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Assessment of impact of parallel immunization services,Study in Jodhpur, Rajasthan-India

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ABSTRACT :-Background:In India Immunization services are provided by Government by Central/state/district/block and village levels institutions and also by private institutions at various levels by pediatricians and other general medical practitioner as per IAP or EPI schedule. This both parallel systems work for same goal of immunization of children and preventing vaccine preventable diseases.Now days as there is increase in number of private institutions which provides immunization services it is time to take them into consideration for strengthening Routine immunization services and coverage of children. So this study focus on impact of these two parallel immunization services in Jodhpur, Rajasthan - India and identify gaps in terms of un-immunization/partial immunization in children aged 12-23 months in relation to types of institutions. Purpose:To asses impact of parallel immunization services -India and rule out reason for low full immunization coverage by assessing factors contributing for Un immunization/Partial immunization in various institutions with exploring need for strengthening of immunization services .Materials and Methods:The study was conducted in Jodhpur district of Rajasthan.Lot Quality Assurance Sampling (LQAS) was used for survey to assess the quality of vaccination coverage, For urban 20 Lot and for rural 20 lots defined, in each lot/village/zones, 10 households with child age 12-23 months were selected from each zones using systematic random sampling procedure and from selected households all eligible mothers/care givers were interviewed,children were categorized as per working definition's as follows 1. Fully immunized - who received BCG and 3 doses of DPT & and 3 of OPV and 1 dose of measles, 2.Partially immunized – who has missed any one or more but not all dosages of UIP, 3. Not immunized /un-immunized – who has not received any vaccines in UIPResults:Amongst 400 children of 12 – 23 months of age. Children out of whom 75.25% contacted Government institutes for immunization services and 18% children were contacted private institute and 6.75% were no contacted for immunization services.contacting type of facility for immunization (urban + rural), children contacting only government institute were 301 children out of them (221) 73.42% are fully immunized and (80) 26.58% are partially immunized. Whereas in private institute (urban + rural) 72 children contacted out of them (43) 59.72% are fully immunized and (29) 40.28% are partially immunized. Children who contacted private institution have not completed their full immunization schedule are 13.7% more as compare to Government institution.It is evident that unavailability of vaccine (13%) and trained staff (8%) is major reason with cost of unimmunized in urban private and in government fear of AEFI (10%) with lack of information of immunization was major reason. Conclusion: This study therefor confirms that parallel services of immunization are causing impact in terms of increase in respective percentage of partial immunization or un- immunization of children and un-equality of antigens with economic burden on community

Keywords: Immunization, UIP, EPI, Government institutes, Privateinstitutes, AEFI.

Introduction

World Health Organization's Expanded Program of Immunization (EPI) The program started globally in 1974 and was initiated in India in 1978.[1,2] Theprogram was revised and renamed as the Universal Immunization program (UIP) in 1985.UIP was launched to improve coverage of immunization in children and monitoring of immunization activity. [3]The Global Vaccine Action Plan (GVAP) is developedfor preventing death by development and access to vaccines. It aims to achieve vaccination coverage of ≥90% nationally and ≥80% in every district by 2020.[4]In India Immunization services are provided by Governmentby Central/state/district/block and village levels institutions and also by private institutions at various levels by pediatricians and other general medical practitioners as per IAP or EPI schedule. This both parallel systems work for same goalof immunization of children and preventing vaccine preventable diseases put in addition to routine EPI schedule, IAP also recommended doses for Rotavirus, Rubella, injectable polio vaccine. At time of launch of UIP in India there were less number of practitioner's in both urban and rural area so immunization at that time was considered to be sole responsibility of government institutions but nowdays as there is increase in number of private institutions which provides immunization services it istime to take them into consideration for strengthening Routine immunization services and coverage of children.So this study focus on impact of these two parallel immunization services in Jodhpur,Rajasthan- India and identify gaps in terms of un-immunization/partial immunization in children aged 12-23 months in relation to types of institutions.

Objective

To asses impact of parallel immunization services(Government&Private) in Jodhpur District ,Rajasthan-India and rule out reason for low full immunization coverage by assessing factors contributing for Unimmunization/Partial immunization in Urban,Rural and Government &Private institutions with exploring need for strengthening of immunization services in Government and private institutions for improving full immunization coverage in children.

Material &Method

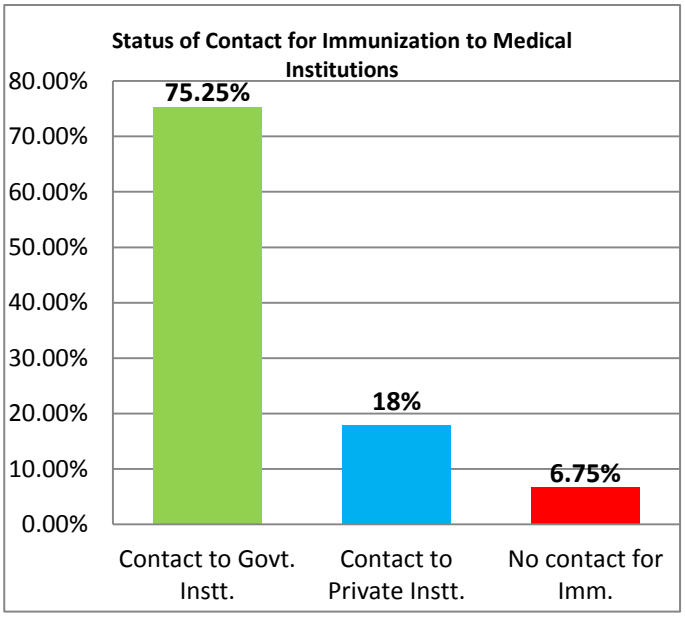
The study was conducted in Jodhpur district of Rajasthan .Jodhpur geographically divided in Jodhpur Urban and Jodhpur Rural .Jodhpur Urban is divided 20 zones/lots andJodhpur rural is divided in 20 zones/lots based on clear geographical demarcation for our study. Study was conducted in time period form October 2013 to Feb 2014 .For data collection Lot Quality Assurance Sampling (LQAS) was used for survey to assess the quality of vaccination coverage, For urban 20 Lot and for rural

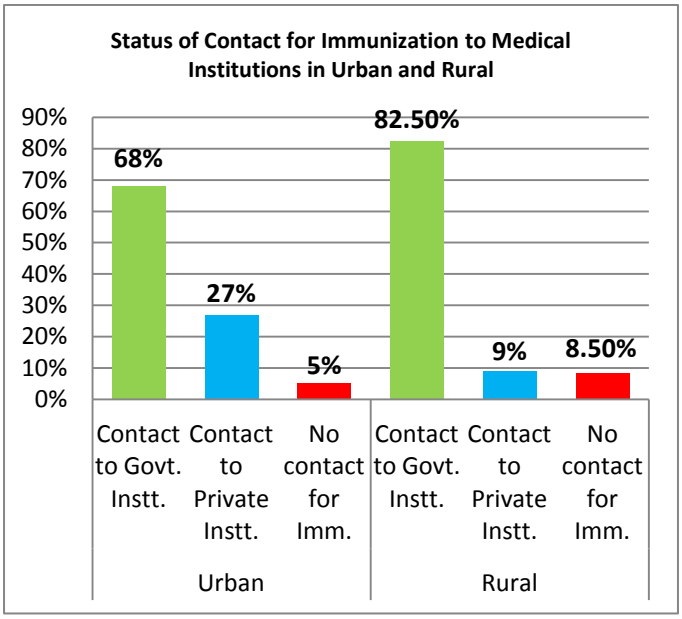
20 lots defined , based on geographical or administrative boundaries and in each lot/village/zones, 10 households with child age 12-23 months were selected from each zones using systematic random sampling procedure and from selected households all eligible mothers/care givers were interviewed. Approval taken from institutional ethics committee. Written informed consent was taken from all participants and their parents before study. A predesigned and pretested questionnaire was used to collect data during interview. Interviewer was trained before taking interview of subjects .A semi structured interview was used to collect the information. So from urban total 200 children's and from rural total 200 children aged 12-23 months selected. The data was collected from mothersor care takers .Written consent was taken before study from parents of child (Total 400) of child aged 12-23 months for immunization services. Sampling in zones: For selecting the sample in zones, a two stage sampling procedure was followed i.e., selection of villages at the first stage followed by the selection of households. Selection of Households: In each selected zones: Each zones 10 houses with children 12-23 months were selected.

For assessing immunization coverage parents of child were interviewed .After assessing the immunization status, children were categorized as per working definition's as follows 1. Fully immunized - who received BCG and 3 doses of DPT &and 3 of OPV and 1 dose of measles, 2.Partially immunized – who has missed any one or more but not all dosages of UIP, 3. Not immunized/un-immunized – who has not received any vaccines in UIP. Data is collected in SPSS software trial version 17 and analyzed using descriptive statistical methods.

Result

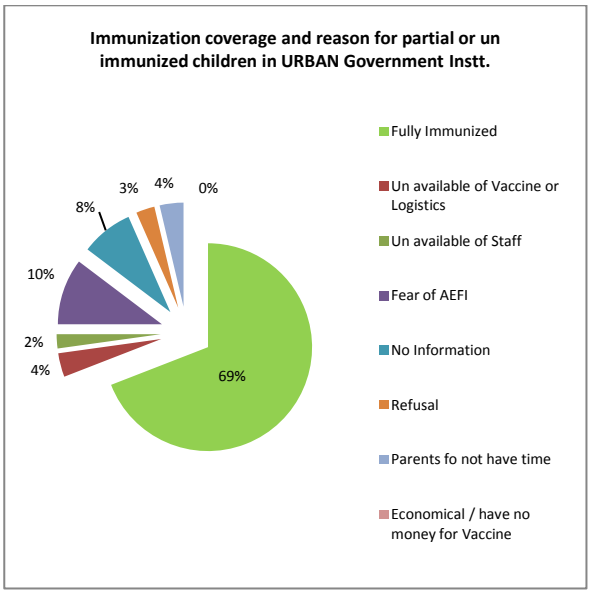
Our study in Jodhpur district was conducted amongst 400 children of 12 – 23 months of age. Children out of whom 75.25% contacted Government institutes for immunization services and 18% children were contacted private institute and 6.75% were no contacted for immunization services.(*Graph 1*)

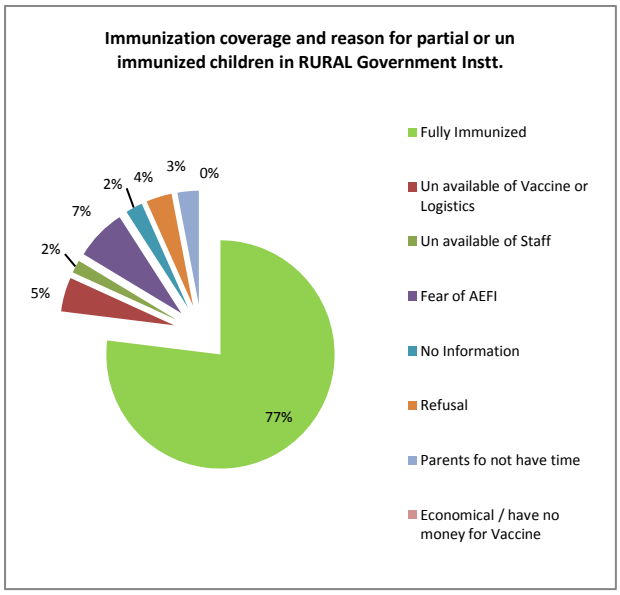




Graph 1 Graph 2

When compared in urban area it was found that 68% contacted to Government institute and 27% were contacted private institutes while 5% were not contacted for immunization in any facility.[(*Graph 2*)]In rural areas government institutes were contacted more as compare to urban (urban 82.50%, rural 9%), 8.50% were getting no immunization services.Children were assed on their status of immunization and found that (264) 66% children were fully immunized, (109) 27.25% children were found partially immunized and (27) 6.75% children were found unimmunized.When we observed coverage of children age 12 – 23 months in urban area only, found that 61% (122) children fully immunized(68) 34% partially immunized and (10) 5% unimmunized. Whereas in rural found that 71% (142) children fully immunized, (41) 20.5% partially immunized and (17) 8.5% were unimmunized. When analyzed data of contacting type of facility for immunization (urban + rural), children contacting only government institute were 301 children out of them (221) 73.42% are fully immunized and (80) 26.58% are partially immunized. Whereas in private institute (urban + rural) 72 children contacted out of them (43) 59.72% are fully immunized and (29) 40.28% are partially immunized.As there are only 59.72% were fully immunized and 40.28% partially immunized children who contacted private institutes (urban + rural) for immunization services as compare to government institute (urban + rural) which is 73.42% fully immunized and 26.58% partially immunized[(*Graph 3 & Graph 4*)], it is evident that children who contacting government institutes have more chances of getting fully immunization than children contacting private institutes. And children who contacted private institution have not completed their full immunization schedule are 13.7% more as compare to Government institution.

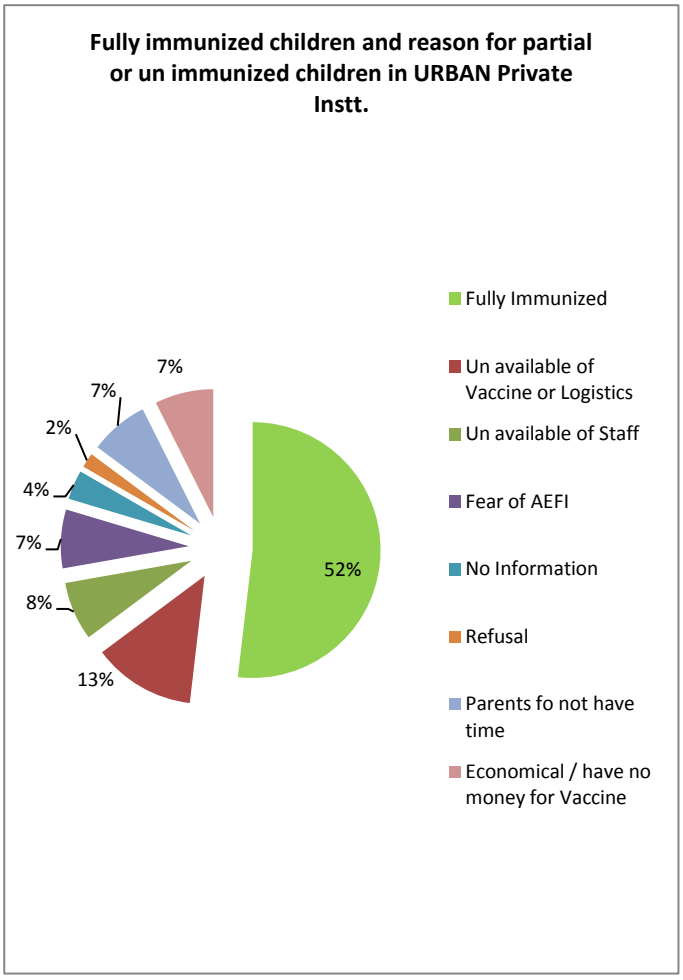


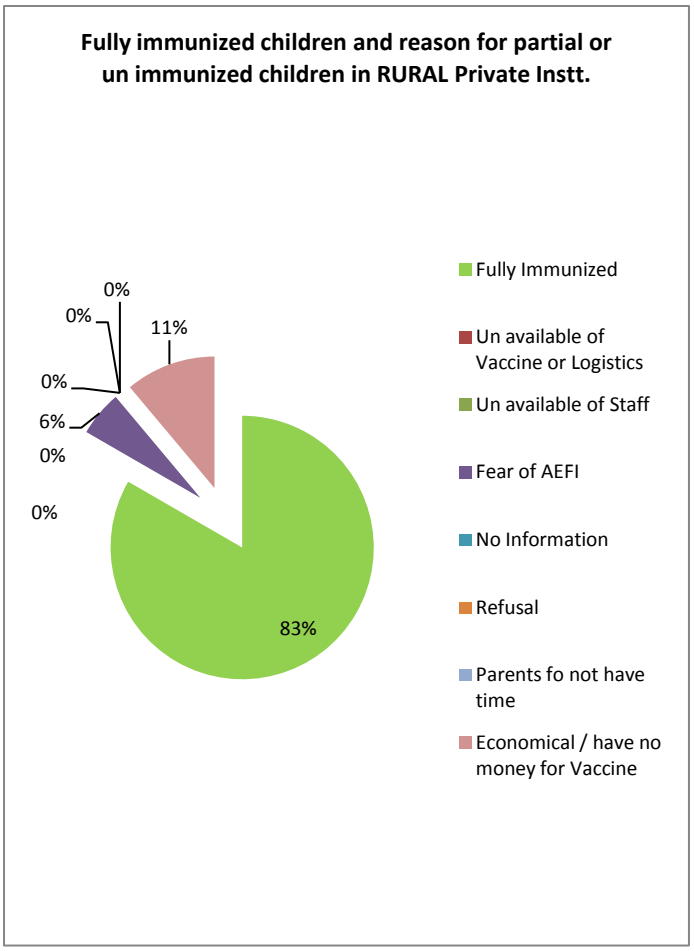


Graph 3

Graph 4

When we compared data of children for private institute in Urban and Rural, in urban private institute full immunized children is 51.85% and rural were 83.33%, so major gap is in services of urban private institute. When further seen reason for unimmunized or partial immunization in Urban Private institute –a. 13% Unavailable of vaccine or logistics, b. 8% Unavailable of staff, c. 7% fear of AEFI, d. 4% No information, e. 2% Refusal, f. 7% Parents not having time, g. 7% Economical / have no money for vaccine(*Graph 5*)and in UrbanGovernment institute reasons for un immunization / partial immunization were –a. 4% Unavailable of vaccine or logistics, b. 2% Unavailable of staff, c. 10% Fear of AEFI, d. 8% No information, e. 3% Refusal, f. 4% Parents not having time, g. 0% Economical / have no money for vaccine(*Graph 6*).





Graph 5Graph 6

It is evident that unavailability of vaccine (13%) and trained staff (8%) is major reason with cost of unimmunized in urban private and in government fear of AEFI (10%) with lack of information of immunization was major reason.In rural there was 11% children were not being fully immunized in private due to economical reason and 6 % due to fear of AEFI.In rural government institute 7% were having fear of AEFI for partial / immunization as major reason.

Conclusion –

Based on study it is found that parallel services of immunization are causing impact in terms of huge percentage of partial immunization or un immunization of children and un equality of antigens with economic burden on community though these both are tend to work for common goal of achieving full immunization coverage of children. And there is significant number of children were contacting these private immunization institutes for immunization services along with traditional Government institutes. It is observed that there are various reasons for partial immunization /un-immunization of children in these system ,as in private institutes unavailability of trained manpower ,no micro-planning /session planning and cost of vaccine ,with fear of AEFI plays major role and in government institutes unavailability of some vaccines/antigens with fear of AEFI are found to be reasons. So based on findings of our study there is need for strengthening of immunization services with collaboration of these services under one roof is necessary for improving full immunization coverage of children.

Discussion -

India is trying to improve vaccination coverage by strengthening of routine immunization activity and providing supplementary immunization doses through SIAs since decades. [5] As per NFHS 3 (2005) full immunization coverage of India assess were 44% and in NFHS 2 it was 42%. As per NFHS 3 95 % of children received at least some of recommended doses but still over all less than half of children are fully vaccinated.[6] While as per survey by UNICEF 2009-10 full immunization

coverage was 58.5% in rural and 67.4% urban ,the unimmunized children in rural 8.5% and in urban 5.2%.And as per GAVI Full Country Evaluation 2013 Annual Progress Report presented in January 2014 percentage of fully immunized children in India is 61%.[7,8] During past decades India was focusing on polio eradication program while there is lack of focus on other routine immunization activities and pulse polio campaign which were conducted by house to house visit to beneficiary children it had given rise to dependent attitudes for immunization services in community.[9] And there are different systems (Government and Private institution) which were providing immunization services which may sometime cause disadvantage.[10,11] There are various factors affecting each system of immunization as in government sectors, sometime inadequacy of vaccine &logistics with parent's knowledge, attitude and practices affect immunization and in private sector cost of vaccine, not having trained staff, no micro-planning for vaccination program affects immunization services and there are fear of AEFI and parents unavailability or refusal for vaccination of their child is major factor for immunization program in government as well as private sectors. There is evidence of sex or caste of child affecting immunization coverage. Government institutions training their immunization work force regularly but there is no such training guidance available for private sectors which account for gaps in full immunization coverage and quality of immunization services and also create conflict in caregiver/parents of children sometimes as they may follow different vaccination schedules to or providing extra vaccine / antigen.

Recommendation –

As both government and private institutes were making efforts for immunization program parallel to each other so there is need to work collaboratively for both types of institutions for achieving best results and strengthening of routine immunization coverage. For staff of private hospitals technical training should be provided by collectively government and private sector. Manpower sharing for strengthening routine immunization services should be done with micro-planning by both institutes. Monthly / regular coordination meeting should be called for both sectors. Uniformity for vaccines / antigens should be done where vaccine such as Rota virus, Rubella, Injected Polio vaccine must be provided by government institutes or cost of such other antigens / vaccine which were provided by private institutes should be bear by government. Monitoring of immunization activities in private institutes should be strengthening. As fear of AEFI and knowledge regarding vaccination affecting immunization services, immunization counselor should be appointed mandatory in private institutes in urban areas which provides immunization services.

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Conflict of interest –

The author declares that there is no conflict of interests.

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