Status and Determinants of Health Care Services Utilization among Infants in an Urban Area of West Delhi: An Observational Study

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Abstract
Background: Improving the well being of infant and children is an important public health goal. Their well being determines the health of next generation and can help predict future public health challenges for families, communities and health care system. Methods: A semi structured, pretested interview schedule was administered for obtaining the socio-demographic details and data related to infant illness and associated barriers for not availing the services. Results: It is encouraging to observe that, 95.2% infants were fully immunized for age. Migration to other place followed by unawareness were the main reasons for non or partial immunization.ARI was the most common illness among the infants, followed by diarrhoea and other diseases and infants were taken to private health care facilities in majority of the cases (61.9%) while home based care was also given in some cases. Conclusion: Reasons for inadequate utilization of health care services needs to be addressed by systematic continuous monitoring and supervision of services including periodic beneficiaries view point on services being provided, re-orientation of service providers and counselling of parents or guardians.
Keywords: Health care services, Infants, Delhi

I.   Introduction

Child health is one of the core priorities for any country, more so for India as the country is facing world's largest burden of newborn and child deaths.[1] Improving the well being of infant and children is an important public health goal. Their well being determines the health of next generation and can help predict future public health challenges for families, communities and health care system.

In terms of child mortality, globally an estimated 5.9 million children under 5 years of age died in 2015, with a global under-five mortality rate of 42.5 per 1000 live births. Of those deaths, 45% were newborns, with a neonatal mortality rate of 19 per 1000 live births. Levels of child mortality are highest in Sub-Saharan Africa, where 1 child in 12 dies before their fifth birthday, followed by South Asia where 1 in 19 dies before age five.[2] The major causes of neonatal mortality in 2015 were prematurity, birth-related complications (birth asphyxia) and neonatal sepsis, while leading causes of child death in the post-neonatal period were pneumonia, diarrhoea, injuries and malaria.[2]

A large number of child deaths are attributable to the 'three delays':(1) the delay in deciding to seek care, (2) the delay in reaching the appropriate health facility, and (3) the delay in receiving quality care once inside an institution.[3]

Analysis of data from NFHS-4, showed that illiteracy, low wealth index, rural habitat and perceived small size at birth were significantly associated with neonatal and infant   mortality.[1, 4]

NFHS 4 has shown improvement in child health indicators. This may be attributed to several government schemes e.g. Janani Suraksha Yojana (JSY) and Janani Shishu Suraksha Karyakaram (JSSY). Better implementation of Schemes like Integrated Child Development Scheme, Mid Day Meal, Distribution System played an important role in dealing with the problem of malnutrition. NRHM also played important role in improving general health, increasing awareness, education and greater availability and choice of birth control options.

Inclusion of interventions in a policy or programme does not mean that they will achieve sufficient coverage for effect, as is the case for India.[5, 6] 2015 analysis group shows that overall coverage gap in health services interventions in India was remarkably persistent over time, with only a gradual change of 1% per year during 1990-2006.[7]

II.   Materials And Methods

STUDY TYPE:
Observational study
STUDY DESIGN:
Community based cross- sectional study
STUDY AREA & PERIOD:
The Community based cross- sectional study was carried out in Palam area of west Delhi from January to December 2016 which is one of the field practice area of Community Medicine Department, Lady Hardinge Medical College, New Delhi.

STUDY POPULATION:
Infants born between January to December 2015 and residing in Palam area of Delhi. Respondents were the mother of the infants.

METHODOLOGY:
Taking the prevalence of complete MCH coverage to be 45% [8] allowable error of 15% (confidence interval = 95%, power = 80%, non- response rate = 15%) the effective total sample size was 250.The population of Palam area is around 35000. There were 600 births in the year 2015. A list of all the deliveries that occurred in the year 2015 was made by combining the records obtained from multipurpose health workers of PHC Palam and anganwadi workers in that area. Out of this list, 250 subjects were selected by simple random sampling using lottery method without replacement.
In the present study, women who delivered during the year 2015, residing in Palam area for at least last 2 years and gave consent for participation were included in the study while those who refused to give informed consent were excluded from the study.
A semi structured, pretested interview schedule was administered for obtaining the socio-demographic details and data related to infant illness and associated barriers for not availing the services. Mothers were also asked for the health facility records if available and the information gathered by the interview was cross checked and supported by these records.

DATA ENTRY AND STATISTICAL ANALYSIS
Data entered in proforma subsequent to interview was checked for correctness manually before entering them into a spreadsheet database created and analysis which was done using Statistical Package for Social Sciences (SPSS version 20)

III.   Results
Table 1: Distribution of infants by immunization status (N=250)

IMMUNIZATION STATUS	FREQUENCY	PERCENT
Fully immunized	238	95.2
Partially immunized	9	3.6
Not immunized at all	3	1.2
Total	250	100

As seen from Table 1, out of total 250 infants, 95.2% were fully immunized for age (BCG, OPV-0 dose, Hepatitis B- birth dose, 3 doses of Pentavalent and Measles vaccine).
Among the 9 infants who were partially immunized, 6 infants received all vaccines except measles vaccine whereas the other 3 did not even complete the 3 doses of pentavalent vaccine.3 infants were not immunized at all, till the time of interview.

Table 2: Distribution of infants by growth monitoring done along with immunization (N=250)

GROWTH MONITORING	FREQUENCY	PERCENT
Complete	148	59.2
Partial	99	39.6
Not done	3	1.2

When infants were taken to health facilities for routine immunization, growth monitoring was done during some of the immunization visits in 39.6% of infants whereas growth was monitored in all the visits in 59.2% of infants (Table 2).

Table 3: Reasons for Non/partial immunization (n=12) of infants in the study area

REASON	FREQUENCY	PERCENT
Went to village	4	33.3
Unaware of the need	2	16.6
Fear of adverse effects	2	16.6
Mother busy	2	16.6
Sickness of the child	1	8.3
Time and place inconvenient	1	8.3
Total	12	100.0

Mothers of those 12 infants were further enquired for the reasons of partial or no immunization. As seen from Table 3, out of the 9 mothers of partially immunized infants, 4 mothers went to village just a few days after the delivery, so did not get their baby immunized at all. 2 mothers were unaware about the need for immunization. 2 mothers said they were working as labourers (daily wages) and so had no time to take the child to health facility for the vaccination. One child fell sick 3 months after birth, so her immunization was interrupted. In case of 2 infants, families were fearful of the adverse effects that might occur after vaccination to the child. 1 mother also said the place and time of immunization sessions was inconvenient to her.

Table 4: Distribution of infants by episodes of illness and health facility availed

ILLNESS	NO. OF ILLNESS EPISODES	FACILITY AVAILED		
		GOVT. FACILITY	PRIVATE FACILITY	HOME BASED CARE
ARI	315	98 (31.1%)	208 (66.0%)	9 (2.9%)
Diarrhoea	87	23 (26.4%)	43 (49.4%)	21 (24.1%)
Skin infection	8	4 (50.0%)	2 (25.0%)	2 (25.0%)
Fever	44	15 (34.1%)	28 (63.7%)	1 (2.3%)
Other	3	1 (33.3%)	2 (66.7%)	-
Total	457	141 (30.9%)	283 (61.9%)	33 (7.2%)

Mothers were asked about any history of illness among the infants during the past one year and it was seen that ARI was the most common illness among the infants, followed by diarrhoea and other diseases.

In the event of any illness, infants were taken to private health care facilities in majority (61.9%) of the cases and nearly 1/3 (30.9%) were taken to Government healthcare facility as indicated in table 44; while in some cases (7.2%) home based care was also given.

IV. Discussion

It is encouraging to observed that, 95.2% infants were fully immunized for age (BCG, OPV-0 dose, Hepatitis B- 3 doses of Pentavalent and Measles vaccine) while 3 infants were not immunized at all, till the time of interview [Table 1], whereas only 62% and 61% children aged 12-23 months were fully immunized (BCG, Measles and 3 doses each of DPT and Polio) as per NFHS -4 [9] and Coverage Evaluation Survey (2009).[10]

Mothers were enquired for the reasons of non or partial immunization and it was found that migration to other place followed by unawareness were the main reasons for non or partial immunization. While in Coverage Evaluation Survey (2009) [10] the main reasons quoted for the same were did not feel the need (28%) and not knowing about the vaccines (26.3%).

It was observed that ARI was the most common illness among the infants, followed by diarrhoea and other diseases. In the event of any illness, infants were taken to private health care facilities in majority of the cases (61.9%) while home based care was also given in some cases [Table 4]. Findings of NFHS- 4 India (Urban) shows that 80% of Children with fever or symptoms of ARI and 74.1% of children with diarrhoea in the last 2 weeks preceding the survey were taken to a health facility.[9]

V.   Conclusion

Reasons for non utilization or partial utilization of health care services vary from place to place. All these reasons need to be addressed by systematic continuous monitoring and supervision of services including periodic beneficiaries view point on services being provided, re-orientation of service providers and counselling of parents or guardians.

Recommendations
• Mothers or the guardian should be well informed and educated about the importance of immunization and other health care services for their children using different IEC methods.
• There is a need to address barriers relating to service providers for which regular reorientation and training programs should be organized for health workers.
• Upgradation of existing PHCs and CHCs is also required to address the issue of long waiting lines and huge rush at public health care facilities.

Limitations
• The study was conducted in Palam area of West Delhi which is predominantly an urban area to assess the utilization of child health services. Thus findings of the study cannot be generalized to other settings and are not representative of entire Delhi or India.
• It was interview based study and some of the responses given by mothers were based on recall. Some of the findings might have been missed due to recall bias.

References
[1].   Paul VK, Sachdev HS, Mavalankar D, Ramachandran P, Sankar MJ, Bhandari N et al. Reproductive health, and child health and nutrition in India: meeting the challenge. Lancet. 2011;377(9762):332-49.
[2].   World health statistics 2016 –Monitoring Health for SDGs [Internet].2016 [cited 2017 Mar20].Availablefrom:http://www.who.int/gho/publications/world_health_statistics/2016/whs2016_AnnexA_ChildMortality.pdf
[3].   MoHFW, GOI. A strategic approach to reproductive, maternal, newborn, child and adolescent health (RMNCH+A) in India. New Delhi: Ministry of health and family welfare, GOI;2013.18p.
[4].   National Family Health Survey-4 [Internet]. 2015-16 [cited 2017 Apr 5]. Available from: http://rchiips.org/NFHS/pdf/NFHS4/India.pdf
[5].   District Level Household Survey [Internet]. 2002-04 [cited 2017 Apr 7]. Available from: http://rchiips.org/pdf/rch2/National_Report_RCH-II.pdf
[6].   District Level Household Survey [Internet]. 2007-08 [cited 2017 Apr 7]. Available from: http://rchiips.org/pdf/INDIA_REPORT_DLHS-3.pdf
[7].   Boerma JT, Bryce J, Kinfu Y, Axelson H, Victora CG. Mind the gap: equity and trends in coverage of maternal, newborn, and child health services in 54 Countdown countries. Lancet. 2008 Apr;371(9620):1259-67.
[8].   Kumar C, Singh PK, Rai RK. Coverage gap in maternal and child health services in India: assessing trends and regional deprivation during 1992-2006. J Public Health. 2013;35(4):598-606
[9].   National Family Health Survey-4 [Internet]. 2015-16 [cited 2017 Apr 5]. Available from: http://rchiips.org/NFHS/pdf/NFHS4/India.pdf
[10].   Coverage Evaluation Survey National Factsheet [Internet].2009 [cited 2017 Apr 2]. Availablefrom:http://hshrc.gov.in/wpcontent/uploads/National_Fact_Sheet_CES_2009.pdf
[11].   Singh PK, Rai RK, Kumar C. Equity in maternal, newborn, and child health care   coverage in India. Global Health Action. 2013; 6: 22217
[12].   World Health Organization. Universal Health Coverage Factsheet. [Internet] 2016 [cited2017March5].Availablefrom:http://www.who.int/mediacentre/factsheets/fs395/en/
[13].   Planning Commission. High level expert group report on universal health coverage for India. New Delhi, India: Planning Commission and Public Health Foundation of India (PHFI); 2011.
[14].   Boerma JT, Bryce J, Kinfu Y, Axelson H, Victora CG. Mind the gap: equity and trends in coverage of maternal, newborn, and child health services in 54 Countdown countries. Lancet. 2008 Apr;371(9620):1259-67.
[15].   Mahajan H, Sharma B. Utilization of maternal and child health care services by primigravida females in urban and rural areas of India. ISRN Prev Med. 2014;123918
[16].   Khanal V, Bhandari R, Adhikari M, Karkee R, Joshi C. Utilization of maternal and child health services in western rural Nepal: a cross-sectional community-based study. Indian J of Public Health.2014;58 (1)
[17].   David PH, Bodrova V, Avdeev A, Troitskaia I, Boulay M. Women and Infant Health Project Household Survey 2000. Report of Main Findings. John Snow International, Moscow 2000.