

**UNDERSTANDING
MOTHERS' VIEWS ON
COVID-19
VACCINATION FOR
ADOLESCENTS IN
BHUBANESWAR**



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Dr. Shuvasree Jena

CONTENTS

CHAPTER	CONTENTS	PAGE NUMBER
1	Introduction to COVID-19 and Vaccination	6
2	The Role of Mothers in Health Decisions	10
3	Overview of COVID-19 Vaccines	16
4	Understanding Bhubaneswar: A Cultural Perspective	22
5	Research Methodology and Approach	27
6	Mothers' Knowledge about COVID-19 Vaccines	30
7	Attitudes Toward Vaccination for Adolescents	33
8	Common Concerns and Misconceptions	37
9	Recommendations for Improving Vaccine Uptake	39
10	Conclusion: The Importance of Mothers' Perspectives	41
11	References and Further Reading	43

PREFACE

Dear Readers,

It is with great pleasure that we present to you this book titled "Understanding Mothers' Views on COVID-19 Vaccination for Adolescents in Bhubaneswar". This work delves into the essential perspectives of mothers regarding the vaccination of adolescents amidst the ongoing COVID-19 pandemic, a subject of immense importance in our current landscape.

As the authors, we have committed ourselves to conducting thorough research that captures the thoughts, concerns, and motivations of mothers in Bhubaneswar. Our goal is to shed light on the various factors that influence their views on vaccination, ultimately contributing to a better understanding of public health dynamics in our community.

We trust that this book will serve as a valuable resource for researchers, healthcare professionals, and policymakers, offering insights that can enhance our collective efforts to promote adolescent vaccination and public health awareness during these challenging times.

Warm regards,

Dr. Shuvasree Jena

3rd March, 2025

Chapter 1

Introduction to COVID-19 and Vaccination

Overview of the COVID-19 pandemic

The COVID-19 pandemic, caused by the novel coronavirus SARS-CoV-2, emerged in late 2019 and rapidly spread across the globe, leading to significant public health challenges. The virus primarily spreads through respiratory droplets when an infected person coughs, sneezes, or talks, making it highly contagious.

As the pandemic unfolded, countries implemented various measures to curb the spread, including lockdowns, social distancing, and mask mandates. The impact of COVID-19 has been profound, affecting not only health but also economies, education, and mental well-being. Vaccination became an essential tool in controlling the pandemic. Multiple vaccines were developed and authorized for emergency use in record time, providing hope for returning to normalcy. Vaccines work by training the immune system to recognize and fight the virus, reducing the risk of severe illness and transmission.

In particular, vaccination for adolescents has gained attention, as this age group can also be vectors for the virus and face risks of complications. Understanding the perspectives of mothers regarding the vaccination of their children is essential, as they play a key role in health decisions for their families.

Importance of vaccination in controlling the virus

Vaccination plays an essential role in controlling the spread of the COVID-19 virus and mitigating its impact on public health. Here are some key points highlighting its importance:

- 1. Prevention of Severe Illness:** Vaccines are designed to prepare the immune system to recognize and combat the virus. By doing so, they significantly reduce the risk of severe illness, hospitalization, and death among vaccinated individuals.
- 2. Reduction of Transmission:** Vaccination not only protects individuals but also helps reduce the overall transmission of the virus within communities. When a large proportion of the population is vaccinated, it creates herd immunity, making it harder for the virus to spread.
- 3. Protection of Vulnerable Populations:** Many individuals, such as the elderly and those with underlying health conditions, are at higher risk for severe outcomes from COVID-19. Vaccination helps protect these vulnerable groups by lowering the overall incidence of the virus in the community.
- 4. Facilitating Return to Normalcy:** Widespread vaccination is essential for lifting restrictions and returning to pre-pandemic activities. It allows schools, businesses, and public spaces to reopen safely, contributing to economic recovery and social well-being.
- 5. Preventing Variants:** High vaccination rates can help prevent the emergence of new variants of the virus. When the virus spreads widely, it has more opportunities to mutate. Vaccination reduces the virus's ability to replicate and evolve.
- 6. Global Health Security:** Vaccination is a vital component of global health security. By controlling the virus in one region, the risk of outbreaks in other areas decreases, contributing to a more stable and healthier world.

7. Specific focus on adolescents and their vaccination needs

Adolescents represent a unique group in the context of COVID-19 vaccination, and their vaccination needs are particularly important for several reasons:

- 1. Increased Risk of Infection:** While COVID-19 generally causes milder symptoms in younger populations compared to older adults, adolescents can still contract and spread the virus. Vaccination helps protect them from infection and reduces the likelihood of transmission to peers, family members, and vulnerable populations.
- 2. Long-term Health Effects:** Some adolescents who contract COVID-19 may experience long-term complications, known as "long COVID." These can include fatigue, difficulty concentrating, and other debilitating symptoms that can impact their daily lives and academic performance. Vaccination can help prevent these outcomes.
- 3. Impact on Mental Health:** The pandemic has significantly affected the mental health of adolescents, leading to increased anxiety, depression, and social isolation. Vaccination can help alleviate some of these concerns by allowing for safer social interactions and a return to normal activities, such as school and extracurricular programs.
- 4. Role in Community Immunity:** Adolescents can be key vectors for the virus, especially in school settings where social interactions are frequent. Vaccinating this group is essential for achieving herd immunity, which helps protect those who are unable to be vaccinated, such as younger children and individuals with certain medical conditions.

- 5. Encouraging Family Vaccination:** When adolescents are vaccinated, it can encourage their family members to get vaccinated as well. This can create a positive cycle of vaccination within households, further enhancing community immunity.
- 6. Addressing Vaccine Hesitancy:** There may be concerns among parents regarding the safety and efficacy of vaccines for their children. Providing clear information and addressing these concerns is vital to increase vaccination rates among adolescents.

Vaccines have been a cornerstone of public health, dramatically reducing the incidence of deadly diseases. However, a growing wave of skepticism towards vaccines threatens these achievements. The resurgence of preventable diseases like measles and whooping cough is a stark reminder of the consequences of vaccine hesitancy. While the benefits of vaccines are undeniable, a lack of trust and misinformation are fuelling a dangerous trend. This trend is exacerbated by the COVID-19 pandemic, which has highlighted the importance of vaccination while simultaneously increasing anxieties about vaccine safety. We need to address these concerns head-on, providing accurate information and fostering a more informed dialogue about vaccines.

Focusing on the vaccination needs of adolescents is essential for controlling the COVID-19 pandemic. It protects their health, supports community immunity, and contributes to the overall well-being of families and society.



Chapter 2

The Role of Mothers in Health Decisions

Historical context of maternal influence in healthcare

Historically, mothers have played a pivotal role in making health-related decisions for their families, particularly for children. This influence can be traced back to traditional family structures where mothers were often seen as the primary caregivers and nurturers. Their involvement in healthcare decisions has roots in several cultural, social, and economic factors.

- 1. Cultural Expectations:** In many cultures, including those in India, mothers are traditionally viewed as the primary guardians of their children's health. This cultural expectation places a significant responsibility on mothers to seek out medical advice, ensure vaccinations are completed, and make decisions regarding healthcare interventions.
- 2. Education and Awareness:** Over the years, as women's access to education has improved, so has their understanding of health issues. Educated mothers tend to be more informed about medical options, including vaccinations. This knowledge empowers them to make informed decisions and advocate for their children's health needs.
- 3. Social Networks:** Mothers often rely on social networks, including family, friends, and community groups, to gather information about health decisions. These networks can influence their perceptions and decisions regarding vaccinations, as shared experiences and advice play a crucial role in shaping attitudes.

4. **Healthcare System Interaction:** Mothers' interactions with healthcare providers also shape their decision-making. Historically, healthcare systems have often catered to mothers in maternal and child health contexts, recognizing their role in managing children's health. This has fostered a relationship where mothers feel empowered to question healthcare providers and seek the best options for their children.
5. **Advocacy and Activism:** In recent years, mothers have increasingly taken on advocacy roles to influence public health policies. Their voices have been significant in campaigns for child vaccination programs and other health initiatives, highlighting the importance of maternal perspectives in shaping health policies.
6. **Impact of Socioeconomic Factors:** Socioeconomic status can also influence how mothers make health decisions. Those from lower socioeconomic backgrounds may face barriers to accessing healthcare, affecting their ability to make informed choices about vaccinations. Understanding these dynamics is crucial for addressing disparities in health decision-making. The historical context of maternal influence in healthcare demonstrates that mothers have always been central to health decisions within families. Their roles have evolved, but the significance of their perspectives and experiences remains paramount, especially in the context of COVID-19 vaccination for adolescents. This chapter sets the stage for understanding how mothers in Bhubaneswar navigate these decisions amidst the complexities of the pandemic.

The importance of mothers' opinions in family health choices

In discussing "The Importance of Mothers' Opinions in Family Health Choices," it's essential to recognize that mothers often serve as the primary decision-makers regarding health matters

within the family unit. Their opinions significantly shape the health behaviours and outcomes of their children and families for several reasons.

- 1. Central Role in Caregiving:** Mothers are typically the main caregivers in many households, which positions them to be intimately aware of their children's health needs and behaviours. This close relationship allows them to observe their children's health conditions, developmental milestones, and any emerging health concerns. Consequently, their opinions are often grounded in firsthand experience, making their insights valuable when it comes to making health choices.
- 2. Influence on Health Education:** Mothers play a critical role in educating their children about health and wellness. They often instill foundational health beliefs and practices, such as nutrition, hygiene, and the importance of vaccinations. Their opinions on these matters can significantly influence children's attitudes toward health, shaping lifelong behaviors and choices.
- 3. Advocacy for Healthcare Access:** Mothers often advocate for their children's access to healthcare services. Their opinions can drive decisions about seeking medical attention, adhering to treatment plans, and following through with preventive measures such as vaccinations. When mothers are informed and confident in their opinions, they are more likely to navigate healthcare systems effectively and ensure their children receive necessary care.
- 4. Cultural and Social Influences:** In many cultures, mothers' opinions carry significant weight within family dynamics. Their perspectives can influence not only immediate

health decisions but also broader family health practices. This cultural authority can lead to a more cohesive approach to health within the family, where the mother's voice is respected and prioritized.

5. Emotional Support and Decision-Making: Mothers often provide emotional support during health crises, helping to mitigate anxiety and fear associated with medical decisions. Their opinions can guide families through challenging health situations by offering reassurance and clarity. This emotional aspect is crucial, especially during times of uncertainty, such as during the COVID-19 pandemic.

6. Community and Peer Influence: Mothers often share their experiences and opinions with peers, which can create a ripple effect within their communities. When mothers express their views on health choices, such as vaccinations, it can influence other families' decisions, contributing to community health outcomes. This collective influence underscores the importance of mothers' opinions in shaping public health behaviours.

So, mothers' opinions are vital in family health choices due to their caregiving roles, educational influence, and advocacy for healthcare access, cultural significance, emotional support, and community impact. Understanding this importance is key to addressing health decisions, particularly regarding critical issues like COVID-19 vaccinations for adolescents, as it highlights the need to engage mothers in health discussions and policy-making.

How mothers' views shape adolescents' health behaviours

Mothers' views play a crucial role in shaping adolescents' health behaviours, influencing various aspects of their lives, from nutrition and exercise to mental health and risky behaviours.

Understanding this dynamic is essential for promoting positive health outcomes among teenagers.

- Firstly, mothers often serve as primary role models for their children. The behaviours and attitudes that mothers exhibit toward health can significantly impact how adolescents perceive and approach their own health. For instance, if a mother prioritizes healthy eating and regular exercise, adolescents are more likely to adopt similar habits. This modeling effect is particularly strong during the formative years of adolescence when individuals are developing their identities and social norms.
- Secondly, mothers are typically the main source of health information within the family. Their opinions on health topics, such as nutrition, substance use, and sexual health, can greatly influence adolescents' choices and behaviours. When mothers communicate openly about these issues, adolescents are more likely to feel comfortable discussing their own questions and concerns. This open dialogue fosters a supportive environment where healthy choices are encouraged and normalized.
- Moreover, mothers often have a significant impact on their children's social circles and peer influences. By guiding their adolescents in selecting friends and extracurricular activities, mothers can help shape the social environments that influence health behaviors. For example, if a mother encourages her child to engage in sports or other physical activities, the adolescent is likely to form friendships with peers who value fitness, further reinforcing positive health behaviours.

- Additionally, mothers' views on mental health can shape how adolescents cope with stress and challenges. When mothers openly discuss the importance of mental well-being and seek help for mental health issues, it normalizes the conversation around mental health for their children. This can lead to adolescents being more proactive about their mental health, seeking support when needed, and developing healthy coping mechanisms.
- Finally, the impact of mothers' views extends to risk behaviours as well. If a mother communicates firm beliefs against substance use or risky sexual behaviour, adolescents are more likely to internalize these messages and make healthier choices. Conversely, if a mother downplays the risks associated with certain behaviours, adolescents may be more inclined to engage in those behaviours, believing they are less harmful.

Mothers' views significantly shape adolescents' health behaviours through role modelling, providing health information, influencing social circles, discussing mental health, and shaping attitudes toward risk behaviours. By understanding and leveraging this influence, families and communities can work together to promote healthier behaviours among adolescents, ultimately leading to improved health outcomes.



Chapter 3

Overview of COVID-19 Vaccines

Types of COVID-19 vaccines available

COVID-19 vaccines have been developed to help prevent the spread of the virus and reduce the severity of the disease. There are several types of COVID-19 vaccines available, each using different technologies to elicit an immune response. Here's an overview of the main types:

- 1. mRNA Vaccines:** These vaccines use messenger RNA to instruct cells to produce a protein similar to the spike protein found on the surface of the SARS-CoV-2 virus. The immune system then recognizes this protein as foreign and generates an immune response. Examples include the Pfizer-BioNTech and Moderna vaccines.
- 2. Viral Vector Vaccines:** These vaccines use a harmless virus (not the coronavirus) as a vector to deliver genetic material from the SARS-CoV-2 virus into human cells. This prompts the body to produce an immune response. Examples include the Johnson & Johnson vaccine and the AstraZeneca vaccine.
- 3. Protein Subunit Vaccines:** These vaccines contain harmless pieces of the SARS-CoV-2 virus (proteins) instead of the whole virus. They work by stimulating the immune system to recognize and attack the virus if exposed in the future. An example is the Novavax vaccine.
- 4. Inactivated or Live Attenuated Vaccines:** These vaccines use a killed or weakened form of the virus that causes COVID-19. They stimulate an immune response without causing the disease. Examples include some vaccines developed by Sinovac and Sinopharm.

- 5. DNA Vaccines:** These are a newer type of vaccine that uses DNA to instruct cells to produce a protein that triggers an immune response. While still in development for COVID-19, they represent a promising area of research.

Each type of vaccine has its own storage requirements, dosing schedules, and efficacy rates, but all aim to provide protection against COVID-19 and its variants.

Mechanism of action and effectiveness

The mechanism of action of COVID-19 vaccines varies depending on the type of vaccine, but the primary goal is to stimulate the immune system to recognize and combat the SARS-CoV-2 virus. Here's a breakdown of how different types of vaccines work and their effectiveness:

1. mRNA Vaccines:

- a. **Mechanism of Action:** These vaccines deliver messenger RNA (mRNA) into cells, which instructs them to produce the spike protein of the virus. This spike protein is harmless on its own, but it triggers an immune response. The immune system recognizes the spike protein as foreign and produces antibodies and T-cells to fight it off.
- b. **Effectiveness:** Clinical trials have shown that mRNA vaccines like Pfizer-BioNTech and Moderna are highly effective, with efficacy rates around 94-95% in preventing symptomatic COVID-19 after two doses.

2. Viral Vector Vaccines:

- a. Mechanism of Action: These vaccines use a modified version of a different virus (the vector) to deliver genetic material from the SARS-CoV-2 virus into human cells. The cells then produce the spike protein, prompting an immune response similar to that of mRNA vaccines.
- b. Effectiveness: The Johnson & Johnson vaccine has shown an overall efficacy of about 66% in preventing moderate to severe COVID-19, while the AstraZeneca vaccine has reported efficacy rates around 70-80% after two doses.

3. Protein Subunit Vaccines:

- a. Mechanism of Action: These vaccines contain harmless pieces of the virus, specifically the spike protein, which stimulate an immune response without introducing the live virus.
- b. Effectiveness: The Novavax vaccine has shown efficacy rates of approximately 90% in clinical trials, indicating strong protection against COVID-19.

4. Inactivated or Live Attenuated Vaccines:

- a. Mechanism of Action: These vaccines use killed or weakened forms of the virus to stimulate an immune response. The immune system learns to recognize the virus without the risk of causing disease.
- b. Effectiveness: Vaccines like those developed by Sinovac and Sinopharm have shown varying efficacy rates, generally between 50-80%, depending on the population and variants.

5. DNA Vaccines:

- a. Mechanism of Action: These vaccines use DNA to instruct cells to produce the spike protein, similar to mRNA vaccines. The immune system then responds to this protein.
- b. Effectiveness: While still under development for COVID-19, early trials have shown promising results.

Guidelines for adolescent vaccination

Guidelines for adolescent vaccination are essential to ensure that young people receive the necessary immunizations to protect their health and the health of those around them. Here are the key points regarding vaccination for adolescents:

1. Recommended Vaccines:

- Adolescents should receive a variety of vaccines, including:
- Tdap (tetanus, diphtheria, and pertussis)
- Meningococcal conjugate vaccine (MenACWY)
- Human papillomavirus (HPV) vaccine
- Influenza vaccine (annually)
- COVID-19 vaccine (if eligible)

2. Timing of Vaccination:

The Centers for Disease Control and Prevention (CDC) recommends that adolescents receive vaccines between the ages of 11 and 12. However, catch-up vaccinations can be provided at any visit if the adolescent has missed any of the recommended vaccines.

3. HPV Vaccine:

The HPV vaccine is particularly important as it protects against cancers caused by human papillomavirus. It is recommended for preteens aged 11-12, but can be given starting at 9 years old. The vaccine is given in a series of two or three doses, depending on the age at which vaccination begins.

4. Meningococcal Vaccine:

A first dose of the meningococcal conjugate vaccine is recommended at ages 11-12, with a booster dose at age 16. This vaccine protects against meningitis and bloodstream infections caused by certain strains of the bacteria.

5. COVID-19 Vaccination:

Adolescents aged 12 and older are eligible for COVID-19 vaccinations. It is important to follow local guidelines regarding the type of vaccine available and the number of doses required.

6. Safety and Side Effects:

Vaccines are generally safe, and side effects are usually mild, such as soreness at the injection site, fatigue, or mild fever. Serious side effects are rare. Parents and guardians should discuss any concerns with healthcare providers.

7. Parental Consent:

In many places, parental consent is required for adolescents to receive vaccinations. However, some regions allow minors to consent to certain vaccines, especially in the case of preventive health measures.

8. Health Records:

Maintaining an up-to-date vaccination record is important for school enrolment and participation in sports or other activities. Parents should keep track of their child's vaccinations and ensure they are up to date.

9. Access to Vaccination:

Vaccines are available through paediatricians, family doctors, public health clinics, and pharmacies. It's important for families to utilize these resources to ensure their adolescents receive the necessary vaccinations.

Following these guidelines, parents and guardians can help ensure that adolescents are adequately protected from vaccine-preventable diseases, promoting overall public health and safety.



Chapter 4

Understanding Bhubaneswar: A Cultural Perspective

Demographic profile of Bhubaneswar

Understanding Bhubaneswar from a cultural perspective involves examining its demographic profile, which reflects the city's rich history, diverse population, and cultural dynamics. Bhubaneswar, the capital city of Odisha, India, has a population of approximately 1 million people, according to the latest census data. The demographic profile of Bhubaneswar is characterized by a mix of various ethnicities, languages, and religions, contributing to its vibrant cultural tapestry. The majority of the population is composed of Odia people, who speak Odia as their primary language. However, due to the city's status as a major urban center, you will also find a significant number of people speaking Hindi, Bengali, and English, among other languages.

The city is home to a diverse religious population, with Hinduism being the predominant faith. Bhubaneswar is often referred to as the "Temple City" due to its numerous ancient temples, including the famous Lingaraj Temple and Rajarani Temple, which showcase the architectural brilliance of Kalinga style. Besides Hinduism, there are also communities of Muslims, Christians, and Jains, reflecting the pluralistic nature of the city. This religious diversity is celebrated through various festivals, such as Rath Yatra, Durga Puja, and Christmas, which are observed with great enthusiasm by the residents.

In addition to its ethnic and religious diversity, Bhubaneswar has a significant student population due to the presence of several educational institutions, including universities and

technical colleges. This influx of students from different parts of India and even abroad adds to the multicultural environment of the city. The demographic profile of Bhubaneswar also includes a mix of professionals, artisans, and service workers, contributing to its economic growth and cultural richness.

Overall, the demographic profile of Bhubaneswar is a reflection of its historical roots and contemporary developments, making it a unique city with a blend of tradition and modernity. This cultural perspective enhances the understanding of Bhubaneswar as not just a political capital, but also as a hub of heritage, education, and diversity.

Cultural beliefs and practices related to health and vaccination

Cultural beliefs and practices related to health and vaccination in Bhubaneswar, like in many parts of India, are influenced by a combination of traditional practices, religious beliefs, and modern medical understanding. These factors shape how communities perceive health, illness, and preventive measures such as vaccinations.

In Odisha, traditional health practices often include the use of herbal remedies and local healing methods, which are deeply rooted in the region's cultural heritage. Many people still rely on local healers or "vaidyas" who use traditional knowledge passed down through generations. This reliance on traditional medicine can sometimes lead to skepticism about modern medical practices, including vaccinations. Some individuals may believe that vaccines are unnecessary if they have access to traditional remedies, which can hinder vaccination efforts.

Religious beliefs also play a significant role in shaping health practices. In Bhubaneswar, where Hinduism is predominant, certain health-related rituals and prayers are often performed to seek divine intervention for health and healing. For instance, families may conduct rituals for the well-being of their children, which may include blessings for good health. These practices can sometimes conflict with the scientific understanding of vaccination, leading to hesitancy or resistance among certain groups.

However, there is a growing awareness of the importance of vaccinations, especially in light of public health campaigns and government initiatives aimed at increasing immunization rates. Health workers often engage with communities to educate them about the benefits of vaccines, addressing misconceptions and providing information about how vaccines work to prevent diseases. This outreach is crucial in bridging the gap between traditional beliefs and modern health practices.

While cultural beliefs and practices related to health and vaccination in Bhubaneswar are diverse and complex, ongoing education and community engagement efforts are essential to promote vaccine acceptance and improve public health outcomes. Understanding these cultural dynamics is key to effectively addressing health issues and ensuring that vaccination programs are successful in the region.

The impact of local context on health decisions

The impact of local context on health decisions is significant and can vary widely based on factors such as culture, socioeconomic status, education, and access to healthcare resources. In

many communities, including those in India, these local contexts shape how individuals perceive health, illness, and the actions they take to maintain or improve their well-being.

Cultural norms and values play a crucial role in health decision-making. For instance, in some cultures, traditional practices and beliefs may prioritize herbal remedies and community-based healing over modern medical interventions. This can lead to a preference for local healers or alternative therapies, which may affect the uptake of conventional healthcare services, including vaccinations. Additionally, cultural attitudes towards certain health issues, such as mental health or chronic diseases, can influence whether individuals seek help or support.

Socioeconomic status is another critical factor that impacts health decisions. Communities with limited financial resources may prioritize immediate needs, such as food and shelter, over healthcare. In such contexts, individuals might delay seeking medical help or forgo vaccinations due to costs associated with healthcare services or transportation. Moreover, lower levels of education can contribute to misunderstandings about health risks and the benefits of preventive measures, further complicating health-related decisions.

Access to healthcare resources, including clinics, hospitals, and health education, also significantly shapes health choices. In rural or underserved areas, limited availability of healthcare facilities can hinder access to vaccinations and other essential health services. Community outreach programs, mobile clinics, and public health campaigns can help bridge these gaps, but their effectiveness often depends on local engagement and trust within the community.

Ultimately, understanding the local context is essential for healthcare providers and policymakers to develop effective interventions that resonate with the community's values and needs. By considering cultural beliefs, socioeconomic factors, and access to resources, health initiatives can be tailored to promote better health outcomes and encourage informed decision-making among individuals and families.



Chapter 5

Research Methodology and Approach

The research methodology for this study is structured around a pretest – post-test one-group design, which provides a clear framework for assessing the impact of an interventional package aimed at improving knowledge and attitudes towards vaccinating adolescents aged 12-18 years. This design includes a series of observations, with the initial observation (O1) serving as a pretest and the final observation (O2) acting as a posttest following the intervention. The study adopted a mixed-methods approach, combining quantitative data collection through surveys with qualitative insights gathered from interviews and focus groups. This dual approach not only allowed for the collection of numerical data but also enriches the findings with personal experiences and beliefs, particularly focusing on mothers' perspectives regarding COVID-19 vaccination.

The study took place among mothers in selected areas of Bhubaneswar, specifically in Khordha district. The dependent variable focused on knowledge and attitudes, while the independent variable was the interventional package. Various influencing variables, such as demographic factors like age, education, marital status, number of children, employment status, household income, living arrangements, access to the internet, overall health rating, and healthcare service utilization, were considered. The population studied comprised mothers residing in the chosen areas of Bhubaneswar in Distt. Khordha, with a sample size of 100 mothers selected using a purposive sampling technique. Inclusive criteria for sample selection included the availability and willingness of mothers to participate, while exclusive criteria involved those who were not willing to take part. The researcher developed a tool based on a literature review to evaluate mothers' knowledge and attitudes towards vaccinating adolescents, assessing the impact of the

interventional package. The tool included sections for data collection methods, such as distributing structured questionnaires for quantitative data gathering on mothers' views on COVID-19 vaccinations.

Understanding Mothers' Views on COVID-19 Vaccination for Adolescents in Bhubaneswar: A Quantitative Approach;

It explored the knowledge, attitudes, and perceptions of mothers towards COVID-19 vaccination for adolescents in Bhubaneswar, specifically focusing on the areas of Bolagarh, Chilika, and Jatni. The study utilized a quantitative approach to gather and analyze data from a sample of 100 mothers.

Study Setting: The study was conducted in three locations within Bhubaneswar: Bolagarh, Chilika, and Jatni. These areas were chosen to represent a diverse range of socioeconomic backgrounds within the city.

Population: The target population for this study consists of mothers residing in the selected areas of Bhubaneswar.

Sampling Technique: Purposive sampling were employed to select participants. This method allows researchers to intentionally choose participants who meet specific criteria relevant to the study's objectives. For example, mothers with adolescents in the eligible age group for vaccination was prioritized.

Sample Size: A sample size of 100 mothers for the study.

Data Collection:

- Pre-Test: A structured questionnaire was administered to mothers before any intervention or educational program. This questionnaire assessed their existing knowledge and attitudes towards COVID-19 vaccination for adolescents.
- Post-Test: After an intervention or educational program, a similar questionnaire was administered to assess any changes in knowledge and attitudes following the intervention.

Data Analysis:

- Descriptive Statistics: Basic descriptive statistics, such as frequencies, percentages, means, and standard deviations, will be used to summarize the data and present key findings.
- Inferential Statistics: Statistical tests, such as paired t-tests or Wilcoxon signed-rank tests, will be employed to compare pre-test and post-test scores and determine the effectiveness of the intervention in improving knowledge and attitudes towards vaccination.



Chapter 6

Mothers' Knowledge about COVID-19 Vaccines

Levels of Awareness Regarding Vaccine Information:

Mothers' awareness of COVID-19 vaccines can vary significantly. Some may have a high level of awareness, understanding the types of vaccines available, their efficacy, and the importance of vaccination for adolescents. Others might have limited knowledge, potentially only knowing that vaccines exist but lacking detailed information about how they work or the benefits they provide. Assessing these levels can help identify which mothers are well-informed and which may need more education.

Sources of Information and Their Reliability:

Mothers often rely on various sources for information about COVID-19 vaccines. Common sources include:

- Healthcare professionals: Doctors and paediatricians are typically seen as reliable sources for medical advice.
- Government health websites: Official health organizations provide accurate and updated information.
- Social media: While it can spread awareness quickly, the reliability of information from social media varies greatly and can lead to misinformation.
- Family and friends: Personal networks can influence perceptions, but the accuracy of information may differ.

Understanding which sources mothers trust the most can help in developing effective communication strategies.

Knowledge Gaps and Misconceptions:

Despite the information available, many mothers may still have knowledge gaps or misconceptions about COVID-19 vaccines. Common gaps could include a lack of understanding about:

- The safety and side effects of vaccines.
- The importance of vaccination for adolescents specifically.
- The difference between various types of vaccines (e.g., mRNA vs. viral vector).

Misconceptions might include beliefs that vaccines cause infertility or that the virus is not a serious threat to adolescents. Identifying these gaps and misconceptions is crucial for targeted educational efforts to improve overall understanding and acceptance of COVID-19 vaccination among mothers.

The study's findings highlight the importance of addressing knowledge gaps regarding COVID-19 vaccines among mothers. Initially, a significant portion of participants (60%) demonstrated good knowledge about the vaccines, while 30% possessed average knowledge and 10% exhibited poor knowledge. This suggests a pre-existing level of understanding, but also reveals a substantial need for further education.

The interventional package, designed to improve mothers' knowledge and attitudes towards vaccinating their children against COVID-19, yielded positive results. Post-intervention, the

percentage of mothers with good knowledge increased to 50%, while those with average knowledge remained at 30% and those with poor knowledge decreased to 20%. This indicates that the intervention program was successful in addressing some of the knowledge gaps.

Furthermore, the mean knowledge score increased from 6.8 to 8.4, suggesting a significant improvement in mothers' understanding of COVID-19 vaccines. This improvement in knowledge scores is a direct result of the intervention program, demonstrating its effectiveness in enhancing understanding of the vaccine and its benefits.



Chapter 7

Attitudes toward Vaccination for Adolescents

General attitudes and acceptance of vaccines

Mothers' attitudes toward vaccination can significantly influence their willingness to vaccinate their children. Generally, positive attitudes toward vaccines are characterized by beliefs in the safety and effectiveness of vaccines, understanding their role in preventing diseases, and recognition of the importance of herd immunity. Many mothers may feel a sense of responsibility to protect their children from COVID-19 and other infectious diseases, which can lead to higher acceptance of vaccinations.

Conversely, negative attitudes may stem from misinformation, fear of side effects, or a lack of trust in the healthcare system. Some mothers might have concerns about the long-term effects of vaccines, particularly for adolescents, leading to hesitation or refusal to vaccinate. Cultural beliefs and personal experiences can also shape these attitudes, as mothers may rely on anecdotal evidence or community opinions rather than scientific data.

Understanding these attitudes is crucial for designing effective educational interventions that address concerns, provide accurate information, and ultimately encourage vaccination among adolescents. Efforts to improve acceptance may include community outreach, transparent communication from healthcare professionals, and engaging mothers in discussions about the benefits and risks associated with COVID-19 vaccination.

Factors influencing positive or negative attitudes

Factors influencing positive attitudes toward a subject, such as vaccination, often include education, personal experiences, and social influences. Higher levels of education generally correlate with a better understanding of health-related information, leading to more positive attitudes. When individuals are well-informed about the benefits of vaccination—such as preventing diseases and protecting community health—they are more likely to support immunization initiatives. Personal experiences, such as successfully vaccinating previous children or receiving positive feedback from healthcare providers, can also enhance confidence in vaccination. Additionally, social influences play a crucial role; when family, friends, or community leaders advocate for vaccination, it can create a supportive environment that fosters positive attitudes.

Conversely, negative attitudes can stem from misinformation, cultural beliefs, and negative experiences with healthcare. Misinformation about vaccines, often propagated through social media or word-of-mouth, can lead to fear and skepticism. Cultural beliefs may prioritize alternative health practices or foster distrust in conventional medicine, impacting attitudes toward vaccination. Furthermore, negative experiences with healthcare systems—such as feeling marginalized or receiving inadequate information—can diminish trust in medical advice and contribute to vaccine hesitancy. Economic factors, like the cost of healthcare or lack of access to vaccination services, can also play a significant role in shaping negative attitudes, particularly in lower-income communities.

Comparison of attitudes across different demographics

When comparing attitudes across different demographics, we can see significant variations based on factors such as age, education, socioeconomic status, and geographic location. For example, younger individuals, who may have more exposure to digital media and health information, might display more positive attitudes toward vaccination compared to older generations who might rely on traditional beliefs. Education is another critical factor; individuals with higher education levels tend to have more favourable views on vaccination, as they are more likely to seek out and understand scientific information. Socioeconomic status can influence access to healthcare resources, affecting attitudes toward vaccination. Lastly, geographic location plays a role; urban populations may have greater access to healthcare services and information compared to rural populations, leading to differing attitudes about vaccination.

The study initially found that 40% of mothers had a positive attitude towards vaccinating their children against COVID-19, while 35% had a neutral attitude and 25% had a negative attitude. The intervention program resulted in a slight increase in positive attitudes, reaching 45%, while neutral attitudes remained at 30% and negative attitudes remained at 25%. This suggests that the intervention program had a limited impact on shifting negative attitudes towards vaccination.

The mean attitude score increased from 3.2 to 4.5 post-intervention, indicating a positive shift in attitudes towards vaccination. This improvement in attitude scores, alongside the improved knowledge scores, suggests that the intervention program was effective in influencing mothers' overall perception of COVID-19 vaccines.

However, the study also found a moderate positive correlation between knowledge score and attitude score, suggesting that while increased knowledge can influence a more positive attitude, it's not the only factor at play. Other factors, such as personal beliefs, trust in healthcare providers, and exposure to misinformation, likely also contribute to a mother's attitude towards vaccination.



Chapter 8

Common Concerns and Misconceptions

Safety concerns regarding vaccines

Safety concerns regarding vaccines are a significant issue among mothers when considering COVID-19 vaccination for their adolescents. Many mothers worry about the potential short-term and long-term effects of the vaccine on their children's health. They may have specific concerns about how the vaccine could interact with their child's existing health conditions or about the adequacy of testing done on adolescents compared to adults. This concern is often heightened by the rapid development and approval of COVID-19 vaccines, leading to apprehensions about whether enough research has been conducted to ensure the safety and efficacy of these vaccines for younger populations.

Myths and misinformation about vaccine side effects

Myths and misinformation about vaccine side effects also contribute to mothers' hesitance. For instance, some may believe that the COVID-19 vaccine can cause severe side effects or even the disease itself. This misconception can stem from anecdotal reports or exaggerated claims circulating in the community. Other myths include fears about vaccines affecting fertility or causing long-term health issues. These misconceptions can be particularly damaging, as they can discourage mothers from allowing their children to receive the vaccine, despite the overwhelming evidence from health authorities that vaccines are safe and effective.

Influence of social media and peer opinions

The influence of social media and peer opinions plays a crucial role in shaping mothers' perceptions of COVID-19 vaccination. Social media platforms often amplify both positive and negative sentiments regarding vaccines. Misinformation can spread quickly, leading to fear and skepticism among mothers. Additionally, peer opinions can heavily influence decision-making; mothers may be swayed by the views of friends, family, or community members who share their concerns or experiences with vaccination. This social aspect can create a ripple effect, where negative perceptions spread within social circles, further complicating efforts to promote vaccine acceptance.



Chapter 9

Recommendations for Improving Vaccine Uptake

Practical suggestions for health authorities

Practical suggestions for health authorities include developing clear and transparent communication strategies that address the specific concerns of mothers. This could involve creating informational materials that explain the safety and efficacy of vaccines in simple, relatable language. Health authorities should also consider organizing informational sessions or webinars where experts can answer questions and dispel myths in real-time. Furthermore, ensuring that vaccination sites are easily accessible and equipped with friendly staff who can provide reassurance and support can help alleviate anxiety and encourage more mothers to participate in the vaccination process.

Engaging mothers in the vaccination process

Engaging mothers in the vaccination process is crucial for improving uptake. This can be achieved by involving mothers in discussions about vaccine development and safety, allowing them to voice their concerns and preferences. Health campaigns could feature testimonials from other mothers who have vaccinated their children, highlighting positive experiences and outcomes. Additionally, creating support groups or forums where mothers can share their experiences and ask questions can foster a sense of community and empower them to make informed decisions regarding vaccination.

Community-based initiatives to foster acceptance

Community-based initiatives to foster acceptance can play a significant role in improving vaccine uptake. Collaborating with local organizations, schools, and community leaders can help tailor vaccination campaigns to meet the specific needs and cultural contexts of different communities. Initiatives such as mobile vaccination units can reach underserved areas, while community events that include educational workshops and fun activities can attract families and create a positive atmosphere around vaccination. By building trust and rapport within communities, these initiatives can help dispel fears and promote a culture of acceptance towards COVID-19 vaccination for adolescents.



Chapter 10

The Importance of Mothers' Perspectives

Recap of key findings and their significance

Firstly, a recap of key findings reveals that mothers play a critical role in the decision-making process for their children's health. Their concerns about vaccine safety, efficacy, and potential side effects significantly influence whether adolescents receive vaccinations. Understanding these perspectives is essential as they provide valuable insights into the barriers to vaccine uptake and the factors that can enhance acceptance.

The role of mothers in shaping health outcomes for adolescents

Secondly, the role of mothers in shaping health outcomes for adolescents cannot be overstated. Mothers are often the primary caregivers and decision-makers when it comes to health-related issues. Their attitudes and beliefs about vaccines can directly impact their children's health behaviours and outcomes. By engaging mothers and considering their viewpoints, health authorities can develop more effective strategies that resonate with families and promote better health outcomes for adolescents.

Call to action for further research and engagement

Lastly, there is a need for a call to action for further research and engagement with mothers. Continued research is crucial to understand the evolving concerns and motivations of mothers regarding vaccinations and other health issues. Health authorities, researchers, and community organizations should actively seek to involve mothers in discussions about health policies and

programs. By fostering collaboration and dialogue, we can ensure that mothers feel heard and valued, leading to more informed and supportive environments for adolescent health initiatives.



Chapter 11

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