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Research Article

ASSESS RETENTION OF KNOWLEDGE, ATTITUDE AND PRACTICES OF COMMUNITY HEALTH WORKERREGARDING CHILDHOOD PNEUMONIA AND DIARRHOEA. (ALLAHABAD, GONDA, AND BAREILLY UTTARPRADESH)

Dr. Ayushibhatnagar[1] and Ratikapoor[2]

[1]Assistant Research Officer the INCLEN Trust International, New Delhi
[2]Research Officer the INCLEN Trust International, New Delhi

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Reduction of children death due to Pneumonia and Diarrhoea is a critical process to endeavor as it accounts for 29% of the children death globally.

A B S T R A C T

Reduction of children death due to Pneumonia and Diarrhoea is a critical process to endeavor as it accounts for 29% of the children death globally. Where India accounts for pneumonia12.9 % and Diarrhoea 8.9 % and Uttar Pradesh accounts for pneumonia 14.0% and Diarrhoea 10.9% which is highest among all the states in 2015

ASHA are considered as the link between the community and health facility. Community based case management is required to manage diseases. The current training on Module-6 and 7 orient ASHA for managing both the disease, but the community still missing quality service delivery hence this study aims to access knowledge retention of frontline workers who have given intervention regarding pneumonia and Diarrhoea in Uttar Pradesh.

A study to access retention of knowledge of public frontline workers after orientation on pneumonia and Diarrhoea in Uttar Pradesh.

The data indicated that though the knowledge level is good for Diarrhoea but they become less efficient when it comes to practicing the services. The assessment of Diarrhoea patient and assessment of dehydration are the area where ASHA is lacking. On the other hand knowledge of ASHA regarding childhood pneumonia is much lower than Diarrhoea like some ASHA never heard the term Pneumonia. Even many ASHA don't know what is the cause of Diarrhoea.

While we discuss about the practice, more than sixty percent of ASHA said they didn't know any medicine to treat Pneumonia. Assessment of childhood pneumonia is also not up to the mark as looking for alertness of child is the main criteria with 41 percentage response.

ASHA express medicine unavailability is a biggest challenge to address for them for Diarrhoea management and lack of knowledge for pneumonia management. Another data reveals that availability of essential drugs like Tab. Zinc, cotimoxazole, Amoxicillin and paracetamol were also not sufficient with below 50 percentage statuses.

INTRODUCTION

Globally India rank 1st in Pneumonia & Diarrhoea mortality rate in Children under 5 Years (in 1000s) 2013[1]. India mortality rate of children under 5 due to Pneumonia & Diarrhoea is 318 in 2014 [1].

The 1978 Alma Ata declaration of highlighted the importance of Primary Health Care and the critical role played by Community health Workers (CHW) to link communities to the health system. The use of community members to render certain basic health services to their communities is a concept that has existed for at least 50 years. There have been innumerable experiences throughout the world with programmes ranging from large-scale, national programmes to community-based initiatives.

Corresponding author:* **Dr. Ayushibhatnagar
Assistant Research Officer the INCLEN Trust International, New Delhi

A study in rural Bihar concluded that there is huge gap between knowledge and practice of public and private front line workers for treatment of childhood pneumonia and Diarrhoea. [2].The study says Practitioners performed poorly with vignettes and standardized patients, with large know-do gaps, especially for childhood Diarrhoea. Efforts to improve health care for major causes of childhood mortality should emphasize strategies that encourage pediatric health care practitioners to diagnose and manage these conditions correctly through better monitoring and incentives in addition to practitioner training initiatives [3]

In the study of knowledge, attitude and practice of ASHA workers regarding child health (under five years of age) in Surendranagar district 50% knew the causes of Diarrhoea but 91.54% and 55.38% had poor knowledge regarding signs of

dehydration and preventive measures respectively. 90.77% and 86.16% ASHA no idea regarding causes & primary treatment in pneumonia [4]

The 2019 evaluation from the National Health Systems Resource Centre (NHSRC) emphasizes, like a number of other evaluations, that while the ASHA programme has been established at great scale and now serves an integral role in the public health system, the ASHA's functionality and effectiveness must be further optimized [5]. The NHSRC highlights low performance in some areas of work (e.g. newborn care, ANC, postnatal care, nutrition) due to lack of skills and support. States are ultimately responsible for revising training curriculum—though progress is slow due to poor institutional support and lack of trained human resources to support ASHA—and many have revised the selection norms to meet state needs [3].A number of studies (e.g. Cuttack, Ranchi, Lucknow, Udaipur, and Gorakhpur) have examined incentives, recruitment, roles and responsibilities, supervision, and training for ASHA around the country. Many of these results reflect our own study, so we will briefly review them. A study from Sierra Leone shows that deployment of community volunteer for free treatment of common childhood illness was associated with a reduced treatment burden at facilities and less reliance on traditional treatments[6]. As we have ASHA as free service provider to the community and because she is from the community hence we can consider her as community volunteer.

In Kenya a study was giving an insights of treatment seeking behavior of the community and it comes with five overarching themes were identified around which barriers to care-seeking and treatment (and related solutions) are organized- These are 1) financial barriers; 2) distance/location of health facilities; 3) socio-cultural barriers and gender dynamics; 4) knowledge and information barriers; and 5) health facility.[7] Hence the understanding of both perspective service provider and service seeker is important because Pneumonia and Diarrhoea has various determinants and these determinants are predominantly affecting the child health due to vulnerability of age group [7] Respiratory disease and Diarrhoea considered as a minor health ailments by the community which leads to delay in treatment and resulting in increased child mortality. There are many low cost community based intervention available for the treatment of pneumonia and Diarrhoea, still no. of child death due to both diseases has a high toll.[3]

All health workers considered regular training the best measure to improve their work. Studies from Pakistan and Mali indicate that continuous training, availability of transport, adequate supervision and motivation of CHWs through regular remuneration and appreciation are among key factors to improve their performance in rural communities [8]hence it is encouraged that evidence-based packages be used for training LHWs to enhance their skills for iCCM of pneumonia and Diarrhoea [9]

Accredited Social Health Activist workers' knowledge of danger signals that indicate the need for immediate referral to a first referral unit [10]

The Public front line workers (ANM and ASHA) are the first point of contact for service delivery and are also responsible for preventive and referral activities. Despite the presence of Public front line workers only 13 % of children less than five years suffering from respiratory disease are receiving treatment [2] and about 26 % of children less than five years suffering from Diarrhoea are receiving ORS in India [2].Uttar Pradesh is the largest state in terms of population in India and accounts highest under five mortality among all states of the country i.e 90 as per AHS (Annual health Survey 2012-13).
Three districts where organization is going to implement first phase of project are Allahabad, Bareilly and Gonda. These districts can be considered as a representative of rural India. Understanding of public front line workers' (ASHA and ANM) knowledge attitude and practice towards treatment and referral of childhood pneumonia and Diarrhoea is extremely important. The findings of the study can help programme manager to implement their strategies from both, service providers and seeker's perspective.

METHODS

Objective

To assess retention of Knowledge of frontline worker Regarding Identification Management and Referral of Childhood Pneumonia and Diarrhoea.

Type of study

Qualitative study – focus group discussion (FGD***)***

Methodology

In FGD the interviewer (moderator / Primary research person) leads research participant's, helps them continue with interaction among the participants about the topic or an issue in group discussion.7

Although conducting in-depth interviews with the study subjects alone would also elicit similar data and information, FGD has the added advantage that it allows an active interaction to occur between subjects.

The rural field practice area relevant to this study has 3 districts and 5 block from each districts. Fifteen FGD were conducted to collect qualitative information through focus group discussions. Auxiliary-nurse Midwives (ANM's) and the accredited social health activists (ASHA's) meet at the primary health centre on a monthly basis. Both groups were oriented towards the objectives of the study and requested to assemble the study subjects at the AAA meet for focus group discussions. 15 FGD's were conducted between April and May 2016 with participants ranging from 6 to 12 in each composed group. Total participants reached to 101.

Table 1.1

S.no	Districts	No. of FGD's	No. of participants	Types of participants
1	Allahabad	5	32	ASHA+ANM
2	Bareilly	5	38	ASHA+ANM
3	Gonda	5	31	ASHA+ANM
TOTAL		15	101	ASHA+ANM

Once the group was organized

a. An introduction of study participants and their willingness to participate in the study was taken.
b. Knowledge of these subjects about early initiation of Identification Management and Referral of Childhood Pneumonia and Diarrhoea.

Obtained information was hand written by note taker and audio, video recording was done which was later translated into verbatim by researcher.

Statistical analysis

Thematic analysis

The researcher draws together and compares discussions of similar themes and examines how these relate to the variables after testing association and differences, interpretations and conclusions will be made.

Ethical consideration

As an intern in IHAT I, collected the data on this topic and ethic approval was taken by the organization as they are working in Uttar Pradesh state and for pneumonia and Diarrhoea they were working in 3 districts Allahabad, Gonda, and Bareilly

RESULTS

How to recognize Pneumonia

Participants gave mix responses during FGDs on how to recognise Pneumonia.

In Pneumonia child has cough, chest in-drawing, fast breathing, chest in drawing (palai chalna), difficulty in breathing, Convulsions (akadna), Lethargy (susti), children also cry. , In Pneumonia child breathe count increases as 60 or more breathe counts for 2 month children, 50 for 2 to 6 months and 40 for 6 to 2 months.(ASHA ANM of Allahabad)

In Pneumonia child has cough, chest in-drawing, fast breathing. In Pneumonia child breathes (60/50/40) but not sure about the age group categorization of fast breathing (ASHA ANM Bareilly)

In FGDs, Few ASHAs were found mixing up the danger signs of Pneumonia but few ASHA assessed pneumonia with the symptoms such as chest in drawing, difficulty in breathing, fast breathing etc. fast breathing is very important symptoms of recognize pneumonia but do not know fast breathing according to age. (ASHA ANM Gonda)

Danger signs of sever Pneumonia

The danger signs of sever Pneumonia such as chest in-drawing, difficulty in breathing, fast breathing and convulsion etc. but not classifying danger signs as Pneumonia and sever Pneumonia. (ASHA ANM of Allahabad)

Participants were able to recall almost all symptoms of sever pneumonia like- chest in drawing, convulsion, inability to eat or breastfeeding, frequent vomiting, nasal faring, lethargic, In younger children more than 1 large wound, more than 10 pistules were also the sign of sever disease. (ASHA ANM Bareilly)

Chest in drawing, lethargy and convulsion as one of the danger signs of sever Pneumonia. . (ASHA ANM Gonda)

Role of ASHA and ANM in treating Pneumonia

Give medicine acillin don't know doses and refer the patient(ASHA ANM of Allahabad)

Give home remedies to child in cold cough like usage of Vicks and mustered oil, tulsiwe will give.Amoxicillin for five days and in case of sever pneumonia we will refer patient.(ASHA ANM Bareilly)

Amoxicillin or Cotrimoxazole as first line of treatment of Pneumonia. Sever Pneumonia cases were referred to the CHC. Follow up the child after discharge(ASHA ANM Gonda)

How to Recognise Diarrhoea

3-4 or more stools, with more watery, more in quantity in 24 hours (ASHA ANM of Allahabad)

More than three times watery stool is known as Diarrhoea and in younger children the increase in no. of stool and more water content in stool is identified as Diarrhoea. (ASHA ANM Bareily)

Frequency of stool, more water in the stool than faeces, child feeling more thirsty were mentioned as a sign to recognise Diarrhoea etc. (ASHA ANM Gonda)

Danger signs of some and severe dehydration

The danger signs such as sunken eyes, stomach pinch, irritability, abnormally thirsty and lethargy as sign of dehydration (ASHA ANM of Allahabad)

There is a dehydration during Diarrhoea, skin goes back slowly if pinched, the child is irritated and wants to drink lot of water, there is a blood in the stool. (ASHA ANM Bareilly)

Lethargy, inability to eat and breast fed, skin punch and sunken eyes as the danger signs of severe dehydration. (ASHA ANM Gonda)

Role of ASHA and ANMs in treating some and severe dehydration

Give ORS packet and Zinc tablet and will refer the child to the CHC (ASHA ANM of Allahabad)

Give ORS packet and Zinc tablet to the patient and have ORS on the way to the hospital. Recall four hour treatment protocol for some dehydration (ASHA ANM Bareily)

Give ORS packet and Zinc tablet and will refer the child to the CHC or may be private doctors for the treatment in case of serious dehydration. Zinc for fourteen days in some dehydration (ASHA ANM Gonda)

How to prepare ORS

Clean hand, clean utensil and clean water dissolving full packet in one litre of the water covering the container of the solution with a lid and use within 24 hrs (ASHA ANM of Allahabad)

Boil water mix full packet in one litre of the water(ASHA ANM Bareily)

Clean hand, clean utensil and clean water dissolving one packet of ORS in one litter of water. (ASHA ANM Gonda)

Doses of zinc

½ tablet for up to one year of the age for 14 days(ASHA ANM of Allahabad)

One tablet will be given to children each day for fourteen days. (ASHA ANM Bareily)

½ tablet for up to one year and and remaining ½ will be thrown. Two to six month children will be given 1 tablet each day for fourteen days.(ASHA ANM Gonda)

Appropriate Home Fluids

Fluids like lemon water, maad, daal ka paani, Participants also said home-made sugar-salt solution & Glucose solution(ASHA ANM of Allahabad)

Give coconut water, Sugar added lemon water, butter milk, rice water and pulse. Tea, Coffee, cold drink, Glucose are the substance which are not allowed in Diarrhoea. (ASHA ANM Bareily)

Fluids like lemon water, maad, , butter milk, rice water and pulse (daal ka paani) solution confusion with the added sugar(ASHA ANM Gonda)

Any Challenges of Working on Pneumonia and Diarrhoea

They looked confused whether to give glucose or not. They were able to explain what fluids to be given at home but not so clearly with the added sugar content. In season of marriages and in change weather they would get more cases of Diarrhoea. (ASHA ANM of Allahabad)

Community doesn't trust them with the child health. Convincing families to use their treatment is very hard. Some people consult the doctor whom they have been consulting in the past, they don't come to us.(ASHA ANM Bareily)

Irregular supply of the drugs therefore they have to refer the cases to the CHCs (due to non-availability of the medicines. (ASHA ANM Gonda)

DISCUSSION

The two most important causes of deaths among children under five as perceived by health workers were pneumonia and Diarrhoea along with measles, malnutrition and anemia. This shows that health workers have appropriate knowledge regarding underlying factors contributing towards child morbidity and mortality and their perception coincides with the global and national trends of under-five mortality [11], [12], [13]. Public frontline workers (ASHA and ANM) were trained in Pneumonia and Diarrhoea in the month of December 2015 and January 2016. Focus group discussion done within 2months, it was envisaged to go back after two months to understand the use of newly acquired knowledge by ASHA and ANM and the challenges they face while working on P&D. It was envisaged that two months gap after training will give us a realistic picture on the understanding of FLWs and help plan future interventions in all 3 districts 15 blocks of Pneumonia and Diarrhoea Our result show that most ASHA and ANM have retention of Knowledge on the danger signs, classifications and management of Pneumonia and Diarrhoea at community level. Retention of knowledge by ASHA and ANM in all 3 districts 15 blocks

Pneumonia knowledge

This study aimed to assess ASHA and ANM' awareness of pneumonia, its causes, signs and symptoms and their treatment seeking practices for children with the symptoms of pneumonia. The mixed method approach proved useful in confirming perceptions expressed in the quantitative and qualitative responses. Focus group discussions provided explanation of the quantitative responses, which validated knowledge gathered from the responses as true reflections of opinions and beliefs of the respondents. The study showed that ASHA and ANM were aware of various common childhood illnesses prevailing in their communities; however, pneumonia did not emerge as one of the known common childhood diseases in their communities. The symptoms of pneumonia including Chest in-drawing, difficulty in breathing, congestion and vomiting were mentioned spontaneously but ASHA and ANM were able to mention breath count according to age. The seeming low awareness of pneumonia among the ASHA and ANM is consistent with earlier findings of studies conducted in Eastern Uganda among mothers and traditional healers [14] but in contrast to the findings in Kenya [15]Pakistan [16], Peru [17]and Western Uganda [18] where participants had heard about the illness and were easily able to identify the signs and symptoms. It can therefore be posited that such problems of low awareness are community specific, and may be dependent on the linguistic interpretation of diseases and how they may be perceived within the communities. ASHA ANMs in mentioned danger sign of severe Pneumonia as Child will become lethargic, breath count will increase, and there will be sound/noise while breathing, Child will vomit frequently. They seems to be having little bit good understanding of danger signs but not able to classify the sickness appropriately**.** This lack of ability among caregivers in the present study to identify pneumonia symptoms could result in possible delays in seeking appropriate health care for the sick child and result in avoidable deaths [19]. The study showed most of the ASHA's and ANM remembered only referral as their role in treating Pneumonia. Most of the ASHA and ANM don't remember the name of the medicine AMOXICILLINE and don't remember doses of Amoxicillin according to age. Treatment practices for breathing difficulties and or pneumonia, cited by caregivers in the present study and also reported in other studies in Pakistan [16] and Uganda [17]concur and resonates with common practices for managing childhood illnesses. Many caregivers in Sub Saharan Africa try different home remedies and resort to facility treatment after self-treatment efforts have failed and or illness worsens [19], [20]. On the other hand, a study in Kenya found no known home treatment for pneumonia but rather emphasized hospital treatment [15]. A response tends to be referral of the sick child to the nearest health facility without assessing and classifying the disease. Therefore, despite the presence of a rich primary health care infrastructure the functionality and quality of care provided by these health workers is a major issue. Hence community care providers resort to seeking care at less accessible tertiary care hospitals[21]

Diarrhoea knowledge

The danger signs of Diarrhoea, three or more loose stools with blood in 24 hours is the immediate danger sign and symptom of Diarrhoea [22]. The symptoms of Diarrhoea is frequent loose stools, weakness, and lethargy [23].While describing their care giving experience, caregivers listed loose stools, sunken eyes, weakness, vomiting, dry skin, fever, and loss of appetite as signs and symptoms of Diarrhoea[23].The study showed most of the ASHA's and ANM have good understanding on how to recognize Diarrhoea. ASHA and ANM responded three or four watery stool in a day is called Diarrhoea. They were aware about changes in the consistency of stool and more water than faecal matter. There is a dehydration during Diarrhoea, skin goes back slowly if

pinched, the child is irritated and wants to drink lot of water, there is a blood in the stool.

According to the community integrated management of childhood illness strategy [21]mothers/caregivers at home should have adequate knowledge on the causes and prevention as well as treatment of Diarrhoea, using appropriate remedies, including homemade fluids, such as fresh fruit juices, milk, salt/water solution, and breast milk. In addition, mothers/caretakers should seek treatment for their child from health facilities to limit any damage on the child's health that may have been caused by Diarrhoea disease [21].*Homemade* management of Diarrhoea was commonly practiced in the community, i.e. providing boiled and cooled water with honey and Haile Sellasie silver coin [Mariatriza]. However, indigenous communities preferred traditional medications such as Sirsafe, Bibi and Kebercho to their children when they got Diarrhoea [24].Our study revealed that many ASHAs and ANMs recommending remedies for Diarrhoea children to drink lot of water, breast feeding, maad, lentils and lemon water etc. gives ORS to children who have Diarrhoea and refer to the nearby health post in case there is no improvement [24]ASHAs and ANM are not well aware that they should assess level of dehydration in the child before giving ORS and Zinc. ORS and zinc to child if has Diarrhoea and will refer immediately in the cases of severe dehydration. If Diarrhoea was severe or if the stool was watery or bloody, the child should be taken to a doctor [25].In FGDs and IDIs most caregivers said that they opt for a soft diet of rice, yogurt, and bananas along with ORS when their children have Diarrhoea [23]In one of the FGD few ASHA's shared their additional role in some dehydration but they were not able to recall four hour treatment protocol. ASHA and ANM, clean the hand then put one packet of ORS in one liter drinking water then will feed the children, will not use solution after twenty four hour. Few ASHAs mentioned use of boiling water in preparing ORS but majority of them were aware that the water should be clean and not necessarily boiled especially when preparing first dose to deal with dehydration cases. In FGD mentioned that Two to six month children will be given ½ tablet and remaining ½ will be thrown. One tablet will be given to children each day for fourteen days. Few participants reported confusion with the doses of younger children from 2 to 6 months. FLWs get confused if asked whether glucose can be given or not .Majority of the ASHA's remembers that content with added sugar should not be given but few lack clarity. Though discouraged in the training most of the ASHA's are recommending home based solution (mixing water, salt and sugar) in case of non-availability of ORS packets.

Any challenges of working on pneumonia and Diarrhoea

Community case management (CCM) of pneumonia, complementing facility-based management, is a strategy to deliver antibiotics outside health facilities where access to treatment is poor [26]

All health workers considered regular training the best measure to improve their work. Studies from Pakistan and Mali indicate that continuous training, availability of transport, adequate supervision and motivation of CHWs through regular remuneration and appreciation are among key factors to improve their performance in rural communities [9].Hence it is encouraged that evidence-based packages be used for training LHWs to enhance their skills for iCCM of pneumonia and Diarrhoea [27].In our study ASHA's reported having trust issues with the community while working on P&D cases. Refer patient to CHC but they go to private hospital for treatment. ASHAs, don't know how to prepare Amoxicillin syrup as the distributed syrup was powder. According to ASHAs and ANM timely distribution of supplies of ORS & Zinc and amoxicillin will definitely enhance the service provision.

CONCLUSIONS

- ASHA's have understanding of the danger signs of Pneumonia and Diarrhoea but they have difficulty in classifying pneumonia and Diarrhoea.
- There is a lack of clarity among ASHA and ANM about their role in treating the cases of Pneumonia and Diarrhoea
- In knowledge of Diarrhoea management Doses of zinc tab is also an area to be focused.
- Pneumonia assessment and Management is not clear to ASHA and ANM. They did not know the doses of AMOXICILLINE and not able to pronounce it properly.

Recommendations

- It is recommended to organize follow up training focusing on the practicing on the classification of the P&D cases and deciding treatment protocol.
- ASHA having the scope of retention of knowledge but needed to give training in cluster meeting or in AAA Meeting to enhance their knowledge
- In order the strengthen community case management these two aspects needs to be strengthen in future trainings and follow ups.
- All the ASHA and ANM should be trained again by poster or videos
- Questions related to practice for both the diseases has not answered properly hence showing a need of intense handholding supports
- Supplies Amoxicillin are an issue to ASHA. They further feel that appropriate timely supply will strengthen them in building trust with the community in treating P&D cases
- ASHA's are passing information during home visits currently but it might also be a good idea to paste two to three notices in each villages regarding availability of treatment of P&D with ASHA'.

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