HOME-BASED COUNSELLING STRATEGY BY ANGANWADI WORKERS TO MANAGE UNDERWEIGHT CHILDREN: THIRD-PARTY RAPID ASSESSMENT STUDY REPORT

YOUTHINVEST FOUNDATION

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1. EXECUTIVE SUMMARY

1.1. Introduction and purpose of the Rapid Assessment Study

This report presents findings and recommendations from the "*Rapid Assessment of home-based counselling strategy by Anganwadi Workers to manage underweight children"* conducted in the Kamrup and Darrang districts of Assam as part of the ITC Mission Sunehra Kal (ITC MSK) maternal and child health and nutrition project implemented by YouthInvest Foundation (YouthInvest).

The purpose of the rapid assessment study was to assess the effectiveness of the home-based counselling strategy, including use of the digital tool, in improving feeding practice and reduction of underweight children piloted in 40 selected Anganwadi Centres (AWC). Study findings will be used to inform initial learnings from this early intervention phase and improve and plan subsequent intervention strategy.

1.2. Key findings from the Rapid Assessment Study

1. **Overall, the home-based counselling strategy to manage underweight children by Anganwadi Workers (AWW) using the digital application SwasthyaPosahn *Alaap* has shown to be effective in the reduction of severe and moderate underweight children in the intervention area:** Proportion of underweight children has improved significantly more in the intervention areas compared to the comparison area in the same period. The study found that there is a strong correlation between home visitation by AWWs and weight gain of children and the rate of weight gain is related to both frequency and quality of counselling during home visits by AWWs.

2. **Capacity building and handholding of Anganwadi Workers had successfully led to improvement of knowledge, awareness, and counselling skills of AWWs on the management of underweight children without complication at home:** The training of Anganwadi Supervisors and AWWs helped the AWWs in the intervention area to gain knowledge and awareness on key counselling components focused on feeding practice using locally available home-made food, as demonstrated by the higher-level correct knowledge of AWW in the intervention vis-à-vis those in comparison areas.

   The study findings also demonstrated that the training and follow-up support had motivated AWWs in the intervention area to regularly weigh the children as revealed by the higher weighing efficiency in the intervention area compared to the comparison area.

3. **Regular home visits and targeted counselling and follow-up of the underweight children by the AWWs increased the knowledge and awareness level of the mothers on child feeding practices leading to improved child-feeding practice and weight gain:** Regular follow-up by the AWWs motivates mother and caregivers of underweight children to change child feeding-related behaviour, which further helps to gain weight of the underweight children. The study findings demonstrated that at the same time, while 41% of underweight children from intervention areas graduated to normal weight, only 14% of the underweight children graduating to normal weight in the comparison area.

4. **The use of SwasthyaPoshan Alaap has supported the AWWs in home-based counselling based on age and case-specific issues:** The study findings showed that the SwasthyaPosahn Alaap was well accepted and found to be useful by the mothers participating in the study. Both the AWWs and Supervisors responded positively towards the digital application and felt that the application has supported them in counselling as well as self-learning. The study findings also demonstrated that AWWs can successfully use the digital application in counselling and supported them by enhancing the quality of their advice and counselling.

1.3. Recommendations

The Rapid Assessment study findings have important implications for future programming for the reduction of childhood malnutrition in Assam and other similar areas. The following priority action areas are recommended to accelerate the reduction of malnutrition among children (0-5 years), based on study findings.

- **Continue to work in for the demonstration blocks and expand programme coverage to saturate the entire blocks:** As the home-based counselling strategy to manage underweight children by AWWs using the digital application SwasthyaPosahn *Alaap* has shown to be effective in the reduction of severe and moderate underweight children in the intervention area, it is recommended that this be continued and further refined by expanding the programme to the entire blocks.
- **Use of digital platform and mobile technology is effective in supporting AWWs in age and case-specific counselling as well as self-learning:** SwasthyaPoshan Alaap not only supported the AWWs in providing counselling to the mothers and family members but also helped in sharing authentic and accurate information at all times as this is available on the mobile phone. It has helped in improving the quality of counselling by AWWs.
- **Frequent home visitation is the key to enhancing knowledge, skills and confidence of mothers and family members on using locally available food to address undernutrition and improve child feeding and rapid weight-gain of underweight child:** As the frequency of home visit is the key to engaging mothers and the family members, and providing successful counselling, capacity building strategies for training Supervisors and AWWs should highlight this aspect. Supportive supervision and handholding by Supervisors were also shown to be effective in enhancing the quality of counselling of AWWs. Systematic capacity building of Supervisors focusing on active handholding of AWWs will go a long way in improving AWW performance and home visits leading to improvement in child nutrition.

2. INTRODUCTION TO THE RAPID ASSESSMENT STUDY

2.1. Background

In the state of Assam, the prevalence of undernutrition among under 5 children is high with 32.8% of them underweight, 35.3% stunted and 21.7% wasted (NFHS 5) and is a predominant risk factor for childhood mortality. ITC Limited's Social Investment Programme "Mission Sunehra Kal (ITC MSK)" initiated the project **"Accelerating Reduction of Child Malnutrition through System Strengthening for Frontline Delivery of Nutrition Services"** in early 2020 to support the Department of Social Welfare, Govt. of Assam in its efforts to reduce child malnutrition level. ITC MSK's implementation partner, YouthInvest Foundation (YouthInvest) is working closely with the Integrated Child Development Project (ICDS), Department of Social Welfare in the two districts of Kamrup Rural and Darrang to implement a technical assistance strategy that supports and strengthens existing government initiatives for the reduction of malnutrition in line with the Government of India Operational Guidelines on Home-Based Care for Young Child (HBYC). The project is working in close collaboration with the District Social Welfare Department and POSHAN Abhiyaan platform in Rampur & Chhaygaon blocks of Kamrup Rural district and Paschim & Pub Mongoldoi blocks of Darrang district.

Since October 2020, YouthInvest has been providing handholding support to the ICDS Supervisors and AWWs in initiating and strengthening a home-based counselling strategy for prevention and management of underweight children in 40 AWCs (20 in each of the two districts) that have been selected for intervention in the initial phase. A social behaviour change communication (SBCC) digital counselling tool has been developed for use of AWWs at the community and home level to reinforce targeted messages and creating an environment for learning and accepting new behaviours related to child feeding. The two critical components of the home-based counselling strategy are:

I) **Preventive component** that focuses on targeted counselling of mothers and families to:
Ensure adequacy of complementary feeding (quantity, frequency, and diversity) through focusing on modifying children's food preferences and feeding behaviours based on local foods.
Provide counselling and confidence to mothers for ensuring exclusive breastfeeding by minimizing breastfeeding faltering.

II) **Managing underweight children** (without complications, following active community based and facility-based detection of moderate and severely underweight children under 5 years) **at home** with local affordable foods by bringing in a behavioural change in mother and family's child feeding practices.

The first few months of intervention has started to show promising results with a substantial proportion of underweight children showing weight gain, along with a small proportion of them graduating from severely underweight to normal grade within a short period.

In this context, a rapid assessment study has been planned to assess the effectiveness of the home-based counselling strategy, including the use of the digital tool in improving feeding practice and reduction of underweight children piloted in 40 selected AWCs. Study findings will be used to inform initial learnings from this early intervention phase and improve and plan subsequent intervention strategy.

2.2. Study objectives

The objectives of this study are to understand:

- The proportion of underweight children gained weight from September '20 to January '21 (4 months approximately).
- Levels of knowledge and skill among the AWWs regarding child feeding issues and their confidence to counsel and manage underweight children.
- Levels of knowledge, attitudes, and practices among mothers of underweight children regarding nutrition and child feeding.
- Frequency and quality of home visits of underweight children by Anganwadi workers in the past one month.
- Experience in using digital counselling tool in case-specific counselling.

2.3. Study design

A comparative observational study between two comparable clusters of Anganwadi centres as the intervention and comparison groups was conducted to understand whether the positive changes in the nutritional status of children are due to the intervention. A sample of AWWs was chosen from the 40 AWWs selected for the intervention (experimental group). A similar sample was chosen from the comparison group consisting of from Anganwadi Centres of two blocks – one in each district – similar to the intervention blocks in terms of literacy, poverty, and underweight status of children. A selected number of beneficiary children were chosen from each of the sampled AWWs in both the intervention and comparison groups.

2.4. Sample size and sampling strategy

The sample size was calculated based on the main outcome of interest, i.e., the nutrition status of children. Presuming that the intervention would make a positive difference of at least 20% in nutrition status of children, the minimum required sample size was 75 from each group (intervention and control) for a suitable statistical test with an alpha error of 5% (one-sided) and power 80%. Taking into consideration that we might have to discard a few records due to incompleteness or lack of consistency during data cleaning, the finally recommended sample size is 80 from each group (160 in total).

The sampling units for the study were households comprising an underweight child based on the weight measured in September 2020 and his/her caregiver before the intervention began. Since creating a sampling frame of all underweight children of all AWCs is time-consuming and resource-intensive, a two-stage sampling procedure has been adopted for the study.

In the two-stage sampling, a pre-determined and equal number of AWCs were selected first from the lists of all centres of the intervention and control groups using the Probability Proportional to Size (PPS) sampling procedure. The size of an AWC was the number of underweight children registered with it at the baseline in September 2020. Subsequently, an equal number of underweight children has been sampled from each AWC selected, using the Simple Random Sampling Without Replacement (SRSWR)

procedure. The list of all underweight children of an AWC was used as the sampling frame for the second stage of sampling. The combination of PPS sampling and SRSWOR ensured **an equal probability of being included in the sample for all targeted children of a group**.

Table 1. Details of sampling

Group	District	Block	No. of AWCs	No. of children Sampled
Intervention	Kamrup (R)	Chhaygaon	1	5
		Rampur	1	5
	Darrang	Pub Mangaldoi	13	65
		Paschim Mangaldoi	1	5
	Intervention Total		**16 AWCs**	**80 Children**
Comparison	Kamrup (R)	Goroimari	2	10
	Darrang	Dalgaon - Sialmari	14	70
	Comparison Total		**16 AWCs**	**80 Children**
Total Sample	**2 Districts**	**6 Blocks**	**32 AWCs**	**160 Children**

2.5. Data collection and analysis

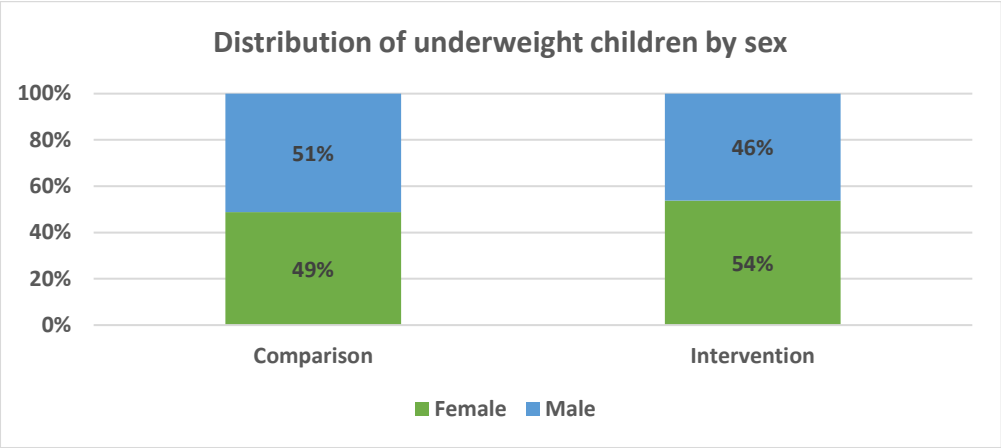
YouthInvest engaged an external expert survey and research agency Model Resource Services Pvt. Ltd. (MODE) for data collection and entry. The study design, sampling and analysis was done by Baseline www.baselineindia.net. Data was collected in February 2021 using two structured questionnaires – one for the mothers of underweight children, and the other for AWWs to understand the knowledge, attitude, and practice at each level. Individual children were weighed at the time of the survey and their weights recorded. The data were analysed using SPSS v24 and MS Excel 2007. In addition to the quantitative surveys, focus groups discussions with Anganwadi Supervisors in the intervention area were conducted to understand Supervisors inputs as well as the use of the SBCC digital tool so that the tool could be refined further.

3. RESPONDENT CHARACTERISTICS

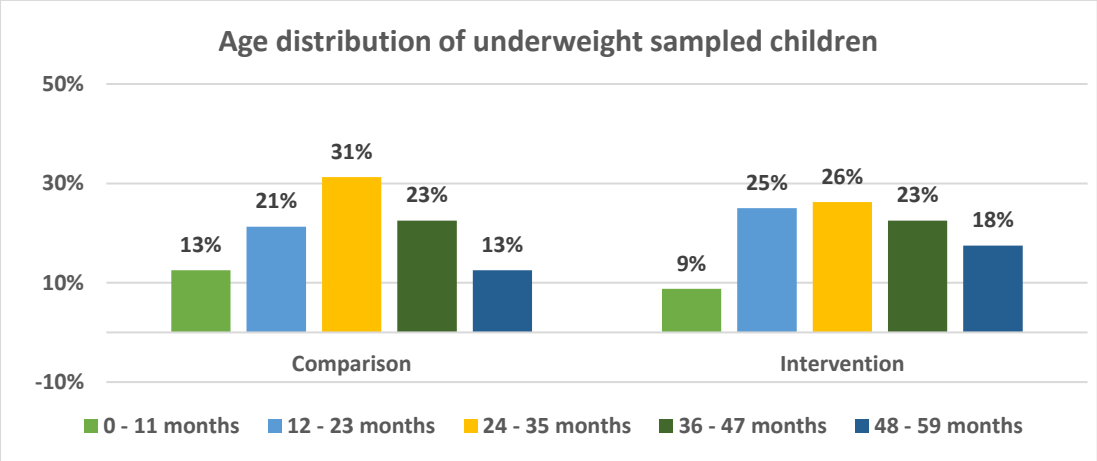
The study was conducted in 4 intervention blocks and 2 comparison blocks in the two districts. Data was collected from 16 Anganwadi Workers in each of the intervention and comparison areas and mothers of 80 underweight children, each from the intervention and comparison groups were interviewed by using structured questionnaires. Weight of the children were taken and recorded during the survey.

3.1.1. Characteristics of underweight children

Sex distribution: In the intervention area, 53.75% are girls and 46.25% are boys. In the comparison area, 48.75% are girls and 51.25% are boys.



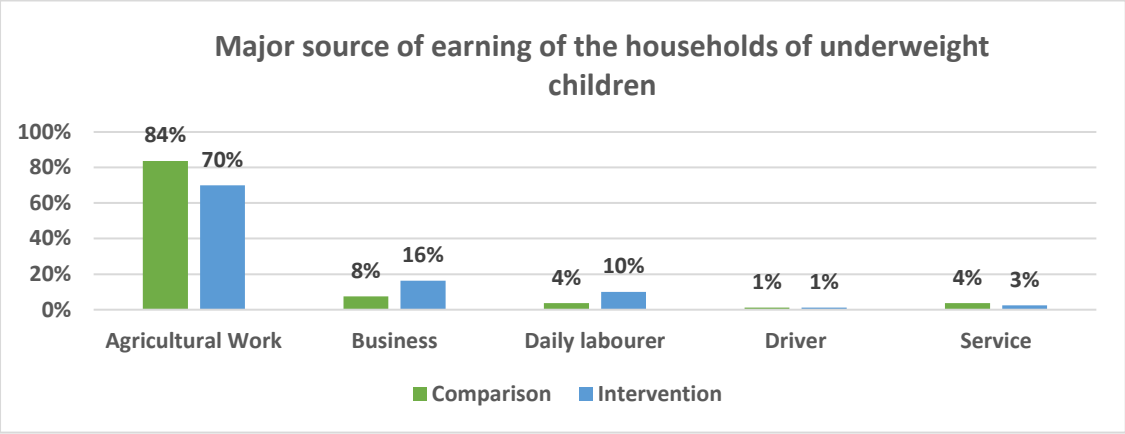
Age distribution: In both intervention and comparison areas, the current age of most of the underweight children was found to be between 2 to 3 years.



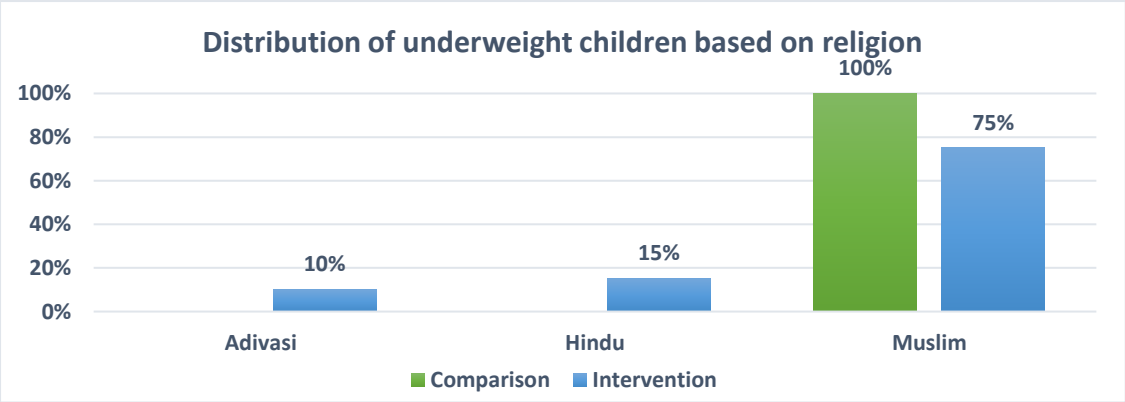
3.1.2 Family and socio-economic profile of respondent households

Source of income: The study collected information about the socio-economic and family profile of the sampled children. About 70% of the households of sampled underweight children are reported to be engaged in agricultural work in the intervention area, 16.25% have their own business, 10% are daily labourer, 1.25% are driver, 2.5% are a salaried employee.

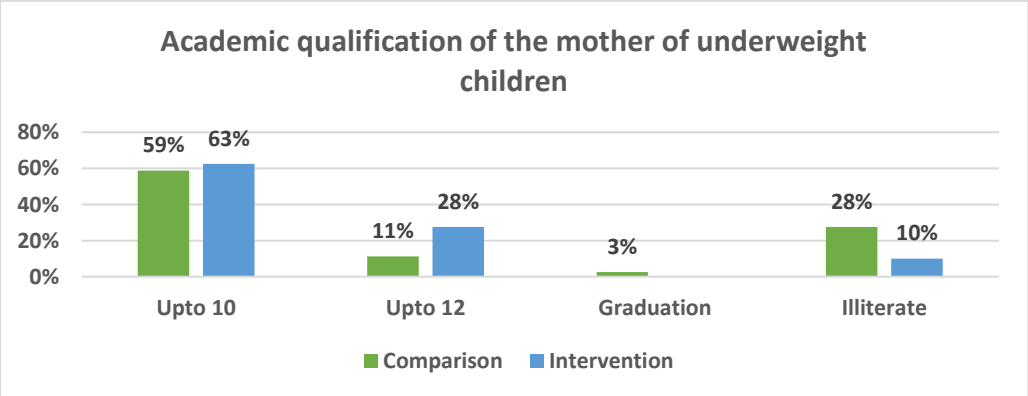
Similarly, 83.75% of the households are doing agricultural work in the Control area, 7.5% have their own business, 3.75% are daily labourer, 1.25% are driver, and 3.75% have salaried jobs. There is no significant difference between the two areas.



Religion: Most of the children in both the intervention and comparison areas belong to the Muslim community. In the intervention areas, 75% of children are from Muslim, 15% Hindus and 10% from Adivasi/ tribal communities, and all children in the comparison areas are from the Muslim community.

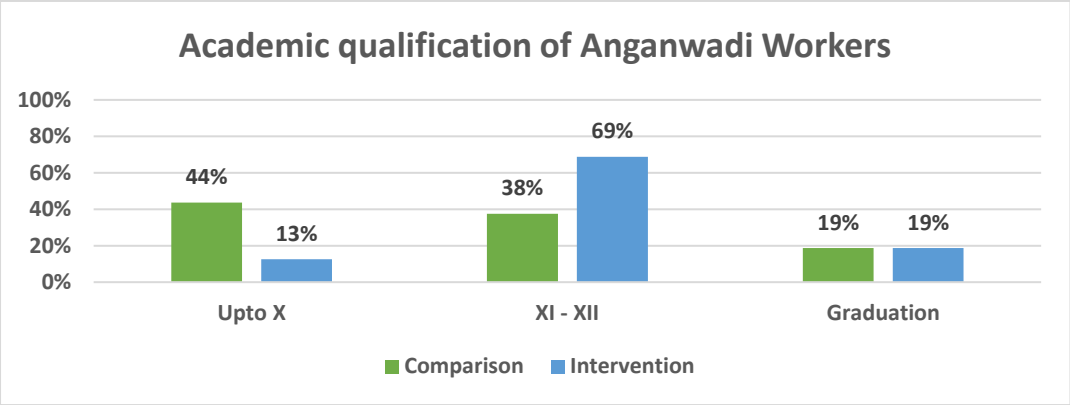


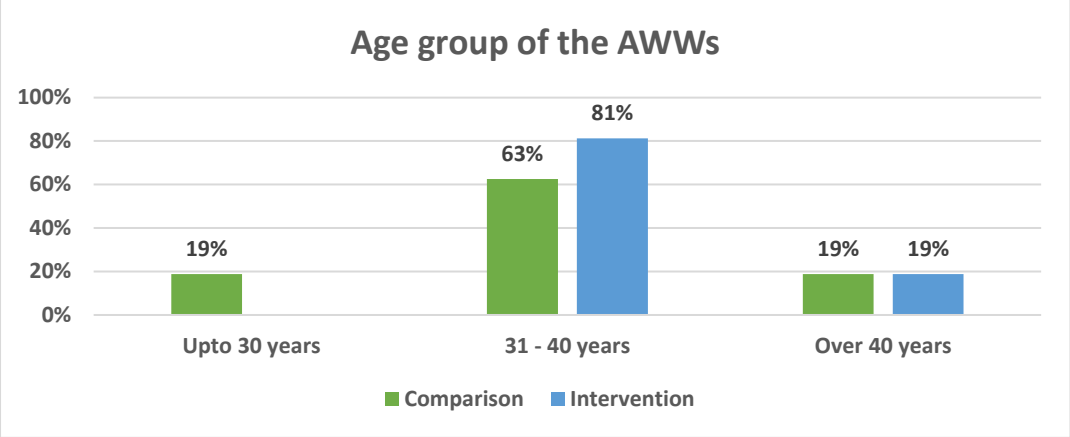
Education status of mother of underweight children: In the intervention area, 62.5% of the mother of sample underweight children had studied up to 10, 27.5% up to 12, and 10% are Illiterate. In the comparison area, 58.75% have studied up to 10, 11.25% up to 12, 2.5% have completed graduation and 27.5% are Illiterate.

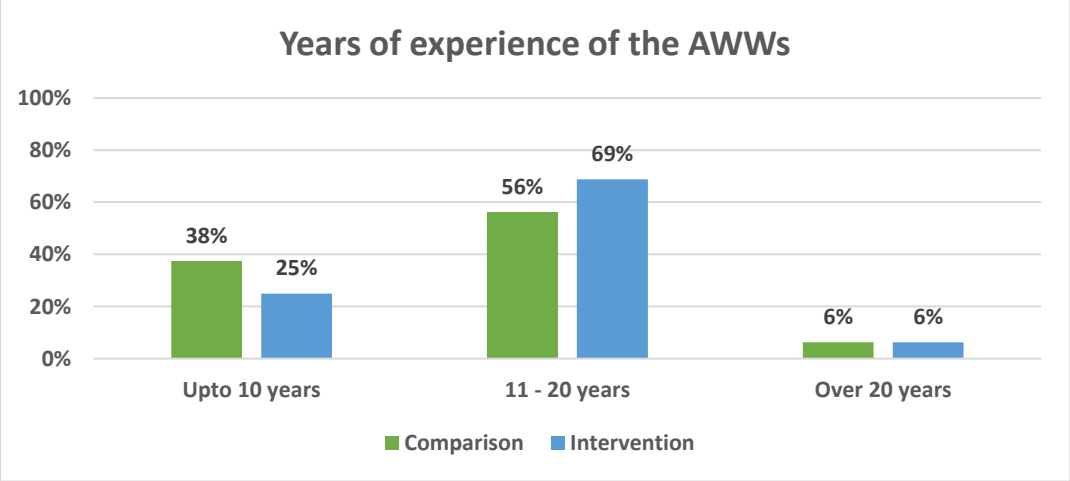


3.1.3. Profile of the Anganwadi Workers

The figure below presents the profile of the 32 Anganwadi Workers (16 in intervention and 16 in comparison).







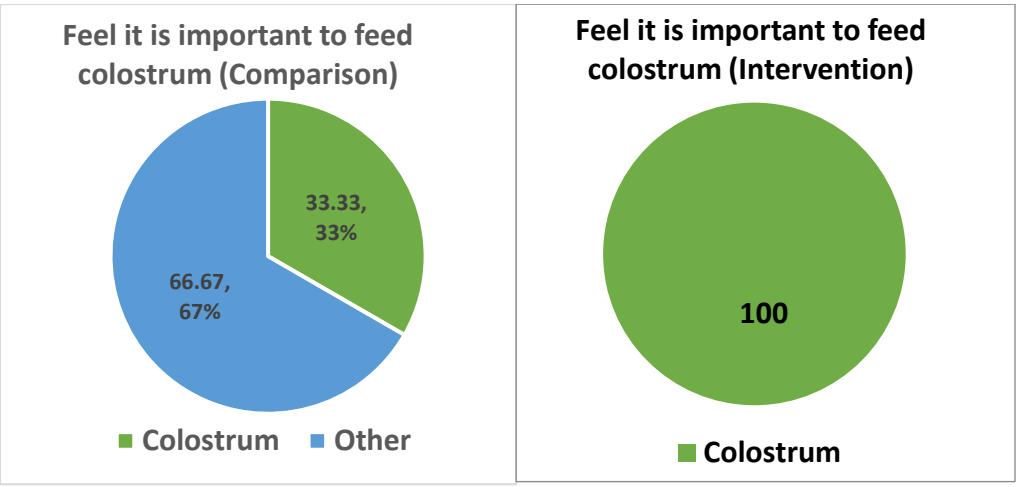
4. KEY FINDINGS: AWARENESS AND PRACTICE RELATED TO CHILD NUTRITION

4.1. Knowledge and awareness on child nutrition issues among mothers of underweight children

The study collected information on mothers' awareness of key child nutrition and related issues. As the primary caregivers of their children, AWWs provide awareness as well as counselling to mothers primarily through various awareness activities, counselling at the Anganwadi Centres (AWC) and home through home visits.

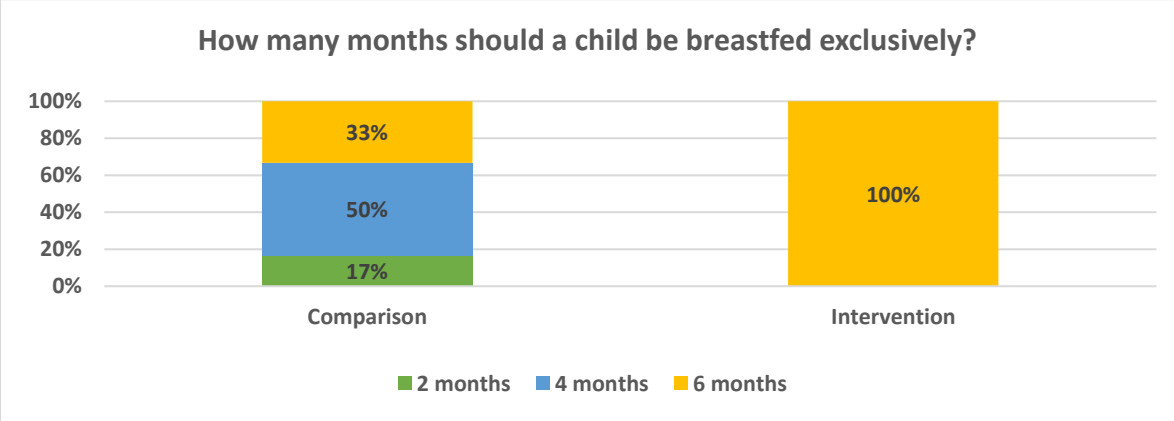
4.1.1 Awareness of colostrum feeding

All the mothers in the intervention area are aware of the importance of colostrum feeding (mother's first milk) after birth, whereas only 33% of the mother from comparison areas knows the importance of giving colostrum to the baby after birth.

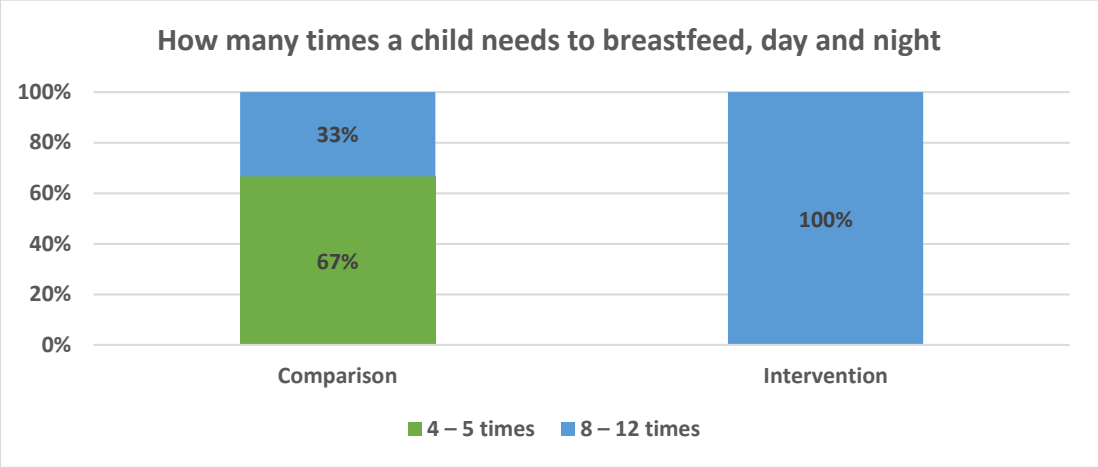


4.1.2. Awareness of exclusive breastfeeding

In the case of exclusive breastfeeding, 100% of the mothers of sampled underweight children of intervention areas could correctly report knowledge of exclusive breastfeeding for the first 6 months. In the comparison area, however, only 33% knows about exclusive breastfeeding till six months of age. Moreover, in comparison areas, 83% thinks that breastfeeding needs to stop when the child is sick.

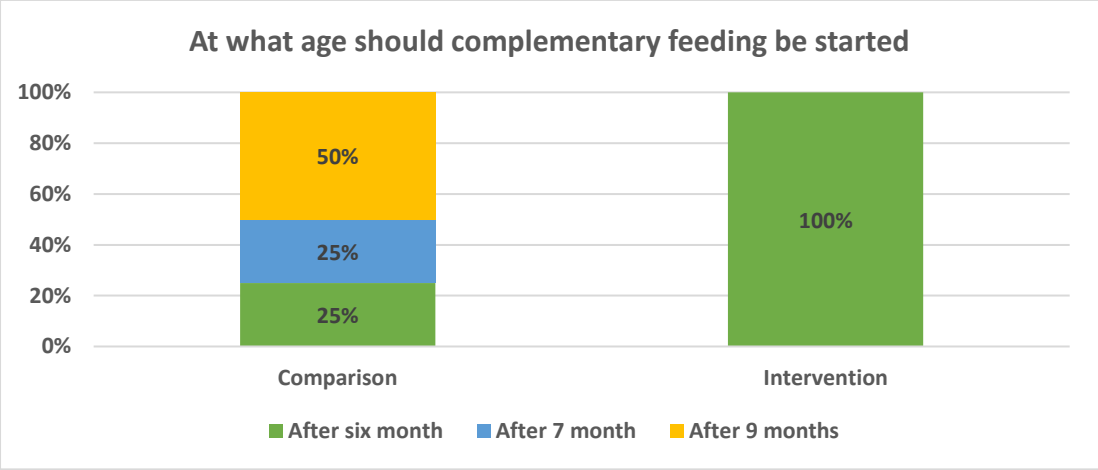


All mothers of children aged up to 6 months of the intervention area have given the correct answer that a child needs to breastfeed 8 to 12 times in a whole day. However, in the control area, about 67% said 4 – 5 times and 33% said 8 – 12 times.



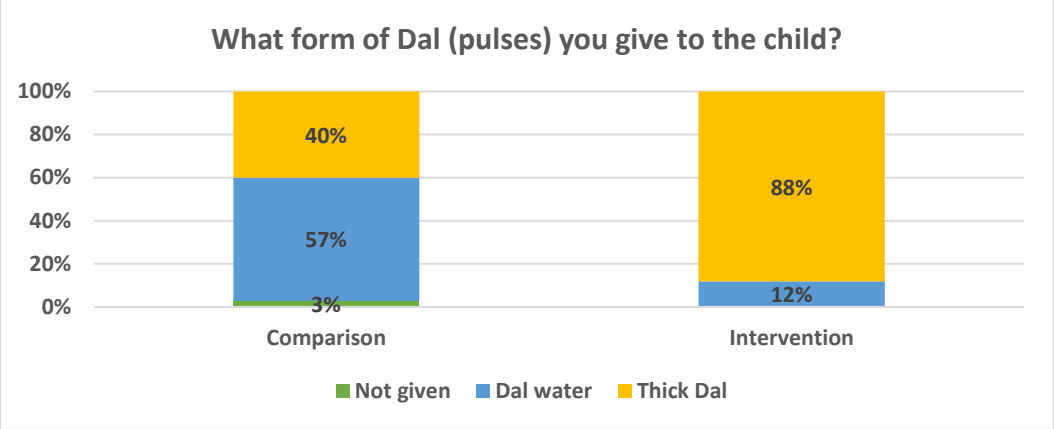
4.1.3. Awareness of initiation of complementary feeding

Regarding the age at which complementary feeding is initiated, 100 % of mothers of children aged 6 to 9 months in the intervention area said the child should start complementary feeding along with breastmilk after six months. In the comparison area, however, only 25% of the mother said after six months, 25% after seven months and 50% after nine months. Moreover, about 75% of the mother of comparison areas thinks that semi-solid complementary foods need to be given after appearing the teeth of the child.



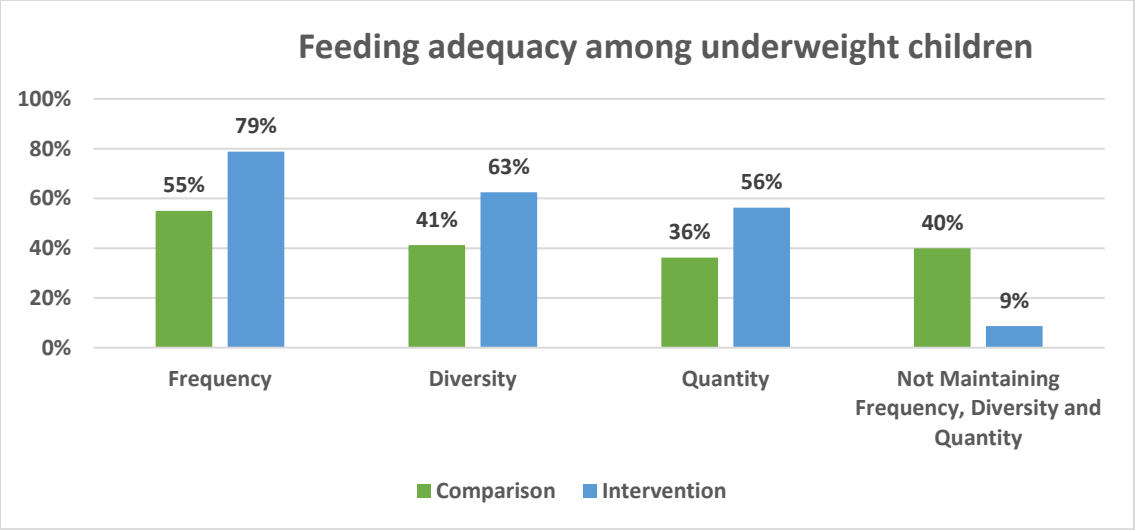
4.1.4. Introduction of dal (pulses) as a complementary food

Upon asked what form of Dal (pulses) is given to the child, there is a significant difference between intervention and control area. In the intervention area, all mothers have reported giving their children dal water: 88% of mothers have reported giving their child thick dal water and 12% of thin dal water. However, in the comparison area, 40% of mothers have reported giving thick dal water, 57% thin dal water and 3% never given dal water.



4.1.5. Feeding adequacy in terms of frequency, diversity, and quantity among underweight children

With the help of 24 hours recall method, the current feeding practices of underweight children who identified during *Poshan Mah* were recorded during the study. In comparison areas, out of 80 underweight children, 40% are lacking all three components of adequate food i.e., frequency, diversity, and quantity. Whereas, in the intervention, 9% of underweight children are getting food without maintaining all three components of adequate food.

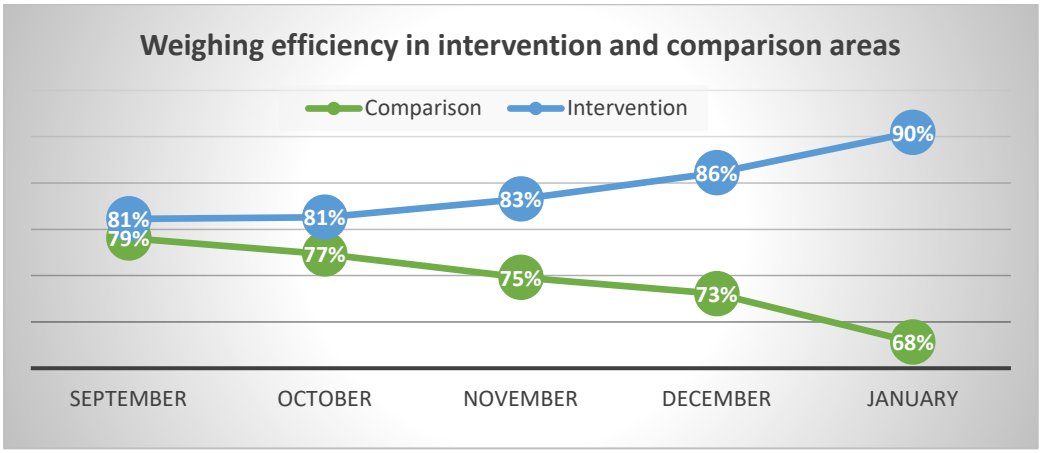


4.2. Weighing practice and nutritional status of children

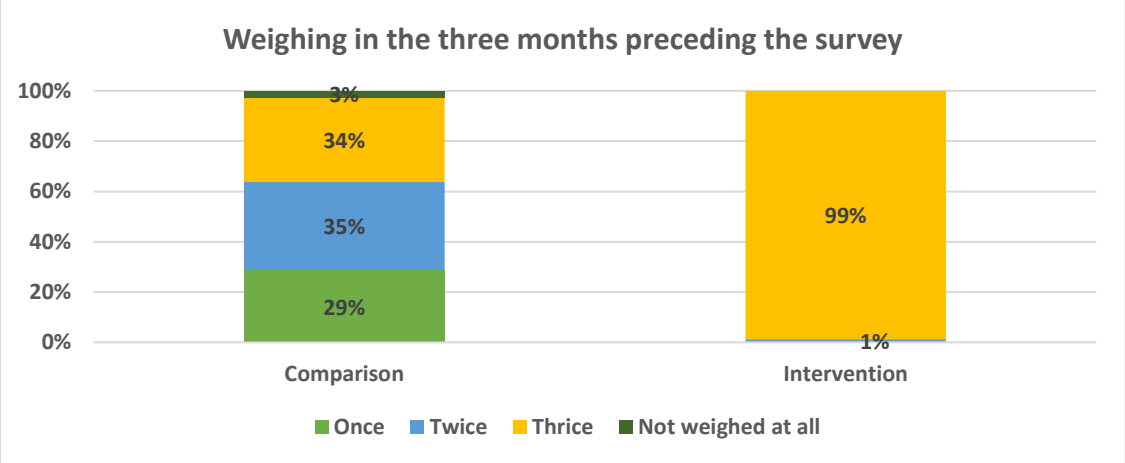
4.2.1. Weighing efficiency

In 2020, monthly weighing had been stopped and become irregular in both the intervention and control area due to Covis-19 lockdown and restrictions. However, in September 2020, weighing of all children was done during Poshan Mah. Since then, AWWs were instructed to weigh children every month so that the nutritional status of children could be determined, and appropriate action could be taken.

The table below presents weighing efficiency from September 2020 till January 2021 in both intervention and comparison areas. After Poshan month, the weighing efficiency has been increased in all the 16 AWCs of the intervention areas whereas, it has decreased gradually in 16 AWCs of the comparison areas.

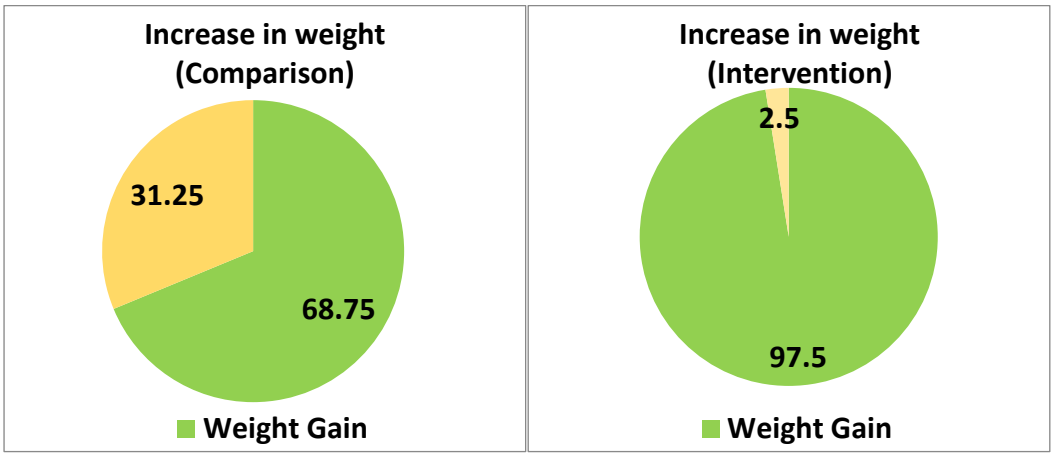


Further, in the intervention areas, 99% of sampled underweight children has been weighed at least thrice in the last three months. Whereas, in the control areas, only 34% of underweight children were regularly weighed. Moreover, 3% of underweight children were never weighed in the last 3 months in the comparison areas.

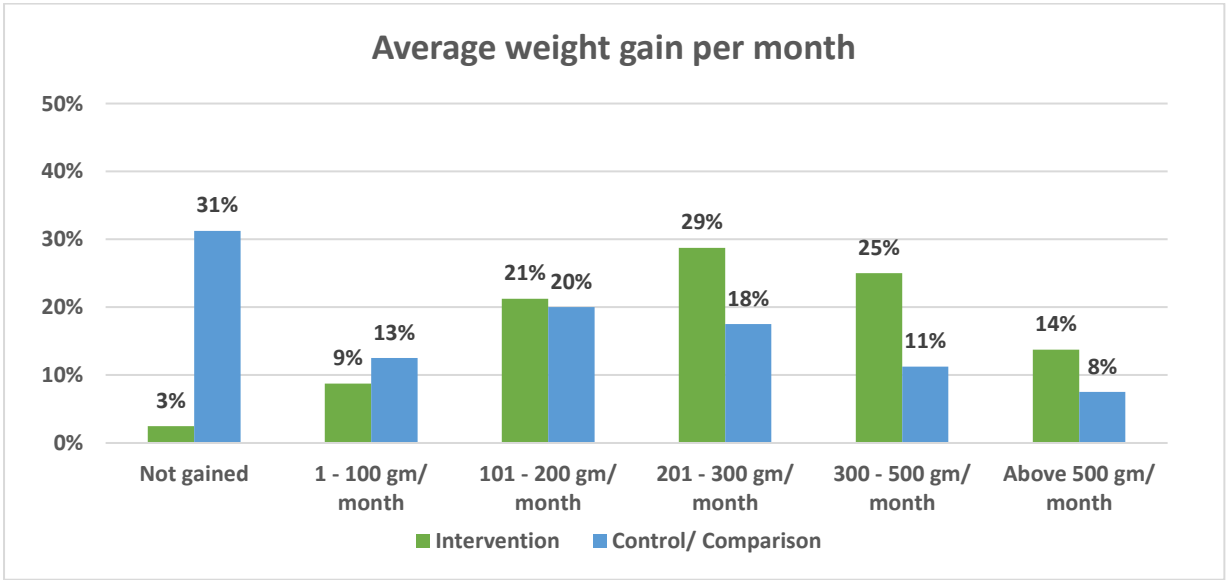


4.2.2. Increase in weight in underweight children

One of the major activities in the intervention area is home-based targeted counselling by AWWs. The study found that 97.5% of underweight children gained their weight in the intervention areas. On the other hand, about 69% gained weight in comparison areas. This is perhaps due to home-based counselling on feeding behaviour and constant follow up by AWWs in the intervention areas.



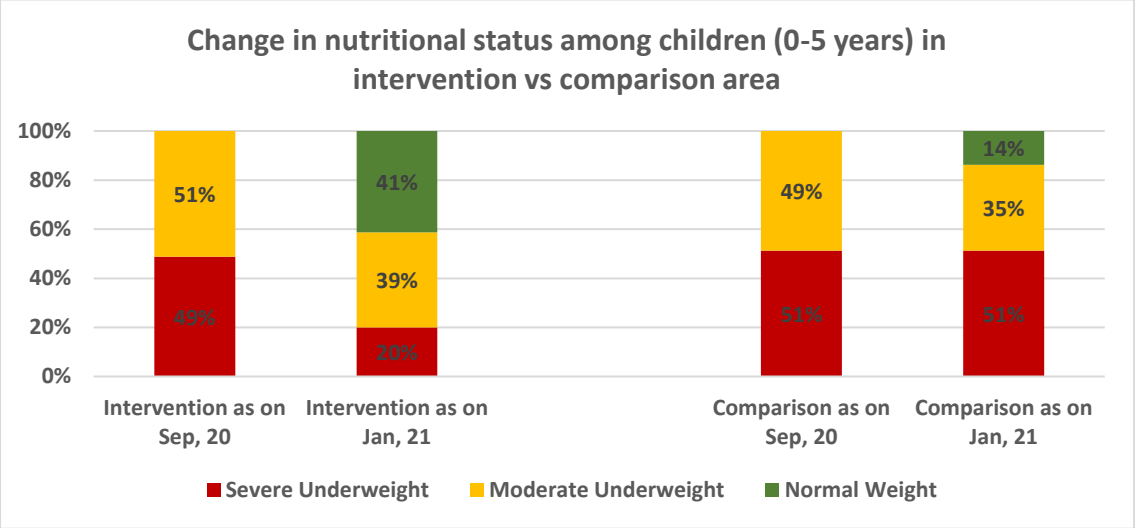
The study also investigated average weight gain per month for underweight children in both the intervention and comparison areas. The table below demonstrates that children in the intervention area have generally gained more weight than those in the comparison area.



4.2.3. Change in nutritional status among children (0-5 years)

Nutritional status is the outcome of interest in the project. The study found that the nutritional status in both interventions, as well as comparison areas, were similar in nutritional status in September 2020 before the home-based counselling intervention began. However, three

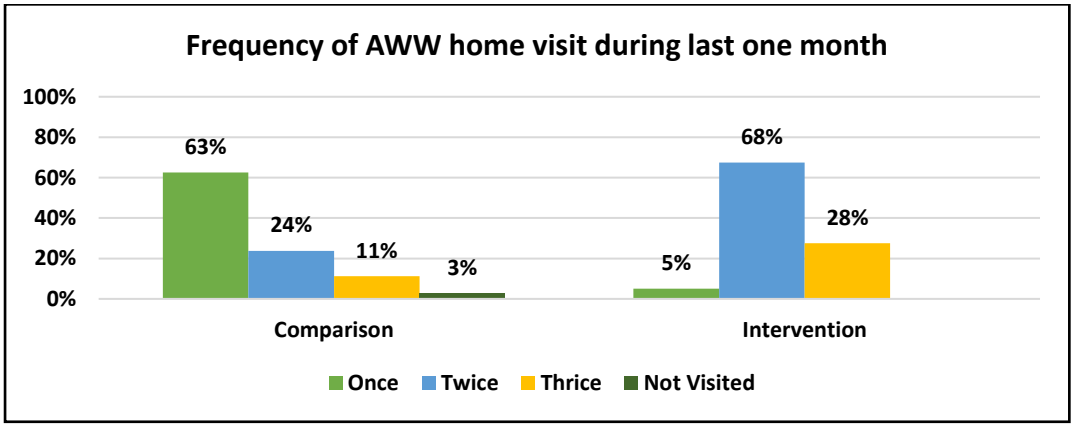
months after the home-based counselling and follow-up was introduced in the intervention area, the nutritional status in the intervention area has improved significantly compared to the comparison area. The table below highlights this critical change and demonstrates the success of the home-based counselling and follow-up strategy.



4.3. Home visitation and counselling by Anganwadi Workers (AWW)

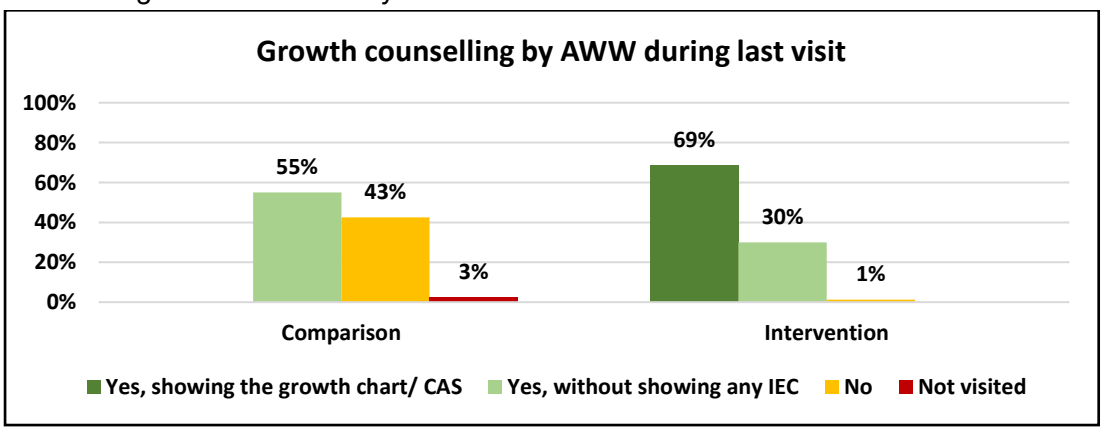
4.3.1. Frequency of home visits by AWW

Home visits by AWWs are one of the most important components of the home-based counselling strategy and a part of the POSHAN mandate. The study found a significant difference in the home visits by AWWs in the intervention area compared to the comparison area. When asked about home-visit by AWWs, while 95% of the mothers in the intervention area said AWWs visited their houses more than one time in the last month, only 35% of the mother in the comparison area said that AWW visited their house more than one times.



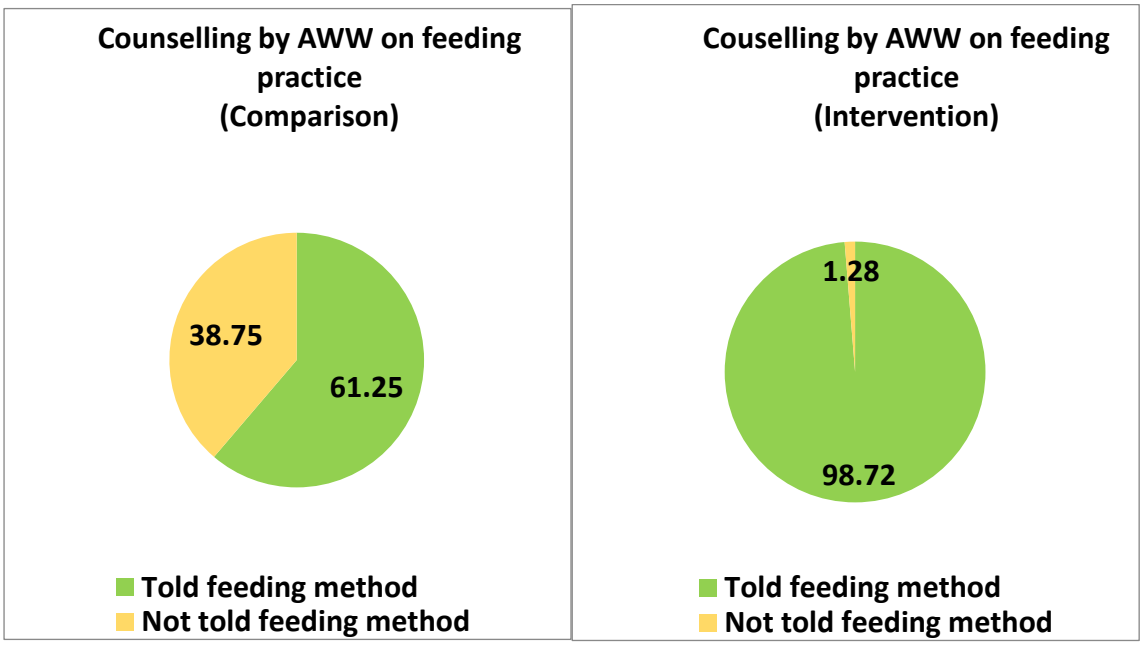
4.3.2. Growth counselling and use of counselling job aids by Anganwadi Workers

There was a significant difference between growth counselling in the intervention and comparison areas. When asked whether AWW has provided counselling during the last time a child was weighed, 100% of the mothers said responded positively in the intervention area whereas only 53.75% reported so in the comparison area. Further, more mothers in the intervention area also reported that AWWs use growth chart and IEC tools during counselling compared to the comparison area. In the intervention area, 69% of mothers reported use of the digital *SwasthyaPoshan Alaap* whereas in the comparison area, AWWs provided counselling without use of any tool.

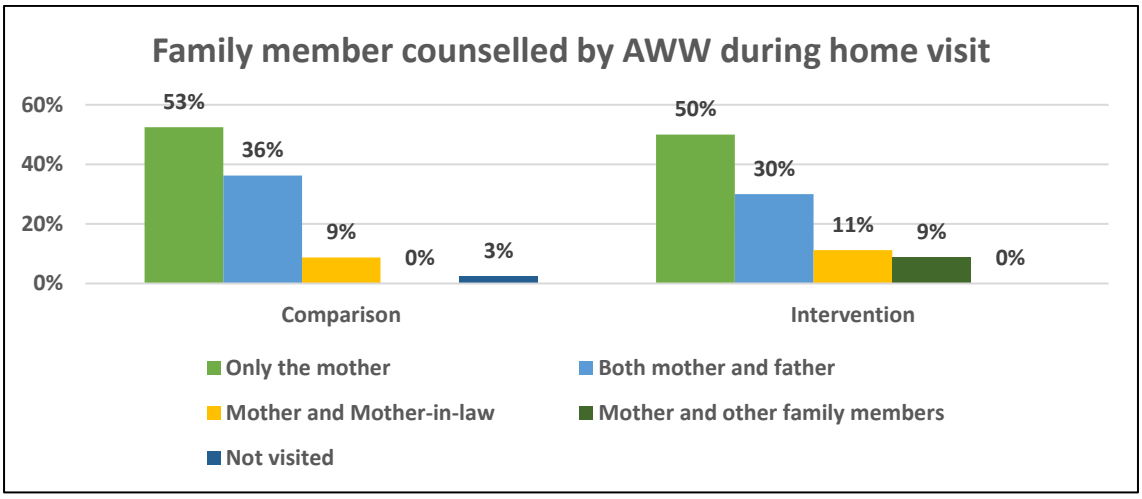


4.3.3. Counselling on feeding practice by Anganwadi Workers

When asked whether the AWW had explained about ways and methods of feeding your child, there is a significant difference between the two areas. 98.72% of the mothers in the intervention area responded positively to this question. However, this is much lower in the comparison area at only 61.25% said it in the comparison areas.



The study also found that there is a significant difference in the AWW counselling at the household level.

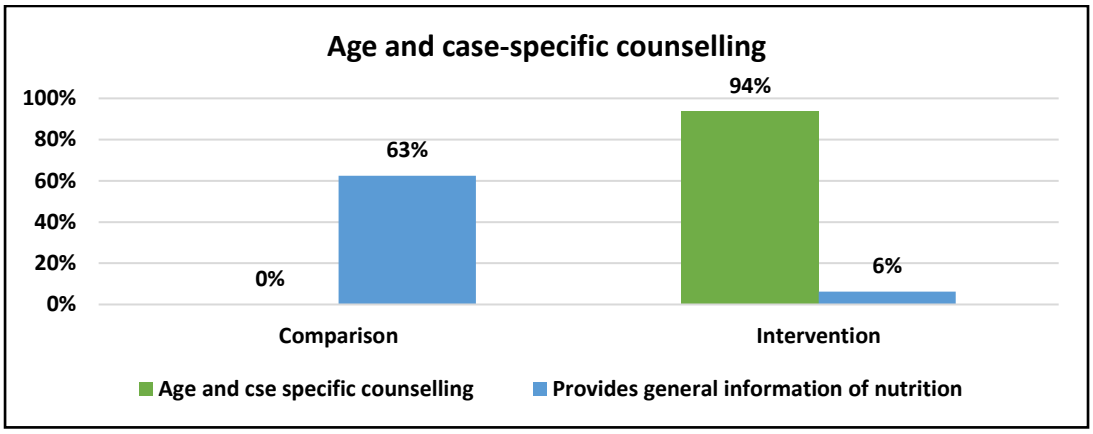


4.3.4. Case-specific targeted counselling by Anganwadi Workers during home visits

Home-visit and counselling become effective if it is conducted in a focused way targeted to the specific issue of the child based on the age and situation. Oftentimes, during counselling, it has been seen that AWWs deliver general information about infant feeding practice but not focus so much on the specific case at hand. As this is one of the major focus of the home-

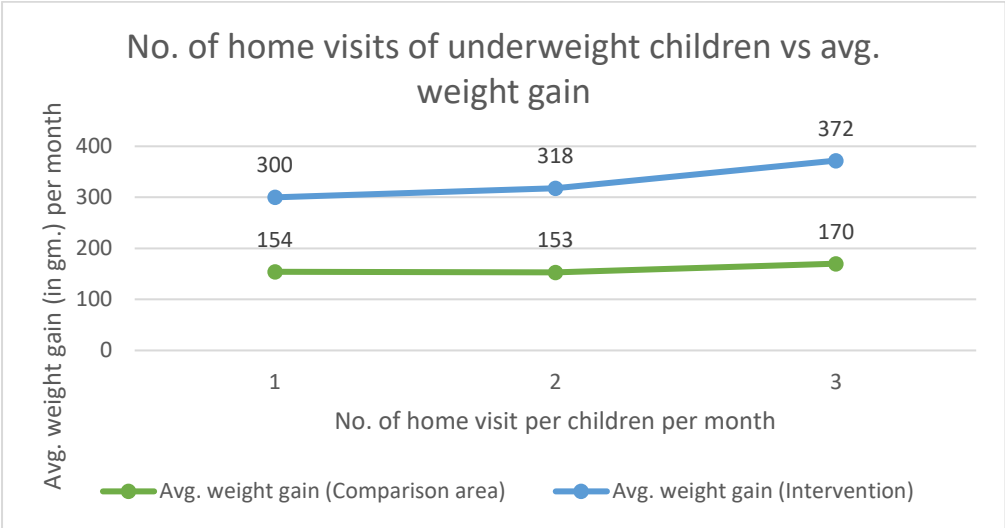
based intervention strategy, the study attempted to understand whether there was any difference in case-specific counselling between intervention and comparison areas.

It was found that age and case-specific counselling has improved significantly in the intervention compared to the comparison area. Further, the study revealed that in the comparison area, the main purpose of the home-visit of AWWs was to collect weighing data and providing THR (Take Home Ration), and only 63% of AWWs provided mothers/ caregivers some general information on nutrition. On the other hand, 94% AWWs of intervention areas, counselled the mother as per age and specific gaps of the underweight child and 6% provided general information on nutrition.



3.3.4. Relationship between home visitation and weight gain

The study found that there is a strong correlation between home visitation by AWWs and weight gain of children as shown in the graph below, demonstrating the importance of home visits and counselling as a necessary strategy to address malnutrition among children. The graph below shows that in both the intervention and comparison area, weight gain improves based on the frequency of home visits. However, in the intervention area, the rate of weight gain is more due to improved quality of counselling during home visits.



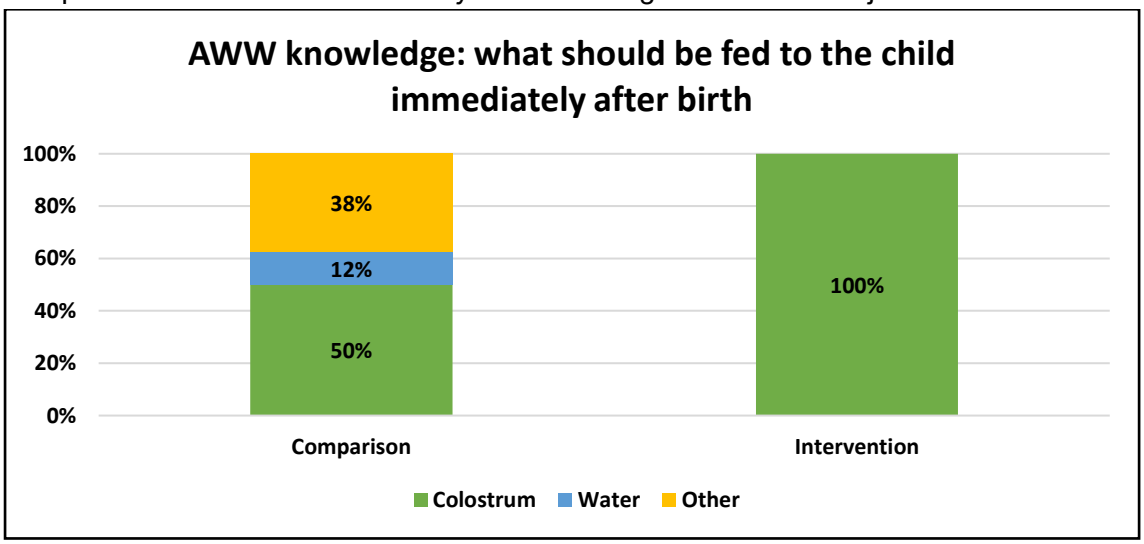
4.4. Knowledge and awareness on key child nutrition issues among Anganwadi Workers

The home-based counselling strategy was mediated through the Anganwadi Workers who are the key nutrition frontline workers in the community. The knowledge level of AWWs plays an important role to improve and maintain the good nutritional status of the mother and child. They are the key person to deliver nutrition-related information to mothers or caregivers.

One of the key objectives of the study was to understand the knowledge and awareness of AWWs regarding critical child nutrition issues in the intervention and comparison area, so that difference made by the project training and handholding strategy in the intervention area could be understood. A few knowledge and awareness related questions were asked to the 16 AWWs from intervention and 16 AWWs from comparison areas during the study and results are presented below. Overall, the findings demonstrated that training and handholding of AWWs in the intervention area have resulted in improved awareness of key child nutrition issues.

4.4.1. AWW knowledge on colostrum feeding

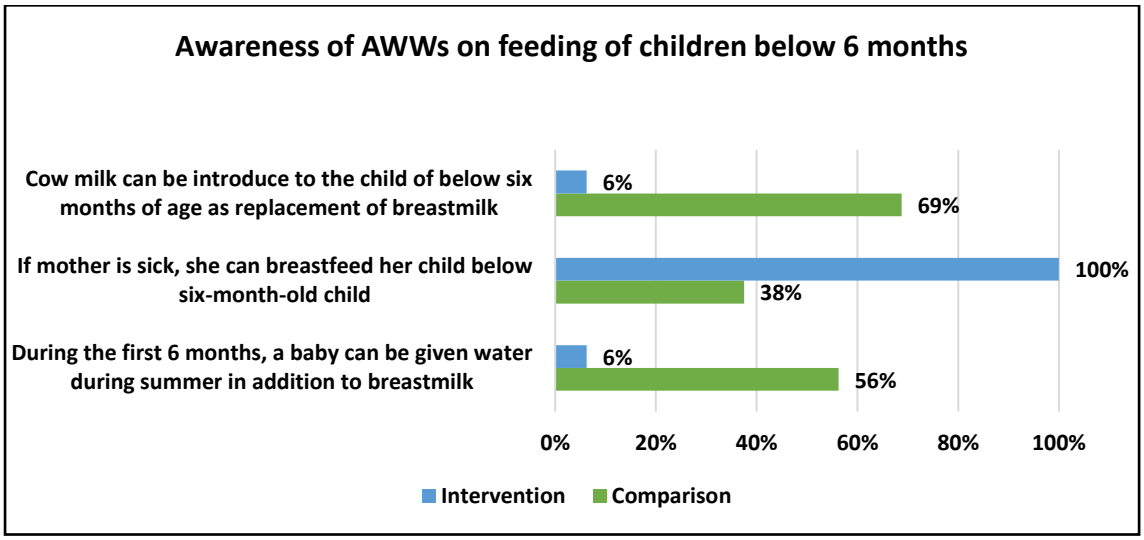
When asked what needs to be given to the child just after birth, all the AWWs of intervention areas responded that the first milk of the mother or Colostrum needs to be given to the child. On the other hand, in comparison areas, 12% said water and 38% said others, which is mostly *janm ghutti* or Honey. Moreover, after probing, about 56% of AWWs (9 out of 16 AWWs) of comparison areas thinks that Honey needs to be given to the child just after birth.



4.4.2. AWW knowledge on the feeding of children below 6 months of age

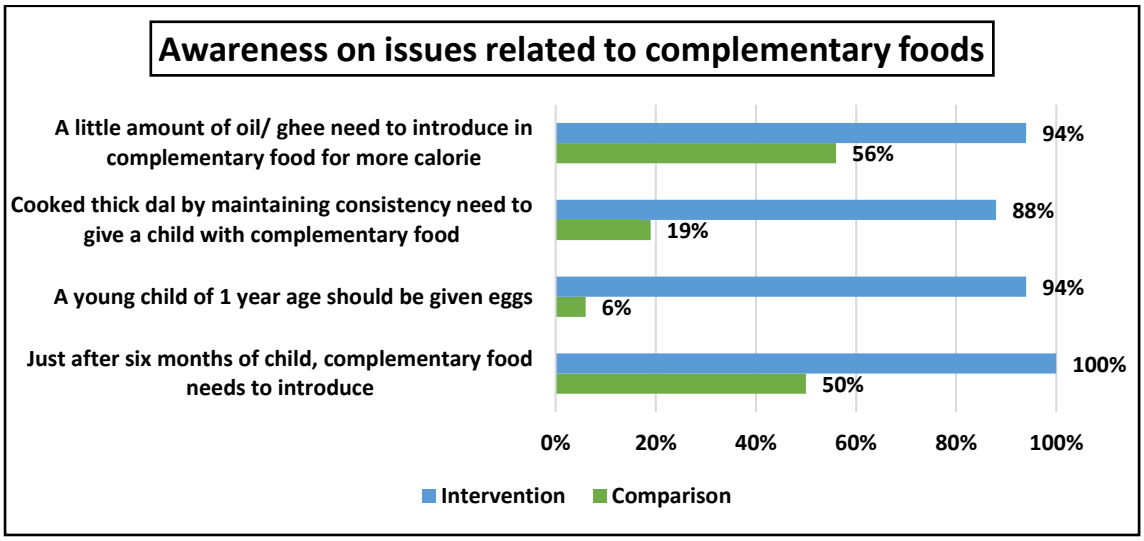
When asked about prevalent issues regarding feeding practices below 6 months old child, the AWWs responses of comparison areas reflect a lack of knowledge and awareness. On the other hand, the knowledge level of AWWs of interventions areas is stronger as they have been

trained on the importance of 1000-days, home-based prevention, and management of underweight children by Supervisors and CBOs of YouthInvest. It was found that in comparison areas, 50% of AWWs were unaware of a child's weight can be grown up to three times the birth weight and 87% does not know that 75% of the brain development takes place within the first 1 year.



4.4.3. AWW awareness on issues related to complementary feeding

Knowledge and awareness among the AWWs in terms of complementary feeding was found to be higher in intervention areas than comparison areas. When asked at what age complementary food should be started along with breastmilk, 50% of AWWs from comparison areas stated that after 7 and 9 months. This was the usual practice even in intervention areas before the training. Knowledge of maintaining food diversity, protein and calorie enriched food, consistency was also found to be lower among the AWWs of comparison areas.

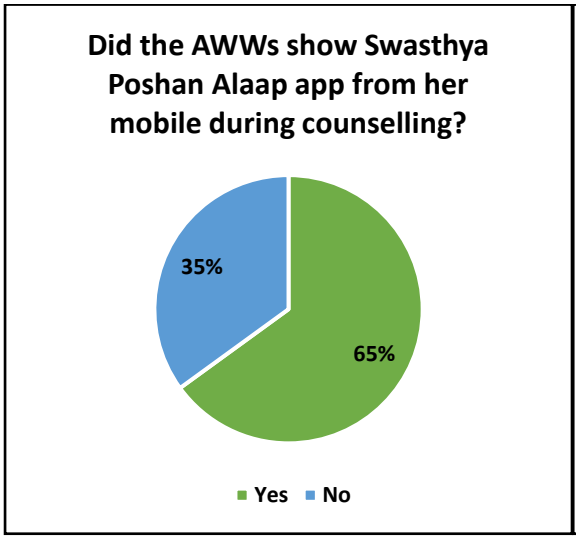


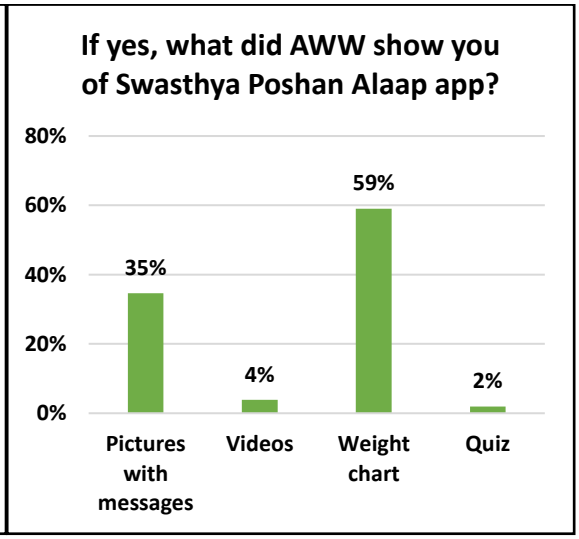
4.5. Use of the digital tool "Swasthya Poshan Alaap" by AWWs

One of the major innovations of the project was the development and demonstration of *SwasthyaPoshan Alaap*, a digital tool developed by YouthInvest Foundation for use of Anganwadi workers for counselling as well as self-learning. AWWs of the intervention areas were trained on home-based prevention and management of underweight children without complication and counselling using this digital tool. During the study, AWWs and mothers of sampled underweight children were asked about the use and effectiveness of the tool in the intervention areas.

4.5.1. Use of Swasthya Poshan Alaap by AWWs during home-based counselling as reported by mothers of underweight children

About 65% of mother of underweight children (52 out of 80) confirmed that AWWs showed Swasthya Poshan Alaap to them during home visit. Out of the 52 mothers who had seen Swasthya Poshan Alaap, they further added that 59% have seen the growth chart, 35% seen pictures with messages, 4% videos and 2% participated in the quiz and said that showing the tool helped them to understand the situation, gaps and next steps.

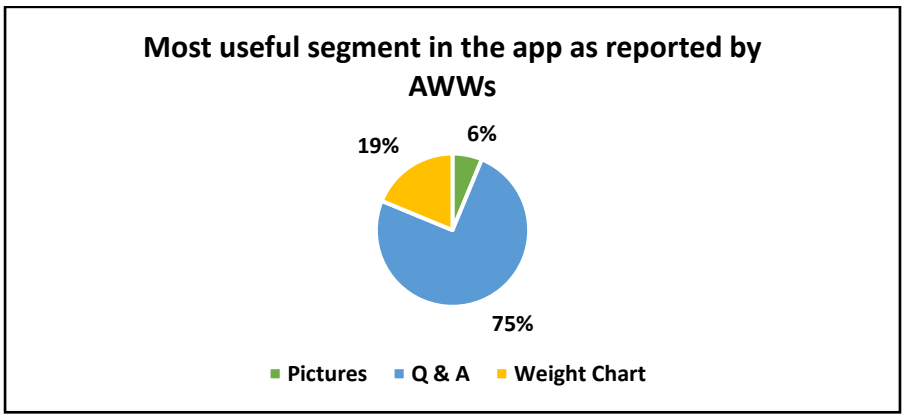




4.5.2. Feedback about Swasthya Poshan Alaap by AWWs

During interviews with the AWWs from the intervention area, all of them reported using the tool regularly. They also clarified that initially, they had difficulty in using the tool during counselling due to network problems although they wanted to use it.

When asked about what is most useful in the app, 75% of AWWs responded that they found the "Question & Answer" segments of the tool to be most useful. During group discussions, AWWs also said that the age and stage-specific arrangement of topics were also highly effective during counselling as all the key points could be found easily.



When asked about the usefulness of the *SwasthyaPoshan Alaap*, 94% out of the 16 participating AWWs stated that they found the tool to be useful during counselling to reduce malnutrition. The AWWs further added that the use of *SwasthyaPoshan Alaap* in the mobile during counselling draws more attention to the mother and family members as well as the community. Moreover, they are getting more importance from the mothers and other family members as they now have a mobile-based tool to back their counselling.

4.5.3. Feedback by ICDS Supervisors on Swasthya Poshan Alaap

Focus group discussions were conducted with the 16 supervisors from Darrang (Pub Mongoldoi ICDS project) and Kamrup Rural (Rampur ICDS project) districts to understand their feedback on the strategy as well as the use of *SwashyaPoshan Alaap*. All the supervisors felt that the new strategy and the digital tool had made them more enthusiastic after seeing the changes in the field areas in terms of changes in nutritional status and behaviour. Except for the newly recruited or newly transferred supervisors who had not participated in the training programme, all of them reported to see and use the digital app during their supervisory visit to the field as well as clarify correct facts on child nutrition issues.

As per their feedback, they mostly use Q&A segments of the tool, which is enriched with information. They further stated that, as per their observation, AWWs use the growth chart segment along with Q&A the most. This corroborates with the AWW responses. They further added that the use of the mobile-based tool has provided the AWWs more authenticity and validity when they provide information.

The Supervisors also opined that videos play an important role in creating awareness in the individual, family as well as community level. They suggested that the app should have more videos.

"The tool is very much useful for the AWWs, as it is helping them to revise their knowledge and providing them with specific counselling talking points. The specific talking points help them to conduct age and case-specific counselling to the mother of underweight children as well as prone to vulnerable children."

ICDS Supervisors from Darrang during FGD

5. Conclusion and way forward

5.1. Conclusion

The Rapid Assessment study demonstrated the following key points which have important implications for future programming for the reduction of childhood malnutrition in Assam and other similar areas.

5. **Overall, the home-based counselling strategy to manage underweight children by AWWs using the digital application SwasthyaPosahn *Alaap* has shown to be effective in the reduction of severe and moderate underweight children in the intervention area:** Status of underweight children has improved much more in the intervention areas compared to the comparison area in the same period. The study found that there is a strong correlation between home visitation by AWWs and weight gain of children and the rate of weight gain is related to both frequency and quality of counselling during home visits by AWWs.

6. **Capacity building and handholding of Anganwadi Workers had successfully led to improvement of knowledge, awareness, and counselling skills of AWWs on the management of underweight children without complication at home:** The training of ICDS supervisors and AWWs helped the AWWs in the intervention area to gain knowledge and awareness on key counselling components focused on feeding practice using locally available home-made food, as demonstrated by the higher-level correct knowledge of AWW in the intervention vis-à-vis those in comparison areas.

   The study findings also demonstrated that the training and follow-up support had motivated AWWs in the intervention area to regularly weigh the children as revealed by the higher weighing efficiency in the intervention area compared to the comparison area.

7. **Regular home visits and targeted counselling and follow-up of the underweight children by the AWWs increases the knowledge and awareness level of the mother as well as other family members on child feeding practices leading to improved child-feeding practice and weight gain:** Regular follow-up by the AWWs motivates mother and caregivers of underweight children to change child feeding-related behaviour, which further helps to gain weight of the underweight children. The study findings demonstrated that at the same time, while 41% of underweight children from intervention areas graduated to normal weight, only 14% of the underweight children graduating to normal weight in the comparison area.

8. **The use of SwasthyaPoshan Alaap has supported the AWWs in home-based counselling based on age and case-specific issues:** The study findings showed that the SwasthyaPosahn Alaap was well accepted and found to be useful by the mothers participating in the study. Both the AWWs and Supervisors responded positively towards the digital application and felt that the application has supported them in counselling as well as self-learning. The study findings also demonstrated that AWWs can successfully use the digital application in counselling and supported them by enhancing the quality of their advice and counselling.

KEY TAKEAWAYS

- Proper training, handholding support to the AWWs on home-based counselling and follow-up visit can prevent and manage underweight children at home. The home-based counselling strategy can accelerate the reduction of malnutrition in the field areas with a high prevalence of underweight children without any complications.
- SwasthyaPoshan Alaap, the digital application can support home-based counselling as well as self-learning.
- Regular training and follow-up support to AWWs can easily improve their knowledge, skills and confidence regarding infant feeding strategies using home-based food, thus leading to improved infant and child feeding behaviour among their target groups, viz., mothers, and family members, thus contributing to the reduction of malnutrition.

5.2. Recommendations

The following priority action areas are recommended to accelerate the reduction of malnutrition among children (0-5 years), based on study findings.

- **Continue to work in for the demonstration blocks and expand programme coverage to saturate the entire blocks:** As the home-based counselling strategy to manage underweight children by AWWs using the digital application SwasthyaPosahn *Alaap* has shown to be effective in the reduction of severe and moderate underweight children in the intervention area, it is recommended that this be continued and further refined by expanding the programme to the entire blocks.
- **Use of digital platform and mobile technology is effective in supporting AWWs in age and case-specific counselling as well as self-learning:** SwasthyaPoshan Alaap not only supported the AWWs in providing counselling to the mothers and family members but also helped in sharing authentic and accurate information at all times as this is available on the mobile phone. It has helped in improving the quality of counselling by AWWs.
- **Frequent home visitation is the key to enhancing knowledge, skills and confidence of mothers and family members on using locally available food to address undernutrition and improve child feeding and rapid weight-gain of underweight child:** As the frequency of home visit is the key to engaging mothers and the family members, and providing successful counselling, capacity building strategies for training Supervisors and AWWs should highlight this aspect. Supportive supervision and handholding by Supervisors were also shown to be effective in enhancing the quality of counselling of AWWs, and is one of the key factors in enhancing AWW performance and reduction of childhood malnutrition.

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