

## Original Research Article

# Perception and knowledge regarding under-nutrition in children among anganwadi workers: a qualitative study in Berhampur of Ganjam district, Odisha

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### ABSTRACT

**Background:** Anganwadi centres (AWCs) remain hub for promoting nutrition in children. For an effective functioning of programs, Anganwadi workers (AWWs) need to have a sound knowledge and perception regarding under-nutrition. A qualitative study (Focus Group Discussion) was conducted with aim to assess perceptions and knowledge of AWWs regarding under-nutrition in 6 domains like about term under-nutrition in children, its causes, identification of it, its community management, advices to be given to parents and knowledge of program related to under-nutrition in their locality.

**Methods:** 2 Focus group discussions (each consisted of 12 members and took around 40-45 minutes) were conducted in December 2018 among AWWs of Berhampur through purposive sampling. One author played role of facilitator who carried out discussions, another acted as recorder who took notes and sociograms were recorded by another author. Audio-visual recordings were done. Data were analysed and a report was created based on grounded theory.

**Results:** Participants had fair knowledge of term under-nutrition. They had good knowledge of causes of under-nutrition in children and knew how to identify. But none of them had proper knowledge of community management of malnutrition (CMAM) in children. Though most of them have knowledge of screening of malnourished children and referral to Nutritional rehabilitation centre, they were unaware of other key components of CMAM. Many AWWs didn't know much about programs for combating malnutrition; however they were well acquainted with ICDS and VHND.

**Conclusions:** Quality training programs and more sensitisation should be done for Anganwadi workers. Specific training on CMAM should be carried out for them.

**Keywords:** Qualitative study, Malnutrition, Anganwadi centre, Focus group discussion, Grounded theory, CMAM

### INTRODUCTION

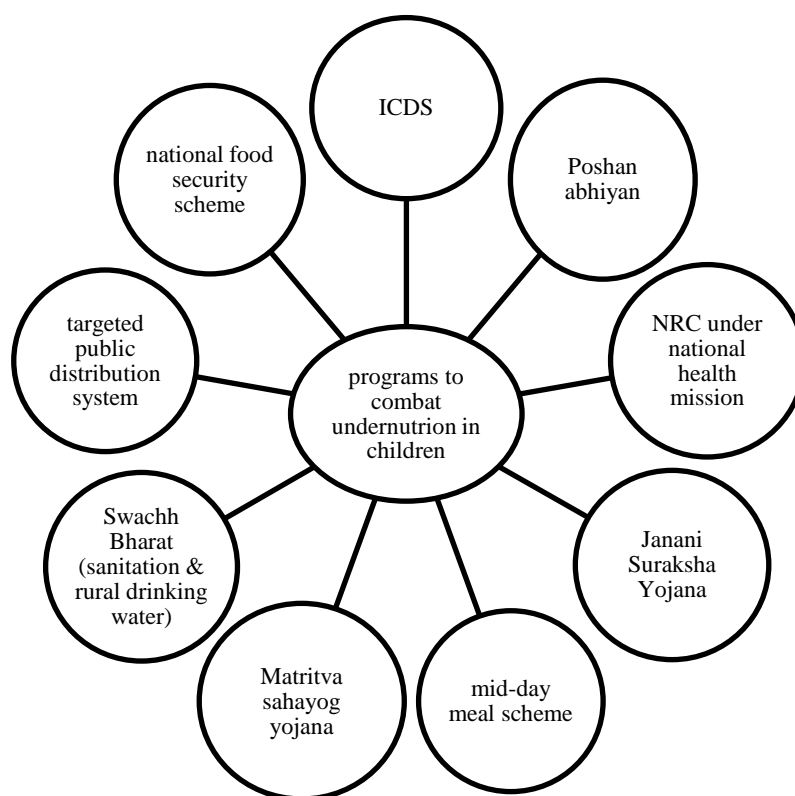
Good nutrition is essential for survival, physical and mental growth, performance, productivity, health and well-being across the entire lifespan. Malnutrition during childhood results in impaired physical growth and increases the susceptibility to common childhood

illnesses. According to 2017 UNICEF data, 150.8 and 50.5 Million of children under 5 worldwide had stunted growth and wasting respectively.<sup>1</sup> Nearly half of the deaths in children under 5 are attributable to under nutrition resulting in loss of about 3 million young lives a year.<sup>2</sup> In Southern Asia (including India) prevalence of under nutrition increased from 9.4% in 2015 to 11.5% in

2016.<sup>3</sup> Under-nutrition puts children at greatest risk of dying from common infections, increases the frequency and severity of such infections and delays recovery.

Government of India has launched many health and nutritional programs and policies to address immediate and underlying determinants of under-nutrition in children through nutrition specific and sensitive intervention (Figure 1). India is committed for vision (Kuposhan Mukta Bharat) in 2022.<sup>4</sup> Under ICDS program, Anganwadi centres (AWCs) remain hub for promoting maternal and child health and nutrition at village level. The main functionary of AWCs is Anganwadi workers (AWWs). These workers with many roles and responsibilities (depicted in Table 1) are the frontline of

nation's fight against malnutrition.<sup>3,5</sup> Hence for an effective and smooth functioning of programs related to malnutrition, AWWs need to have a sound knowledge and perception regarding under-nutrition in children. So a qualitative study (focus group discussion) was conducted with the aim to assess the perceptions and knowledge of AWWs regarding under-nutrition in children. Qualitative study is the most appropriate study to understand the depth of knowledge and perceptions. In the present study, the perception and knowledge were assessed in 6 domains like about the term under-nutrition in children, its causes, identification of under-nutrition in children, its community management, advices to be given to parents to reduce under-nutrition and knowledge about program related to alleviate under-nutrition in their locality.



**Figure 1: National programs to address under-nutrition in children.**

**Table 1: Roles and responsibilities of anganwadi workers for improving nutrition and health of children.**

<b>Supplementary feeding for children (0-6 years)</b>
<b>Growth (weight and height) monitoring and referral of children to sub centre/PHCs</b>
<b>Health and nutrition education to parents</b>
<b>Counselling of parents about breast feeding and infant and young feeding practices</b>
<b>Home visit for educating parents to enable mother to plan an effective role in the child's growth and development with special emphasis on new born child.</b>
<b>Community assessment of malnutrition and referral</b>
<b>Maintain files, records and mother MPCP (mother &amp; child protection) card and track them.</b>
<b>Assist ANM in administration of IFA tablets and vit A</b>
<b>Conduct immunisation session</b>
<b>Inform ANM in case of emergency like diarrhoea and cholera</b>

## METHODS

### Study design and sample size

This qualitative study that is Focus Group Discussion (FGD) was carried out in the month of December 2018 among Anganwadi workers (AWWs) till saturation of data was achieved and in the present study we did total 2 FGDs. AWWs of Berhampur were selected through non-probability (purposive sampling). There are total 196 Anganwadi workers working in AWCs located in Berhampur. With the permission of CDPO (Child development project officer) the required numbers of AWWs were invited to the urban health training centre, Ankuli which is the field practice area of Community Medicine department under the tertiary hospital and college. The purpose of the meeting was explained and oral consent was taken before discussion. The 2 FGDs were conducted on different days. Ethical approval was taken from IEC of the institute prior to study.

### Data collection and analysis

To collect data 2 FGD were conducted among AWWs. Each group consisted of 12 members and hence total 24 AWWs were included. Each focus group discussion took around 40-45 minutes. The discussions were carried out to know perception and knowledge of AWW regarding the concept of under-nutrition in children, its causes, identification of under-nutrition among in children by symptoms, its community management, advices to be given to parents and program related to improve nutrition among children by state and national governments in their locality. One author played the role of facilitator and carried out discussion with help of a pre-designed discussion guide consisting of open ended questions. Probes aiming to encourage discussion and sharing their experiences were used by facilitator. Audiovisual recording and field notes were taken by another author who acted as recorder. The notes contained all relevant information provided by the participants and also their nonverbal acts were noted. The recordings and notes were rewritten, organised and transcribed verbatim in the local language Odia on the same day of the conduction of FGD and later translated to English. Sociograms were recorded by an author other than the facilitator and recorder. Data were compiled, analysed and a report was created based on grounded theory. The report was shared with other team members for verification and after necessary revision a final report was finalized

## RESULTS

Total 24 AWWs were included in the study. They were within 27 to 39 years of age and had education above secondary level with average 7.2 years of service.

### Concept of term "under nutrition"

Almost all of the AWWs mentioned under nutrition in children means children have low nutritional status

according to their age and as a result have low weight for age. According them,

*"Under-nutrition means low weight for age"*

FGD1-AWW\_8 (AWW number 8 of 1<sup>st</sup> FGD) highlighted that *"children who have very thin body are also said to have under-nutrition."* Very few mentioned about other aspect of under-nutrition like low height for age. But no one mentioned about low weight for height (acute malnutrition). However 2 of them stated the term severe acute malnutrition (SAM) and moderate acute malnutrition (MAM). Some of them also told the terms marasmus and kwashiorkor.

From the findings, it is clear that the participants had fair knowledge of term under-nutrition and most of them thought that low weight for age is under-nutrition. They had less understanding about the terms stunting, wasting.

### Causes of under-nutrition

Most of them expressed that under-nutrition is a results of inadequate food given to children as per her/his age. According to them:

*"If children don't eat adequate food, they suffer from under-nutrition."*

Few of them told that adequate food but with low nutrient value can also cause nutritional problem among children. Almost of all them stated that breast milk is very essential for baby and if baby doesn't receive breast milk up to 6 months of age, it leads to malnutrition in them.

Majority of them expressed that repeated infection and chronic illnesses in children lead to emaciated body which results in under-nutrition. Diarrhoea in children often results in malnutrition.

FGD1-AWW\_5 expressed that *"repeated infection in children causes loss of appetite in them and hence children lose interest in food."* Few AWWs stated that *"mother are giving honey (Mahu) pre-lacteal feed at birth and tinned milk powder (daba khira) which cause infection in children and resulted in malnutrition."*

Some AWWs viewed that multiparity and small gap between siblings often cause malnutrition in children. FGD1-AWW\_6 highlighted that multiparity is an important factor for under nutrition. According to her if a mother had many children, she couldn't give her attention to everyone and the available food is shared among all children. Hence they may not get adequate nutrition according to their age.

Few AWWs said that poverty is another reason for malnutrition in children. FGD1-AWW\_3 expressed that poverty leads to nutrition deficient in children. As per her view *"Very often mother has to go to work in a poor*

family. So she is unable to attend and take care of her children. She is also not able to give requisite amount of nutritious food to them due to her poverty.”

According to her:

“In poor families mother have to go to work and hence can't take care of their children.”

Majority of them mentioned that proper care and good nutrition of mother during pregnancy has an impact on nutrition and health of infants. Children of mothers who don't take proper diet and have poor weight gain during pregnancy, don't take TT & IFA tablets or suffer from any illness during pregnancy usually face problem of under-nutrition.

According to FGD2-AWW\_3

“If a mother in her pregnancy doesn't take proper care of herself or is not taking nutritious food or does excess physical work, then her child will face under-nutrition.”

FGD2-AWW\_5 outlined that cultural believes in some families hinder mothers to take proper food during pregnancy. According to her:

“Many think that if mother take more food during her pregnancy, the weight of the baby will increase and this will create problem during delivery.”

Few of them expressed that unhygienic living conditions also lead to infection which causes malnutrition in children. Prematurity, Illiteracy of parents are some factors causing under-nutrition were stated by few AWWs.

FGD1-AWW\_6 viewed that “as good hygienic environment can prevent infection and under-nutrition, government should take proper action for a healthy environment to combat under-nutrition.”

From the above statements it is clear that they knew the causes of under-nutrition in children. They also highlighted some of the cultural beliefs in the locality affecting nutrition in children.

### **Identification of under-nutrition in children**

Almost all of them expressed that malnourished children have very low weight and height according to their age. Failure of expected increase in weight and height as reflected from growth chart indicates under-nutrition and the direction of growth curve can detect it. Downward direction of growth curve or in red zone implies under-nutrition in children. But FGD2-AWW\_3 told that “if direction of growth curve remains constant for 3 months that can be also indicate under-nutrition”. Growth chart can easily detect under-nutrition in children.

Similarly almost all of them highlighted that with the help of MUAC tape (mid upper arm circumference tape) under-nutrition can be detected in children. According to them, children having MUAC below 11.5cm (red zone) are severely malnourished and within 11.5cm to 12.5cm (orange zone) are moderately malnourished.

Besides the growth chart and MUAC, many symptoms like skinny thin body, sunken eye, irritability, thin skin and brittle hair are symptoms of undernourished children. Few of them mentioned that delayed developmental milestone indicates under-nutrition.

FGD1-AWW\_4 expressed that

“Malnourished children look very thin; have sunken eye, brittle hair, thin skin and irritable mood.”

So it is clear that AWWs knew how to identify under-nutrition in children by various symptoms and measurements.

### **Community management of undernourished children**

Discussing with AWWs regarding community management of malnutrition in children highlighted that they all have the knowledge of screening of malnourished children by monitoring their growth by measuring Mid upper arm circumference (MUAC), weight for age and height for age. They mentioned that when a child falls in red zone (in MUAC tape or growth chart) or have low height for age should be referred to NRC for facility based inpatient care.

When they were asked about nutrition supplements for moderate malnourished children, they told about dal (dish made with lentils), boiled vegetables, Chhatua (Flour consisting of a mixture of ground pulses and cereals), Suji Khir (Khir made with semolina). Few of them mentioned that the consistency of food given to infants should be like ghee (clarified butter).

FGD2-AWW\_6 mentioned that

“Dal, khir, boiled vegetables and Sattu should be given to children. Food consistency should be like ghee, so that children can eat comfortably.”

However study participants were unaware of other components of CMAM like RUTF (ready to use therapeutic food), community engagement and mobilization, effective follow up measures for malnourished children after returning from NRC.

From the above discussion it was found that none of them had the proper knowledge of community management of malnutrition in children. Though most of them have the knowledge about screening of malnourished children and referral to NRC (Nutritional rehabilitation centre), they were unaware of other key components of CMAM.

### **Advice to be given to parents**

In our study majority of participants viewed that first of all they will explain the mother about the condition of her child and the impact of under-nutrition on them. They will emphasise on breast feeding practice, its benefits to mothers and nutritious food for children. All the AWWs stated that complimentary feeding should to be started around 6 months of age with continuation of breast feeding.

AWWs have the concept that parents should give food according to their ability and income. According to their view, locally available and affordable nutritious foods are sufficient to keep away children from under-nutrition.

FGD2-AWW\_7 viewed that

*“Parents shouldn’t be forced to give costly food items to their children; rather parents should choose food according to their capacity and interest of family.”*

FGD1-AWW\_4 told that *“she will try to convince the parents that food given at Anganwadi centre for children is only meant for children and not for all family members and make sure that it is given to the child only.”*

A small number of AWWs mentioned that parents should increase the frequency of feeding if a child is unable to eat the required amount of food at a time, so that a child can get requisite nutrition per day.

Few of them expressed that they will counsel the parents about immunization. According to their view, some parents still refuse to give immunisation to their children.

FGD2-AWW\_8 stated that

*“In spite of frequent elucidation, parents don’t accede to give immunisation to their child as the child will have fever after immunisation.”*

Majority of AWWs told that they will advise mothers about hand washing practice of children and mothers, clean drinking water and other hygienic practices to decrease infection in them. According to their view, mothers should be advised to use different utensils for feeding their infants. They also added that mothers should be discouraged to use infant formula feeding for their babies. Majority of participants had a view that repeated awareness about proper hygiene maintenance among parents can bring changes in them.

### **Programs for combating malnutrition in children**

Most of the participants mentioned about ICDS, VHND (Village health and nutrition day), MAA (mother’s absolute affection) and immunisation programs like Indradhanus and pulse polio as India government programs for preventing under-nutrition in children. Very

few mentioned about Poshan Abhiyan and NRC (nutritional rehabilitation centre) which was launched by the Government of India.

FGD1-AWW\_5 and FGD2-AWW\_7 opined that VHND is a very good platform to inform and create awareness among parents about under-nutrition. This is because at VHND one mother can compare her child’s health and nutrition with that of other children and hence can know the deficit in her child. According their view

*“All mothers come to VHND session with their children. So if the weight of children of same age are measured and compared, a mother can know the deficit in her child.”*

Few of them mentioned that ICDS is very good program for combating malnutrition in children. Children in Anganwadi centres not only get cooked food, but also learn how to eat by seeing other children and have a good mental development due to interaction among them.

A small number of AWWs told about *“ame bhi paribu”* (“we can also do”) which was launched by Odisha government recently. However they didn’t know the details about this program as they mentioned that this program was not yet fully functioned in their locality.

Overall many AWWs didn’t know much about programs in India for combating malnutrition. However they were well acquainted with the services for children under ICDS and VHND.

## **DISCUSSION**

The ICDS is the primary government mechanism to address early childcare needs in India. The Anganwadi worker’s mandate includes monthly growth monitoring and provision of supplementary foods and preventing malnutrition in children.<sup>5</sup> Current norms for children with severe malnutrition in ICDS is to start them on double rations and refer them to NRCs for a 15 day package of intensive health and nutrition management after which they are released back to the community.<sup>6</sup> So Anganwadi workers as key functionaries should be well conversant with malnutrition and its community management in children. Mahto et al in their study found that lack of knowledge of AWWs around critical issues has major implications for children in terms of nutritional status outcome which may further aggravate the problem of malnutrition.<sup>7</sup>

The findings of this study suggest that knowledge regarding under-nutrition and its community management among AWWs was appeared to be incomplete. The study participants knew the term under-nutrition and had concept that low weight for age is under-nutrition. Most of them had fair knowledge about stunting and wasting. The study revealed that the participants knew how to identify under-nutrition in children by symptoms and



were well acquainted with the various anthropometric measurements that can detect malnutrition in children.

In this study, AWWs had a good understanding about causes and local cultural factors responsible for under-nutrition in children. Inadequate food, food with low nutrient value, repeated infection, inadequate care & nutrition in pregnancy, prematurity of baby, many siblings, poverty, unhygienic living condition and illiteracy were some factors mentioned by the participants responsible for under-nutrition in children. This type of perception on causes of malnutrition was seen among AWWs in a study by Davey et al in Delhi and according to them malnutrition among children occurs due to lack of good quality food given at home, wrong socio-cultural beliefs on child feeding and frequent infections in children. It appeared that AWWs had adequate knowledge on child health, causes, effects, treatment and prevention of malnutrition in children.<sup>8</sup>

From present study it is clear that knowledge and clarity about community management of malnutrition were somehow compromised. Few components of CMAM like growth monitoring of children and screening of malnourished children; referral of acute malnourished children to NRC and nutrition supplements for moderately malnourished children were known to them. However majority were unaware of effective follow up measures after returning from NRC, community engagement and mobilization and about ready to use therapeutic food (RUTF). It may be due to lack of effective training and refresher courses. Mahto et al. in his study reported that poor training was identified as one of the factors that contribute to lack of knowledge among Anganwadi workers.<sup>7</sup> Dongre et al in their study at rural Wardha found that Anganwadi workers were giving poor emphasis on growth monitoring and examination of malnourished children. He also pointed out that responsibilities like record keeping, preschool education and supplementary food distribution were time consuming which hindered them for giving time for nutrition education and monitoring of malnourished children.<sup>9</sup>

AWWs play an important role in counselling parents of malnourished children. Hence they should know when and what to advice parents for combating and preventing under-nutrition in children. In our study, majority highlighted on advising mothers about breast feeding practice, immunisation, hand washing and hygiene practice, clean drinking water and prevent use of infant formula feeding to prevent malnutrition in children. Parikh et al. in their study at Gujarat also stated that AWWs have good perception about breast feeding and initiation of complimentary feeding.<sup>10</sup> According to AWWs in a study by Darvey et al, advices like education about nutrition and health, importance of child feeding practices, immunisation and regular weighing of their child at AWC can prevent development of malnutrition in children.<sup>8</sup>

Many programs to alleviate under-nutrition among children were launched by state and national governments. The programs related to combat malnutrition in children are depicted in the figure number 1. In our study, however most of the AWWs emphasized about ICDS, VHND and immunisation programs.

### **Limitation**

This study have few limitations as it was conducted in a particular area using non-probability sampling; hence may not be generalized.

### **CONCLUSION**

From the present study findings, it is apparent that AWWs had fair knowledge of the term “under-nutrition”. However most of them knew possible causes of under-nutrition and were well acquainted with the identification of under-nutrition in children by symptoms and measurements. Anganwadi workers at the study place were not having clarity regarding community management of malnutrition in children. They knew how and what to advice parents of children to prevent under-nutrition in them. They were less familiar with all the programs launched by national and state Government for alleviating malnutrition in children.

### **Recommendations**

Quality training programs and motivations regarding malnutrition should be conducted for Anganwadi workers to improve their knowledge. Specific training on CMAM in children should be carried out for Anganwadi workers in the study locality.

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