflexivity and fostered a desire for change among the participants.

3.2. Evidence-based communication practices to improve interactions with vaccine-hesitant parents

Healthcare organizations should prioritize developing guidelines and examples of effective, evidence-based communication practices to improve interactions between healthcare professionals and vaccine-hesitant individuals. These guidelines should incorporate methodologies such as motivational interviewing (MI), which emphasizes empathy, active listening, and collaboration to address concerns and promote informed decision-making. This patient-centred technique facilitates the resolution of ambivalence by deeply understanding individuals' concerns, offering personalized information, and empowering them to make well-informed decisions. The collected evidence suggests that healthcare professionals can foster a supportive environment that encourages open dialogue and cultivates trust with patients through the adoption of the MI technique.

Healthcare professionals should actively engage in reflective listening to validate individuals' feelings and ask open-ended questions to uncover underlying concerns. For example, they might ask: *"From what I understand, you have some doubts about vaccine X. Could you share more about them?*". Clear, concise, and evidence-based information should then be provided in non-technical language, addressing the benefits of vaccination, the risks of vaccine-preventable diseases, and how to manage common side effects. A possible starting point for this dialogue could be: *"It seems your main concern about vaccine X is its potential side effects. Let's explore that together*". Effectively addressing myths and misinformation requires respectful communication strategies and guiding individuals toward reliable sources of information. To support healthcare professionals in this role, it is essential to provide real-world examples and case studies that demonstrate these principles in action. Resources like the Project VAX-TRUST website [https://vax-trust.eu/materials/] allow professionals to access practical tools to apply these strategies in their daily practice.

3.3. Strengthening social scientific knowledge on vaccination

By incorporating social scientific perspectives into their training, healthcare professionals can gain a comprehensive understanding of vaccine hesitancy and develop more effective strategies for promoting vaccination. This approach involves educating healthcare professionals about the various social determinants of health that impact vaccine uptake, including the effects of socioeconomic status, education, and access to healthcare on vaccination rates. As demonstrated, ethnographic studies are particularly valuable because they provide not only sociodemographic data but also insights into the social practices and interactions that characterize the daily lives of healthcare professionals and patients. These studies can help identify the cultural, behavioural, and attitudinal factors influencing vaccination decisions.

Equipping healthcare professionals with social science knowledge is essential to fostering more collaborative, patient-centred approaches to vaccination. This can be achieved through interdisciplinary collaboration with social scientists, who bring valuable perspectives and innovative strategies to address vaccine hesitancy. Practical application of social science principles can be facilitated using participatory methods such as World Café discussions or Role Play exercises. These approaches provide healthcare professionals with an interactive platform to engage with real-world scenarios and reflect on their practices. Within the framework of the VAX-TRUST project, these methods proved effective in creating dynamic and collaborative sessions where healthcare providers shared their experiences, perspectives, and challenges related to vaccine hesitancy. Through these exchanges, participants co-created practical strategies tailored to their needs, fostering a deeper understanding of patient concerns and developing actionable solutions (e.g., on how to overcome communication barriers). By incorporating such participatory approaches, healthcare professionals gain tools for reflexivity, enhancing their capacity to design interventions that are empathetic, evidence-based, and patient-focused. This process not only enriches their professional practices but also strengthens trust and communication between providers and patients, ultimately improving vaccination outcomes.

4. Discussion

A significant barrier highlighted in the literature is the lack of clear and tailored guidelines specifically designed for healthcare professionals to navigate and mitigate vaccine hesitancy [4]. Communication challenges during healthcare procedures, such as vaccination, significantly influence patient perceptions and behaviours. Therefore, the development of accessible and comprehensive guidelines is imperative, ensuring consistency across diverse specialties involved in vaccine discussions.

Our findings underscore the central role of training in enabling healthcare professionals to effectively address vaccine hesitancy. Providing healthcare professionals with the necessary skills and knowledge enhances their ability to communicate effectively with vaccine-hesitant individuals, address concerns and facilitate informed decision-making processes, ultimately fostering greater acceptance of vaccinations and improving public health outcomes.

Positioned as frontline responders and credible sources of vaccine-related information, healthcare professionals play a pivotal role in educating patients and dispelling myths. Vaccination decisions are influenced by cultural beliefs, social norms, misinformation, and trust in healthcare systems, highlighting the need to integrate this knowledge into healthcare professionals' education [2]. Practical application of social scientific insights through case studies, role-play scenarios, and community engagement initiatives empowers healthcare professionals to address vaccine hesitancy in real-world settings effectively.

By incorporating MI [5] into practice, healthcare professionals empower patients with reliable information, fostering informed decision-making and enhancing healthcare engagement. Active listening and empathy are fundamental in enriching the patient-provider relationship and promoting positive health outcomes [6]. When healthcare professionals take the time to actively listen and empathize with patients' anxieties or uncertainties, it builds trust and empowers patients in their healthcare decisions [7].

This approach fosters meaningful dialogues where patients feel heard and valued, leading to informed decision-making processes [8]. By incorporating MI into their practice, healthcare professionals can effectively address vaccine hesitancy by empowering patients to weigh the benefits and risks based on reliable information [9]. As a person-centred model, MI is effective in the long term, making it especially suitable to be applied to vaccine hesitant individuals, who are constantly reassessing their positions. However, it is important to note that MI is a contextual approach and may not be suitable for dealing with all patients, particularly those holding extreme positions. Additionally, while MI shows significant promise, further scientific validation is needed to fully establish its effectiveness across diverse healthcare settings [5].

The evolving evidence consistently advocates for a shift towards a more person-centred and holistic approach in healthcare [10]. The findings of the VAX-TRUST project reinforce this paradigm shift, highlighting the effectiveness of strategies that prioritize individual needs and employ participatory methods in healthcare provision.

Ethical statement

Ethical clearance was obtained from all participating organizations involved in the study. Written informed consent was obtained from all study participants.

Data availability statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

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Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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