

Why Polio Eradication Program was not Successfully Implemented in Pakistan?

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Abstract

Lots of efforts have been made to make Pakistan a Polio free country for the last two decades, but, Pakistan struggle to be polio free country is not prolific. Pakistan health sector developed the vigorous strategies for the eradication of the polio in Pakistan, but value of all the strategies is only well documented pieces of paper in plan development due to ineffective implementation. The purpose of the study is identifying the potential factors that are influencing the successful implementation of polio program in Pakistan. The sample of the study was 250 respondents from potential stakeholders like Officials of EPI, Official of Ministry of IPC, Official of Health vertical program, International stake holders, clergy, Parents of affected children and Health worker. The exploratory factor analysis was used to identify the factors that influence the implementation of the polio eradication program in the Pakistan. The confirmatory Factor analysis was used to confirm these explorative factors and model fitness. The result of the exploratory factor analysis shows that there are 6 potential factors which Eigen value is greater than 1 like content, contextual, operational, Leadership, Structural & cultural and Social factors. Confirmatory factor analysis result identifies context dimension (0.98), content dimension (0.81), operational dimension (0.44), structural and cultural dimension (0.67), leadership (0.89) and social are (0.28) as effective factors on the failure of polio eradication program in the Pakistan. It is concluded that proper implementation of the polio eradication program is possible through considering the effects of these factors more important than formulation of new policies and plan; otherwise these policies are nothing except well documented pieces of paper in health ministry and Pakistan will not free from polio.

Keywords: Failure of Implementation, Polio Eradication Program and Factor analysis

1. Introduction

1.1 Background

Polio is caused by a virus called the human enterovirus. In the early 20th century, polio was one of the most feared diseases in the developed countries, disabling thousands of children every year. Shortly after the introduction of effective vaccines in the 1950s and 1960s, however, polio was brought under control and practically eliminated as a public health problem in these countries. It took a bit longer for polio to be recognized as a major problem in third world nations (World Health Organization, 2013). Lameness Surveys (1970) revealed that the disease was also prevalent in developing countries. Consequently, in the 1970s routine immunization was introduced in all parts of the world as part of national immunization programs, which helped to control the disease in many developing countries. In 1988, when the Global Polio Eradication Initiative started, polio disabled thousands of children around the globe each day. Afterwards, approximately 2.5 billion children were immunized against polio in collaboration with more than 200 countries and 20 million volunteers, supported by the international investment of more than 8 billion US dollars. The number of polio cases have decreased by more than 99% since 1988, from an estimated 350 000 cases then, to 650 cases reported in 2011. In 2012, only three countries i.e. Afghanistan, Nigeria and Pakistan remained where polio virus still existed, from more than 125 countries in 1988. As long as one child remains infected, children around the world are at risk of potential polio disease. If polio is not eradicated from these last three remaining countries, it could result in as many as 200 000 new cases every year, within 10 years, all over the world (World Health Organization, 2013). Pakistan launched the "Expanded Program on Immunization" in 1978. It aims at protecting children by immunizing them against childhood diseases. The objective of the program is to reduce mortality and morbidity resulting from childhood diseases by immunizing children of the age of 0-11 months and pregnant women. Preventive vaccines have been developed and large regions of the world have been declared polio-free. It is regrettable that Pakistan is losing its war against polio. A series of stories in the print media in recent times about the polio disaster have shown criminal ignorance of our health sector. Pakistan launched itself on the long road

to eradicate polio in 1994, showed remarkable success. Set up effective surveillance cell and conducted national immunization days. The number of polio cases in the country fell from 1,155 in 1997 to only 28 in 2005. Then the crisis came due to the war on terror in the tribal areas. Many areas became inaccessible to vaccination teams and the migration of population from war-torn areas became a common phenomenon. Polio made a comeback and in 2011 the Geneva-based Global Polio Eradication Initiative (GPEI) reported highest cases of polio in Pakistan around the world for the second consecutive year i.e. 198 cases. In 2010, the number of polio cases in Pakistan was 144. Resultantly, Pakistan has now been considered a polio danger zone. We thus have an enormous share in the total number of identified cases around the world i.e. 647. The international community shows its great interest in Pakistan's polio policy today because of the fact that one case here means a child anywhere around the world remains vulnerable. This argument has been justified by our recent success in exporting the virus to China which recorded 18 cases of polio with the strain of the virus being traced to Pakistan. Multiple factors are responsible for this failure. Broadly it may be due to high level of poverty and the near-collapse of the structure of the provision of health services in Pakistan which have made polio eradication a great challenge. Generally the immunization strategy is said to be flawless but not its implementation. Consequently, after lapse of 19 years of continuous progress and all the international assistance Pakistan has been unable to eradicate polio and yet not Polio free country (Zubeida, 2012).

1.2 Problem Statement

Pakistan has been unable to eradicate polio due to poor implementation of polio eradication program.

1.3 Objectives of the Study

Following are the main objectives of the study

1. To explore the main factors that lead the implementation of polio eradication program toward Failure in Pakistan?
2. To confirm these explorative factors that influence the successful implementation of polio eradication program in Pakistan?

1.4 Research Questions

Following main questions form the basis of this research

1. What are the main factors that lead the implementation of polio eradication program toward Failure in Pakistan?
2. What are most important factors that influence the implementation of polio eradication program in Pakistan?

2. Literature Review

The policy is defined as a set of decisions and actions that are designed to achieve an organization's vision, mission, and objectives and are related to the organization future performance. Policy determines the organization long term goals objectives and the ways to which these organizational goals and objectives can be achieved (Chandler et al 1975, Hixsen et al. 1986 & Dean et al. 2005).

Policy implementation is combination of necessary action and steps to implement policy in organization. Policy implementation is more important than its formulation and it is a key to superior organizational performance. Ineffective policies can be implemented successfully. Effective policies can be implemented poorly. Neither one is desirable. Desirable outcomes are achieved only when effective programs are implemented well (Jooste & Fourie, 2009, Miller et al. 2007 & Fixsen et al. 2001).

The main reason of failure of the policy plan implementation is lack of appropriate models and frameworks to guide the management and staff which are involved in implementation of the policy in well known organizations (Alexander, 1991). Feurer et al. (1995) identified another significant reason for the failure of the policy plan in organization is the lack of communication among the policymaker and staff and management. There are many organizations which have effective policies but due to lack of commitments of the policy maker and lack of policy leadership, these potentially effective policies do not generate the fruitful results. The main reason behind the failure of the policy implementation is lack of interest and commitment of leader's (Kalali et al. 2011 & Jooste & Fourie, 2009). Katie Burke et al. (2012) identified the key factors that facilitate effective implementation like consultation with relevant stakeholder, leadership that provide guidance and vision to implementers and encourage them to participate in the implementation process to overcome the challenge during the process, implementation teams who have particular expertise in the implementation of a policy or service and are responsible for guiding the overall implementation process, organizational support to help the staff to implement policy, effective communication among the staff that motivates the employees, effective monitoring and evaluation system that help to identify risk to implement and inform future action.

Katie Burke, et al (2012) also emphasized on the number of factors that hinder the implementation process like external environment that further includes existing structure of the implementing organization, processes within the organization including research and development. Faris Islam, (2012) further identified impacts of global

politics, security situation in Pakistan and intra country and cross boarder migrations as factor in external environment that also hinder implementation of Pakistan’s polio eradication program.

Resistance to change also affects the implementation process that includes lack of motivated leadership, lack of employee participation in decision making. According to Global Polio Eradication Initiatives (GPEI) Report, (2011) field health workers are not motivated enough, lacking ownership of the program and there are issues of governance in the wake of 18th Amendment in the constitution. One source pointed out ‘ghost’ vaccinators who draw huge allowances but do not exist. Hussain A. Gezari. (2012) explored that the biggest hurdle in making Pakistan polio-free was holding district health officials properly accountable. According to Faris Islam (2012) another major reason for the predicament of polio in Pakistan is the religious controversy surrounding the vaccine. The Pakistani Taliban announced that they oppose the polio vaccine as an article of faith. Emerging Infectious Diseases Journal of the CDC explains some of the opposition to the immunization by describing how local Taliban issued a “fatwa” denouncing vaccination as a ploy of Americans to sterilize Muslim population. A last common myth spread by some groups is that vaccination is an attempt to avoid God’s will. In some parts of the country children are being deprived to get the vaccine. Capacity building of staff is a key element of the implementation and plays pivotal role in ensuring the achievement of the desired results. Careful selection of staff, quality training and ongoing training and assistance are crucial in building capacity in staff for the effective implementation. Organizational culture is a set of norms and values and beliefs that exist within the organization. For innovation to be implemented successfully, should become an integral part of the culture within the organization or system. If organizational culture is at odds with innovation, the implementation of the innovation must seek to change behavior and attitudes within the organization to ensure effective implementation. This can be a long process and requires a rejection of the culture of the list, and re-learn a new one (Katie Burke et al. 2012).

Interactions among actors must be considered as obstacles to execution. It may include Cooperation; active cooperation is possible when both parties have a common goal including the goal of stopping implementation of a policy. Passive cooperation indicates that one or more actors adopting a relatively passive approach to implementation of the policy instrument under consideration and forced cooperation is a form of passive cooperation imposed by a dominant actor. Actors at a particular organization or level within a network know their own and their organization’s role in implementing a policy or program but cannot see the larger pattern of interactions within the network, making it difficult for individuals or single organization to fully identify where barriers to implementation are occurring (Senge, 1990). Interaction predicts the level of collaboration among actors, which, in turn, influences implementation of the policy (Alesch et al. 2007).

Eradication of polio in Pakistan is greatly affected by the weak service delivery with fewer children reached. According to World Health Organization the campaign conducted in July 2012, 6,000 children were missed in Islamabad alone. Recent deaths from measles have indicated serious weaknesses in our vaccination program. As warned by Philip Minor of the British National Institute for Biological Standards and Control, in a commentary published with the study, the virus can be spread to polio free areas. Obviously, if single country around the globe has poliomyelitis the entire world will be at risk.

3. Frame Work

Table 1

Detail of the Dimensions of the Factors

Factors	Detail
Content	Content cover all the problems and deficiencies involve in the policy content during its formulation.
Contextual	Contextual factor cover hurdles regarding external and internal atmosphere of the health sector.
Operational	An operational factor describes the difficulties to the staff and team during the polio vaccination in Pakistan.
Structural and cultural	Structural and cultural factor explore the supports and hurdles of culture and structure of health sectors to polio program and staff.
Leadership	Leadership factor defines the deficiencies and least interest of the leadership toward the polio eradication in Pakistan.
Social	Social Factor covers the threat and opportunities to the polio staff from different actors of the society.

4. Research Methodology

The existing research is conducted to identify the potential factors that influence the successful implementation of the polio eradication program in Pakistan. Researcher focused on the elements and dimension which are

extracted from the previous literature review and expert's opinion by using the Adelphi technique about the program implementation. After the collection of relevant variables to polio program than researcher first applied the exploratory factor analysis in Satata 12 on the problem which are faced by the staff and health department. The purpose of the exploratory factor analysis is to explore the main potential factors that influence the implementation of polio program successfully.

Finally these exploratory factors have been confirmed through the confirmatory factor analysis in LISREL 9.0 and Stata12. For the factor analysis five likert's scale instrument was used for the data collection. The reliability and validity of the questionnaire was checked through cronbach alpha and factor analysis, value of the alpha is 0.879 which shows that instrument is reliable and valid for the data collection.

5. Data Analysis

5.1 The Results of Exploratory Factor Analysis

It is required for the factor analysis that pre-assumptions of the factor analysis should be completed and accurate according to standard rules. it was initially determined by Kaiser-Mayer-Olkin (KMO) measure and Bartlett's test that the number of data is suitable for factor analysis. The result of the test shows that KMO 0.93 is higher than standard value 0.70, Approx. Chi-Square 19334.492, df 253 and Sig 0.000 ($P < 0.05$) which shows that factor analysis is suitable for identifying the studied structure.

5.2 KMO and Bartlett's test

The results of the table 3, 4 regarding the variance explained by these elements are 71 % which shows that model contribution toward the failure of the polio program is significant and the elements of the research were loaded under the categories in 6 factors that are content, contextual, operational, Leadership, Structural & cultural and Social factors.

5.3 Confirmatory Factor Analysis

Figures 1 provide obtained model from exploratory factor analysis and show effective variables on the failure of strategic decisions implementation in 6 factors. Thus, Polio eradication program better performance in these 6 factors are less failed in program implementation. Chi square is 19334.4, Degree of freedom is 253 and $P < 0.0000$ RMSEA 0.087** which is less than 0.1 AGF 0.81 and AGFI 0.89 which are less than 0.1. Hence, the ratio of to freedom degree equals with 1.53 which is less than 3. So, it is concluded that obtained model has suitable fitness. This model, in order of effect, identifies context dimension (0.98), content dimension (0.81), operational dimension (0.44), structural and cultural dimension (0.67), leadership (0.89) and social are (0.28) as effective factors on the failure of polio eradication program in the Pakistan.

Table 2

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.930
Bartlett's Test of Sphericity	Approx. Chi-Square	19334.492
	Df	253
	Sig.	0.000

Table 3

Summary of the Exploratory Factor Analysis (Principle Component Analysis)

Items	Content	Contextual	operational
Stake Holders Consultation	.795		
Lack of Employee Participation in Decision Making	.764		
Self Interests	.750		
Security Situation in Pakistan		.732	
Intra Country and Cross Border Migrations		.716	
Individual Priorities		.521	
Processes			.892
Poor Campaigns			.844
Implementation Teams			.705
Staff Capacity			.560
Training			.911
Weak Service Delivery			.533
Variance %	18.978	12.047	11.970
Cumulative Variance %	18.978	31.026	42.995
Eigen Value	4.934	3.132	3.112

Table 4
 Summary of the Exploratory Factor Analysis (Principle Component Analysis)

Items	Leadership	Structural & Cultural	Social
Leadership	.902		
Communication with Staff	.713		
Monitoring and Evaluation	.704		
Lack of Motivation	.889		
Interaction	.551		
Existing Structure		.819	
Organizational Support		.650	
Existing Beliefs, Norms and Values		.511	
Behavioral and Attitudinal Change		.704	
Global Politics on Polio Eradication			.778
Political Interests			.750
Clergy Role			.592
Variance %	10.679	10.438	7.837
Cumulative Variance %	53.674	64.112	71.949
Eigen Value	2.714	2.038	1.998

Theoretical Framework (Failure of Polio Eradication Program Factors and weights)

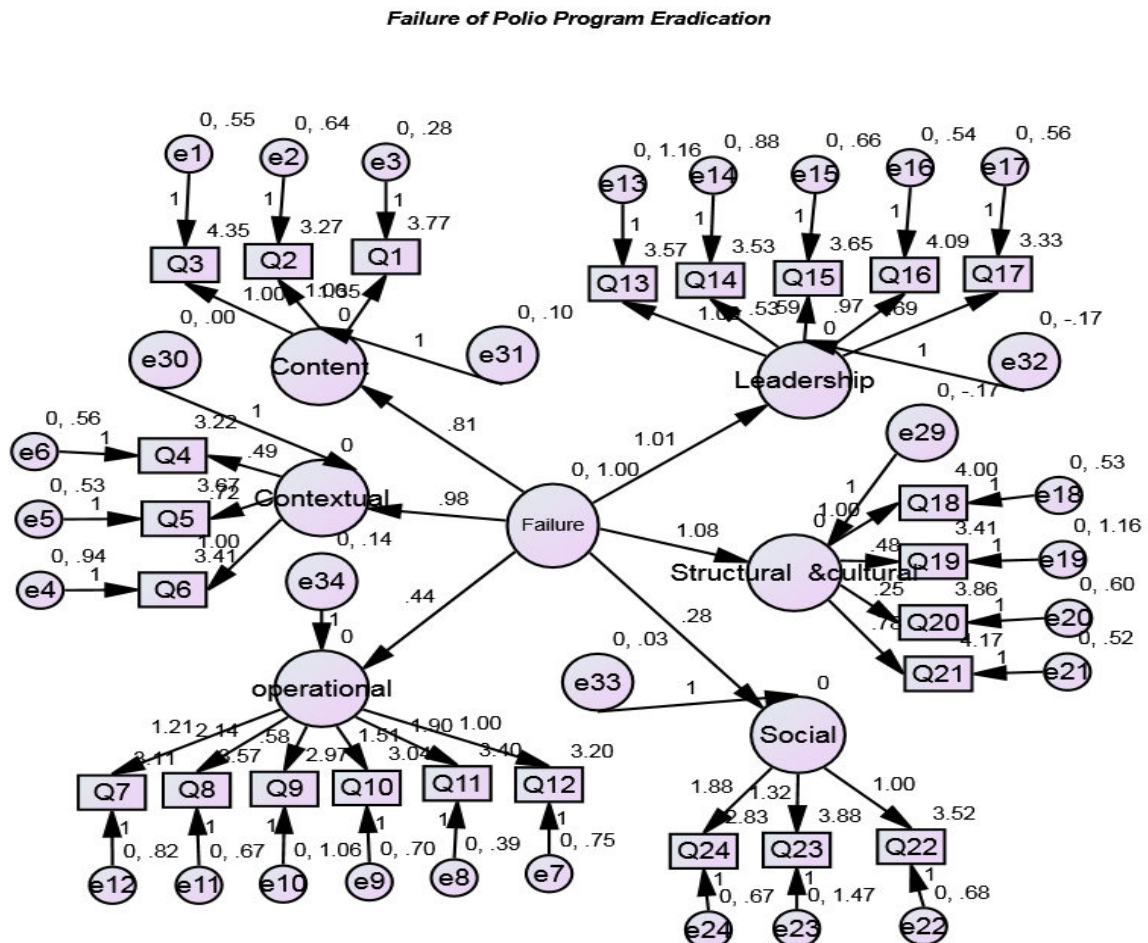


Figure 1: Model for the measurement of the potential factors of failure of the polio eradication program in Pakistan. Chi square is 19334.4, Degree of freedom is 253 and $P < 0.0000$ RMSEA 0.087** AGF 0.81 and AGFI 0.89

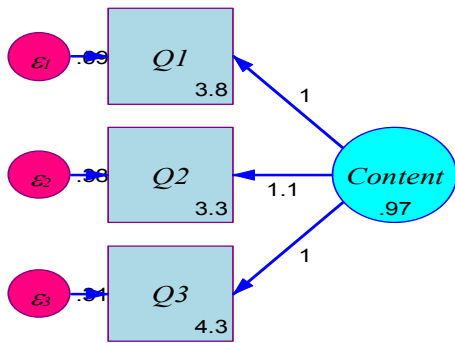


Figure 02: *Content Factor Measurement*

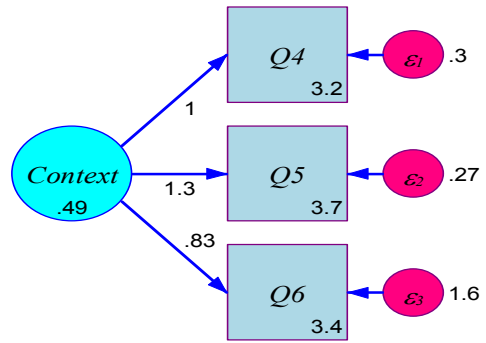


Figure 03: *Context Factor Measurement*

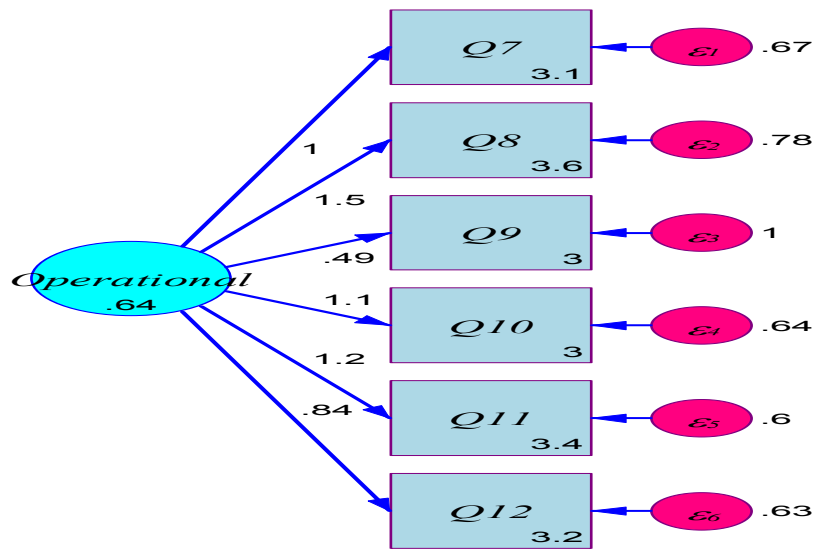


Figure 04: *Operational Factor Measurement*

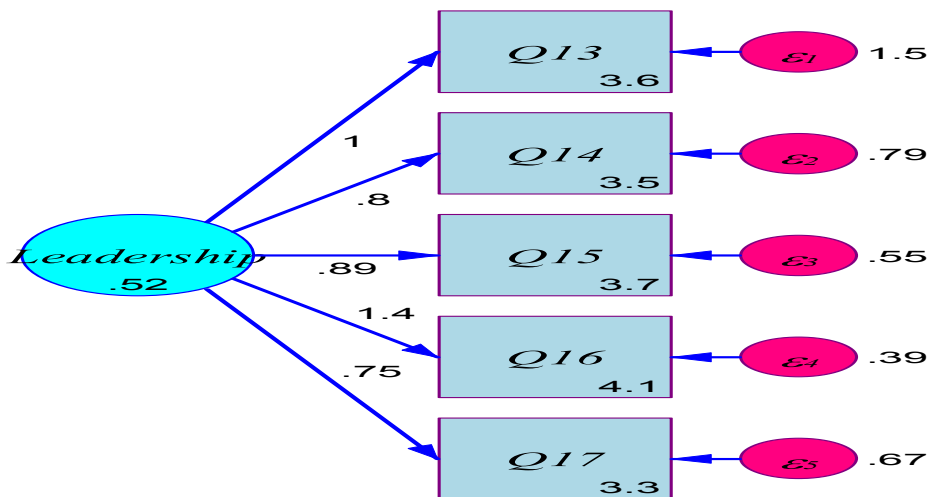


Figure 05: *Leadership Factor Measurement*

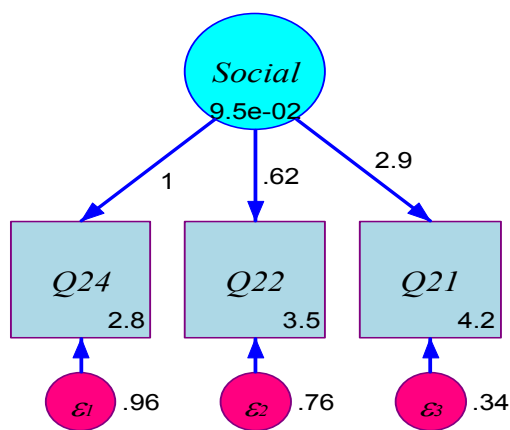


Figure 06: Social Factor Measurement

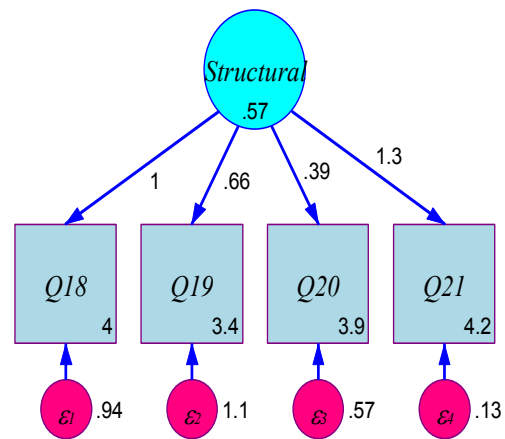


Figure 07: Structural Factor Measurement

Conclusion

The dimension of the effective implementation of polio policy which is taken from the literature is supported by the empirical results of the study regarding the failure of implementation of polio program. The result of the exploratory factor analysis shows that there are 6 potential factors which Eigen value is greater than 1 like content, contextual, operational, Leadership, Structural & cultural and Social factors. Confirmatory factor analysis result identifies context dimension (0.98), content dimension (0.81), operational dimension (0.44), structural and cultural dimension (0.67), leadership (0.89) and social (0.28) as effective factors on the failure of polio eradication program in the Pakistan.

The above mentioned result shows that leadership and contextual factors are at high level and if contribution of these factors become strong and positive then implementation will be in a positive direction. The result also shows that if leadership interest is increase than implementation will automatically be successful. It also clarifies the role of individuals who negatively influence the implementation of the polio program. If the individual interests become more preferable than the systematic goals and outcome will be against the real theme of the program. Moreover, if the structure of the health sector organizations of Pakistan become supportive, responsible, and dynamic and free from the personal interest than the outcome about the polio eradication will be positive and effective. It also shows that if the organization culture of the health is not supportive than the staff capacity is also automatically low and their contribution is less in eradication of polio in Pakistan.

RECOMMENDATIONS

Findings of the study necessitate following recommendations.

- Data base technology that stores the details of children should be introduced and every child should be assigned a unique ID with help of NADRA. It should be updated during the campaign and it should enable administration to identify how many children have been missed during the campaign. On the emergency basis these children should be traced and vaccinated.
- All the relevant stakeholders like policy makers, implementation teams, Clergy (Regional Ulama), Regional Sardars (Tribal Chiefs) and health workers should be involved in the implementation of polio eradication program to create the atmosphere of mutual interest in the organization.
- District Health Officials such as EDOs be made more accountable in a way that if a polio case brakes out then EDO of that district should be transferred and should not be posted in any other important position. Similarly, incentives/recognition for those who are performing well can help to make them more vigilant and more responsive to this program.
- Staff should be selected from the local region. The role of Lady Health Workers (LHWs)/Community based Workers should be enhanced to 100% especially in villages. It will enable the successful implementation of the program.
- Polio policy makers should adopt the vigorous approach for implementation task. Tasks should be divided into quarters and report of the quarters should be evaluated.
- Routine immunization should be focused and strengthened by developing Behavioural Change Communication (BCC) in the public by the help of different stake holders of the community so that the culture of vaccinating the children at door step can be removed.

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