

## VOICES OF RESISTANCE: A QUALITATIVE STUDY ON PARENTAL HESITANCY TOWARD POLIO VACCINATION IN KPK

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### ABSTRACT

*This qualitative research explores parental resistance to polio vaccination in Khyber Pakhtunkhwa, Pakistan—one of the few remaining regions still battling poliovirus despite over a decade of eradication efforts by the Expanded Programme on Immunization (EPI), WHO, and UNICEF. Although significant progress has been made, many parents continue to resist vaccination campaigns. Through purposive sampling, in-depth semi-structured interviews were conducted with parents from both urban and rural areas. Thematic analysis revealed five key factors behind this resistance: religious and cultural beliefs, distrust in government and healthcare providers, widespread misinformation and conspiracy theories, influence of family and community leaders, and fear of vaccine side effects. Parents often view polio vaccination as part of a foreign agenda, driven by religious myths, fertility concerns, and past negative experiences with healthcare. Fathers, as primary decision-makers, are heavily influenced by religious authorities and peers, while mothers, though concerned, usually defer to male authority. A lack of effective health education and culturally relevant outreach, combined with social media-driven misinformation, further fuels vaccine hesitancy. The study highlights the need for a gender-sensitive approach, involving both male and female community influencers, trust-building initiatives, and locally grounded awareness campaigns to improve vaccine acceptance in the region.*

**Keywords:** Vaccine Hesitancy, Parental Resistance, Khyber Pakhtunkhwa, Qualitative Exploration, Thematic Analysis

### Background

Polio is a highly contagious viral disease that primarily affects children under five and can cause paralysis, which may be irreversible, or death. Ever since the global vaccination effort began, the introduction of oral polio vaccine (OPV) and inactivated polio vaccine (IPV) has greatly reduced polio worldwide and its burden greatly; since the global effort began, cases dropped by more than 99% (World Health Organization, 2021). The disease of polio has been around for centuries; the earliest evidence dates back to Egyptian carvings (1365–1403 BCE). It was a major epidemic in the 19th and 20th centuries, with paralysis and death occurring. In 1952, the oral polio vaccine (OPV) was introduced by Albert Sabin, and in 1952 Jonas Salk came up with a breakthrough in the form of a vaccine that was administered to mass immunize people. In 1988, polio was eradicated from most developed nations, but it remained in Pakistan, Afghanistan, and Nigeria because of vaccine hesitancy, misinformation and security challenges (BBC World Service, 2014). Countries that have rolled out immunization campaigns in large scale have done so, and eradicated polio, proving the vaccine's ability to reduce transmission and establish community immunity (Ali & Shah, 2021). The eradication of polio has seen success however, it still endemically occurs in a handful of areas particularly in Pakistan and Afghanistan where vaccine resistance remains due to misinformation, political instability and cultural reasons (Zafar et al., 2020). Vaccine hesitancy has been identified as one of the most important disincentives to polio eradication, which has become a pressing

global public health challenge. The reluctance or refusal to vaccinate despite the availability of vaccines, is called vaccine hesitancy and was one of the top ten threats to global health (WHO, 2019). Skepticism in vaccine safety fueled by misconceptions in many communities, opposition to vaccine based on religion as well as distrust in government led health programs (Yasmin, 2022). For example, in Khyber Pakhtunkhwa (KPK) of Pakistan, some groups link polio vaccination campaigns with foreign agendas and as a result, many immunization campaigns are rejected (Rahman, 2023). These socio-political factors also play a big role in vaccine resistance, while misinformation, as in the case of claims that polio vaccines cause infertility or are a part of a Western conspiracy, further strengthens the hesitancy and weakens eradication programmes (Malik & Khan, 2021). Violence against healthcare workers and disruption of immunization campaigns are additional barriers to establishing a consistent vaccination program in regions that are currently in conflict and instability (Javed, 2022). Frontline health workers are frightened of being assassinated, have stopped reaching vulnerable populations (Baloch, 2020), and the fear has been heightened by the assassination of polio workers in Pakistan and Afghanistan. Additionally, the public's deep-rooted skepticism towards vaccination programs is due to past government health initiatives failures (Saeed, 2021). The efforts to eradicate polio should engage with the communities, provide transparent health communication, and use culturally sensitive educational campaigns to tackle vaccine hesitancy. Immunization programs must be countered by governments, religious leaders and healthcare organizations to build public trust, says Rahman (2023). Polio vaccination ultimately continues to play a vital role in global disease eradication efforts, and resistance to the vaccine is key for polio free future for all.

### **Global Perspective**

Major health organizations including the World Health Organization (WHO), the United Nations International Children's Emergency Fund (UNICEF) and the Global Polio Eradication Initiative (GPEI) have spent decades trying to eradicate polio for which effort have been a global priority. GPEI was launched in 1988 and has contributed significantly to the reduction of global polio cases to less than 10 reported cases in 2023 from approximately 350,000 cases in 125 countries (WHO, 2023). There have been collaborations between these organizations and national governments or non-governmental partners in massive vaccination campaigns, hardening the healthcare infrastructure, and disease surveillance. For this reason, polio has been wiped out in all but two endemic countries, Afghanistan and Pakistan (UNICEF, 2022). That being said, Africa was declared wild polio free in 2020, a big milestone for global eradication (GPEI, 2021), although the global effort is impeded by a number of obstacles. The one of main barrier of vaccine distribution is the conflict zones and remote areas where the level of insecurity; poor infrastructure; and lack of healthcare access render immunization causes difficult. Healthcare workers in Afghanistan are restricted and conflict continues, disrupting vaccination programs and leaving children unprotected against polio (WHO, 2022). Likewise, in Nigeria, polio remained for years because of insurgency in the north that prevented health teams from reaching vulnerable populations. In 2020, Nigeria became wild polio free through concerted effort, which was a model that other areas for polio eradication are following (UNICEF, 2021). Other barriers to polio eradication are vaccine hesitancy caused by misinformation, religious opposition and distrust in health authorities. In Pakistan, resistance in conservative communities (Rahman, 2023) has led to resistance to polio vaccines in conservative communities due to false claims linking vaccines to infertility and Western conspiracies. In Afghanistan and some parts of Africa, there are also religious groups that have opposed vaccination campaigns because they are seen as harmful to cultural or religious teachings (Malik & Khan, 2021). To address these misconceptions, global organizations expend resources to fight this with that include targeted community engagement, religious

endorsements, and educational campaigns to build public trust. The mobile vaccination teams have been deployed by WHO and UNICEF to reach displaced populations and community health workers are key in stopping vaccine misinformation. Governments as well as international agencies are using digital technology and social media to dispel vaccine myths and educate public (Javed, 2022). It will take sustained global efforts, political commitment and community participation to eradicate total polio, and avoid outbreaks in the future.

### **Status in Pakistan**

Pakistan is one of the last two polio endemic countries in the world along with Afghanistan. Pakistan report 39 cases and Afghanistan 22 cases in 2024. The highest cases in Pakistan are in Baluchistan (20), Sindh (12), Khyber Pakhtunkhwa (5), Punjab (1), and Islamabad (1), with three reported deaths. (Kazim, Nataranjan, & Kargar, 2024). Following decades of immunization efforts, the country still reports wild poliovirus (WPV1) cases, which, with evidence for a final attempt to eradicate polio in 2022, acts as a major barrier to global eradication. In 2023, there were 6 cases in Pakistan of wild polio, mostly in Khyber Pakhtunkhwa (KPK) and Baluchistan with high vaccine resistance and logistical challenges (WHO, 2023). While these numbers are still way lower than those of past decades when thousands of children became infected, such sporadic outbreaks serve as a reminder that children remain at risk of relapse. Despite the support of a collaboration with WHO, UNICEF and GPEI, the Pakistan Polio Eradication Program (PPEP) has been instrumental in reducing cases through massive immunization campaigns (UNICEF, 2023) and yet challenges remain (UNICEF, 2023). Healthcare workers and volunteers have done door to door campaigns that have substantially improved vaccine coverage. National Immunization Days (NIDs) offered a major public health achievement, because over 43 million children were vaccinated in 2022 (Government of Pakistan, 2023). Nevertheless, some areas are still very resistant to vaccination because of misinformation, religious concerns or socio-political instability. And false claims that the polio vaccine causes infertility or is part of a Western agenda persist in many conservative communities (Rahman, 2023). Violent attacks on polio workers and security personnel have disrupted the immunization efforts, particularly in KPK and tribal districts (Javed, 2022). The Government of Pakistan has also done several things to counter vaccine hesitancy and boost immunization coverage. Vaccination policies have been made stronger through mandatory polio drops for travelers. In 2023, the Government of Pakistan launched the Polio Emergency Response Plan, which shifted from focusing on community engagement, religious leader involvement and improved security measures (Government of Pakistan, 2023). Other NGOs, such as the Bill & Melinda Gates Foundation, Rotary International and local health organizations have also supported the work through funding vaccine programs, running awareness campaigns and supporting field workers (UNICEF, 2022). Pro-vaccine fatwas from religious scholars and mosque leaders have been helping to promote vaccination and addressing religious concerns as well as the anti-vaccine narratives (Malik & Khan, 2021), although Pakistan has made significant progress, it needs to deal with security risks, misinformation and access challenges to eradicate polio completely. Essential in ensuring a polio free Pakistan in the near future will be sustained political commitment, strengthening of the health infrastructure and living with continuous public engagement.

### **Status in Khyber Pakhtunkhwa (KPK)**

Following are some of key dimension of KPK with respect to the vaccination hesitancy.

### **History of Vaccine Resistance and Misinformation in KPK**

The fact that KPK is so resistant to polio vaccine is not a new phenomenon, it's been around for a long time, based on misinformation, religious concerns, and lack of trust in government led health initiatives. But in many communities, in tribal areas and rural districts in particular, people believe polio vaccines are part of a Western conspiracy to hurt Muslim populations.

Public skepticism is fueled by false rumors that polio drops cause infertility or are made with non-halal ingredients (Rahman, 2023). In 2019, a hoax video of schoolchildren fainting after receiving polio vaccine triggered mass panic and most of the families started refusing to immunize (Malik & Khan, 2021). Despite debunking the video by medical experts, it did harm to public trust and stalled vaccination efforts for several months.

### **Socio-Political Factors Contributing to Polio Persistence**

The inability to implement consistent immunization programs as a result of socio-political instability in KPK is in addition to misinformation. Many parts of the province, especially in border regions near Afghanistan, face security threats, displacement, and weak healthcare infrastructure (Baloch, 2020). Vaccine hesitancy is also spread by family's low literacy rates which makes them depend on community elders, religious leaders, or other traditional healers instead of formal health care providers. Also, Taliban influence in some areas has contributed to the spread of anti-vaccine propaganda, which is discouraging families from participating in vaccination campaigns (Zafar et al., 2020).

### **Problem Statement**

The major barrier to eradicating polio in Pakistan, one of the last two polio endemic countries in the world is parental resistance to polio vaccination in Khyber Pakhtunkhwa (KPK). Despite the Pakistan Polio Eradication Program (PPEP) led by WHO, UNICEF and GPEI, extensive vaccination campaigns, many parents in KPK refuse or delay the polio vaccines for their children. Misinformation, religious concerns, distrust in government led health programs and socio-political instability are the main reasons behind this resistance. Despite the fact that these myths about vaccines continue to spread within conservative communities, false beliefs about vaccine safety persist. In addition, the violence against polio workers and the poor health care accessibility in remote areas make vaccination very difficult, leaving thousands of children unprotected, which previous research has extensively documented the epidemiological and logistical challenges of polio vaccination in KPK, but there is a gap in understanding the qualitative aspects of parental resistance. The majority of existing studies concerned the statistical vaccination coverage rating and disease surveillance, but not the deep-rooted cultural perceptions, community narratives, and the family decision making regarding polio vaccines. Since this gap remains to be addressed, this study seeks to fill this gap by exploring the underlying reasons behind parents' unwillingness for polio vaccination through a qualitative approach by addressing the aspect of personal beliefs, cultural impact, and family and community trust dynamics. The findings will contribute new evidence to support policy guidelines and targeted communication based on evidence that will increase vaccine acceptance in high risk areas.

### **Research Design**

The study employs a qualitative research design with an exploratory phenomenological approach. This design is chosen because it facilitates deep understanding of parents' personal and collective experiences of resisting polio vaccination. This approach centers around apprehension on subjective perceptions and lived experiences, unveils the real under reasons behind vaccine hesitancy; qualitative nature of the research makes it possible to delve a long way into themes, for example, misinformation, religious cautious, mistrust in state and worldwide associations, dread of side effects, and cultural attitudes towards Western medication.

### **Population**

Population of the current study comprises up of parents of the KPK province in both rural and urban settings.



### **Sampling Technique**

The purposive sampling technique is used in order to ensure that only those who have relevant experiences are included in the study. To give firsthand accounts of their reluctance, parents who have refused, delayed or expressed concerns about polio vaccination are deliberately selected.

More participants are identified through referrals by using a snowball sampling. Direct recruitment of vaccine hesitant people can be difficult since vaccine hesitancy is often a sensitive topic. This technique relies on initial participants to suggest others with similar experiences to reach a wider range of resistant parents. This approach also includes diverse perspectives from different socio-economic background, education level and rural urban settings of KPK.

### **Sample Size**

A sample size of 20 parents is chosen so that a rich, in depth qualitative insight can be obtained. It comprises of 10 mothers and 10 fathers from both urban and rural areas of Khyber Pakhtunkhwa. It captures different views; the sample is composed of complete resisters and hesitant acceptors.

### **Data Collection Tools**

The following data collection tools are used by the study to gain rich insights from parents about polio vaccination hesitancy:

#### **Focus Group Discussions (FGDs)**

Small groups of parents were held to examine peer influence, collective concerns and shared myths about vaccination.

It enables uncovering community driven resistance and social networks in decision making.

### **Data Analysis**

The data analysis is done in the way of thematic analysis, which includes:

- 1. Data Transcription** All audio recorded interviews and FGDs are transcribed verbatim to get detail responses.
- 2. Coding** Key phrases, words and repeated patterns in the responses are coded systematically.
- 3. Categorization** Grouping – Similar codes are put into broader categories of religious beliefs, political distrust, misinformation, social influence, and fear of vaccine side effects.
- 4. Theme Development** Major themes are refined and analyzed in depth to understand how the role of major themes plays in parental resistance.
- 5. Results:** Results are discussed in terms of existing literature, socio-cultural factors and policy implications.

### **FINDINGS AND ANALYSIS**

This Section is a thorough and critical review of the data collected by means of qualitative interviews with mothers living in rural and semi-urban areas of Pakistan. The purpose of this chapter is to present and interpret the themes derived from the interviews using thematic analysis, as it is suggested by Braun and Clarke (2006). In this chapter I portray the underlying mistrust, socio-cultural and fear-based beliefs, conspiracy theories, institutional criticisms that lead vaccination is not trusted in polio eradication efforts through the voices of these participants. Themes of skepticism are organized around eight important themes at once, as well as pathways of conditional acceptance.

#### **Theme 1: The Polio Vaccine as a Cultural and Bodily Threat**

Most participants saw the polio vaccine as endangering physical health as well as cultural identity and their control over their bodies. Throughout the interviews the interviewees continuously linked the vaccine to infertility issues that primarily affected men. Many people believed that vaccinated parents fail to produce children who become men. These stories demonstrate deep fear about how gender expectations and birth standards interact with foreign

influences that supposedly damage family traditions. Public declarations that the vaccine triggers male impotence alongside claims about people having only female children demonstrate how fears about masculinity and social stability intertwine with beliefs about the vaccine. **The participant responded vehemently when they said:**

“The phrase ‘polio vaccine’ triggers an immediate association that male infants will stay without children.”

Social beliefs supported by cultural and religious ideologies maintain a strong preference for male children. These concerns about the vaccine spread from one generation to the next and they now dominate community discussions. The protection of reproductive health within rural communities exists under the control of traditional religious customs along with cultural beliefs. Local communities tend to oppose new medical practices because they have learned to distrust previous interventions from outside sources. Multiple generations within the community carry tales about external medical practices that supposedly damaged reproductive functions. **A respondent elaborated,**

“According to my grandmother outsiders who bring medicine wish to destroy the continuation of our family line.”

**Another participant conveyed her concern:**

“Local residents in our village hold the belief that too many drop administrations to children may prevent them from having children one day.”

This extreme symbolic fear demonstrates that the fear of the vaccine extends beyond what it does biologically to what it represents: a threat to generational continuity and male dominance in the family hierarchy, and this is compounded by the sociocultural context in which male offspring are valued more than females. For example, in these settings, son is correlated with social status, economic support and religious duty. This culturally sacred process is something that invokes a lot of apprehension because the possibility exists that in some way a vaccine might somehow interfere with it.

**One mother explained,**

“They say if you give the vaccine the boy will be weak in future life. “He will not marry or become a father.”

This shows how the perceived effects of the vaccine are not only immediate health effects, but also effects on future well-being and social mobility of the child. Consider, for example, such monumentally entrenched fears which require culturally appropriate approaches that deal with symbolic as well as with emotional components of vaccine resistance and not just medical facts; thus, concludes this theme, the reason for vaccine hesitancy lies in the confluence of health, culture, religion and identity. The polio vaccine is seen not as a protective but as a destructive measure towards fundamental values and legacies. More than medical education is needed to address these perceptions: it requires empathy and participation in which cultural meanings are honored and local narratives are addressed.

## **Theme 2: Fear of Fatality, Disability, and Irreversible Damage**

Participants often expressed fear that the polio vaccine could cause paralytic, hospitalizing, or fatal side effects. Usually, the fear comes from community level stories such as neighbors’ children getting sick or disabled after vaccination. Although these are not medically substantiated, they leave a lasting impression and are the emotional basis of refusal.

**A participant revealed,**

“Four years, I haven’t given the drops to my two sons.” He feared that one of them might die.”

**One of the participants spoke of intense fear of polio vaccination saying:**

“I deny the polio drops out of fear of my son's death, because my sons are safe from this vaccine for four years because I am denying them.”

Repeating such sentiments, participants linked vaccination to irreparable consequences and the loss of their children. Even minor post vaccination symptoms such as fever or weakness prompted some mothers into overwhelming panic. **One said,**

"The drops gave my neighbor's child a fever and he couldn't move his leg for 2 days." I couldn't care less about it, that's enough reason for me to avoid it forever."

Some others told of children who allegedly became disabled, without medical proof of such claims. Participants perceive these events as lived truths that create a collective fear of the vaccine. Mistrust was also contributed to by previous health campaigns. **One mother recalled,** "They gave a vitamin injection years ago in our village and two children fainted. We have not trusted outsiders giving us medicines since then."

**Another shared,**

"I never was informed properly what they're giving our children." All they see is good for them. That's not enough."

In addition, the legacy of poorly developed healthcare infrastructure adds to their fears. Complications arose in many of the participants and they reported lack of follow up care.

"There is no one to help us," if something goes wrong"

**Said one mother.**

"They will just leave us after giving the drops." They do not even know their names."

Such experiences foster an environment of neglect, where neglect is both an emotional and rational fear of the past neglect and there are no proper channels of communication between health workers and local families. Respondents said health workers often do not explain the value of the vaccine or what side effects it may have. "They just come and disappear." There was no asking of questions," one woman remarked. Some others demanded that health officials should take time to talk to the community, share educational materials in local language and involve female health workers who are culturally acceptable to commune with mothers. In short, the fear of polio vaccination is not just a result of ignorance but a long history of poor communication, lack of institutional support and negative past experience. Such a campaign will be effective only if it directly faces these fears and provides culturally sensitive, sustained, and transparent engagement with the community. These deeply embedded anxieties are only going to start subsiding once.

### **Theme 3: Misinformation, Social Narratives, and Generational Beliefs**

A substantial amount of incorrect information about the polio vaccine spread through traditional community communication methods and digital media platforms. People relied on social media videos and WhatsApp messages to create doubts about the polio vaccine yet community elders served as important sources for establishing traditional oral knowledge. The fake information networks pretend to have official health advisory tones which makes many users struggle to identify real instructions from dangerous misinformation.

**For instance, one mother said,**

"My aunt informed her daughter received an injection which caused her legs to become disabled."

**A participant shared their updated perception about vaccine drops when they said:**

"When I initially saw the drops, they appeared like normal water but my current attitude toward them is absolute terror about their unknown effects. "

Visual or verbal triggers easily develop into severe anxieties when they receive validation from trusted family members or digital network members. Social media plays a crucial role in spreading misinformation. The participants receive frequent video and voice message alerts that warn about secret intentions within polio campaign activities. The videos present actors who pretend to be medical experts while stating that the vaccine will cause enduring damage

to the body. These messages find acceptance as genuine facts because people lack media literacy skills and have no access to opposing arguments. **One participant reflected,** “A video presentation declared that the drops exist to make children weaker. After watching that video, I stayed awake for many days.”

An important factor is that fear that parents pass down through generations to their children. The stories of vaccination efforts that have been passed on to elderly family members, especially grandparents, are historically dated back to decades ago. **A mother recounted,** “My father did not want me to give my child the drops. He said his cousin’s child died due to the vaccination program. He believes it to this day.”

The longer the misinformation is spoken in intergenerational conversation, the more it becomes than a rumor, but a tradition of distrust, and misinformation not only happens in negative messaging. It is usually an aspect of a wider narrative which manifests itself in religious warnings, moral judgments and community-based myths. Some mothers said they were told that the drops contain substances forbidden in Islam or that taking them is a betrayal of one’s faith. And others heard that children who take the drops could end up with physical or mental problems as they get older; these misconceptions are never challenged because few people have health literacy and medical education isn’t culturally competent. In communities where formal education is minimal, health messages fight the well-established beliefs and elaborate warnings about past tragedies. Misinformation about the polio vaccine in rural Pakistan is a multi-layered issue that results from both digital influence and intergenerational socialization, and over time misinformation becomes belief, which becomes a deeply entrenched behavioral norm. This does not fight, it needs targeted public health communication strategies that talk to the substance of rumors as well as the channels through which they spread. A change in the cycle will have to come from collaborative effort with local educators, religious leaders, and trained digital communicators to create an environment where decisions are informed.

#### **Theme 4: Institutional Mistrust and Health Worker Disengagement**

Most participants demonstrated intense feelings of separation from healthcare facilities together with distrust in government healthcare personnel. During their visits polio workers primarily enforced unknown governmental objectives rather than providing care. People felt harassed or forced even when polio workers maintained respectful behavior because their repeated unwanted visits became overwhelming. The repeated knocking occurs at all hours including the very first moments of morning. People experience an overwhelming feeling that healthcare workers never stop visiting their homes.

**One participant stated. Another added,**

“The presence of police forces together with workers generates feelings of being threatened.” The population expressed concerns about accountability through statements such as: The question remains unanswered about who will take responsibility if my child gets disabilities because of the drop administration. The encounters produce psychological stress which leads to resistance among people especially when fundamental health needs such as disease treatment or maternal care are not available. People develop doubts about institutions because these facilities exist solely to distribute polio drops rather than offering complete healthcare services. Health workers make sudden appearances which they do without warning and without explaining their purpose. The health workers tend to move quickly through their tasks in a methodical manner which prevents any meaningful discussion or reassurance. A mother explained that health workers arrive speedily before disappearing without providing any explanation. The process lacks time for parents to either ask questions or fully understand what healthcare workers give to their children. The absence of explanations creates uncertainty among the community while driving them away from the health system. The study participants also emphasized structural problems which extended past the polio vaccination program. The



respondents expressed disappointment about the state of government hospitals and their staff's unprofessional conduct and lengthy service periods. Patients at government hospitals experience dehumanizing treatment according to one participant's report. The healthcare workers appear weekly to administer mouth drops to our community members. Why this double standard?" This feedback together with public health service dissatisfaction affects how people view the decision-making process for disease prioritization. It contrasted polio programs with other neglected health services. Frequently, they were puzzled by the fact that polio, a disease no one had seen in the village in recent years, had attracted so much more attention and effort than illnesses common in the village, such as hepatitis, malnutrition, or maternal health. The imbalance perceived by them causes suspicions that the polio campaign is a mere cover for some ulterior motives rather than a genuine concern. On the other hand, a couple of participants reported rare but successful encounters with mobile health units providing a wider range of services, such as checkups for women and vaccinations explained in local dialects.

"They gave us medicines for fever free of cost and also listened to our queries."

A participant remembered that was the only time he felt respected. This is an example where the care delivery is trustable when inclusive, respectful and informative. The missed opportunity was to integrate polio efforts with other health needs. Vaccination programs could instead be community engagement tools if they are linked to other health services. Taking this approach would not only boost uptake but also redefine health workers' public image from enforcers to allies. Finally, mistrust in institutions is the result of a long process of abuse and neglect, perceived insensitivity and lack of accountability. So to rebuild confidence, health campaigns need to break away from narrow biological goals and deliver comprehensive care, compassionate communication and continuous community presence. But then only mistrust can be addressed and lasting partnerships can be formed.

#### **Theme 5: Religious Endorsement as a Conditional Gateway**

In many communities, religious leaders have always possessed much influence in the opinions and behaviors of the people. Their endorsement (or lack thereof) regarding health-related decisions can either promote acceptance or resistance. One such example is the polio vaccine where religious leaders' voices decide whether or not people are willing to vaccinate their children. In the discussions, participants split on how to view religious figures as barriers or bridges to vaccine acceptance. These communities were filled with many people who were emphatic that religious endorsement of the vaccine could have a significant impact on their stance on it. This theme is reflective of the close link between faith and public health where the religious authority has a strong grip on social norms and personal choices. One common through of the conversations was the conditionality of religious leaders endorsement. Participants described that if they were vaccinated, then a trusted religious figure, especially if that figure was inside their local community, would lend their support to the vaccine's safety and necessity, would significantly increase their willingness to be vaccinated. **One woman stated,**

"Maybe, if a religious scholar would say it's okay, I'll agree with that."

It is foraying into the terrain of how the religious beliefs often link up with personal health decisions. This statement shows that religious scholars are not only regarded as spiritual guides but also as important people in deciding what is acceptable in modern medical interventions. Nevertheless, there was a notable caveat to this endorsement. Several participants said religious scholars had to be viewed as independent of government control. **Another participant noted,**

"Only if the scholar is not with the government." They must be sincere."

The sentiment of this shows some level of distrust in governmental institutions and by extension, the healthcare systems that are a part of these institutions. Religious scholars were perceived by public as possible tools of the government, which then demanded that religious leaders remain independent and credible. This perspective serves to emphasize the need that any religious endorsement is from a source deemed to be without political or governmental interference, a sentiment which is representative of the broader societal skepticism about the state's motives. The role of independent religious verification is paramount in areas where the government's involvement is highly contested. It is commonly believed that religious leaders are more trustworthy and neutral figures, and when they speak about matters that can directly affect people's lives such as health. It is seen as not only validating the vaccine, but also as a moral and ethical endorsement, beyond the secular authority. This need demonstrates how in real life people actually tend to not be turning to governmental or international health organizations for guidance — often resorting to independent, local personalities for advice that they see as closer and perhaps more trustworthy. Religious endorsement has the potential to change attitudes toward the polio vaccine. There are religious leaders who can reach out to their communities to have a meaningful dialogue about vaccination advantages while preserving their religious credibility and become powerful agents of change. Depending on the context, such endorsements may motivate vaccine uptake, but more often than not they simply give a nod to the fears and doubts of the unvaccinated, to dispel what they may otherwise fear as a lack of endorsement. The complexity of the connection between religion and health in these communities implies neither the existence of a solution all religions can share nor the fact that religious endorsement is not important, but quite crucial and therefore to be carefully nurtured. Additionally, it is evident that the role of religious leaders is not only to simply comment on the vaccine. Some participants said that religious scholars can function as intermediaries between the government and the community. Scholars could bridge the gap between official health advice and local concerns if they could communicate the value of vaccination in such a way as to match community religious values. In addition to legitimizing the vaccine, this form of religious endorsement also places religious leaders at the helm of public health campaigns to eradicate polio. However, this process requires the religious authorities to be well informed about the vaccine and its benefits so that they can communicate these well without misrepresentation of the vaccine. Also, the ongoing mistrust of the governmental and international health bodies complicates the task of getting the majority vaccinated. The government is viewed by many as an entity that is far away from people and does not share their values nor addresses their concerns. This gives the impression of an environment where vaccination efforts upon which government messaging alone relies are confronted with strong resistance. On the other hand, a religious leader's endorsement can be more accessible and more familiar to the local population's beliefs. In such circumstances, religious authority serves as an important gateway through which health interventions can be more successfully introduced and accepted in the settings. However, the religious endorsement of the polio vaccine is a critical way to overcome barriers to vaccine acceptance. As a choice for many, the decision to vaccinate is largely a function of personal as much as a spiritual, faith based, and community-based value. If religious leaders publicly support and endorse the vaccine, they can help change the narrative of the vaccine from being a government-imposed requirement to the community validated health intervention. Nevertheless, for this endorsement to be of any use, it needs to be seen as genuine, and not governed by any government. Only then can religious leaders act as true bridges to help their communities accept the vaccine and, in the process, protect children from the devastating consequences of polio.

### Theme 6: Conspiracies, Political Narratives, and Foreign Interference

One of the most common and emphatic themes to occur was the belief that the polio vaccination campaign is part of a larger foreign conspiracy. The narrative between the campaign and wide health often tied it to Western or Jewish agenda and lent suspicion toward the objectives of the global health movement. A large number of respondents referred to the vaccination drive as a way of controlling Muslim populations, some even went as far as claiming that it was an attempt to harm their children in the guise of providing medical help. The belief is no longer an expression of ignorance but a result of deep-rooted political disenfranchisement, historical traumas of colonial experiences and recent events that have further fueled distrust against global health initiatives. The rhetoric of foreign conspiracies surrounding the polio vaccine reflects a general suspicion and skepticism towards the Western influence in many parts of the world. **One respondent's statement,**

"Children are killed in Palestine and children are saved in ours?" Why? It's all a Jewish plot," It encapsulates the process of how global politics and perception of health intertwine. It embodies the emotional and political weight of the Israeli Palestinian conflict and situates the polio vaccine in a historical injustice, geopolitical manipulation. The polio vaccination campaign is not viewed by these people as a benevolent effort to eliminate disease, but rather as part of a broader effort to undermine or control Muslim populations. In this story, the vaccine symbolizes foreign intervention, and the idea of saving Muslim children is suspicious as the people wonder why they would be doing it. This is a perception that's not new and with deep roots in decades of political disenfranchisement, colonial trauma. The legacies of foreign domination are still being left in the footprints of many of these post-colonial societies and how the intentions of foreign powers are still taken in view. As a result of a history of exploitation and control by colonial powers, many individuals are weary of foreign involvement in their day to day lives, and especially with regard to their personal and sensitive lives. It also posits that local populations are under the influence of external entities, primarily seen as Western powers, to undo the idea that they are under the influence of external entities. The political instability that has dogged so many areas of the Muslim world compounds this skepticism because Western intervention is generally considered self-serving or destructive. Recent global events have also contributed to the conspiracy narratives surrounding the polio vaccine, and in addition to these historical grievances. A key factor in how public opinion has been shaped around how the CIA used a vaccination campaign as part of a covert operation in Pakistan in 2011. It incensed communities already suspicious of foreign influence, as the operation relied on using health workers to gather intelligence on Osama bin Laden's whereabouts. The association of the polio vaccine with espionage only added to the belief that the vaccine was a tool of political manipulation and not a serious health initiative for many. Despite the fact that this historical event still haunts the perception of vaccination campaigns in many parts of the world, especially countries with high political and religious tensions.

These are powerful conspiracies and political narratives because they play to racist and historical injustices that everyone both fears and holds. And since communities are already a long way from having sufficient means for independent access to reliable information and the political participation that matches their living conditions, these conspiracy theories form a means of interpreting the increasingly complex and often threatening world around them. When the polio vaccine is presented in something of a larger geopolitical context, people can translate the perceived encroachment of foreign powers on their lives, extending even to perceived benefits, such as a vaccination campaign. In addition, there is a general distrust of government and international organizations that makes this skepticism about global health initiatives all the more acute. Many governments in many parts of the world have lacked credibility, and health interventions are often political. Many have questioned the motives

behind vaccination campaigns as a result of the fear of foreign interference and manipulation of health systems. This means that even well-meant health initiatives such as polio eradication are suspect especially in areas where political narratives dominate the public discourse. The polio vaccination campaign is not presented as a neutral, scientific endeavor so much as an incarnation of a politically constructed, clientelist conspiracy theory that is also a lens through which to interpret and, ultimately, understand the role that foreign interference has played in US politics. Rather, it is wrapped up into wider geopolitical issues and historic grudges. The polio vaccine remains for many an external control to which they resist, not out of fear of any health risks but out of political and historical context in which they find themselves, suggesting that the belief in outside conspiracies around the polio vaccine signifies the necessity of cultural sensitivity and building trust in global health campaigns. It emphasizes the importance of health organizations and governments to get closer to communities, to hear the historical and political concerns, and to fight against the narratives.

#### **Theme 7: Resistance to Coercion and the Assertion of Autonomy**

Multiple discussions focused on how people strongly opposed being forced against their will while defending their right to make personal healthcare decisions specifically regarding vaccinations. The respondents who took part in the study recognized potential scenarios to vaccinate their children but strongly rejected any method of coercion or threats for enforcing vaccinations. The theme demonstrates how public health measures face challenges because they clash with people's fundamental belief in personal liberties as well as their sense of dignity and their cultural rights. For the community members these coercive measures including police presence and ID card revocation threats and school admission denials were seen as violations of personal rights which resulted in deep resentment. The participants did not oppose the vaccine itself yet they had concerns about the approaches used to promote vaccine uptake. **A mother described her situation by saying,**

"The authorities promised to suspend our identity card unless we provided the required medications. This is oppression."

The statement illustrates how people experience emotional distress because of their feeling coerced. The public health policy of using essential ID cards to punish people found deep resonance with many community members because such an important identity tool should never be used for disciplinary purposes. People felt their fundamental freedoms were violated when the state suggested using coercion to make parents administer vaccinations to their children. The public experience of government control strengthened feelings of alienation combined with distrust between citizens and the state.

**One participant expressed an opinion which captured the feelings of numerous respondents when they said:**

"We are not animals. We want respect."

This is a statement about the strong cultural value to autonomy, and dignity. In many societies, people are very concerned with being able to decide for themselves and for their families without outside interference. Whether or not it is well-intentioned, the use of coercion is considered an affront to their sense of self respect. For people whose choice is taken away their personal agency and autonomy, forcing these people to submit to what should be a voluntary health decision is insulting. In these contexts, the perceived loss of control over choices which are made by oneself, in particular in relation to children's health, is often perceived as a dehumanizing experience. Autonomy is a highly valued cultural and social context which explains the resistance to coercion. Policies that are seen as forceful can backfire in societies where indeed personal dignity, family decisions, are reflected in values of the community. Though the intent behind such policies is to further public health, the means by which they are implemented are of the utmost importance. Cultural insensitive policies that use force will end



up alienating the people they aim to protect. When the vaccine is presented as something you need to do rather than persuade you to do it, it elicits a backlash that is difficult to overcome simply by repeating how important the vaccine is. In fact, this resistance is not only a response to vaccination policies, but rather a broader reflection of social concerns regarding the state's power to intrude on the personal and family affairs. Its use is counterproductive in contexts where government institutions are not necessarily trusted by the public, especially if the institutions do not have a well established reputation for trustworthiness. Some people may consider the actions as politically motivated, then the skepticism and distrust on government initiatives will become stronger. It is particularly the case in communities where the role of the state is either perceived to be overbearing or authoritarian. In such contexts, health policies need to respect, communicate and be culturally sensitive in order to be effective. Rather than coercion, the public health campaigns should be built on trust and an understanding. Community engagement, religious endorsements, and local leader participation in open dialogue about why vaccination matters to the community in a manner consistent with values and beliefs of the community could be this. The theme also stresses the importance of informed consent in health interventions and the fact that, only when individuals feel that their dignity and autonomy are respected, they would be more likely to accept the message, even if they initially find it difficult to accept the message. When people think that their voice is heard and that their concerns are taken care of, they will be more willing to comply with health conscious initiatives. However, coercion is a different story altogether, which creates an environment of fear and resistance, negating exactly the very goals that the policies were supposed to achieve. In this respect, resistance to coercion in vaccination campaigns speaks to a broader resistance to intervention in the form of state coercion. Still, this does not mean that public health campaigns should relegate behavioral changes without balancing the need to protect populations from preventable diseases with the recognition that autonomy, dignity and respect for individual choices are the key issues to settle. Public health is important, but if the means to achieve health goals are not consistent with the cultural values and principles of personal freedom that communities hold as important, then the means will not succeed. The fact that the tactics are coercive means they could result in resentment and mistrust if they are intended leading to the unsuccessful program of vaccination. With public health policies not prioritizing respect, engagement and building of trust, public health policies will not achieve world wide acceptability and cooperation since individuals will feel disempowered to make informed health decisions.

### Conclusions

Based on the data analysis, several important conclusions can be drawn with regard to parental resistance to polio vaccination: First, emotional fears, in particular those of infertility and child mortality, are deeply entrenched and, more often than not, serve to override the scientific information in shaping parental decisions. Such fears are kindled by personal stories, community stories, and by the emotional power Of the few, if not rare, adverse events, whatever (scientific) evidence may be. Information based campaigns which deliberately ignore emotions as an obstacle to their messages are bound to fail, and second, social influence is a major determining factor. Parental attitudes are strongly affected by the opinions of family members, neighbors and religious leaders to reinforce the fear or encourage acceptance. Second, where skepticism is the dominant community norm, refusal becomes socially normative and individual acceptance is socially risky. Third, mistrust of government institutions and healthcare systems is widespread. Parents viewed polio campaigns as externally driven, disconnected agendas promoted by an ill defined healthcare service and unrelated to their immediate healthcare needs—such as access to a quality water, sanitation and treatment for other diseases. Fourth, other conspiracies theories, based in religious,

political and historical grievances are not fringe beliefs but mainstream narratives for many participants; these could not be dismissed by the participants as the embodiment of a global conspiracy theories, they are stories that make considerable sense to many involved, some of whom saw themselves as community leaders. Finally, it is important to recognize that many of the participants also offered practical ways to rebuild trust and expressed conditional openness to vaccination, which suggests that this is an important opportunity. Finally, the study reveals that parental resistance to polio vaccination is a multi-factorial issue that can only be addressed through thorough, culturally sensitive solutions. Science is disseminated but not applied, the public trust needs to be rebuilt, socio-economic grievances need to be addressed and emotions engaged.

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