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Polio Immunization Social Norms in Kano State, Nigeria: Implications for Designing Polio Immunization Information and Communication Programs for Routine Immunization Services

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This study explored polio immunization social norms in Kano State, Nigeria, one of the last polio endemic regions in the world. The study aimed to answer the following research question: what polio immunization social norms exist in Kano, Nigeria? Social norm theory was adopted as a framework to guide the study. An interpretative research paradigm and qualitative method guided data collection, data analysis, data interpretation, and discussion of findings. Twenty-six parents were interviewed using a semi-structured questionnaire. The author used an analytic inductive process to identify 234 narratives explaining polio immunization social norms. The narratives are organized into 10 recurring topics and further collapsed into three emergent categories to explain the polio immunization social norms. Findings interpreted using social norms theory suggest that for there to be a sustained acceptance of polio vaccines through routine immunization, polio information programs must take account of the social norms of parents who are resistance to polio immunization in polio endemic regions. Future research areas for sustained acceptance of the polio vaccines through routine immunization are identified.

As polio case counts decrease, much has been written about the need for sustained polio immunization acceptance through routine immunization (World Health Organization [WHO], 2015). This suggests that routine immunization is critical in sustaining the gains of the Global Polio Eradication Initiative (GPEI). However, in sustaining the gains of the GPEI through routine immunization, significant challenges include limited resources, competing health priorities, poor management of health systems, and inadequate monitoring and supervision (WHO, 2015). In addition, there remains the problem of routine immunization hesitancy; in 2013, for example, an estimated 21.8 million infants worldwide were not reached with routine immunization services, half of the figure live in India, Nigeria, and Pakistan (WHO, 2015). Vaccine hesitancy in the last remaining polio endemic countries remain an issue; a recent study by L. Larson (2015) observed that against the overall progress recorded in

polio immunization, there are persisting challenges facing polio eradication as well as other immunization initiatives. One of the persistent polio immunization challenges is the negative and unhealthy beliefs about polio vaccines. It creates a pool of unvaccinated children thereby increasing the risks of spread of the infection. Vaccine hesitancy was found to be the main cause of polio reimportation in previously free polio countries. Polio reimportation has the potential to erode the gains of the GPEI. In response to ongoing importations of poliovirus into polio-free countries, on May 5, 2014, the Director-General of the WHO declared the international spread of wild poliovirus a public health emergency of international concern (O'Reilly, 2011; Wilder-Smith, 2015).

Recent studies and reports about polio vaccine in the Kano state of Nigeria concluded that “most people are forced to collect the (polio) vaccines unwillingly... (some) take the vaccines because of the meager incentives given to them” (Closser, 2015; Closser, Cox, & Parris, 2014). Others take the vaccine out of intimidation, fear of arrest, and prosecution (*Daily Trust*, 2014; Integrated Regional Information Networks [IRIN], 2011; Mohammed, 2015; News Agency of Nigeria, 2015; Otieno, 2013). Vaccine hesitancy seems to suggest that, when the GPEI program is over, parents are unlikely to comply or accept polio immunization as a routine exercise, as in the case of Anambra state, Nigeria. The state achieved high polio

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vaccination coverage through supplementary immunization activities, but coverage through routine immunization was low (Onyeka et al., 2014). This raises concerns about the sustainability of acceptance of polio vaccines as a routine exercise after the GPEI programs.

To reduce polio vaccine hesitancy and improve voluntary compliance of polio immunization through routine exercise in the last polio endemic regions, there is a compelling need to identify fresh polio information and communication strategies that is suitable to the contexts and situations of parents that are chronically resistant to polio immunization. Social norms approach (discussed in the next section) appears promising in this regard. However, despite studies highlighting the efficacy of social norm theory in addressing risky health behaviors (Cialdini, Reno, & Kallgren, 1990; Walters & Neighbors, 2005), little research has directly explored polio immunization social norms in the last remaining polio endemic regions to inform the design of routine polio immunization information and communication programs. To bridge this gap, this study explored the beliefs of parents and caregivers about polio immunization, as well as the perceptions of parents and caregivers about the attitudes of their peers, friends, neighbors, and significant others about polio immunization.

The study presented a conceptual model of polio immunization social norms in one of the last polio endemic regions of the world—the conceptual model distinguished between descriptive, injunctive, and personal norms. The study offers a scholarly understanding that will assist public health communicators to design routine polio immunization information programs suitable for those who are very resistant to polio immunization. The study also discusses where future research is required in this domain. This article is organized as follows: I first discuss the problem focus of the study, then discuss the theoretical framework—social norm theory: personal, injunctive, and descriptive norms, and the notions of pluralistic ignorance. Next, I describe the methods used to collect and analyze data. Then, I present the findings and subsequently offer a summary of the findings, their implications, and conclusions.

Theoretical Framework

In this section, a framework for understanding the dynamics of social contexts for improving voluntary uptake of polio vaccines during routine immunization is discussed. The framework is grounded in social norms theory (Berkowitz, 2005); it provides a framework for exploring attitude, perceptions, peer influence, as well as “what most people think and do” or “what individuals believe most people think and do” in a community. Social norms have been repeatedly found to be important predictor of a range of behaviors (Cialdini, Reno, & Kallgren, 1990; Walters & Neighbors, 2005). Social norms theory posits that people’s behavior is prejudiced by misperceptions of the thinking, action, behaviors, and practices of their peers and significant others. For example, parents may be predisposed to accept polio vaccine and will want to submit their children for polio immunization but incorrectly assume that other parents are resistant to the

vaccines. When this occurs, parents suppress their healthy polio immunization attitudes and behaviors that are incorrectly thought to be nonconforming and instead to engage in the behaviors that are incorrectly thought to be normative. Consequently, overestimation of risky health practices will cause people to increase their own unhealthy practices. Accordingly, the theory stresses the need to correct misperceptions of perceived norms to decrease unhealthy practices. In this sense, social norm theory is about attitudes—approval and disapproval of behaviors—specifically what should and should not be done in a social context (Sunstein, 1996). Social norms theory consists of descriptive, injunctive, and personal norms (Table 1). Descriptive, injunctive, and personal norms influence attitude, and perceptions (Table 2). Perception relates to information and/or knowledge. Therefore, an important issue to highlight for the purposes of this paper is polio immunization social norms, attitudes and perceptions; and their role on practices, particularly polio immunization information practices. Information is described as anything that can change a person’s knowledge (Marchionini, 1995). Different typologies of information have been reported (Buckland, 1991). Regardless of information forms, people react differently to information which affects their everyday practices and information behaviors (Table 3). In the context of public health, and polio immunization in particular, information and information behavior are critical to the formation of polio immunization perceptions, beliefs, and attitude in the last remaining polio endemic regions. Information communicated to parents about polio either

Table 1. Descriptive, Injunctive, and Personal Norms

Concept	Definition
Descriptive norms	Subjective perceptions of typical behavior in a given situation, it represents the beliefs of people in a social setting (Cialdini & Goldstein, 2004). In public health, descriptive norms are about how commonly (un)healthy behaviors are practiced in a given social context and situation. It thus represents how most people behave.
Injunctive norms	Expectations and or perceptions about what people ought to do or ideally would do (Eagly & Karau, 2002). In public health, this refers to an evaluation of how much others approve of (un)healthy behavior, and encourage or discourage it. For instance, the conclusion that resistance to immunization is acceptable is an example of an injunctive norm. In social settings, individuals rely on injunctive norms because they believe that conforming to societal standards generally leads to acceptance by peers, and failure to conform to group norms may result in sanction.
Personal norms	Individual’s norms related to the acceptability of a behavior. It is the individual judgment about performing or not performing an action (Schwartz, 1977). Personal norms are internally motivated, not motivated by the approval or disapproval of peers.

Table 2. Attitude and Perception

Concept	Definition
Attitude	Refers to a mindset or a tendency to act in a particular way because of prior beliefs and experiences. It represents a person’s favorable or unfavorable evaluations, emotional feelings, and action on an issue, object, or idea (Allport, 1935). Attitude is a frame of mind: liking or disliking something. In public health, for example, parents’ attitudes toward polio immunization encompasses their thought (belief/point of view/cognition); feeling (an affect, sentiment, or emotion), and actions (behaviors). In the context of this study, polio immunization attitudes define how a community behaves toward polio immunization, and it is related to individual and communal perceptions.
Perception	This refers to the process by which individuals interpret and organize sensation to produce a meaningful experience of the world (Lindsay & Norman, 1977). It is the method by which people select, organize, and interpret information to make sense of issues, objects, and ideas.

Table 3. Information Behavior

Concept	Definition
Information behavior	Refers to “the totality of human behaviour in relation to sources and channels of information, including both active and passive information seeking, and information use” (Wilson, 1981).

through communal intersubjective discourses with peers, friends, and significant others or through formal channel by agencies helps in building the internal scheme for either acceptance or rejection of the polio vaccine.

The discussion so far shows that there is a relationship between information, perception, attitude, social norms, and behaviors. An important relationship to highlight for the purposes of this article is polio immunization beliefs, attitudes, and its role on practices especially the role of pluralistic ignorance (Miller & McFarland, 1991). Pluralistic ignorance is a situation when individuals in a social context have similar beliefs and attitudes, but all act contrary to the beliefs and attitudes because they wrongly accept as true that everyone else in the group has a conflicting stance (Miller & McFarland, 1991). Therefore, using the theoretical framework of social norms and the concept of pluralistic ignorance this study seeks to find answers to the following question: What social norms exist about polio immunization information behaviors in Kano, Nigeria? To answer this question, the researchers asked three subquestions: In relation to polio immunization, what (a) personal, (b) injunctive, and (c) descriptive norms exist in Kano, Nigeria?

Method

Because the study intends to explore the social norms of parents and caregivers around polio immunization, an interpretive research paradigm is adopted. Scholars adopting an interpretive research paradigm assume that reality is socially constructed through shared meanings. Interpretive research aims to uncover phenomena through the meanings that people assign to them. This study’s research paradigm sought to understand the social context of polio immunization behaviors. Because this study aimed to understand the social norms of parents and caregivers in social and cultural settings, qualitative research method was adopted. Qualitative research is an inquiry that explores a social or human problem (Creswell, 2009); it builds a holistic picture and reports detailed views of the informants in their natural settings. It is also useful in collecting culturally specific information about the values, opinions, behaviors, and social contexts of particular populations.

Research Design

The study location is Sumaila town, Kano state, northern Nigeria, population 250,379 (National Population Commission, 2010). To be eligible to participate, a person must be a parent or caregiver, and must have been a resident in Sumaila town for over 24 months (2 years).

Sample

Purposive sampling was used for this study. The objective of purposive sampling is to focus on particular characteristics of a population that are of interest, and that will best enable the researcher to answer the research question. 26 individual were selected for this study.

Data Collection

Data were collected through semi-structured, in-depth interviews. In-depth interviews allowed respondents to provide detailed insights into their social norms related to polio immunization. The domains of the interview were framed by the constructs of social norms theory: descriptive norms, injunctive norms, and personal norms.

Procedure for Data Collection/Gaining Access

Six people participated in collecting data. In all, 30 interviews and one focus group interview session were conducted. Of the 30 interviews conducted, a total of 26 interviews were transcribed, coded, and analyzed. Four individual female interviews were not included in the analysis of data because one of the female research assistants could not meet the due date for the submission of the transcribed interviews because of unforeseen family circumstances. The results of the focus group interview are also not included for analysis because of the time pressure to complete this study.

To uncover descriptive norms, parents were asked to describe their beliefs about what peers, friends, and significant others do or are expected to do with regard to polio

immunization. To uncover injunctive norms respondents were asked to discuss the approve polio immunization behaviors and encourage it, or how they disapprove of specific polio immunization behavior and discourage it. To uncover polio immunization personal norms, the investigator simply asked parents to discuss their opinions around polio vaccines and polio immunization, and/or their emotional reactions to polio vaccines and polio immunization. Interviews took place until saturation was reached. Saturation is the point when, during qualitative data collection and analysis, there are no new data emerging (Given, 2008).

The study protocol was approved by the institutional review board of the Ahmadu Bello University Zaria, Nigeria, ensuring that the rights and welfare of all study participants were protected. The interviews took place on August 22 and August 29, 2015. The focus group discussion lasted 56 min, and each individual in-depth interview lasted between 27 to 45 min. With the consent of the respondents, each interview was recorded using cell phone devices. The interviews took place in four locations in Sumaila town: Mahauta ward (four male interviews), Mandawari ward (four male interviews), Kofar Fada ward (two male interviews and one focus group), and Liman Ya’u LittaHafizul Qur’an Islamic School, Kofar Fada, Sumaila (20 female interviews). The interviews and focus group discussions were conducted in Hausa and translated into English. To facilitate access to the study area, a letter of introduction from Ahmadu Bello University Zaria, Nigeria, was presented to the District Head of Sumaila (the Dan Ruwanta Kano), who instructed the village Head of Sumaila Kudu to facilitate access. Light refreshments were provided for the male respondents, and N200 (about U.S. \$1) were given to each of the female respondents, to make up for any potential economic losses resulting from time spent at the interview sessions.

Data Analysis

The audiotape interviews were transcribed verbatim. The investigator, with the assistance of eight student volunteers from Ahmadu Bello University analyzed the data. Analysis of the transcribed data involved identifying statements and narratives that define or represent the social norms of parents on polio immunization. The researcher, with the help of the eight research assistants, manually selected words, sentences, and phrases that described respondent’s polio immunization social norms and beliefs, as well as their perceptions of the attitudes of community members. The selected narratives (passages from the transcribed interviews—sample presented in Table 4) were then analyzed and sorted into categories based on similarities identified among the significant statements based on a methodology outlined by Krippendorff (1980), Krathwohl (1998), and Kitchin and Tate (2000): open coding, axial coding, and selective coding.

Table 4. Template for Coding Narrative Data

Example of text passage from selected interview	Code	Sub-categories	Categories
I can only allow them to vaccinate my children if I am forced by the local authority. But if I should be given the option I would not vaccinate them. It is because the local authority are more powerful than me, that is why I have to vaccinate my children			

Findings and Analysis

Data in the form of phrases and sentences about polio immunization attitudes in Sumaila, Kano State, were collected from 26 respondents representing a diversity of voices on this topic. The responses provided multiple views and insights into the complex polio immunization social norms in Sumaila.

Interview Analysis

Each of the 26 interviews was transcribed, read, examined, and reexamined using an analytic inductive process described by Creswell (2013) where the “researcher works back and forth between the themes and the database until the researcher has established a comprehensive set of themes.I highlighted and recorded into the coding sheet 234 narratives explaining polio immunization social norms. To code the highlighted narratives, I used an iterative analysis method with a series of steps informed by Krathwohl (1998). I followed these steps and, with the help of eight research assistants, read through the data looking for variances and similarities in the narratives.

I identified 10 recurring topics (Table 5) as classification subcategories for polio immunization social norms.

Table 5. Classification Subcategories for Polio Immunization Social Norms in Sumaila Town, Kano State, Nigeria

Subcategories
1. Parents accept polio vaccine because they believe it is important.
2. Parents believe polio immunization is of no value.
3. Parents believe in being receptive to polio health workers.
4. Parents believe polio vaccines is a good medication.
5. Parents are accepting polio vaccines.
6. Parents do not accept polio immunization.
7. Wives need encouragement from husbands.
8. Parents do not approve of the non-acceptance of polio immunization.
9. Parents do not approve of coercive behaviors by local authorities during polio immunization rounds.
10. Parents approve of voluntary acceptance of polio immunization.

Table 6. Description of Three Emergent Categories for Polio Immunization Social Norms in Sumaila Town, Kano State, Nigeria

Category	Description
Personal norms	The norms and beliefs of parents regarding the acceptability of polio vaccine, polio immunization, and polio health workers. It relates to the judgment of parents in polio endemic regions about submitting or not submitting children for polio immunization.
Descriptive norms	The behavior of most parents with regards to polio immunization, polio vaccines, and polio health workers in polio endemic regions.
Injunctive norms	It is a description by parents in polio endemic regions about the polio behaviors that most others approve or disapprove.

The classification subcategories were then further collapsed into three emergent categories. Table 6 presents the descriptions of the three categories, while Table 7 displays the three categories (conceptual model) arranged by subcategories, frequencies, and percentage of frequencies. Figure 1 presents the data analysis steps.

Personal Norms of Parents About Polio Immunization

Parents were asked to discuss their evaluations of polio immunization, and polio health workers in terms of their personal belief, attitudes, and emotional reactions. Of the 234 responses for this study, 80 responses (34.2%) represent polio immunization personal norms. Four categories depicting polio immunization personal norms emerged from the 80 responses (Table 7). The four categories are subsequently explained and presented from primary issues to particular concern.

Parents Accept Polio Vaccine Because They Believe It Is Important

The research found that many of the parents interviewed have changed their perceptions and beliefs about the polio vaccine. Initially, when the polio vaccine was introduced, parents had negative attitudes and beliefs about the polio vaccine, polio immunizations, and polio health workers. A female respondent noted, “In the past, I do not believe in polio vaccines, and do not immunize my children, but I have since discovered that this is an erroneous belief. I now accepted it (polio immunization) fully and wholeheartedly.” In the same vein, another respondent observed, “Previously, I thought the vaccine (polio) is harmful and dangerous to

Table 7. Polio Immunization Social Norms: Categories Arranged by Subcategories, Frequencies, and Percentage of Frequencies

Category	Subcategory	n	%	
Polio immunization Personal norms	• Parents accept polio vaccine because they believe it is important	33	14.1	
	◦ Voluntarily accept polio vaccines			
	◦ Believing polio vaccine is not harmful			
	• Parents believe polio immunization is of no value	19	8.1	
	◦ Polio vaccine contains birth control hormones			
	◦ Polio vaccine is not important			
	◦ Parents are forced to accept the polio vaccine			
Group total	• Parents believe in being receptive to polio health workers	15	6.41	
	• Parents believe polio vaccines is a good medication	10	4.27	
	• Others	3	1.28	
	•A disease from God			
		80	34.2	
	Polio immunization Descriptive norms	• Parents are accepting polio vaccines	42	17.4
		• Parents do not accept polio immunization	18	7.69
• Wives need encouragement from husbands		12	5.13	
• Others				
◦ Parents should obey authority		2	0.85	
◦ Children request for gift from polio health workers		3	1.28	
◦ Children are expected not to be afraid		3	1.28	
Group total		80	34.2	
Injunctive norms	• Parents do not approve of the non acceptance of polio immunization	35	14.96	
	• Parents do not approve of coercive behaviors by local authorities during polio immunization rounds	31	13.2	
	• Parents approve of voluntary acceptance of polio immunization	8	3.42	
Group total		74	31.6	
Grand total		234	100	

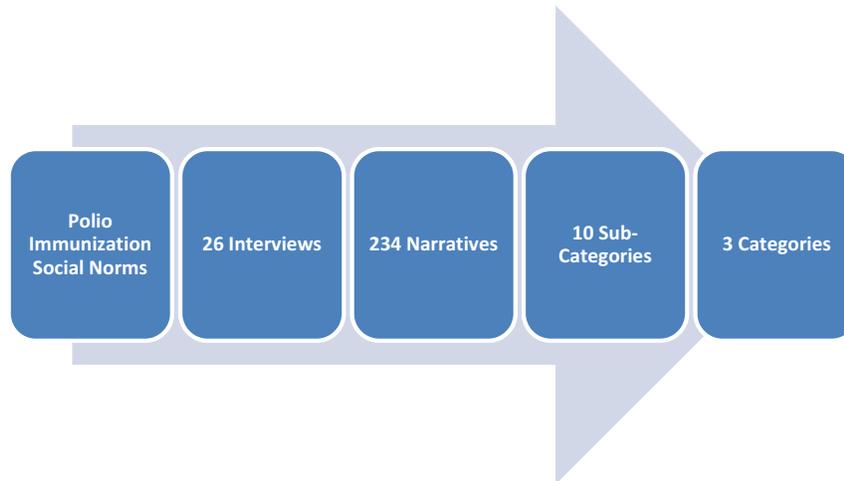


Fig. 1. Data analysis steps.

children, but there is public enlightenment and awareness now. In the past we hide our children when polio vaccinators visit.”

Research results showed that the majority of parents interviewed have noticed a decline in the number of polio cases in their community over the years. One male respondent noted, “In the past several children suffer from this (polio) disease, but by the grace of Allah (God) now we have only one house (child) suffering from polio.” Another male respondent observed, “Since the (polio) vaccine was introduced and people start believing on it, the disease has reduced.” Another parent remarked, “I accept polio vaccines with clear mind without fear.”

Parents Believe Polio Vaccines Are a Good Medication

This category includes narratives related to parent’s beliefs about polio vaccine as a medication that is not harmful. Parents interviewed believe that the polio vaccine is a medicine that has the capacity to reduce the chances of a person getting infected by polio. One respondent observed, “Polio vaccine is a medicine that when it is given to a child, it gives health and calmness.” In the same vein, a female respondent noted, “Polio vaccine is good, it is aimed at eradicating the disease that is causing havoc to the society. I have no doubt it is a genuine medicine given to prevent disease (polio).” Closely related to the belief that the polio vaccine is a good medication, the research showed that there is a conviction among parents that the polio vaccine is the result of medical advancements in the 21st century, bringing progress and well-being to the people. One male respondent observed, “Polio vaccine is a development in medicine. It is given to cure disease. I believe in it, because prevention is better than cure.” Respondents in this category also believe that parents, who refuse to immunize their children, are not enlightened.

As one male respondent observed, “any person that rejects polio immunization is not civilized.”

Parents’ Belief in Being Receptive to Polio Health Workers

Closely related to the belief that the polio vaccine is a medication that can protect children from polio infection, is the emotion of parents toward polio health workers. Parents interviewed reported a strong belief in being receptive and hospitable to polio health workers. One female respondent noted, “Whenever the polio workers come to our house, they will enter my room and immunize the children, even if I am sleeping you hear them say ‘came out, wake up and give us the children to immunize.’” Another female respondent observed, “I feel very happy whenever they are around because they brought a good remedy for a problem, without them there will be a serious problem for which we do not have a solution.” Equally, another respondent reported, “If polio health workers visit us we welcome them by offering them a place to seat and then we bring children to be vaccinated. We also offer them (polio workers) food and also buy them cow milk or give them pure water as a sign of our appreciation.”

Parents Believe Polio Immunization Has No Value

This category includes narratives related to the notion and belief that polio immunization has no relevance. Some of the parents interviewed believe that the polio vaccine is a birth control strategy. One respondent argued, “Polio immunization is a birth control mechanism and European way to control birth rate.” This was echoed by another male respondent, “Polio immunization kills children’s reproductive cells at their infancy.” Another male respondent observed, “In my opinion, it is a medication pretended for that disease (polio). I don’t trust it at all.”

Injunctive Norms of Parents About Polio Immunization

To uncover injunctive norms, parents were asked to describe their expectations and or perceptions about what peers, friends, and significant others ought to do or ideally would do with regard to polio immunization. Of the 234 responses for this study, 74 (31.6%) responses represented polio immunization behaviors and attitudes that are judged to be acceptable, expected, or correct (injunctive norms) within the study area. Three categories of injunctive norms (Table 7) emerged from these 74 responses and are subsequently discussed.

Parents Do Not Approve of the Nonacceptance of Polio Immunization

This category reveals the evaluation of parents related to the nonacceptance by community members of polio immunization. Finding indicated that the respondents do not approve of the practice by some community members to refuse polio immunization for their children. As one respondent noted, "Some of them (parents) in villages, I mean our friends and brothers think the vaccine is harmful. However, we always educate our brothers in the villages that the polio vaccine doesn't harm our Muslim children." Findings indicate that many of those who resist polio immunization, reside in rural areas and are considered to be ignorant or not civilized.

Parents Do Not Approve of Coercive Behaviors by Local Authorities During Polio Immunization Rounds

Respondents reported on the use of intimidation and coercion during polio immunization campaigns. Harassment, intimidation, and coercion are detestable polio immunization behavior as expressed by respondents in this study and research showed that many parents do not approve of this practice. One respondent observed, "Some of the people I knew agree to immunize their children because they want to avoid harassment from government officials." Another respondent indicated, "Parents are forced to accept (polio vaccine) they do not have any option." Similarly, a male respondent reported, "Parents are overpowered over this (polio immunization), children are immunized forcefully in school without the consent of parents."

For this reason, community members expect parents to submit their children for polio immunization to avoid government harassment. One respondent noted, "When polio workers visit, the expectation is for parents to submit their child for immunization to avoid the embarrassment of noncompliance."

Research revealed that parents that are chronically resistant to the polio vaccines are at risk of being arrested by local authorities in the study area. A male respondent reported having witness an instance in which a father was arrested for refusing to submit his children for polio immunization: "In my presence, someone was arrested because he refused to immunize his children against the

polio vaccine." Equally, a female respondent observed, "In this community, if fathers refuse a child to be immunized against polio, he will be in trouble, uhhmm I mean it can cause him lots of problem. It can lead him to jail."

Parents Approve of Voluntary Acceptance of Polio Immunization

Findings reveal that some respondents have positive perceptions of the attitudes of peers and significance others toward accepting polio immunizations. As one female respondent observed, "My friends and parents are all accepting the vaccine; the men mostly do encourage us very well on polio immunization vaccine." This is confirmed by another respondent, "Yes, sincerely speaking, we all agree with the vaccine and we received it with my friends and relatives, none of us reject the vaccine."

Descriptive Norms of Parents About Polio Immunization

To uncover descriptive norms, parents were asked to describe the common polio immunization behaviors. The objective is to understand common behaviors around polio immunization acceptance and resistance in the area. Descriptive norms thus represent how most people behave in respect to polio immunization. Respondents were asked to state the common behaviors of parents when polio immunization workers visit. Of the 234 responses for this study, 80 (34.2%) responses represented polio immunization descriptive norms. Looking at the results, three categories of descriptive norms (Table 7) emerged from the 80 responses and are described.

Parents Are Accepting Polio Immunization

One of the most common polio immunization behaviors in the study area is the acceptance of polio immunization. As one female respondent observed, "As soon as the polio vaccinators called, no any arguments and fights, just bring your children to them, but before, in the past, some men do not allow the polio vaccinators to come inside their houses, they even blocked the entrance." In the same vein, a female respondent noted, "Parents are expected to cooperate and present children for immunization without any fear or pressure from the polio workers, to me by doing this, we have given our total cooperation to the polio vaccinators."

Parents Do Not Accept Polio Immunization

Another polio immunization behavior is that parents are not accepting polio immunization. Parents interviewed indicated the prevalence of opposition to polio immunization. The following are some of the responses that attest to this: "Yes! Some people say is a family planning strategy so they refused to allow their children to be given the immunization, some parent even stop their children from going to school during the period in order not to be immunized, you will even hear the children saying that their parent asked them to stay at home so as not be

immunized in the school, but me and the people I live with do immunize our children, even now there are some houses that doesn't do it and will never allow you to immunize their children." Equally, a female respondent observed: "It is only among friends that one can get those that don't support it (polio immunization). They use to say they don't know about it importance. As far as they (parents) are concern since they are healthy their kids will also be healthy.

Findings also indicate that parents, who do not accept the vaccines, tend to behave impolitely toward the polio health workers. One of the respondents observed, "People behave rudely to vaccinators." An exception to the rude behavior is when polio health workers present gifts during vaccination visits. As one female respondent observed, "Some women do not even acknowledge vaccinators in their house, especially if they are not interested in the polio immunization. Exception is when the vaccinators come with soap or whistle (during polio plus). . . ."

Wives Needed the Support of Husbands to Submit Children for Immunization

This category reflect the desire by wives for maximum support from their spouses on polio immunization. A female respondent observed, "Fathers should be encouraging and give permission to their wives to present children for immunization whenever polio workers visit."

Discussion

Polio Immunization Personal Norms

Two opposing polio immunization personal norms prevail: parents who believe that polio immunization is very important (healthy polio immunization behavior), and those that believe polio immunization has no value (unhealthy polio immunization behavior). Those that believed on the importance of polio immunization considered the vaccine a good medication byproduct of 21st-century development in medicine to improve the quality of life of children. They also believed that polio immunization health workers should be given a welcoming reception during polio immunization rounds. The second category of polio immunization personal norms includes parents who do not believe in the importance of polio immunization. Negative polio immunization beliefs leads to polio vaccine hesitancy. For example, parents that resisted polio immunizations during the Global Polio Eradication Initiative are particularly unlikely to receive the polio vaccine during routine immunization after the GPEI.

To sustain the gains of the GPEI programs in the last remaining polio endemic regions, there is an urgent need to redesign polio immunization communication to focus on changing the negative and unhealthy personal beliefs about polio immunization. In this sense, routine polio immunization information programs must be rooted on

healthy polio beliefs. An example of a communication message embedded in healthy polio immunization belief would be: "As a father/mother, I believe polio immunization is a potent medicine against polio" or "As a father/mother, I have immunized my children against polio. What about you?" Similarly, applying personal norms construct polio communication officials can design information programs by identifying real parents of victims of polio regretting their actions of not submitting their children for immunization. This strategy is affective in changing behavior, studies have highlighted the efficacy of attributing responsibility in behavioral change communication (Ajzen & Madden, 1986; Harland, Staats, & Wilke, 1999; Schwartz, 1977; Schwartz & Howard, 1984). The application of personal norms is potentially useful in behavioral change communication. It has the potential to motivate those with risky health behaviors to revisit and rethink their unhealthy personal norms (Ajzen, 1991; Godin & Kok, 1995; Kinzig et al., 2013).

Polio Immunization Descriptive Norms

Three major polio immunization descriptive norms are identified in this study: Parents are accepting polio vaccines, parents do not accept polio immunization, and wives need encouragement from husbands to accept polio vaccines. These descriptive norms are potentially useful for designing routine polio immunization information programs. For example, polio communication officials can identify a healthy polio immunization descriptive norm and publicize it as the prevalent and appropriate group norm. The objective is to get parents who are chronically resistant to polio immunization to want to conform to the publicized group norm. The descriptive norm approach to behavioral change has proven to be effective (Burger et al., 2010; Cialdini, 2005; Schultz, Khazian, & Zaleski, 2008; Schultz et al., 2007).

Polio Immunization Injunctive Norms

This study also identified polio immunization injunctive norms: approval by some parents to submit children for immunization, and a conflicting injunctive norm expressed by parents that it is fine for parents to refuse polio immunization. Another injunctive norm relates to the fact that parents do not approve of the use of force and intimidation on those that resist polio immunization. Injunctive norms have implications for designing routine polio immunization information services in the last polio endemic regions. For instance, since individuals rely on injunctive norms because they feel that conforming to the norm leads to rewards and failure to conform leads to retribution; routine polio immunization information programs should focus on highlighting healthy injunctive norms in the community.

Study Limitations

Sampling in qualitative research usually relies on small sample size with the aim of exploring in-depth analysis of events in specific context (Miles & Huberman, 1994; Patton, 1990). Therefore, analysis and conclusions are based on a limited number of respondent. Consequently, findings are unique to the study population. Despite these limitations, the study has described idiographic causation of contextual and social dynamics of polio immunization information resistant in one of the last polio endemic regions. Furthermore, the study has inductively generated a conceptual conjecture of polio immunization information resistant in polio endemic region.

Future Research

To achieve a sustained demand for polio vaccines during routine immunization, there is a need to conduct more research on polio immunization social norms. In particular, since polio immunization social norms are context specific, there is the compelling need to explore personal, injunctive, and descriptive polio immunization norms in other last polio endemic locations in Nigeria. Similarly, there is the need for research to identify “important” individuals in subgroups that have social influence in polio endemic locations in Nigeria, Pakistan, and Afghanistan. This is critical because behaviors and beliefs are influenced by community members through intersubjective discourse with people that the social group regards as important. Most important, there is a need to determine in what way parents’ polio immunization behavior in public (injunctive norm) does/or does not correspond to their private personal belief (pluralistic ignorance).

Conclusion

Behavior change experts have studied risky behavior using social norms. Understanding social norms: personal, descriptive, and injunctive norms can inform the design of suitable polio immunization information and communication programs for parents that are chronically resistant to polio immunization in the last remaining polio endemic areas.

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