

This report was prepared by Children Believe (which was formerly called Christian Children's Fund of Canada)

The Saving Brains Project: *Maternal, Newborn Health and Early Childhood Development in Rural, Low Literacy Settings of Ethiopia* was undertaken with the financial support of Grand Challenge Canada and the Government of Canada implemented by Children Believe (formerly) Christian Children's Fund of Canada (Children Believe in collaboration with The Hincks-Dellcrest Centre (HDC) and Bole Bible Baptist Church (BBBC). It was piloted from October 2014 to September 2016.



Christian
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Saving Brains Project

Maternal, Newborn Health and Early Childhood Development in
Rural, Low Literacy Settings of Ethiopia

Project undertaken with the financial support of Grand Challenge Canada and the Government of Canada implemented by Christian Children's Fund of Canada in collaboration with The Hincks-Dellcrest Centre (HDC) and Bole Bible Baptist Church (BBBC)

*Most figures in this document are derived from the baseline and end line evaluations of the Saving Brains Project.

Christian Children's Fund of Canada (CCFC)

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Table of Contents



1 Background

- 1.1 Project Area
- 1.2 The Challenge

01



2 Project Goal and Objectives

- 2.1 Project Goal
- 2.2 Project Objectives

05



3 Project Intervention Approaches

- 3.1 Improve knowledge and skills on Learning Through Play (LTP)
- 3.2 Audio-visual Education on Early Brain Development
- 3.3 Participatory Multi-Stakeholder Involvement
- 3.4 Project Sustainability and Phasing-Out Strategy

07



4 The Project Achievements

- 4.1 Parental Knowledge
- 4.2 Addressing Harmful Traditional Practices
- 4.3 Child Communication
- 4.4 Gross Motor Development
- 4.5 Fine Motor Skills
- 4.6 Personal Social Development

18

1 Background

Christian Children's Fund of Canada (CCFC) has implemented a Project called Maternal, Newborn Health and Early Childhood Development in Rural, Low Literacy Settings of Ethiopia (Saving Brains Project) in partnership with a local NGO known as Bole Bible Baptist Church Child Care and Community Development (BBBC). The Project was implemented from October 2014 to September 2016 in rural and underserved communities in Arsi Negelle district, of the Oromia National Regional State of Ethiopia.

The Project used the Learning Through Play (LTP) program which was complemented using audio-visual communication technology that was used in cost-effective and interactive ways to increase the knowledge and skills of parents and caregivers. The Project targeted at enabling parents to protect and nurture early child brain development during both the prenatal and early childhood periods. Beneficiaries of the Project were 3,000 children 0-3 years of age from 2,500 households.

The Project was undertaken with the financial support from Grand Challenge Canada and the Government of Canada.



1.1 Project Area

Arsi Negelle Woreda is located some 200 km south of Addis Ababa in the West Arsi Zone of the Oromia National Regional State, Ethiopia. The Project was implemented in seven kebeles (sub-districts) of Arsi Negelle. These areas were selected because of the challenges they face in areas of maternal newborn, and early childhood care and development. Administratively the Arsi Negelle district is divided into forty-eight kebeles (forty-five rural and three urban kebeles). The majority of the kebeles are found in lowlands areas where malaria is highly prevalent. According to the Central Statistical Agency (CSA) the total population of the district in 2014 was 320,384 (158,131 males and 162,253 females).

Agriculture is the main livelihood activity and the backbone of the area's economy. Farmers widely cultivate maize, haricot beans, wheat and sorghum. Livestock rearing is also another agricultural activity in the district. Livestock is an important household resource that plays a significant role in meeting households' food security, income generation, food supply (milk and meat) and ploughing. However, most of the Project areas are located in semi-arid climatic type of environment that makes them highly vulnerable to natural disasters like drought that affects the performance of rain-fed agriculture: crop and animal production and productivity.

The rural area is also characterized by traditional living conditions. For example, the majority of the families own houses with roofs constructed with thatch and reed grass, and have mud walls, which are not very durable. Rural households also use mud and stone made unmovable/fixed bench like seats since most cannot afford to buy chairs or tables. Very few own radios. Since there is no electricity supply in most rural villages, the households use firewood and animal dung as domestic fuel and light source. Many of the dwellers use traditional kitchens and open stoves.

There are six health centers in the district, and one health post in each kebele (sub-district) of the Woreda (district). There are two Health Extension Workers (HEWs) assigned to each kebeles who are responsible for undertaking the day-to-day health extension program. These community health workers are selected from the rural areas they come from. After receiving training, they return to their communities to provide healthcare services.

1.2 The Challenge

Young children (0-3 years of age) need proper and high level care for their healthy growth and development. The psychosocial component of early child development requires proper cognitive, linguistic and social-emotional development needs to be nurtured. However, this aspect of child care and support was largely ignored especially among many rural communities in Ethiopia, including the targeted sub districts in Arsi Negelle prior to the Project intervention. To address this challenge much was required by the Project to improve parental education in a continuous way. Many parents need to be educated about early brain development and what is needed to be done to enhance brain development of their children, especially those in their early age (0-3 years) of a child using simple techniques such as play, touch, eye-to-eye contact, smiling, love and proper nutrition.

In Arsi Negelle district where the Saving Brains Project was implemented the knowledge and skills of parents on early brain development, child feeding practices and prenatal nutrition was low. There was a particular need to promote early initiation and exclusive breastfeeding. This is because traditional beliefs prevalent in the area prevented newborns from having colostrum (first milk), which is rich in nutrients and has maternal antibodies that protect the

newborn from infection. Mothers would also feed their children solid food early and give them other drinks like water before they reach six months of age. Another challenge was the majority of the women in the area often did not make four or more visits for antenatal care, as recommended by the World Health Organization (WHO) and give birth in health facilities where they can receive proper care. This made it difficult to detect and manage maternal and neonatal complications early on.

At the start of the Project, a baseline survey was conducted to collect preliminary data around key child development domains including social emotional, cognitive, language and physical growth of children under the age of three years. The survey was designed to capture the status of knowledge and practices on early child development of parents/caregivers. Control kebeles (sub districts) were also selected and a similar survey was conducted in the control kebeles. A total of 610 respondents were interviewed from both intervention and control groups; the majority of them were mothers.



Findings of the baseline survey showed the followings:

- About 47.9% of parents/caregivers in the intervention kebeles (sub-districts) and 46.4% of parents/caregivers in the control kebeles answered correctly to 50% of the questions in the survey.
- Wasting (acute malnutrition as expressed by weight-for-length index/height) was calculated as 8.3% and 8.4% in the intervention and control kebeles respectively.
- The prevalence of underweight cases was 20.9% and 20.7% and that of stunting was 39.6% and 42.7% in the intervention and control kebeles respectively.
- Only 33.7% of children in the intervention and 21.79% of children in the control groups showed normal fine motor skills.
- Only 51.9% of children in the intervention and 57.7% children in the control groups have normal social- emotional development status.

Baseline survey being conducted in Keraru sub district

2 Project Goal and Objectives

2.1 Project Goal

Improve the health, and physical, cognitive, linguistic and socio-emotional development of 3,000 children 0-3 years of age in 2,500 households in Arsi Negelle District, Ethiopia.



2.2 Project Objectives



- To improve knowledge and skill of 2,500 families on Learning Through Play (LTP) (early brain development, attachment, the developmental needs of their children 0-3 years of age (total of 3,000 children) using LTP calendar
- To improve knowledge of 2,500 parents on maternal, neonatal and child health in 7 sub-districts of Arsi Negelle District
- To improve knowledge and skills of 60 health promoters (social workers, health extension workers and Health Development Army) to enable them to deliver Learning Through Play (LTP) and audio-visual education program on early brain development, maternal and newborn health and nutrition, and provide home-to-home technical support (advice) to parents in the target communities

3 Project Intervention Approaches

3.1 Improve knowledge and skills on Learning Through Play (LTP)

The Saving Brains Project provided parents with LTP calendars to improve parental knowledge on child development. The LTP program and materials used by the Project were developed by the Hincks-Dellcrest Centre and the Toronto Public Health office. The LTP pictorial calendars show the successive stages of child development. They also have brief descriptions of simple play activities that show parents what they can do to promote healthy child development. These materials were translated into Oromifa, the local language that is widely spoken in Arsi Negelle district. The illustrations used by the calendar were also adapted to the local context.

The Project provided two days training for the target 2,500 parents with the purpose of improving their understanding on the concepts of LTP and about how to make use of the LTP calendars to support the growth and development of their children. Parents in the target community were also encouraged to have regular group discussions twice a month on child growth and development based on the LTP calendars.



A parent in Gubeta sub district using the LTP calendar

Utilizing the Learning Through Play Calendar

The Saving Brains Project made use of the LTP calendar developed by the Hincks-Dellcrest Centre and the Toronto Public Health office. The calendar served as a guide for parents on the developmental stages of the child. It also recommends the appropriate activities parents can do with their child at each stage, using play as the main technique. The calendar focused on five areas of development which are Sense of Self, Physical Development, Relationships, Understanding and Communication.

“Initially when Saving Brains Project was introduced to our community, understanding the objectives and ideas from the project were difficult” says Gemeda Gajji a father of three children who had initially very minimal participation in taking care of his children. Gemeda, who lives in Buku walda sub district is a teacher at an elementary school. Before the Project was introduced in his community his wife Amane Abdalla used to be the only one responsible for taking care of the children.

After receiving training from the Project on how to use the LTP calendar and how fathers can play a positive role in the growth and development of their children, both Gemeda and Amane started to apply the principles they were educated on.

“The training helped us to know the development stages of children especially at their early ages. So, we are now able to understand what kind of support and motivation our children need at different stages of their lives. We are trying to meet their growth needs by referring to the calendar”, explains Gemeda, who is now very active in raising his children.



Gemeda is now actively engaged in the development of his children



Gamada seeing the LTP calendar on the wall of his

“Although I was the one responsible for taking care of my children, I was never aware that there are development stages in the growth of a child”, says Amame.

“For instance I used to think that by not allowing my child to move around freely, I would be protecting her from falling and getting injured”, she explains

On the walls of Gemeda and Amame home we find the LTP calendar properly displayed in a place where they can always see it.

“We help our children understand that we love them so much as most parents do. We give them all our love through hugging, kissing and spending time with them as guided by the calendar. They feel safe and comfortable when we make them close to us. We are also careful about things that make them angry.”

Physical development is addressed as part of the calendar that Amame and Gamada follow to support the growth of their children. Gamada and his wife are excited to see the day-to-day physical changes that their children are experiencing.

“We support and encourage our children by holding their hands to move here and there. We help them to hold things and try to see what they can do with their hands and legs,” Gamada said.

Thanks to his regular use of the LTP calendar, Gamada is now more connected with his children and is helping them develop their physical, emotional and communication skills.

He also says he hears frequently the positive responses of parents from the community about the changes they have seen from applying the LTP calendars in their lives.

3.2 Audio-visual Education on Early Brain Development

The Project used audio-visual education messages to facilitate discussions and create awareness on early brain development among parents. The videos were used to encourage best practices among parents. The videos were produced using parents from the same communities, who can serve as model mothers and fathers and who have good practices of raising children. The video messages, which were developed in Oromiffa- the local language in the area, focused on promoting early brain stimulation; enhancing parent to child interactions; attachment and maternal health exclusive breastfeeding and immunization.

Trained social workers of the Project used portable devices to show the videos to the parents. During the Project implementation period parents came as groups to watch these videos. After watching the videos, the parents engaged in discussions and shared experiences reflecting on what they had learnt.



Parents group in Haramgama sub district attending educational session supported with video



Demitu playing with her Mom

Early Brain Development

A child's brain undergoes significant development from birth up to three years of age. This growing brain is influenced by many factors including a child's relationships, experiences and environment. Saving Brains project has been promoting the importance of early child brain development. One of the beneficiaries of the project is three-year-old Demitu Hussen. Demitu is an only child. Her mother Ruqiya Megarsa, who lives in Gubeta sub district, has been trained by the

Project on the importance of early child brain development. The training she received was aided by using short educational videos. "I was surprised to learn from the Project that most of the development of the brain takes place during the early years. The video films showed me that I can improve my child's growth by simply talking and playing with her. That is why I started to give Demitu my utmost attention and care" says Ruqiya. "I talk to my daughter about whatever routine thing I do including changing her clothes, feeding her, cleaning the house or washing

clothes. I also point out different parts of the body, things in our house and names of people", she adds.

The Saving Brains Project social workers have trained Ruqiya and continually came to her home to follow up on the development of Demitu. The progress they saw with the child was encouraging. The social workers encouraged Ruqiya and her husband, Hussen Washo, to continue taking time to talk to Demitu, tell her stories, sing and even play to make her a happier and active child.



“I’m so surprised how fast her mind is developing. Once Demitu is told the name of a person she does not forget. She has become a happy and confident child as a result of our interactions”, says Ruqiya. “Through the Project training I learnt about the importance of showing love, attention and communication to my daughter to encourage her to try different things. I also learnt that children come to understand the world around them through their five senses. Unless we give due attention to what our child sees, hears and touches, we cannot be sure that she gets the best things from the environment around her. That is what me and my husband are doing for our daughter. I can confidently say that all the people who received training with me are implementing the principles of the Project and are witnessing excellent progress with their children”, explains Ruqiya.

The parent group in Ruqiya’s community, Gubeta sub district, attending parent awareness and educational programs aided by videos

3.3 Participatory Multi-Stakeholder Involvement

The Project engaged influential people (community leaders, elders and religious leaders) to create awareness about early childhood development and maternal health. This played a major role in influencing the community to address existing harmful traditional practices.

Government offices, especially the District Health Office and Women, Children and Youth Affairs Office were also key Project stakeholders who have shown their engagement through follow up and support.

The Project also actively engaged professionals from the Addis Ababa University for technical support. The technical support included reviews and suggestions on the implementation modalities of project intervention approaches, recommendations on study tools, data analysis and reporting mechanisms. The Project also engaged with other actors in the district and sub-district levels, particularly in the formulation of the Early Childhood Care and Development (ECCD) committee.



3.4 Project Sustainability and Phasing-Out Strategy

- An Early Childhood Care and Development (ECCD) Committee comprised of Health Extension Workers, group leader of Health Development Army, elders and parents was established in all seven interventions sub districts. These committees played important role in Project beneficiary selection and also in facilitating trainings and meetings of the Project. The committees were also trained on resource mobilization and working in collaboration with concerned government offices. During the Project implementation and phasing out stage the committees played a critical role in ensuring alignment of the Project with government offices programs and plans.
- The Project actively engaged the government structures at the district and sub-district levels for learning and knowledge sharing. In particular, the Project used health extension workers to lead parent group leaders. This has created an opportunity to communicate the Project's innovations to local government bodies to reach a wider community and jointly design strategies to integrate the Project ideas into the local health system.

- The Project also used a community-based participatory approach in addressing maternal and child health and early child development challenges.
- Continuous review meetings (reflection sessions) were held with parent groups every 15 days with the objective of challenging the practice and attitude of parents around child caring practices. Parent group leaders (which included health extension and social workers) facilitated the discussions with parents using case stories and role plays.
- House to house visit to each Project target parent's house were conducted on a monthly basis. The purpose of the visit was to encourage positive parental actions and behaviors on early child development and uptake of Maternal, Newborn and Child Health (MNCH) services.



A social worker making a monthly house to house visit with a mother in Argeda Shaldo sub district

4 The Project Achievements

4.1 Parental Knowledge



A mother in health post in Keraru sub district attending antenatal care

The Saving Brains Project worked to improve parent's understanding and skills on early brain development of children and utilization of key maternal and child health services including antenatal care, delivery and postnatal care as well as immunizations. The antenatal period presents important opportunities for reaching pregnant women with interventions that are vital to their health and well-being and that of their unborn child. When pregnant women receive Antenatal Care (ANC) early it can be beneficial in preventing adverse pregnancy outcomes. Under normal circumstances, the World Health Organization (WHO) recommends that a woman without complications should have at least four ANC visits.

The project also teaches the community about the importance of skilled delivery and encourages women to utilize the service. It also promotes other maternal and child health care services including postnatal care, exclusive breast feeding and immunizations.

The project applied Learning Through Play program and audio-visual education materials and disseminated key messages to parents of children 0-3 years of age around positive parental practices on early child brain stimulation and development through parent to child interactions and attachment.



Health extension worker in Argeda Shaldo sub district discussing with parents on proper child care

Figure 1 below shows the results of the surveys conducted at the beginning, middle and end of the project on parental knowledge around early brain development and maternal and child health. The findings of the surveys show there is significant improvement in parental knowledge and practices related to early brain development and maternal and child health issues during the life of the project.

During the baseline survey, parents who responded to more than 50% of the LTP questions on parental knowledge assessment was 47.94% and 46.40% in the intervention and control kebeles respectively, which showed no significant difference in the two groups perceptions ($P=0.345$). This proportion at the final evaluation showed 99.40% of parents in the intervention groups and 51.80% in the control groups responded to more than 50% of the questions which implies that there was significant difference in the knowledge and practice related to antenatal care, delivery and postnatal care in between the intervention and control groups. ($P<0.05$)

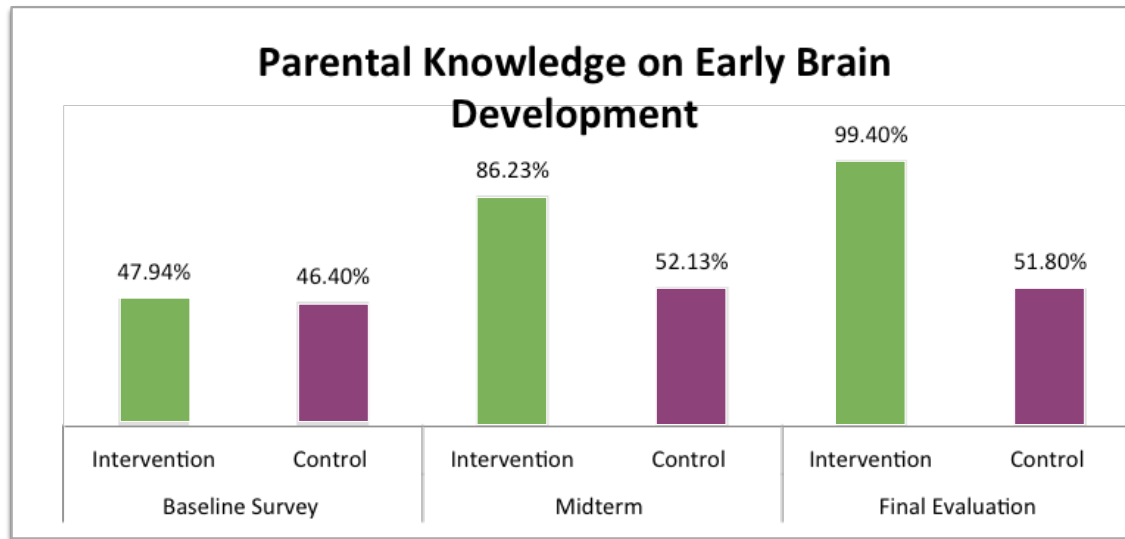


Figure 1. Proportion of parents who responded correctly to more than 50% of the questions on LTP assessment on early child brain development and maternal and child health

4.2 Addressing Harmful Traditional Practices

The Saving Brains Project by conducting rapid assessments was able to identify existing harmful and good practices that affect the growth and development of children in the target areas. Specifically, key issues affecting fathers' engagement and interactions with their young children came out from the assessment. The Project designed a behavioral change communication tool focusing on promoting fathers' engagement based on the assessment's findings.

“I would never play or touch my children as infants” says 30 years old Joro Gelegelu. Local beliefs have discouraged Joro and other men in his community, from playing with children. Joro, lives in, Gubeta Arjo Kebele in Arsi Negelle district in Ethiopia. Like others in his community he used to believe a man touching a child would lead to the stunting or reduced growth of the child. This belief resulted in very low involvement of fathers with their children. Joro who is a father of two would never pick up and play with his children until he attended a training about the importance of play and parental involvement have on the healthy development of children.

“I made toys for my children from locally available materials and started playing with them on the floor. My children are very happy. I even comfort them when they cry. I also look after the children when my wife goes to the market. I have been able to bond greatly with my children”, says Joro. He used locally available materials to make the age appropriate toys. His wife, Shita Feyissa elaborates the changes Joro has shown which has made her very happy.

also provided with a Learning Through Play (LTP) calendar. LTP groups were also formed in the community where parents have the opportunity to regularly discuss child development with community health workers. Joro has also been trained on how to use the calendar. The training included informing parents about the basics of child brain development.

Joro after the training was advised to hang the poster on the wall and to read it regularly. Joro’s neighbors have also been trained on how to use the pictorially illustrated, LTP calendars to stimulate the development of their children.



Joro playing with his daughter

The Project registered Joro’s youngest son. He was



4.3 Child Communication

The project promotes interaction between parents and children and encourages parents to talk to their children, sing to them and encourage them to repeat words after them. Communication in the project refers to both receptive (ability to understand what is said) and verbal (the ability to express needs). The percentage of children with normal communication skills in the baseline survey was 61.5% and 56.70% in the intervention and control groups respectively with no significant difference ($P>0.05$). The end line survey shows significant improvement in the communication skills of children in the intervention groups (84.90%) as compared to the control groups (46.9%) with $P<0.05$.

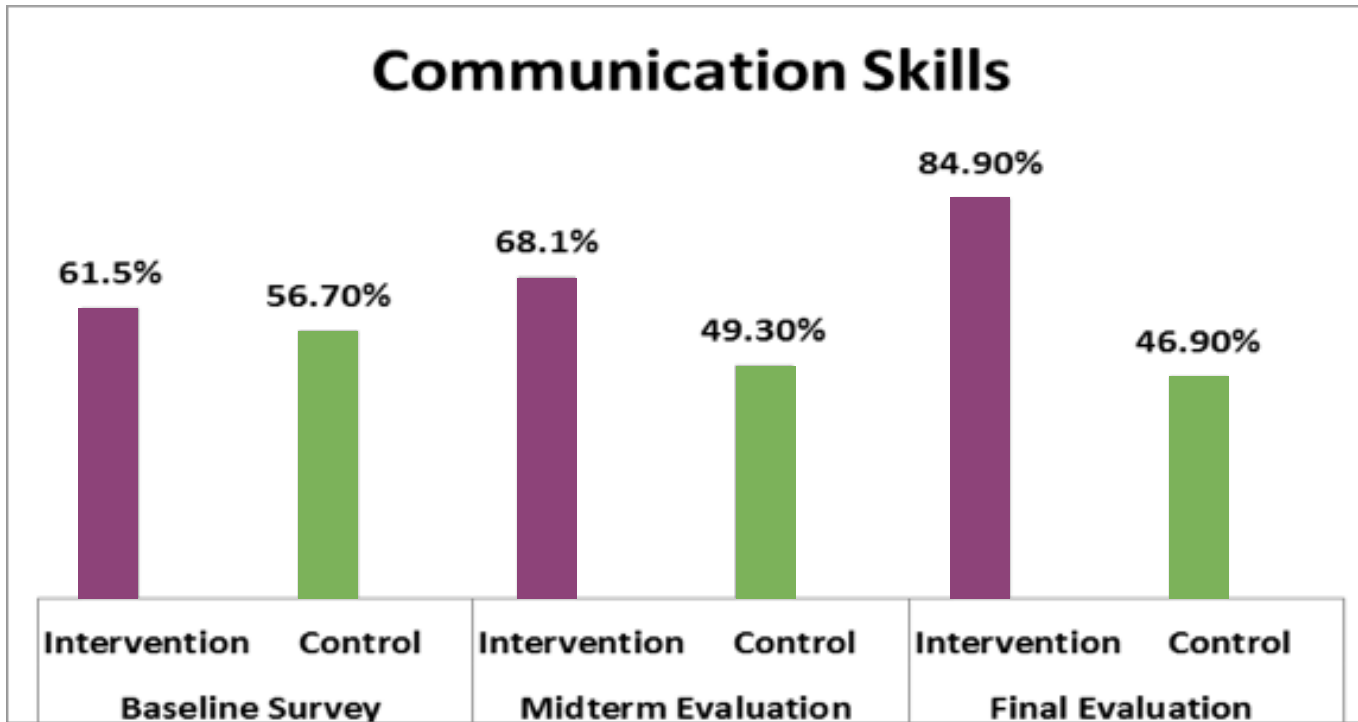


Figure 2: Proportion of children who have normal communication status

4.4 Gross Motor Development

The Saving Brains Project focused on improving the gross motor development of children through parental awareness creation on the importance of gross motor development through encouraging play and physical activities. Gross motor development is often the first noticeable sign of developmental delays in infants and young

children. Some important milestones for infants include the ability to roll over, sit up, crawl, stand, cruise furniture and walk unassisted. In early childhood, gross motor developmental milestones may be measured by a young child's ability to walk a straight line, skip, hop on one foot and jump.

The project promoted play as a central activity of children and encouraged parents to prepare toys from locally available materials including mud, clay, used clothes, tree bushes and other materials. Parents are also encouraged to facilitate their children's play which contributes the growth development of children.

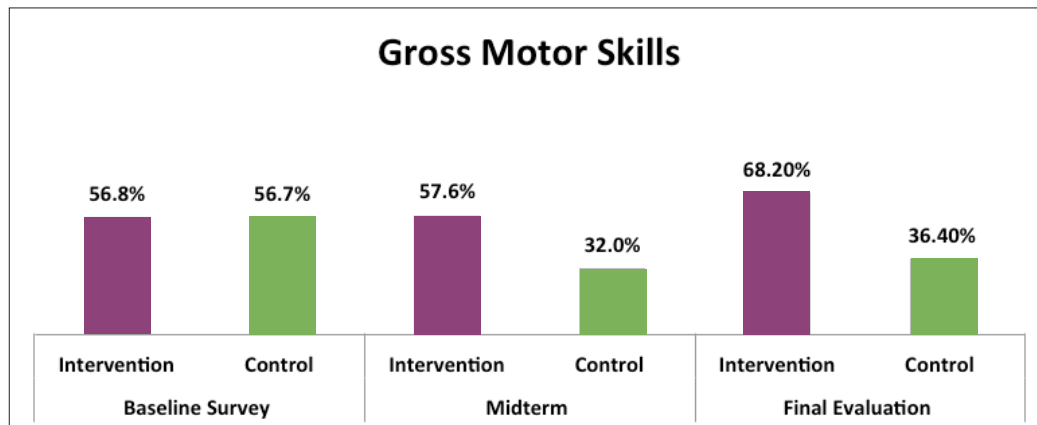


Figure 3. Proportion of children with normal gross motor skills

At the baseline survey, 56.8% and 56.7% of children in the intervention and control groups respectively had normal gross motor skills with no significant difference ($P > 0.05$). The proportion of children in the intervention groups at the final evaluation showed significant improvement (68.2%) in gross motor skills as compared with the control groups ($P < 0.05$).



Children playing in Buku walda sub district

4.5 Fine Motor Skills

The Saving Brains Project has focused to bring about improvements in the fine motor skills of children aged between 0 to 3 years in the Project area. Fine motor skills are the collective skills and activities that involve using the hands and fingers. The fine motor skills are those skills which require the small muscles of the hands to work together to perform precise and refined movements. Fine motor skills typically develop in a reasonably consistent and predictable pattern in the early years of childhood. The project educated parents to encourage their children's fine motor skills and use their hands and fingers. Parents prepare small toys and encourage their children to grab them through their hands and fingers.

Figure 4 below shows only 33.7% of children and 21.79% of children in the intervention and control kebeles respectively had normal motor skills which showed similarities between the two groups ($P>0.05$) during the baseline survey. The final evaluation showed there is significant difference between the intervention (46.20%) and control (17.0%) kebeles respectively ($P<0.05$).

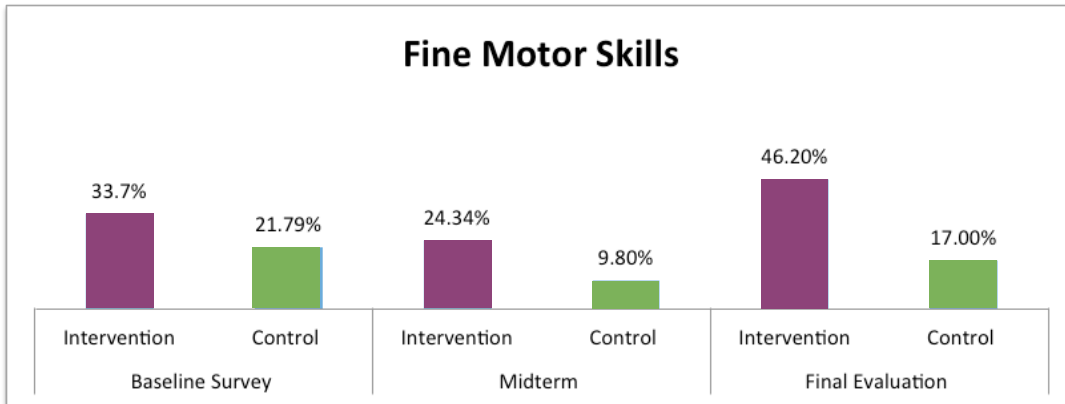


Figure 4. % of children with normal fine motor skills in the intervention and control groups



A child in Buku walda sub district

Toy and Toy Making

Play is the most important activity in the lives of children. The Saving Brains Project recognizing that play helps children grow physically, mentally, socially, and emotionally has invested in introducing and emphasizing the importance of play to parents.

“I never knew about the importance of toys. Whenever my children got upset I used to try to comfort them with words or food” says Moshu Ulu who lives with her husband Kufa Fayyisa and two children in Kararu village of Arsi Negelle district in Ethiopia.

Moshu’s understanding about the importance of toys changed after she received a training from the Saving Brains Project. The Project focused on explaining to parents about the importance of toy for the brain development of children and how parents can easily make toys from locally available materials. The training also guided the parents about making age appropriate toys that encourage the children to use their sense organs and emphasized that parents when making toys should check that they are clean, safe and of variety. Moshu learnt how to make toys from video sessions the Project has as part of the Project parental awareness raising strategies.

“For both my children I made toys cars, mobile phone, ox and things they can understand from what they see. This is helping them learn different life skills”, says Moshu.

Moshu is now sure that her children are getting important life lessons playing with the toys. The children are also becoming more active and creative children.



Moshu encouraging her children to play

Some of the toys Moshu and Kufa have made for their children in Kararu sub district



“While they are playing together my children interact with each other. They even try to create new toys for themselves. The more they play with the toys, the more their communication skill is developing, they also learn different life skills and understand the environment they are living in”, adds Moshu.

Safety is the first thing that Moshu’s and her husband Kufa consider when making toys. “We parents are responsible for the safety of our children. Every time I make toys I avoid sharp edges. I try to make sure that the toys are clean and that they cannot be swallowed by the children. I also do not paint the toys for health reasons” explains Kufa. He also says parents should not bother to buy toys while it is so easy to prepare them at home.

Moshu and Kufa have made a car from an empty can and a ball and a baby doll from worn out clothes. Before investing much time on making the toys these parents said they tried to check if the child is stimulated by such types of toys. Moshu recommends that if parents want to see happy and creative children they need to give due attention for their children to play.

A girl in Horakadho sub district playing with local made toys



4.6 Personal Social Development

Personal-social skills are the skills children must develop to care for themselves (dragging toy, drinking and feeding) and interact with others (playing games, understanding others feelings). Personal development is about how children understand themselves and what they can do. Social development includes how children understand themselves in relation to their interactions with others.

Saving Brains project encouraged positive parental roles in improving personal- social skills of children. The Project educated parents to create opportunities for their children to play either alone or in groups and in turn learn about interacting with themselves and with others.

Figure 5 shows proportion of children with normal personal-social development skills was 57.1% in the intervention and 48.4% in the control kebeles during the baseline survey, in which there was no significant difference between the two groups ($P>0.05$). A significant difference was observed during the final evaluation of the project between the intervention and control groups where 74.4% of children in the intervention group had normal personal social development skills ($P<0.05$).

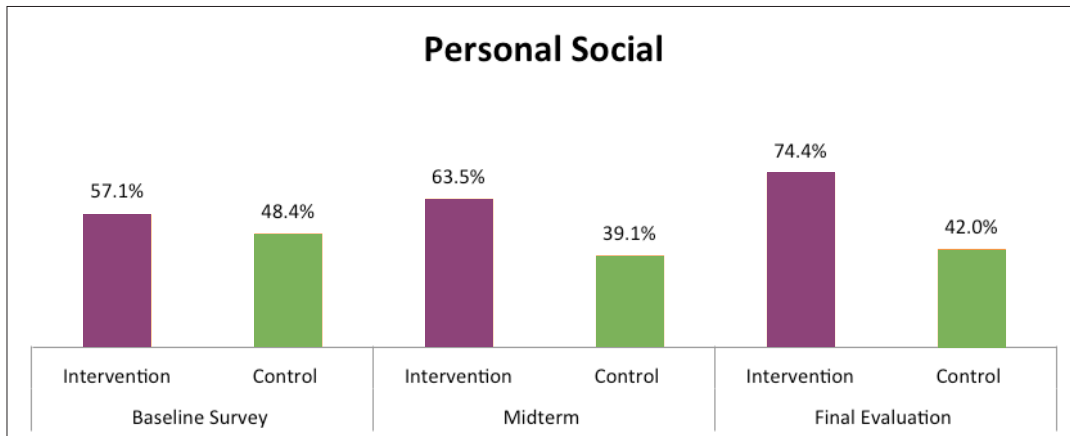


Figure 5. Proportion of children with normal personal social development in the intervention and control groups

Importance of Play

“I used to think playing was a waste of time. I felt doing my household chores was more important. But since attending the Project trainings I have started to value play”, says Amarech Wadebo a mother of two children, who lives in Gubeta sub district. The Saving Brains Project has been educating mothers like Amarech on how to use play as a tool to nurture children’s growth and development.

After the training Amarech and her husband Midagso Badaso are helping their kids to play. They also prepare toys their children can play with.

“Play helps the children to activate their minds. We have seen how our children are more curious about things and are happy since we started playing with them”, says Amarech.



Amarech playing with Jabana using a toy she had made



Children playing in Gubeta sub district

In Amarech's community children have started playing more after the introduction of the Saving Brains Project. There are parental group discussions which take place regularly in her community guided by social workers and health extension workers of the Project. During these parental discussions many of her neighbor are also testifying about the changes they are seeing in their children because of play.

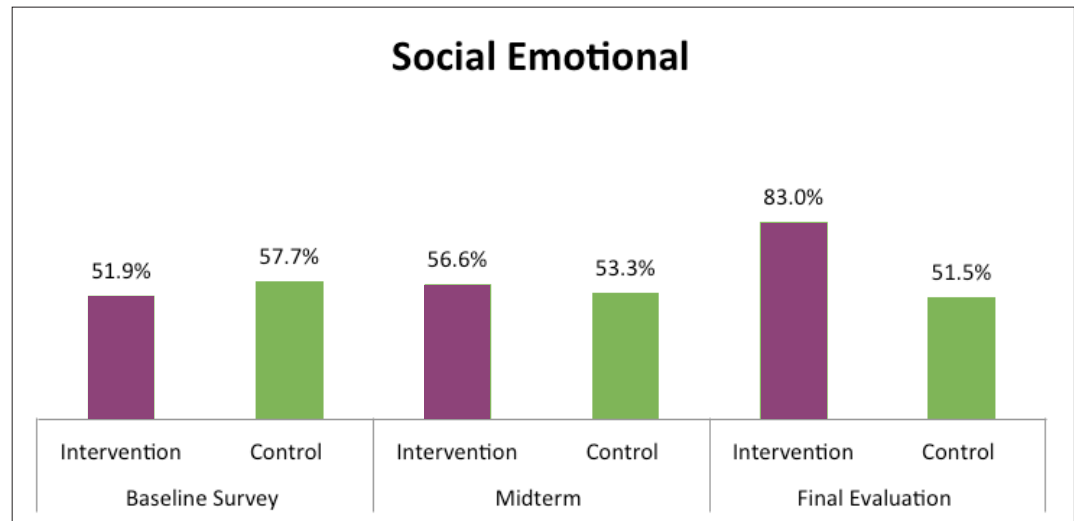
"I have personally witnessed my son's speech and language usage has improved greatly after we started playing with him", explains Amarech about the developments, Jabana, her one-year-old son has made.

4.8 Social Emotional

One of the areas where Saving Brains Project has made improvements is in the social emotional development of children. Babies feel secure when they get lots of affection from their parents/caregivers and it is the love and trust their parents/caregivers share that helps them learn that they will always be there for her/him. Loving relationships give young children a sense of comfort, safety, confidence, and encouragement. Parents teach young children on how to form friendships, communicate emotions, and to deal with challenges. Strong, positive relationships also help children develop trust, empathy, compassion, and a sense of right and wrong.

At the baseline survey there were similar findings between the intervention and control sub districts where the proportion of children with normal social- emotional skills was 51.9% and 57.7% in the intervention and control groups respectively ($P>0.05$). This has shown significant improvement during the final evaluation with children in the intervention groups where 83% of children have shown normal social-emotional development. The proportion of children in the control groups still remains 51.5%. ($P<0.05$)

Figure 6. Proportion of children with normal social emotional skills in the intervention and control groups



Parental Attachment with Children

In the rural communities of Arsi Negelle parents have started to reach out to their children in a responsive manner that is promoting attachment with their children. The parents in this community have come to learn that the attachment a child has with his/her parents impacts the child's future mental, physical, social and emotional health.

“What I learnt is very different from the way I raised my first son”, says Abdurahman Jaldo, a father of three children, who lives in Haramgama sub district.

“I used to think that if a child is not hungry and has clothes to wear that was enough. This was how I was raised and it used to be true to everyone else in the community. Just like most fathers in my community, I never encouraged and engaged with my eldest son because I believed this would make him a spoilt adult later”, he explains.

Abdurrahman is one of the parents that have been trained by the Saving Brains Project on how parents can promote and secure attachments with their child. This is a new concept for Abdurahman who was raised in a community where fathers had very little physical and emotional contact with their children. This is why Abdurahman says he found it very strange when the Saving Brains Project came to his community and started teaching families about the importance of brain development and early childhood care. In fact, Abdurahman says “I used to think that a father's role was to be only a provider to

the family. If anything more, I thought my role had to do with disciplining the children.”

At first when the Project social workers approached Abdurahman, he says he thought it was a waste of time. It took a lot of convincing from the social workers for Abdurahman to sign up for the training of the Project. The Project made use of videos for educating parents. To Abdurahman's surprise he enjoyed the training and was able to pick up skills to help advance attachments with his children. In particular, he was able to improve his ability to perceive, interpret and react promptly to his children's needs to influence the quality of his relation with them.



Abdurahman with his son Haramgama sub district

“Today my interaction with my youngest son is very different. I make efforts to spend a lot of time with him to just play or even hear what he has to say. I try to help him understand what he is doing. When he is sick, hurt or scared I embrace him closely which makes him calm”, says Abdurrahman.

Abdurrahman and his wife Medina Gudaat who have three children are now witnessing confidence, security and trust on their last two children. With the consistent and timely response to their children, they have noticed the fast growing minds of their children. The dividend of all these positive feelings has developed the children’s interest to understand their environment and beyond.

“It’s surprising to see how fast my children’s language abilities is improving. Not only that, they are active when they play and communicate with children of their age. All these things are happening as we intensify our attachment with them”, remarks Abdurahman.

Abdurrahman notes that he has not even given up on his older child. His wife Medina adds “Our children are now happy more than ever before. That in return is creating a healthy environment in our family. We are enjoying the close relationship we have created with our children improved communication and developed close attachment with their parents. When your children are happy, your life will also become bright.” Playing with their children is the other mechanism that Abdurahman and his wife are using to create strong attachment with their children.



A father taking care of his child in Gubeta sub district

4.9 Physical Growth

Although the overall objective of the Project was able to achieve significant results in various areas of child development, one area the Project was challenged to bring about the desired change was in terms of physical growth. The final results from the Project showed that there was no significant difference in the physical growth of children between the intervention and control kebeles. The results for the baseline and final studies showed wasting and underweight also remained similar.

For example, as can be seen in figure 7 below, the prevalence of wasting was 8.3% and 8.4% in the intervention (5.7 - 12.0 95% C.I.) and control kebeles (5.7 - 12.2 95% C.I.) respectively showing no significant difference between the two groups. Similar to this wasting during the final evaluation slightly reduced to 6.5% in the intervention (4.2- 9.9 95% CI) areas and to 5.8% in the control kebeles (3.6- 9.1 95% CI) with no significant difference between the two groups ($P>0.05$).

This is because the drought situation the communities experienced affected the children's situation to continue being underweight. In particular, in 2015/2016 Ethiopia including the Project area was impacted by the El Niño-induced weather patterns brought about by

failed rains in the country that resulted in drought. Most of the Project intervention areas as a result faced food insecurity. The situation impacted the physical growth of children as there was nutritional food shortage within the communities. Even though there was a need to provide nutritional supports to the most affected groups of the community, this was beyond the scope of the project.



Child weight being monitored at health post in Keraru Sub district

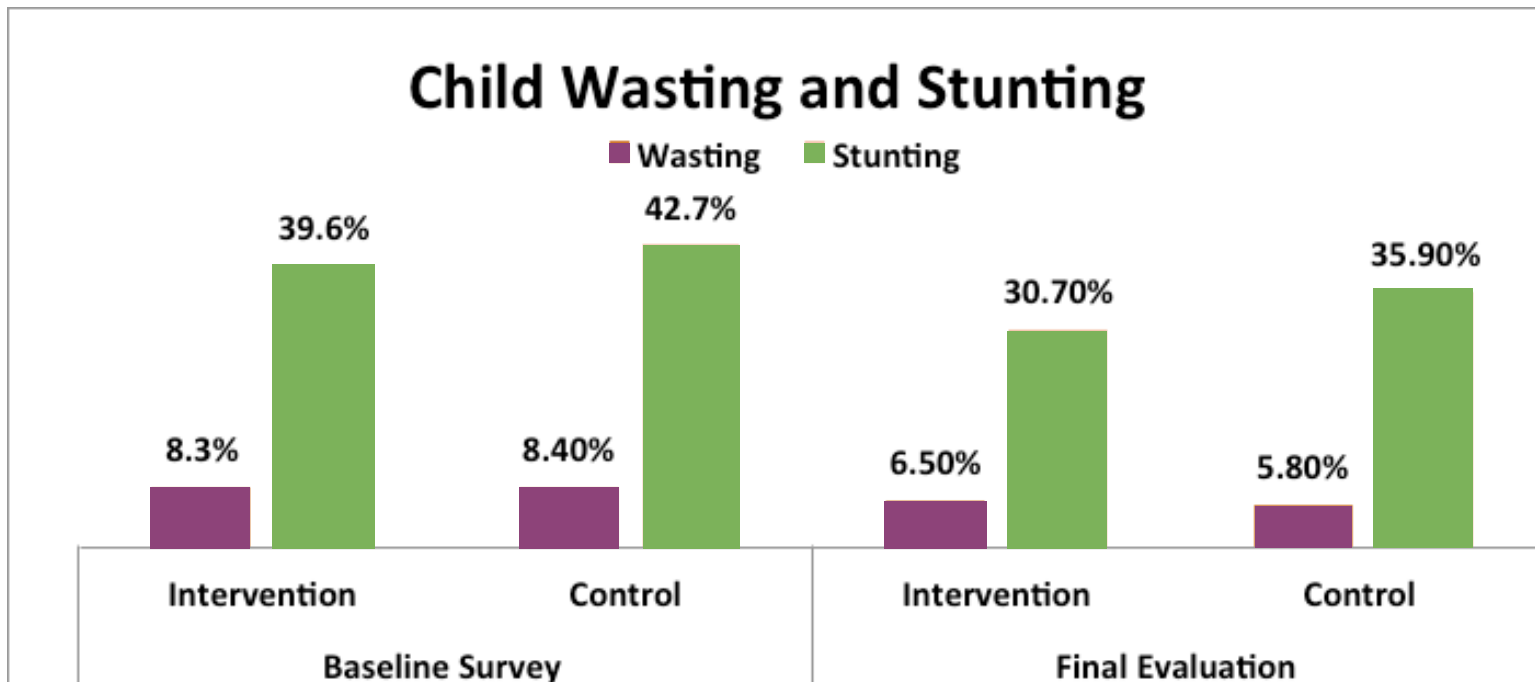


Figure 7. Proportion of children with stunting and wasting in the intervention and control groups



Girls playing in keraru sub district

Key Results Achieved

- Proportion of parents who correctly responded to more than 50% of questions on LTP parent assessment questions increased from 47.94% to 99.4% in the intervention groups showing significant difference between the intervention and control groups.
- There was significant improvement among children in the intervention groups in fine motor skills from 33.7% at baseline to 46.2% during the final evaluation. There is also significant difference between the two groups ($P < 0.05$).
- The project also improved the gross motor skills of children in the intervention groups. The proportion of children with normal gross motor skills at the baseline was 56.7% and 56.8 % in the control and intervention groups respectively. The proportion in the intervention groups showed 68.2% which also showed significant difference between the two groups ($P < 0.05$) at the final evaluation.
- Significant improvement was also observed in children's communication skills from the baseline to the final evaluation studies in the intervention groups. Proportion of children in the intervention with normal communication skills has increased from the 61.5% during the baseline survey to 84.9% during the final evaluation. There was also significant difference between the intervention and control groups during the final evaluation with $P < 0.05$

Recommendations

- 1) Cost effective and simple techniques such as play, touch, eye-to-eye contact and smiling, and proper nutrition brought about the desired change on cognitive, social and emotional development of children. Contemporary knowledge in harmony with the existing traditional practices can enable parents provide proper nurturing for their young children. Therefore, there is a need to use such simple techniques and build up on existing indigenous practices- folktales, songs and making play toys with locally available materials and continuously challenging Harmful Traditional Practices (HTP) to enhance Early Child Development (ECD).
- 2) Appropriate and attractive approaches: Learning Through Play (LTP) and Audio-visual education) win the dedication of rural parents and frontline community health workers that promoted nurturing care especially early brain stimulation. Such effective knowledge delivery to rural and low-literacy communities should be widely used in other parts of the country.
- 3) ECD program – a widely recognized foundation for sustainable social, economic and political development and for ensuring peace and security of a nation- requires priority and concert commitment of all concerned bodies.
- 4) This piloted project which has mainly focused on nurturing care has significantly contributed to the physical, cognitive, linguistics, social and emotional development of young children (0-3 years of age) that showed investing in early childhood development is cost effective and crucial intervention to build the foundation of the country- the human capital. Thus, we recommend the project to be scaled-up at the national level integrating into the existing health extension system and the national ECCE framework soliciting fund from interested potential donors and mobilizing human resources or jointly working with concerned and like-minded organizations and institutions.

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