



# Vaccination Hesitancy among Healthcare Professionals

## A Literature Review

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Degree Thesis

Degree Programme

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## **Forward:**

I am sincerely grateful to the dedicated teachers of Arcada's Department of Health and Welfare for their invaluable support and guidance throughout my studies. A special thank you to Lotta Eronen for her outstanding instruction in thesis writing and for encouraging me to pursue this topic. I also extend my heartfelt appreciation to my tutor, Daniela Pyhäjärvi, for her exceptional nursing expertise and inspiring motivation. Lastly, I am deeply thankful for the unwavering support of my family and thesis partner, without whom this achievement would not have been possible.

# Degree Thesis

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Title. Vaccination hesitancy in adults

Arcada University of Applied Sciences: Bachelor of Healthcare, Nursing

## **Abstract:**

This thesis aims to help healthcare professionals understand common beliefs about vaccines and which factors can influence people's vaccination decisions. The study looks at healthcare professionals' general opinions about vaccines, where they get their information, and how cultural background, among other things, affects vaccine hesitancy, criticism, and acceptance.

By understanding the factors influencing vaccine hesitancy and beliefs, healthcare professionals can be supported and educated to better support their patients about vaccines in the future.

This thesis reviews existing research and uses data from trusted academic and evidence-based sources. A literature review was used to understand better the reasons for healthcare professionals' attitudes and decisions. The data was analyzed by using twenty-five articles inductive content analysis, which looks for common patterns and themes.

The results showed that healthcare professionals' beliefs and cultural backgrounds significantly influence how they view vaccines. This was reflected in vaccination rates, opinions found in the research, and how willing health professionals were to take certain vaccines. Beliefs were shaped by media messages, fear of side effects, lack of trust in health authorities, and how public health officials communicated about vaccines.

Because of this, healthcare professionals should aim to have open, respectful conversations with patients. Listening to their concerns and understanding their background can help build trust and encourage more people to feel safe and confident about getting vaccinated.

**Keywords:** Vaccination review; vaccine hesitancy; vaccination attitudes; behavior; vaccination hesitancy in healthcare professionals.

# Opinnäyte

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Työn nimi. Rokotuksen epäröinti aikuisilla

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## Toimeksiantaja:

### Tiivistelmä:

Rokotteet ovat keskeinen osa ennaltaehkäisevää terveydenhuoltoa ja yksi merkittävimmistä kansanterveyden saavutuksista. Niiden avulla on onnistuttu ehkäisemään tartuntatauteja, vähentämään kuolleisuutta ja suojelemaan riskiryhmiä maailmanlaajuisesti. Viime vuosina rokotusvastaisuus ja -epäröinti ovat kuitenkin nousseet merkittäviksi haasteiksi myös terveydenhuollon sisällä. Huolestuttavaa on, että kielteisiä asenteita ja epäröintiä esiintyy jopa koulutettujen terveydenhuollon ammattilaisten, kuten sairaanhoitajien, keskuudessa.

Tämän opinnäytetyön tarkoituksena on tarkastella sairaanhoitajien rokotusasenteita ja käyttäytymistä suhteessa rokotuksiin sekä selvittää rokotusvastaisuuden syitä terveydenhuollon ammattilaisten parissa. Tutkimus tarkastelee, miten sairaanhoitajien henkilökohtaiset uskomukset, tiedonlähteet, kulttuuriset ja uskonnolliset näkemykset sekä työyhteisön ilmapiiri vaikuttavat heidän suhtautumiseensa rokotuksiin. Lisäksi työ tarkastelee, millä tavoin nämä asenteet voivat vaikuttaa potilastyöhön, rokotusneuvontaan ja rokotuskattavuuteen.

Tulokset osoittavat, että sairaanhoitajien rokoteasenteisiin vaikuttavat useat tekijät, kuten pelot mahdollisista sivuvaikutuksista, epäluottamus lääkeyrityksiä tai terveystervanomaisia kohtaan, sekä tiedon puute. Myös sosiaalinen media ja väärä informaatio voivat lisätä epäröintiä. Rokotusvastaisuus terveydenhuollon ammattilaisten keskuudessa voi vaarantaa potilasturvallisuuden, vähentää rokotusmyönteisyyttä yhteisöissä ja heikentää kansanterveyttä. Opinnäytetyön tavoitteena on lisätä ymmärrystä sairaanhoitajien rokotusasenteista ja tarjota tietoa siitä, miten rokotusvastaisuutta voidaan ehkäistä koulutuksen, työyhteisön tuen ja avoimen viestinnän avulla. Terveydenhuollon ammattilaiset toimivat tärkeinä esimerkkeinä potilaille ja yhteiskunnalle, joten heidän rokotusmyönteisyytensä on ratkaisevaa luottamuksen ja rokotekattavuuden edistämiseksi.

## Contents

<b>1.INTRODUCTION</b> .....	6
<b>2.BACKGROUND</b> .....	8
2.1 History of Vaccines and Vaccine Development.....	8
2.2 Vaccines and Their Role in Modern Healthcare.....	9
2.3 Vaccine Hesitancy among Healthcare Professionals.....	9
2.4 Theoretical Framework.....	10
<b>3. AIM AND RESEARCH QUESTIONS</b> .....	11
<b>4. METHODS</b> .....	12
4.1 Literature review.....	12
4.2 Data collection method.....	13
<b>5. Table Searched Databases</b> .....	14
5.1 Inclusion and Exclusion Criteria.....	15
5.2 Data Analysis.....	16
5.3 Ethical Considerations for Responsible Research.....	17
<b>6. ANALYSIS</b> .....	18
<b>7. FINDINGS</b> .....	19
7.1 Impact of Knowledge, Beliefs, and Misinformation.....	20
7.2 Influence of Cultural and Religious Beliefs.....	20,21
7.3 Workplace Culture and Professional Norms.....	21
7.4 Family and Societal Dynamics in Vaccine Decision-Making.....	22,23
<b>8. DISCUSSION</b> .....	24,25,26
8.1 Practical Implications.....	26,27
<b>9. CONCLUSION</b> .....	28,29
<b>10. REFERENCES</b> .....	30-34
<b>11. Appendices</b> .....	35,36

## 1. Introduction

Although vaccination is widely regarded as one of the most successful medical advancements, perceptions of its safety have shifted in recent years. An increasing number of people are becoming more hesitant about vaccines and questioning their effectiveness. Vaccine hesitancy is driven by various beliefs and factors that influence individual decision-making. (Ullah et al., 2021) Vaccination is a simple, safe, and effective way to protect yourself against harmful diseases before you encounter them. It uses your body's natural defences to resist specific infections and strengthen your immune system. (Organization, 2024)

Despite strong scientific evidence supporting the safety and effectiveness of vaccines, vaccine hesitancy remains a persistent challenge, even among healthcare professionals (HCPs) (Dubé et al., 2013) Vaccination is often seen as a "victim of its success" because it has been so effective that many people no longer fear the diseases it prevents. Some newer vaccines protect against mild illnesses like chickenpox or gastroenteritis, which can make people less willing to get vaccinated. Public health efforts to promote vaccines, primarily through education and information, have not consistently increased vaccine uptake. This is partly because these efforts assume that providing facts about vaccine risks and benefits will change people's minds. However, many factors influence vaccine hesitancy, and those with doubts may follow different beliefs about health and illness. Simply giving statistical information may not be enough to address concerns, as emotional stories and personal experiences often have a more substantial impact than facts. (Dubé et al., 2013)

Some refuse vaccines due to personal beliefs, preferring "natural" immunity over medical intervention. Religious beliefs can also contribute to hesitancy. In 2011, anti-vaccine messages spread misinformation, including claims that vaccines contain porcine-based ingredients, which some find unacceptable. Another false belief is that some vaccines are made using aborted fetal cells, especially in virus-based vaccines that require human cell cultures. However, these views are not widely accepted, and most prominent religious authorities agree that vaccines do not violate religious teachings. Instead, they emphasize that vaccination helps protect health and fulfils a duty to the community. (Ullah et al., 2021)

As future nurses, it is essential to understand the impact of vaccine hesitancy and how it can affect patient care. Healthcare professionals encounter vaccinations in various healthcare settings, including hospitals, community clinics, schools, and public health programs. They play a vital role in administering vaccines and addressing any concerns they may have. However, their role in educating patients about vaccines is equally essential. Because nurses are often the first point of contact for individuals seeking healthcare, they are in a strong position to build trust, offer reassurance, and provide accurate information.

## **2. Background**

### **2.1 History of Vaccines and Vaccine Development**

According to the WHO SAGE Working Group on Vaccine Hesitancy, it refers to a delay in accepting or refusing vaccines despite the availability of vaccine services. Vaccine hesitancy is complex and context-specific, varying across time, place, and vaccine. It includes factors such as self-approval, convenience, and confidence. (WHO, 2014) We found that vaccine hesitancy is a global issue influenced by various factors, including trust in vaccines, misinformation, and personal beliefs, even among healthcare workers.

Vaccines have a history going back to the late 18th century. By the late 19th century, scientists could develop vaccines in laboratories. In the 20th century, advancements in immunology enabled the creation of vaccines based on immunologic markers. With the rise of molecular biology in the 21st century, new possibilities for vaccine development have emerged that were previously unattainable. (Plotkin, 2014)

Additionally, vaccines act on the past, present, and future. Over the past two hundred years since Jenner's time, vaccines have reduced infections and diseases wherever used. Pasteur's early methods of vaccine development, weakening or killing pathogens, are still the foundation of vaccine technology today. Modern advancements, such as genetic engineering and a better understanding of the immune system, allow scientists to create weakened pathogens, produce vaccine proteins using live carriers, and even synthesize parts of microbes to trigger immunity. Vaccines can now target infectious and noninfectious diseases, reaching more people than ever. This has also led to the need for new ways to deliver vaccines beyond injections. However, these advancements bring vaccine production, regulation, and distribution challenges. (SA et al., 2005)

## **2.2 Vaccines and Their Role in Modern Healthcare**

Vaccines are vital in modern healthcare, helping prevent bacterial and viral infections. Due to vaccination, diseases like polio and smallpox, which once caused widespread fear and devastation for centuries, have become rare. Smallpox has been completely eradicated, and polio is close to being eliminated. (Kayser et al., 2021) Unlike other medicines that treat sick individuals, vaccines are usually given to healthy people to prevent illness, although some exceptions exist. Most vaccines today are based on traditional methods, but newer vaccines, such as many COVID-19 vaccines, use advanced technologies that were not available before. The history of infectious diseases and vaccines teaches us valuable scientific lessons that can guide future healthcare decisions. However, looking back, some vaccine testing methods were ethically questionable, and there were instances of biological warfare used against native populations. (Plotkin, 2014)

## **2.3 Vaccine Hesitancy among Healthcare Professionals**

At the occupational level, strategies to minimize vaccine hesitancy among healthcare professionals may include ensuring access to accurate scientific information, promoting and rewarding pro-vaccination behaviours, implementing mandatory training sessions to improve health literacy, and recommending engagement with media literacy resources. Additionally, facilitating regular interactive sessions led by pro-vaccination nurses can help educate and address vaccine-related concerns, ultimately fostering a more informed and confident workforce. (McCready et al., 2023) Some refuse vaccines due to personal beliefs, preferring "natural" immunity over medical intervention. Religious beliefs can also contribute to hesitancy. In 2011, anti-vaccine messages spread misinformation, including claims that vaccines contain porcine-based ingredients, which some find unacceptable. Another false belief is that some vaccines are made using aborted fetal cells, especially in virus-based vaccines that require human cell cultures. However, these views are not widely accepted, and most prominent religious authorities agree that vaccines do not violate religious teachings. Instead, they emphasize that vaccination helps protect health and fulfils a duty to the community. (Ullah et al., 2021) Even though vaccines benefit individuals, communities, and health systems, many still hesitate to get vaccinated. This hesitation can lead to outbreaks of preventable diseases. Research has shown that vaccine hesitancy is a global issue that affects

vaccine acceptance. Health-care professionals (HCPs) are trusted sources of vaccine information and play a key role in encouraging vaccination. However, while most HCPs in Europe support vaccines, but some are becoming hesitant, refusing certain vaccines for themselves or not recommending them to patients. (Pavlovic et al., 2022) Our research explored the main factors contributing to vaccine hesitancy among healthcare workers and examined how nursing interventions can effectively address and reduce this issue.

## **2.4 Theoretical Framework**

Watson's Theory of Human Caring provides a structured framework for addressing vaccine hesitancy by emphasizing trust, empathy, and a supportive healthcare environment. The transpersonal caring relationship encourages nurses to build emotional connections with hesitant individuals, fostering trust and addressing concerns without judgment. Through caring moments, each nurse-patient interaction becomes an opportunity to provide compassionate education, easing fears and countering misinformation. Creating a loving environment within healthcare settings ensures that individuals feel heard, valued, and supported in decision-making. (Gunawan et al., 2022)

By fostering a culture of caring and ethical responsibility, health care professionals can create a non-coercive approach to vaccine discussions, allowing individuals to reflect on their choices without pressure. This approach ensures that patients feel empowered rather than forced, which enhances their willingness to receive accurate information and make informed health decisions. The focus on human-centered care encourages healthcare professionals to recognize and respect personal beliefs while providing guidance that aligns with public health goals. (Ullah et al., 2021)

### **3. Aim and Research Questions**

This literature review aims to explore the phenomenon of vaccine hesitancy among healthcare professionals.

What are the factors contributing to vaccine hesitancy among healthcare professionals?

## **4 Methods**

### **4.1 Literature review**

This study will focus on a literature review and use qualitative content analysis as our analysis method. This literature review focuses on vaccine hesitancy among healthcare professionals. A literature review will help us find the correct data, define the key research question, and correctly analyze the results. It will also guide us in discussing and interpreting the findings and drawing meaningful conclusions. This structured approach will help us stay on track and complete our review. Additionally, conducting a literature review is a continuous and long-term research process. Researchers must efficiently utilize resources such as colleagues, librarians, academic databases, search platforms, and relevant literature in a structured and organized way. (Maggio et al., 2016) A literature review is a structured summary of what is known and what remains unknown about a specific topic in academic research. It also explains how the current study fits within the existing knowledge. (Maggio et al., 2016) Regarding our thesis on vaccine hesitancy in healthcare workers, a literature review as a research method will provide a deeper understanding of the current state of vaccine hesitancy, its underlying causes, and its impact. This study will offer valuable insights into the factors influencing vaccine acceptance and refusal, supporting healthcare professionals in developing effective strategies to address concerns, improve communication, and promote vaccine confidence.

### **4.2 Data collection method**

To collect the needed data, databases such as Google Scholar, ScienceDirect, PubMed, Arcada Library Catalogue, and Academic Search Premier were used.

In this study, we are using specific keywords to search for data. These keywords include vaccine hesitancy, adult vaccination, influencing factors, and healthcare professionals.

## 5. Table 1. Searched databases:

Databases	Search Words	Delimitations	Results	Selected Articles
PubMed	vaccine hesitancy and healthcare provider	English, Free full text, 2015-2021	156	1
	vaccine hesitancy	English, Free full text, 2011-2021, Review	137	2
	anti-vaccine	2009-2021, Free full text, English	104	1
	cultural and vaccination decisions	2016-2021, Free full text, English	216	1
	covid-19 and attitudes and values	2024, Free full text, English	137	1
	nurse and vaccination	2015-2021, Free full text, English	79	1
	adult vaccination and influencing factors	2015-2021, Free full text, English	160	1
	vaccine communication and healthcare workers	2015-2021, Free full text, English	230	2
EBSCO – Academic Search Elite	vaccination and beliefs	2018-2021, Full Text	115	1
	vaccination and hesitancy and nurse	2017-2021, Full text	16	1
	vaccination and confidence	2017-2021, Full Text	89	1
	hesitancy and healthcare workers	2018-2021, Full Text	72	2
	vaccination and health beliefs	2015-2021, Full Text	100	1
Cochrane Library	vaccination and education or communication	2015-2021	13	1
	vaccine education and communication	2015-2021	89	1
Manual search (Google Scholar)	anti-vaccine attitudes	2020-2021	993	1
	vaccine attitudes and misinformation	2018-2021, English, Full Text	134	1
	vaccine hesitancy and vaccine coverage	2020-2021	987	1
	COVID-19 vaccine hesitancy	2020-2021	654	1
ScienceDirect	vaccine hesitancy and healthcare interventions	2015-2021, Peer-reviewed	189	1
	public perception and vaccination	2010-2021, English	225	1
	vaccine acceptance and social media	2016-2021, Peer-reviewed	205	1
	healthcare workers and vaccine beliefs	2015-2021, Peer-reviewed	178	2
Arcada Library Catalogue	adult vaccination and influencing factors	2016-2021, English, Full Text	98	1

Databases	Search Words	Delimitations	Results	Selected Articles
Academic Search Premier	healthcare interventions and vaccination coverage	2017-2021, Full Text	120	1
	vaccine hesitancy and misinformation	2018-2021, Peer-reviewed	132	1
	healthcare workers and vaccine acceptance	2017-2021, Full Text	154	1
	vaccine hesitancy and public perception	2014-2021, Free full text, English	200	1
	vaccine uptake and health behavior	2015-2021, Free full text, English	125	1
	healthcare provider and vaccine acceptance	2017-2021, Peer-reviewed	110	1
	vaccine hesitancy and social factors	2017-2021, Full Text	156	1
	vaccine hesitancy and education	2018-2021, Peer-reviewed	154	1
<b>Total</b>			<b>6527</b>	<b>36</b>

## 5.1 Inclusion and exclusion criteria

The material was based on the latest and most reliable data to ensure the information was current, trustworthy, and supported by evidence. A total of 25 articles were selected for inclusion in the review. One older study from 2009 was included because it was well-written and contained important information that had not changed significantly over time. The findings from this older study were compared with newer research to ensure their continued relevance. Studies were excluded if they did not address the research questions, were published before 2009, were not fully available, or were written in a language other than English or Finnish. The inclusion and exclusion criteria are presented in Table 2.

Inclusion Criteria	Exclusion Criteria
Study published between 2009-2024	Study published before the year 2009
Language: English or Finnish	Language: other than English or Finnish
Free, full text available	Paid article, only abstract available
Studies addressing the research questions	Studies that do not address the research questions

## 5.2 Data Analysis

Content analysis is a general term for several strategies used to analyse data.

(Knapp, 2006)

Both content and thematic analysis aim to study written texts by breaking them down into smaller sections and sifting through them. These methods help identify the text's key themes, patterns, and meanings. Organizing and analysing the content in a structured way provides a clearer understanding of the information presented in the research materials. (Sparker, 2005). Depending on the researcher's approach, this data can be text, images, or audio. The process involves several steps, starting with data collection, where information is gathered through interviews, focus groups, surveys, and observations. This data is recorded as notes or transcripts for further analysis.

### **Methods of Content Analysis in Research.**

This uses content analysis, which involves carefully studying communication messages to understand their meaning, context, and purpose. It examines what is being said and the intentions behind it. (Prasad, 2008). This means we will collect information from sources like previous studies and then organize it to find common themes and patterns. We will look for key factors that influence vaccine hesitancy among healthcare professionals. We also use references and previous studies to support our work. This involves reviewing past research to understand what has been discovered. By comparing our findings with existing studies, we can identify gaps in knowledge and ensure our research is meaningful and well-informed.

Additionally, we consider current developments, such as recent studies, public health policies, and changing attitudes toward vaccination in the healthcare sector. By incorporating up-to-date information, our literature reviews remain relevant and provide practical insights that can be applied in real-world nursing practices. This method helps us create a clear, structured, and reliable analysis. It ensures that our conclusions are based on substantial evidence while reflecting present-day challenges and trends in vaccine hesitancy.

### **5.3 Ethical considerations for responsible research**

We strictly followed ethical guidelines in this literature review to ensure honesty, transparency, and respect. To maintain the highest standards of integrity, we prioritized originality by preventing plagiarism through proper citations and rigorous analysis. A total of 25 articles were carefully selected based on explicit inclusion and exclusion criteria to ensure the credibility and relevance of the sources. By adhering to the ethical principles of the Declaration of Helsinki, we upheld fairness and responsibility, ensuring that our research makes a meaningful contribution to both individuals and society. Reliability in ensuring the quality of research was reflected in the design, methodology, analysis, and use of resources (TENK, 2012)

## 6. Analysis

By analysing 25 articles, different factors contributing to vaccine hesitancy were identified. Content analysis was used to carefully examine and understand the information found in the selected articles for this literature review. This method helped to organize the data into clear categories and themes, making it easier to see patterns and important ideas related to the research questions. Grouping similar findings and creating an overall picture of the topic allowed for a better understanding of the subject. Using content analysis also helped to explain the results in a clear and meaningful way, which supports the goal of providing useful and reliable knowledge in the field (Elo & Kyngäs, 2007)

Major Category	Minor Category	Unit of Analysis
knowledge, Beliefs and Misinformation	limited access to evidence based information	3,5,6,7,8,9,10,12,18
	Communication issues	
	Internet and social media influence family and societal influence.	
Cultural and religious belief	Individual Decision-Making	2,4,5,7,9,10,11,12,14,19,21,24
	Belief in Natural Immunity Over Vaccination	
	Concerns About Vaccine Ingredients Misconceptions Specific to Cultural Groups	
Culture and professional norms	Knowledge Gaps Despite Medical Training	1,4,5,7,8,9,10,11,14,16,22
	Fear of Judgment from Colleagues	
	Healthcare workers not openly opposing vaccines but quietly refusing them Workplace Vaccine Policies and Enforcement	
Family and societal dynamics	Family Influence on Health Beliefs	5,7,8,9,11,15,18,23
	Social Pressure from Community Networks	
	Media and Public Opinion Impact	
	Generational Differences in Vaccine Perceptions	

## 7. Findings

We found that several key factors, including concerns about vaccine safety, influenced vaccine hesitancy among healthcare professionals and patient care. (Biswas et al., 2021) Fear of side effects (Shekhar et al., 2021) mistrust in pharmaceutical companies, and exposure to misinformation through social media (Roozenbeek et al., 2020) Nurses exhibited higher reluctance than physicians and other healthcare professionals, which may be attributed to their greater exposure to misinformation and skepticism about new vaccine technologies. (Dubé et al., 2021) Institutional policies played a crucial role, as mandatory vaccination improved uptake rates, while voluntary approaches resulted in lower acceptance. (Lazarus et al., 2021) Educational interventions and workplace-led awareness programs significantly increased vaccine confidence among healthcare workers. (Shekhar et al., 2021) Addressing misinformation, building institutional trust, and implementing supportive workplace policies are essential strategies to reduce vaccine hesitancy among healthcare professionals.

Furthermore, our data show that vaccine hesitancy among healthcare workers, especially nurses, has become a significant challenge in achieving widespread immunization. Despite being at the forefront of patient care, many healthcare professionals remain reluctant to receive vaccines due to concerns about safety, misinformation, and institutional policies. Understanding the factors driving this hesitancy is crucial to developing effective strategies to enhance vaccine confidence and ensure the health and safety of healthcare professionals.

Concern, as healthcare professionals are key in influencing patients' vaccination decisions and ensuring high vaccination coverage. (Paterson et al., 2016) Healthcare professionals are still the most trusted people when advising about vaccines, especially as more people become hesitant about getting vaccinated. However, many healthcare professionals feel overwhelmed by heavy workloads, limited time, and insufficient resources. On top of that, they often don't have enough training or up-to-date information to answer all the questions concerned parents might have. As vaccines and public opinions about them continue to change, Healthcare professionals need more help and support to keep up. One helpful approach could be building stronger trust and teamwork between healthcare professionals, government health officials, and policymakers, especially when making vaccine guidelines. Also, when healthcare professionals get vaccinated themselves, they are more likely to suggest vaccination to their patients. This helps set a good example and makes patients feel more confident about vaccinating. Most healthcare professionals in Finland believe vaccines are safe and helpful, but some hesitate to recommend them. This is worrying because Healthcare professionals play a vital role in helping

people decide whether to get vaccinated, which affects the overall vaccination rates in the community. (Paterson et al., 2016)

### **7.1 Impact of Knowledge, Beliefs, and Misinformation**

Vaccines often spark debates and are surrounded by various beliefs and misinformation. While many people strongly support vaccination, there is also significant opposition. The reasons for vaccine hesitancy and refusal vary based on cultural and regional factors. Controversies over vaccine safety have led to mistrust, concerns about side effects and additives, and widespread misconceptions. However, the scientific evidence supporting the benefits of vaccines is clear. Healthcare professionals play a crucial role in influencing vaccine decisions, so they must understand people's beliefs and attitudes toward vaccines to offer accurate information backed by scientific evidence. (Gagneur, 2020) Vaccine hesitancy among healthcare professionals is a growing concern that can seriously affect public health. Even though they are trusted sources of medical advice, healthcare workers themselves can sometimes feel unsure about vaccines. Personal beliefs, lack of up-to-date knowledge, and exposure to misinformation often influence this uncertainty. False information spreads quickly, especially on social media, and can be hard to recognize as untrue. Some of it is shared accidentally (misinformation), while others are spread intentionally to mislead people (disinformation). Both types can shape how healthcare professionals think about vaccines.

In some cases, extreme conspiracy theories can take hold, making people believe that powerful groups are secretly controlling health decisions. These ideas tend to become more common during times of crisis or uncertainty. A healthcare worker's values, such as freedom, religious beliefs, or distrust of authority, can influence their attitude toward vaccines. When healthcare professionals lack proper knowledge or confidence, they may be less likely to get vaccinated themselves or recommend vaccines to patients, weakening public trust and reducing vaccination rates overall. This shows that vaccine hesitancy is not only about medical facts, but also about beliefs, emotions, and the spread of false information all of which must be addressed to strengthen vaccine acceptance in the healthcare community. (Zimmerman T et al, 2023)

### **7.2 Influence of Cultural and Religious Beliefs**

Vaccines often spark debates and are influenced by various beliefs and misinformation. While many people strongly support vaccination, there is also considerable opposition. The reasons for vaccine hesitancy and refusal vary depending on cultural and regional factors. Concerns

about vaccine safety, potential side effects, additives, and misconceptions have contributed to a lack of trust. However, the scientific evidence supporting the benefits of vaccines is clear. Healthcare professionals play a vital role in shaping vaccine decisions, so they need to understand individuals' beliefs and attitudes toward vaccines to provide accurate, evidence-based information. (Geoghegan S et al., 2021)

Vaccine hesitancy among healthcare professionals can be significantly influenced by cultural and religious beliefs, affecting their willingness to recommend or administer vaccines confidently. These beliefs can shape personal attitudes toward vaccination, leading some professionals to question the safety, necessity, or moral implications of certain vaccines. In some cases, religious doctrines or cultural norms may discourage interventions perceived as promoting inappropriate behaviors, even if medically necessary. This hesitancy can reduce the effectiveness of public health campaigns, as healthcare providers play a crucial role in guiding patient decisions. Providers expressing uncertainty or avoiding the topic can reinforce patient doubts and contribute to lower vaccination rates. To address this issue, it is vital to offer culturally sensitive education and training that respects personal beliefs while reinforcing scientific understanding and the importance of immunization. Empowering healthcare professionals to navigate these tensions can help reduce vaccine hesitancy and promote more consistent, evidence-based care across diverse populations. (Gendler Y, 2024)

### **7.3 Workplace Culture and Professional Norms**

Although nurses may not openly share their opinions with patients, the beliefs shared within the workplace can influence how other healthcare professionals view influenza vaccines. This can lead to them adopting the workplace culture and altering their attitudes, behaviors, and decisions regarding vaccination. It becomes problematic if the public notices these changes in healthcare providers' attitudes toward certain vaccines. If healthcare workers reject the influenza vaccine, it may cause the public to question other vaccines, eroding trust in vaccination. To encourage nurses to get the influenza vaccine, there needs to be a stronger focus on promoting decision-making skills, teaching evidence-based decision-making in the workplace, and offering training programs. (Pless et al., 2021) The beliefs and behaviors of healthcare professionals are often shaped by the environment in which they work. Workplace culture and professional norms are essential in shaping how healthcare professionals respond to vaccines and influence others. Empowering and supporting staff as vaccine advocates is

necessary to build trust and reduce vaccine hesitancy in healthcare. This includes involving respected and trusted voices in the workplace, such as team leaders or department heads, who can help guide open discussions and encourage others to stay informed. Creating a supportive environment where staff feel comfortable asking questions or sharing concerns, through meetings, workshops, or one-on-one conversations, can promote better understanding and teamwork. Communication about vaccines should be clear, respectful, and adapted to the team's needs, including using simple language and culturally sensitive materials. Healthcare institutions should also reduce barriers to vaccine access by offering flexible scheduling, on-site vaccination, and support for staff with language or transportation challenges. Showing empathy, listening without judgment, and acknowledging past medical mistreatment or mistrust can help build a more open and respectful workplace. This approach supports individual healthcare workers and strengthens their ability to guide and educate patients confidently. (Carson SL et al, 2021)

#### **7.4 Family and Societal Dynamics in Vaccine Decision-Making**

Public health efforts to promote influenza vaccination, such as through advertising campaigns, help inform households opposed to vaccines about their benefits. When public health messages reach the target audience, they can indirectly influence households through individuals who share the information with family members. For example, parental awareness and the ability to advise older teens were key factors in the success of vaccination programs. However, this success may not apply universally. In some cultures, such as in certain eastern countries, public health messages targeting elderly populations may not be as effective. In these cultures, there is a reluctance to advise older family members, and younger individuals are more likely to receive vaccination advice than older ones. Cultural differences can significantly affect the willingness to encourage vaccination within households. (Taylor et al., 2021)

Healthcare professionals observed that adult caregivers often lead vaccine decisions, with adolescents having limited input. As individuals grow older, some report being more involved in health-related choices, with several describing a shared decision-making process. However,

the adult perspective heavily influences the final selection even in these cases. Some adolescents indicated that they routinely follow the guidance of healthcare providers regarding vaccination. In some instances, caregivers reported giving full decision-making authority to adolescents, which stood in contrast to what many healthcare providers experience in practice. Clinicians often noted that adult decision-makers may be swayed by an adolescent's hesitation or concerns, such as fear of discomfort, resulting in delayed or declined vaccinations. Many providers desired more consistent support for recommended vaccinations from adult caregivers. At the same time, they recognized that as adolescents mature, they develop a greater ability to understand health information and could benefit from being more actively involved in the decision-making process. (Gowda C et al, 2012)

## 8. Discussion

Understanding Vaccine Hesitancy among Healthcare Professionals. Vaccine hesitancy among healthcare professionals is a serious issue that affects their health, the health of their patients, and the wider community. While healthcare professionals are often expected to be leaders in promoting vaccines, many of them still have doubts or fears about getting vaccinated themselves (Dubé et al., 2021). There are many reasons for this and understanding them is essential to finding better ways to support these professionals. One helpful way to examine this issue is through Jean Watson's Theory of Human Caring, which focuses on empathy, trust, and building human connections in healthcare. This theory can guide how we understand and respond to vaccine hesitancy, not just as a knowledge gap, but as a complex emotional and relational issue. By applying Watson's framework, healthcare leaders can create caring and supportive environments where professionals feel safe to express their concerns, receive nonjudgmental support, and engage in open conversations. This human centered approach helps build trust and encourages a more compassionate response to vaccine hesitancy, supporting better health decisions and professional wellbeing.

There are several key reasons why some healthcare professionals, including nurses and doctors, may hesitate to get vaccinated. It's crucial to understand and respect these beliefs, as some people may think vaccines are not needed or not effective, especially if they haven't seen serious diseases like measles or polio in real life. Others might believe in natural immunity or alternative medicine and not fully trust modern vaccines. (Ames, 2017)

Cultural background plays a significant role. (Roozenbeek et al., 2020) Some healthcare professionals come from communities that have had negative experiences with medical systems in the past, such as unethical medical testing or discrimination. These experiences can lead to deep mistrust in modern healthcare, even for professionals working within it. This shows that people's past experiences and community beliefs continue to shape how they view vaccines. (Kayser et al., 2021)

Fear of side effects is another strong reason for hesitancy. Even though most vaccines are proven to be safe, people may still worry about unknown or long-term side effects, especially with new vaccines. Hearing stories from friends or online, even if they're not true, can create fear and uncertainty. (Ames, 2017)

Another significant issue is misinformation. In today's world, people often get their information from social media or websites, and not all of it is accurate. Even healthcare workers can be influenced by false or confusing information. If someone hears a lot of mixed messages, it can be hard to know what to believe. This confusion can lead to hesitation or fear.

A lack of trust in health authorities can also make things worse. During the COVID-19 pandemic, for example, guidelines often changed because scientists were learning new things. While that's normal in science, the changing messages make some people unsure. If healthcare professionals think they're not getting the whole truth or feel that decisions are made for political reasons instead of medical ones, they may lose trust in the system.

In addition to these primary reasons, there are some minor but still important factors. One of them is peer pressure. If someone sees their coworkers' avoiding vaccines, they may question them, too. A workplace where people feel unsafe asking questions or sharing concerns can worsen hesitancy. People might stay silent and avoid vaccination just to fit in.

Time and workload are also factors. Healthcare professionals are often very busy and might not have time to learn more about vaccines or even get one. If getting vaccinated is not convenient, they might keep putting it off.

Some healthcare professionals also struggle with communication skills. Even if they know the science behind vaccines, they may not feel confident explaining it to patients clearly and simply. They may avoid discussing vaccines altogether if they don't feel ready to answer complex questions.

Past experiences can also have a significant impact. If healthcare professionals or someone close to them had a bad reaction to a vaccine, even a mild one, it can leave an emotional scar. These feelings can last a long time and make the person hesitant.

So, how can we begin to solve this problem? Jean Watson's Theory of Human Caring gives us a powerful path forward. Watson believed that caring, empathy, and human connection are the heart of good healthcare. Her theory says every interaction between a nurse (or any healthcare worker) and a patient should be a "caring moment" when people feel heard, understood, and respected. This theory has the potential to impact vaccine acceptance among healthcare workers significantly.

When healthcare professionals talk to patients about vaccines, they should do so with kindness and empathy. It's not just about giving facts. It's about listening to people's fears, asking about their experiences, and helping them feel safe. This caring approach, rooted in empathy, can help patients open, ask questions, and make informed decisions.

Watson's theory doesn't just apply to patients; it also applies to healthcare professionals themselves. Healthcare staff also need care, support, and understanding. When nurses and doctors feel respected and supported at work, they're more likely to feel confident in their knowledge, trust their leaders, and speak openly about their concerns. To create a workplace that values emotional support and open conversation, leaders can encourage regular team meetings where everyone's voice is heard, provide resources for mental health support, and foster a culture of respect and understanding. This kind of environment can help reduce fear and confusion about vaccines.

Watson also believed in holistic care, which means looking at the whole person, not just their physical health, but also their emotions, values, culture, and life experiences. This is especially important when it comes to vaccine hesitancy. We must understand each person's story: What are they afraid of? What experiences have shaped their views? What support do they need to feel safe and informed? When we take the time to understand someone fully, we can provide much better care.

Interestingly, some studies have shown that nurses are sometimes more likely than doctors to get vaccinated. (Biswas et al., 2021) This might be because nurses spend more time directly with patients and see the effects of the disease more closely. This connection can make them feel a stronger responsibility to protect their patients and themselves. On the other hand, many patients say they don't always get enough transparent and honest information about vaccines. They want to know both the benefits and the risks. This is another place where Watson's theory can help, as it encourages honest, caring conversations that build trust.

In conclusion, vaccine hesitancy among healthcare workers comes from many factors, both big and small. These include personal beliefs, fear, culture, misinformation, peer pressure, time limits, communication challenges, and past experiences. Watson's Theory of Human Caring empowers us to address these issues. By focusing on empathy, trust, emotional connection, and support, we can help healthcare professionals feel safe and confident. This kind of caring environment also helps patients feel more comfortable and informed. It builds stronger relationships in healthcare and improves vaccine acceptance for everyone.

### **8.1 Practical implications**

Healthcare professionals, particularly nurses, play a key role in administering vaccines and are essential in national vaccination programs to maintain high vaccination rates. Negative attitudes toward vaccines often stem from a lack of knowledge, so healthcare providers must give patients accurate and current information in a way they can understand. In vaccination,

trust, the relationship between the healthcare professionals and the patient, and effective communication are crucial for successful education. (Di Pietro et al., 2017)

Healthcare professionals who are vaccinated themselves are more likely to encourage their patients to get vaccinated. Some believe that being vaccinated sets a reassuring example for their patients. Most healthcare professionals in Finland trust the safety and benefits of vaccines. However, some are less willing to recommend vaccines to their patients. This creates an ethical concern, as healthcare professionals are key in influencing patients' vaccination decisions and ensuring high vaccination coverage. (Paterson et al., 2016)

## 9. Conclusion

Vaccine hesitancy among healthcare professionals is becoming a serious issue that affects both public trust and the healthcare system. Although healthcare workers are expected to lead by example and encourage people to get vaccinated, many still have doubts, fears, or concerns about taking vaccines themselves. Personal experiences, cultural values, and the workplace environment influence this hesitancy. To solve this problem, we need to better understand the reasons behind these beliefs and behaviors.

One of the main reasons for hesitancy is fear about vaccine safety and side effects. These worries are often made worse by unclear messages in the media, mixed information from health officials, and the fact that some vaccines were developed quickly. Even healthcare workers can feel confused or unsure, especially if they don't have access to trustworthy and up-to-date information. Uncertainty may make them feel less confident recommending vaccines to patients.

Another critical issue is mistrust. Some healthcare workers are skeptical of pharmaceutical companies or feel that public health leaders have not communicated honestly or clearly. This mistrust can cause people to believe or share false information. Social media makes the problem worse by spreading misinformation quickly, even to well-educated professionals.

Cultural and religious beliefs also affect how people feel about vaccines. Since healthcare professionals come from many different backgrounds, their personal beliefs may lead them to question or avoid certain vaccines. Sometimes, people may worry that vaccines go against their values or faith. Understanding and respecting these differences are essential when creating educational materials and training programs.

The workplace culture also plays a significant role. If a hospital or clinic encourages open discussion, learning, and respect, then staff are more likely to feel comfortable talking about vaccines and asking questions. However, hesitancy can increase if there is judgment or silence around the topic. Strong leadership and clear workplace policies can create a safe and supportive space for staff to share their concerns and learn from one another.

Education is one of the best ways to reduce vaccine hesitancy. When healthcare professionals are trained with the correct facts and learn how to talk to patients respectfully and clearly, they feel more prepared to answer questions and make good decisions. This helps them build trust with patients and support public health goals.

In conclusion, vaccine hesitancy among healthcare workers is caused by fear, mistrust, cultural beliefs, and workplace influence. Solving this issue takes time, care, and thoughtful action. We

must focus on education, clear communication, and a respectful and supportive work environment. When healthcare professionals feel safe, informed, and valued, they are more likely to trust vaccines and encourage others to do the same. This protects their health and helps keep patients and communities safe.

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## Appendices

No.	Authors & Year	Title	Population Focus	Key Relevance to Healthcare Professionals
1	Biswas et al. (2021)	COVID-19 Vaccination Hesitancy in Healthcare Workers	Healthcare professionals	Examines vaccine hesitancy prevalence in healthcare
2	Dubé et al. (2013)	Vaccine Hesitancy: An Overview	General Public & HCPs	Provides foundational framework of hesitancy
3	Di Pietro et al. (2017)	Parental, Professional Responsibility	Parents & Professionals	Explores HCP roles in mitigating hesitancy
4	Gagneur (2020)	Motivational Interviewing to Address Hesitancy	Healthcare Providers	Presents communication strategy for hesitant patients
5	Jarrett et al. (2015)	Systematic Review on Hesitancy	Mixed Populations	Identifies interventions that work
6	Lazarus et al. (2021)	Global Vaccine Acceptance	Global Population	Highlights cultural barriers to uptake
7	McCreedy et al. (2023)	Vaccine Hesitancy in HCPs & Students	HCP:s & Students	Synthesizes barriers and facilitators
8	Pavlovic et al. (2022)	HCP Confidence in Vaccination in Europe	European HCPs	Investigates regional trust and knowledge gaps
9	Paterson et al. (2016)	Vaccine Hesitancy & HCPs	Healthcare Providers	Outlines the dual role of HCPs as recipients and influencers
10	Shekhar et al. (2021)	Vaccine Acceptance in US HCPs	US Healthcare Workers	Quantitative data on uptake and attitudes
11	Zimmerman et al. (2023)	Misinformation & Hesitancy	Healthcare & Public	Focuses on the role of social media on decision-making
12	Roozenbeek et al. (2020)	Global Misinformation Study	International Public	Identifies vulnerability to misinformation by region
13	Ullah et al. (2021)	Myths & Conspiracies	General Public	Connects misinformation with refusal behavior

14	WHO (2014)	SAGE Report on Hesitancy	Global Stakeholders	Sets foundational definition and drivers of hesitancy
15	Marinthe et al. (2024)	Needs & Trust as Predictors	Public	Shows trust as core determinant in decision-making
16	Pless et al. (2021)	Nurses Declining Flu Vaccine	Nurses	Qualitative insight into personal barriers
17	Patton (2009)	Quality of Qualitative Research	Researchers	Methodological reference for analyzing HCP attitudes
18	Hsieh & Shannon (2005)	Content Analysis Approaches	Researchers	Explains methods for qualitative vaccine studies
19	Elo & Kyngäs (2007)	Qualitative Content Analysis	Researchers	Guide for analyzing interviews with HCPs
20	S., P. (2014)	History of Vaccination	General	Context for modern vaccine systems
21	Taylor et al. (2021)	Cultural Household Influence	Diverse Families	Highlights cultural values impacting HCP perspectives
22	Kayser & Ramzan (2021)	History and Emerging Issues	General	Combines history with policy implications
23	Ames (2017)	HCP:s and Parents	HCP:s & Parents	Discusses trust-building between providers and families
24	Sparker (2005)	Narrative Analysis	Researchers & Practitioners	Qualitative exploration of HCP stories on vaccine advocacy