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# Contribution of ASHA Workers in Improving Child Health in Rural Rajasthan, through Social Work

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**ABSTRACT**

National Health Mission (NHM), Ministry of Health and Family Welfare, Government of India has deployed a trained female Community Health Worker called "Accredited Social Health Activist" (ASHA) in every village of India to serve the most marginalized and vulnerable rural population, under its Community Health Programme. Every ASHA worker approximately covers a population of 1000. ASHA performs various roles for improving health of the community such as creating awareness about services available at public health facilities, mobilizing community towards health planning and providing a package of preventive & promotive health care, through social mobilization. One of the domains of ASHA worker is, providing child health services in the community and counselling support to mothers on new born and child health practices. These include, promoting exclusive breastfeeding till six months; complementary feeding from six months; promoting routine immunization; providing counselling on hand washing; facilitating prophylactic distribution of oral rehydration solution (ORS) and paediatric iron and folic acid (IFA) syrup; ensuring regular growth monitoring; early child development (ECD); and promoting care seeking during sickness. The article analyzed the role of ASHA workers in improving knowledge and practices of mothers on child health in rural areas of Rajasthan, through comparative analysis of National Family Health Survey 3 and 4; and primary data collected from ASHAs and Mothers. The analysis of primary data collected from mothers and ASHAs has revealed major contribution of ASHAs in increasing knowledge and practices of mothers on child health and the findings directly correlates to and vindicates the improvement remarked in child health indicators derived from comparative analysis between NFHS 3 and 4 on child health indicators.

## 1. Introduction

### *Community health worker (CHW)*

In 1978s the declaration of Alma-Ata provided the policy of providing primary level care at the global level. All the countries who have signed the declaration of Alma Ata, have considered the establishment of programs for providing Primary Health Care supported by CHWs. Many developing countries started training CHWs in 1980s at PHC level at a mass level. CHWs known were identified as a workforce of "Human resource for Health" and given different names. Since its inception in 1980s CHWs are providing services at PHC level in the remote and inaccessible areas of the world. The CHWs are groomed under community based healthcare programs and strengthened by the primary health care approach. The concept and practices of CHWs have varied immensely across different countries, accustomed by their objectives and economic capacities. There are eight important factors that impact the overall performance of CHWs

- Gender equality
- Criteria used for identification and selection of the CHWs
- Training provided to CHWs
- Profile of work and future career prospects
- Incentives paid to CHWs
- Supportive supervision and feedback provided to CHWs
- Performance monitoring mechanisms in place
- Support received from the community

### *Community Health Worker known as ASHA (Accredited Social Health Activist)*

Under the Community Health programme of National Health Mission (NHM) one of the key components is providing a trained female CHW / activist in every village of the country to serve the most marginalized and vulnerable rural population. ASHA workers are the residents from the same village in the age group of 25 to 45 years. The education eligibility of ASHA workers is preferably up to 10$^{th}$ standard. Her selection process includes various community groups, self-help groups, Anganwadi institutions, block nodal officers, village health committee member and the local self-government.

Every ASHA worker approximately covers a population of 1000. ASHA workers mobilizes community and facilitate them in getting access to government health services available at public health facilities (Sub-center /Primary Health Centers) such as Ante Natal Care (ANC) Immunization, Post Natal Care (PNC), Nutrition and other services provided by the Government. She is also responsible for distributing essential provisions to all habitations like Oral Rehydration Solution (ORS), Iron Folic Acid (IFA), Zinc tablets, Co-trimoxazole tablets, Oral Pills, Condoms, etc. She counsels pregnant women on birth preparedness, significance of institutional delivery, exclusive breastfeeding till 6 months of age, complementary feeding after six months of age, age appropriate immunization, use of contraceptives and prevention of infections i.e. Reproductive Tract Infection (RTI), Sexually Transmitted Infections (STI) and care of newborn.

ASHA performs various roles for improving the health of the community such as creating awareness about services available at public health facilities,mobilizing community towards health planning, increased access of public health services, promoting decent health practices, and providing a package of preventive & promotive care and make timely referrals.

ASHA has been appointed in the community to undertake the following primary tasks as a CHW:

- Creating awareness on health related issues
- Providing information on government programs on health
- Mobilizing community to access health services
- Counselling on maternal and child health components
- Escorting pregnant women for institutional delivery
- Holding monthly meetings in community
- Working in association with ANM and AWW
- Providing primary care for minor ailments

**2. Literature Review**

**"Model of a Community Health Worker", CAN Action Learning Group on Community Development and Health 2009**, CAN Action Learning Group has defined the model on Community Development, which says Community Health Workers are based in the community and training & development are central roles of CHW. Continuous training and supportive supervision are imperative in the development of their roles. The skills that are required for community development are found in the community once there is an assurance of providing the required support and training.

**"Collective Empowerment: Comparative Study of Community Work in Mumbai and Stockholm." (Sjöberg, Stefan, Komalsingh Rambaree, and Bipin Jojo. 2014)** articulated how community health workers empowers community. In Mumbai it covered the case of extreme poverty from informal sector, whereas in Stockholm the study covered social work in public welfare model. It also documented the contribution towards creating a welfare model in Stockholm, Sweden and Mumbai, India by helping people to articulate their voices for the development of marginalized communities. While achieving universal health coverage, much can be accomplished by enhancing the skills of CHWs' and support them as esteemed providers of health service delivery system, as shown in **"Community health workers for universal health-care coverage: from fragmentation to synergy", Kate Tulenko,a Sigrun Møgedal,b Muhammad Mahmood Afzal,c Diana Frymus,d Adetokunbo Oshin,e Muhammad Pate,e Estelle Quain,d Arletty Pinel,f Shona Wyndg & Sanjay Zodpeyh, Bull World Health Organ 2013.**

Community Health Workers has presence in almost every developing country and have proven that they are instrumental in improving the health of the marginalized communities in their country, **A Typology of Revenue Models for Community Health Worker Programs, International Journal for Service Learning in Engineering, 2014.** CHWs in most countries are volunteers depending on programs with marginal Government support and irregular external funding. Article suggests better quality of supervision of community health programs, better monitoring and quality assurance of services through supportive supervision of CHWs will be effective and provide enhanced results. CHW programme accomplishments and achievements differ from one country to another **Journal of Social Work, "Social Work in Health Care: What Have We Achieved by" (Gail Auslander, 2001)**. Social workers in health care in many countries are undergoing similar developments. CHWs needs better integration in the national health systems through employment, supervision, incentive payment, career development for achieving better results.

Many national and international researches and studies have highlighted the effectiveness of ASHAs in delivering health services at community level and achieving health outcomes in India. The interventions supported by ASHAs have demonstrated the potential of ASHAs to improve their functioning at the grass-root level. ASHAs were twice more likely to visit a newborn on the day of delivery if she was provided with mobility support. However, the likelihood of continuing visits after the 1$^{st}$ day was not statistically significant. This was documented under the paper "**An assessment ofbicycle intervention to improve service delivery by accredited social health activists in selected blocks of West Champaran district of Bihar, 2016**, Sharma J, Negandhi P, Chauhan M, Sethy G, Reddy S, Neogi SB.

Community Health Workers also contribute towards different health areas such as undernutrition, Maternal Health and Child Health, Family Planning Services, HIV/AIDS, Malaria and Tuberculosis, **Community Health Workers in Low, Middle and High-Income Countries: An Overview of Their History, Recent Evolution, and Current Effectiveness, 2014, Henry B. Perry, Rose Zulliger and Michael M. Rogers.** In middle and high income countries, CHWs also seems to be effective in improving health. Increased evidences have confirmed that CHWs are becoming fundamentals of population based programs and support health outcomes in high income countries as well. CHWs require active involvement of communities, full support of health systems in terms of technical interventions of training, supervision and logistical support in order to achieve their full potential.

The article **"How Effective Are Community Health Workers?" (Perry, Henry, and Senior Associate. 2012)** depicted the effectiveness of Community Health Workers, which are most capable health resource and they can be trained in short period of time. They are also living among those people who are need of health services. In most of the low income countries, CHWs are still seen as second class service providers with second class care. The biggest gap in the knowledge about CHWs is lack of evidence on the effectiveness of Community Health programs and the factors that works as enablers.The growth in literature on CHWs provided an empirical evidence of ever-increasing expectations for addressing health burdens through community-based action, as mentioned in **"The global pendulum swing towards community health workers in low- and middle-income countries: a scoping review of trends, geographical distribution and programmatic orientations", 2005 to 2014.**

 

While in another study, ASHAs were predominantly (>80%) involved in tasks such as home visits, ante-natal counselling, accompanying institutional delivery, advice on breastfeeding, and counselling for age appropriate immunization. Their performance was satisfactory at 40% to 60% for drug provision of tuberculosis, preventive and promotive care of children suffering from diarrhoea or pneumonia, and organizing village health action meetings. Performance was low (<25%) for advice on contraceptive use, assessment of obstetric danger signs, and neo-natal care. **Assessment of 'Accredited Social Health Activists'— A National Community Health Volunteer Scheme in Karnataka State, India, 2015**, Farah N. Fathima, Mohan Raju, Kiruba S. Varadharajan, Aditi Krishnamurthy, S.R. Ananthkumar, Prem K. Mony.

Whereas Home Based Newborn Care (HBNC) is based on a model which was developed in Gadchiroli (Maharashtra, India) in 1990s. HBNC delivered a package of new born interventions through trained community health workers during home visits. HBNC led to a significant decline in neo-natal deaths as documented in **Care of newborn in the community and at home**, SB Neogi, J Sharma, M Chauhan, R Khanna, M Chokshi, R Srivastava, PK Prabhakar, A Khera, R Kumar, S Zodpey and VK Paul. In one more study, **Evaluation of Knowledge and Skills of Home Based Newborn Care among Accredited Social Health Activists (ASHA), 2016,** Bansal SC, Nimbalkar SM, Shah NA, Shrivastav RS, Phatak AG, the skills were satisfactory in 52%, 61%, 43%, and 68% of ASHA workers for temperature measurement, hand washing, weight measurement and skin-to-skin care, respectively.

While, in another study, 67.1% of ASHA workers were not aware of the correct preventive measures for vitamin A deficiency, twenty-nine (19.9%) of the ASHAs did not feel the need for referral for a child with diarrhoea who is unable to drink or breast feed, similarly, in acute respiratory tract infections, 35 (23.9%) of ASHAs did not know to refer a child with fast breathing, Fifty-nine ASHAs (50.4%) considered a baby crying for more than 3 hours following immunization not worth referring to a first referral unit as reported in the **Evaluation of trained Accredited Social Health Activist (ASHA) workers regarding their knowledge, attitude and practices about child health, 2012**, Shrivastava SR, Shrivastava PS. Another study on ASHAs revealed that despite the training given to ASHAs, lacunae still exist in their knowledge regarding various aspects of child health morbidity. Periodical refresher training should be conducted for all of the recruited ASHA workers, **Evaluation of trained Accredited Social Health Activist (ASHA) workers regarding their knowledge, attitude and practices about child health**, Shrivastava SR, Shrivastava PS.

The CHWs in three successive Indian national CHW programs have consistently asked for reforms in their service conditions, including increased remuneration. In most countries, CHWs, who are largely women, have never been integrated into the established, salaried team of health system workers reported in **Community health worker programs in India: a rights-based review, 2014**, Bhatia K. ASHA's motivation and performance are affected by a variety of factors that emerge from the complex context in which she works. These include various personal (e.g. education), professional (e.g. training, job security), and organizational (e.g. infrastructure) factors along with others that emerge from external work environment, as recognized in **Factors affecting the performance of community health workers in India: a multi-stakeholder perspective, 2014**, Reetu Sharma, Premila Webster and Sanghita Bhattacharyya.

## 3. Objective

The objective of this research paper is to analyze the role of ASHA workers in improving knowledge and practices of mothers on child health in rural areas of Rajasthan.

## 4. Methodology

This paper has been written based on the comparative analysis of National Family Health Survey 3 (2005-2006) and 4 (2015-2016) and primary data collected from ASHA workers and mother beneficiaries under various child health interventions in rural parts of three districts of Alwar, Bharatpur and Dausa of Rajasthan state in India.

### *4.1 Sample size*

The sample size for ASHA and mothers has been calculated using percentage Postnatal care by ASHAs and percentage mothers with institutional births. Absolute admissible error of $\pm$10% (confidence interval) at 95% confidence level; design effect of 1.5. The non-response rate of 20% and 10% have been considered while calculation of sample size for mothers and ASHAs respectively.

### *4.2 Sample Size (SS) calculation for Mothers*

For calculation of sample size of Mothers for baseline assessment, following indicator has been used for sample proportion (p).

"89% Institutional births" as per NFHS 4, 2015-16 in Rural parts of Dausa district, one of the study areas. Absolute error = $\pm$ 10; p = 89; q = 11; Design effect = 1.5; Non response rate = 20%

Z = 1.96 (set by convention according to the accepted α error for two-sided effect at 95% confidence interval)

Sample Size = [ $(1.96)^2$ X (89) X (11) X (1.2) X (1.5) ] / $(10)^2$

Total Sample Size = 66 Mothers per district and total 200 mothers in three districts of Alwar, Dausa and Bharatpur.

### *4.3 Sample Size (SS) calculation for ASHAs*

For calculation of sample size of ASHAs for baseline assessment, following indicator has been used for sample proportion (p).

">80% ASHAs knew their role in Post Natal Check-up, counselling women for Birth preparedness, safe delivery, exclusive Breast feeding, complementary feeding, Personal hygiene and sanitation", Knowledge Status of Accredited Social Health Activist (ASHA) of Jaipur City, International Multispecialty Journal of Health (IMJH)), December 2016. Absolute error = $\pm$ 10; p = 80.5; q = 19.5; Design effect = 1.5; Non response rate = 10%; Z = 1.96 (set by convention

 

according to the accepted α error for two-sided effect at 95% confidence interval)

Sample Size = [ $(1.96)^2$ X (80.5) X (19.5) X (1.1) X (1.5) ] / $(10)^2$

Total Sample Size = 100 ASHAs per district and total 300 ASHAs in three districts of Alwar, Dausa and Bharatpur.

### *4.4 Area of research*

The area of research of this study has been, improving child health through social mobilization at community level. The study has assessed the contribution of ASHA Workers in the delivery of child health services provided by the health department, Government of India, through Community Mobilization to the rural and underserved population of Rajasthan, India.

### *4.5 Model of data collection*

The model of data collection used for primary data collection from ASHAs and mothers was Knowledge Attitude and Practices (KAP). Structured questionnaires were used for collecting primary data from ASHAs and mothers.

### 5. National Family Health Survey (NFHS)

The National Family Health Survey 2015-16 (NFHS-4), the fourth in the NFHS series, provides information on population, health and nutrition for India and each State / Union territory. NFHS-4, for the first time, provided district-level estimates for many important indicators. Besides providing evidence for the effectiveness of the ongoing programs, the data from NFHS-4 helped in identifying need for new programs with area specific focus.

**Table-1 Comparative Analysis of National Family Health Survey 3 and 4 for Rajasthan**

| S N | Indicators | NFHS-4 (2015-16) | NFHS-3 (2005-06) |
|---|---|---|---|
| **Child Immunizations and Vitamin A Supplementation** | | | |
| 1. | Children age 12-23 months fully immunized (BCG, measles, and 3 doses each of polio and DPT) (%) | 54.8 | 26.5 |
| 2. | Children age 12-23 months who have received BCG (%) | 88.8 | 68.5 |
| 3. | Children age 12-23 months who have received 3 doses of polio vaccine (%) | 65.4 | 65.2 |
| 4. | Children age 12-23 months who have received 3 doses of DPT vaccine (%) | 71.6 | 38.7 |
| 5. | Children age 12-23 months who have received measles vaccine (%) | 78.1 | 42.7 |
| 6. | Children age 12-23 months who have received 3 doses of Hepatitis B vaccine (%) | 53.1 | N.A. |
| 7. | Children age 9-59 months who received a vitamin A dose in last 6 months (%) | 39.6 | 8.6 |
| 8. | Children age 12-23 months who received most of the vaccinations in public health facility (%) | 94.4 | 87.2 |
| **Treatment of Childhood Diseases (children under age 5 years)** | | | |
| 9. | Prevalence of diarrhoea (reported) in the last 2 weeks preceding the survey (%) | 7.4 | 10.3 |
| 10. | Children with diarrhoea in the last 2 weeks who received oral rehydration salts (ORS) (%) | 56.2 | 16.5 |
| 11. | Children with diarrhoea in the last 2 weeks who received zinc (%) | 17.5 | N.A. |
| 12. | Children with diarrhoea in the last 2 weeks taken to a health facility (%) | 73.9 | 56.6 |
| 13. | Prevalence of symptoms of acute respiratory infection (ARI) in the last 2 weeks preceding the survey (%) | 2.1 | 6.9 |
| 14. | Children with fever or symptoms of ARI in the last 2 weeks preceding the survey taken to a health facility (%) | 82.6 | 69.7 |
| **Child Feeding Practices and Nutritional Status of Children** | | | |
| 15. | Children under age 3 years breastfed within one hour of birth(%) | 28.4 | 13.3 |
| 16. | Children under age 6 months exclusively breastfed(%) | 58.2 | 33.2 |
| 17. | Children under 5 years who are stunted (height-for-age)(%) | 39.1 | 43.7 |
| 18. | Children under 5 years who are underweight (weight-for-age)(%) | 36.7 | 39.9 |

*Source: National Family Health Survey 2005-06 and 2015-16*

Comparative analysis of Child health Indicators between NFHS 3 and NFHS 4 of Rajasthan (Table-1), reveals significant improvement in Child health interventions between 2005 and 2015. All the child health indicators have significantly improved, especially immunization, child morbidity, stunting and underweight rates. During NFHS, data on knowledge and practices of ASHAs on child health has not been collected. Therefore, it was important to collect data from ASHAs, one of the important pillars of Public Health System and only support at community level health services in India. Additionally, knowledge and practices of mother beneficiaries served by ASHA workers were assessed to measure the outcome of social mobilization by ASHA workers.

### 6. Discussion

Findings from the primary data collected in Alwar, Dausa and Bharatpur on Skills and Practices of ASHAs and Practices of Mothers on Child Health.

| Table-2 Skills And Practices 0f Asha For Promoting Child Health Through Mobilization (Total N=309) | | | |
|---|---|---|---|
| **Indicators** | **Alwar (N=110)** | **Bharatpur (N=102)** | **Dausa (N=97)** |
| **Skills and Practices** | | | |
| % ASHA providing home visits for child health services | 84.5 | 93.1 | 75.3 |
| % ASHA with adequate ORS and distributing to mothers with infants | 93.6 | 94.1 | 81.4 |
| % ASHA with adequate Paediatric IFA syrup and distributing to mothers with infants | 87.3 | 89.2 | 90.7 |
| % ASHA with adequate Zinc tablets and distributing to mothers with infants having Diarrhoea | 56.4 | 28.4 | 48.5 |
| % ASHAs providing counselling to mother on complementary feeding practices | 90.9 | 78.4 | 93.8 |
| % ASHAs providing counselling to mothers on preparation of ORS | 97.3 | 90.2 | 87.6 |
| % ASHAs providing counselling to mothers on Paediatric IFA supplementation | 93.6 | 73.5 | 86.6 |
| % ASHA providing counselling to mothers on detection of sickness and danger signs | 61.8 | 60.8 | 58.8 |

***Salient Findings from primary data collected from ASHAs***

Based on the analysis of the primary data collected in rural parts of three districts of Alwar, Bharatpur and Dausa (Table-2), revealed significant coverage of key child health interventions supported by ASHA workers. 75.3% to 93.1% ASHA were conducting home visits to mothers with infants less than one-year-old; 81.4% to 94.1% ASHA were found to have adequate ORS and were distributing to mothers with infants. 87.3% to 90.7% ASHAs were found to have adequate Paediatric IFA syrup and were distributing to mothers with infants; 28.4% to 56.4% ASHA were found to have adequate Zinc tablets and were distributing to mothers with infants having diarrhoea. 78.4% to 93.8% ASHAs were providing counselling to mothers on complementary feeding practices. 87.6% to 97.3% ASHAs were providing correct counselling to mothers on preparation of ORS. 73.5% to 93.6% ASHAs were providing counselling to mothers on Paediatric IFA supplementation; and 58.8% to 61.8% ASHAs were providing counselling to mothers on detection of sickness and danger signs that require referral to health facilities.

| Table-3 Knowledge and practices of mothers counselled by ASHAs on child health interventions (Total N=221) | | | |
|---|---|---|---|
| **Indicators** | **Alwar (N=97)** | **Bharatpur (N=65)** | **Dausa (N=59)** |
| % Mothers received ORS packets from ASHA during home visit | 84.4 | 83.1 | 78 |
| % Children were provided age appropriate vaccines | 85.4 | 81.5 | 67.8 |
| **Practices** | | | |
| % Mothers used ORS for infants during diarrhoea episodes | 95.8 | 63.6 | 69.6 |
| % Mothers were providing IFA supplementation to infants | 64.2 | 41.8 | 62.7 |
| % Mothers provided exclusive breastfeeding to infants | 88.5 | 81.5 | 55.9 |
| % Mothers timely initiated complementary feeding to infants at 6 months of age | 84 | 81.8 | 66.7 |
| % Mothers were washing their hands with soap and water during all four crucial times of the day | 79.2 | 78.5 | 72.9 |

***Salient Findings from primary data collected from mothers***

The analysis of the primary data collected from mothers which were counselled by ASHA workers in rural parts of three districts of Alwar, Bharatpur and Dausa (Table-3), revealed significant contribution in key child health indicators. 78% to 84.4% Mothers received ORS packets from ASHAs during home visit; 63.6% to 95.8% mothers used ORS for infants during diarrhoea episodes; 41.8% to 64.2% mothers were providing IFA supplementation to infants; 55.9% to 88.5% mothers were provided exclusive breastfeeding to infants till 6 months of age; 66.7% to 84% Mothers timely initiated complementary feeding to infants at 6 months of age; 72.9% to 79.2% Mothers were washing their hands with soap and water during all four crucial times of the day; and 67.8% to 85.4% children were provided age appropriate vaccines.

**7. Conclusion**

ASHA workers provide valuable contribution in generating awareness in the community towards health, hygiene, improves coverage of communities towards health services. Evidences from various national level surveys and evaluations have suggested that ASHA workers conduct various tasks to improve health outcomes in the community, with focus on child health. ASHA workers are trained to perform activities to implement child health programs at the community level, and they also receive supportive supervision from ASHA supervisors on monthly basis.

ASHAs are incentivized for conducting home visits for providing counselling support to mothers with infants up to one years of age. ASHAs could play an important role in improving child health indicators in rural parts of India through social mobilization. ASHAs can further contribute in reducing child morbidity and mortality, if supported with trainings, supportive

 

supervision and incentives for motivation.It is clearly evident that, there is growing awareness and need in the health sector in India for the increased value of contribution provided by ASHAs for generating awareness on public health services. Significant improvement in key child health indicators in Rural parts of Rajasthan between 2005 and 2015 can be directly associated with the contribution and attribution by ASHA workers. Independent assessments have also suggested, increased contribution of ASHA workers in improving child health outcomes in districts where ASHAs are provided additional training on Child Health interventions and improving social mobilizations skills.

The analysis of the primary data collected from ASHA interviews revealed, ASHA are conducting home visits to mothers with infants less than one-year-old; they were found to have adequate ORS, Paediatric IFA syrup and they were distributing and counselling mothers for its correct use; and ASHAs had appropriate knowledge on complementary feeding and detection of danger signs in infants that require referral to health facilities. Whereas, the analysis of primary data collected from mothers counselled by ASHAs on child health interventions, has revealed major contribution of ASHAs in increasing knowledge and practices of mothers on child health. Therefore, findings and results obtained from the primary data collected from ASHAs and mothers directly correlates to and vindicates the improvement remarked in child health indicators of Rajasthan derived from comparative analysis between NFHS 3 and 4 on child health indicators.

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