

# GO BABY GO

## an integrated model for early childhood growth and development

The most effective time to improve children's growth and development, and to prevent inequalities are the first years of life. The parenting interventions, focused on early childhood interaction and cognitive stimulation, breastfeeding, especially among the most vulnerable children, reduce the negative effect of risk factors and promote child development.<sup>1</sup>

**Globally**, there are more than 500 million children under 5 in developing countries, of whom 156 million are stunted and 126 million live in absolute poverty. In total, around 250 million children in developing countries fail to reach their developmental potential due to poverty and stunting, and are considered disadvantaged.<sup>2</sup>

Child development starts from conception and it is the most rapid during the first years of life. By age three, a baby's brain reaches 80% of adult size.<sup>3</sup>

This period is considered to be the "powerful equalizer" in human development, an open window during which a child's experiences either facilitate or inhibit attainment of their full potential in life and ability to positively contribute to society.<sup>4</sup>

1 Lancet Series on Child Development 2011

2 Grantham-McGregor, Sally, et al., 'Developmental Potential in the First 5 Years for Children in Developing Countries', Lancet, vol. 369, no. 9555, 6 January 2007.

3 UNICEF

4 WHO, 2007





## WHAT IS 'GO BABY GO'?

The healthy early childhood development (ECD) has huge impact on child well-being, and is critical in shaping health and social outcomes. The risk factors such as malnutrition, inadequate learning and social interaction opportunities, family violence, poverty can damage healthy brain development with lifelong negative impact on health, behaviour, learning and productivity.<sup>5</sup>

In Armenia many children do not reach their full development potential because of poor parenting behaviour and insufficient brain stimulation.<sup>6</sup> Simple family interactions like playing, singing, reading with young children are not perceived as important for child care in a typical Armenian culture.<sup>7</sup> The healthcare service providers (HCP) mostly focus on the physical needs of children. They often do not, or inappropriately screen for early childhood development and rarely counsel/promote ECD. There are few experts and services for referral/management of ECD delays, deviations. This is exacerbated by high rates of stunting (19.5%)<sup>8</sup> and anemia (44.6%)<sup>9</sup> among children under five.

The Go Baby Go (GBG) model is an innovative and effective behaviour change communication (BCC) model for improving the growth and development outcomes of children under three (CU3). The GBG aims to build caregivers' confidence and competence, with the view to maximising their potential for their role during the first 1,000+ days of a baby's life. It equips primary caregivers to become baby's first teachers, first caregivers and first protectors. The GBG integrated model facilitates parents/caregivers' holistic understanding of the interrelatedness of health, nutrition, protection and development as well as risk and resiliency-promoting factors. These then helps them to promote young children's development and growth in a healthy, positive environment. The model also builds primary healthcare providers' skills and equips with the resources for appropriate ECD screening, counselling, early detection, referrals.

According to the GBG model theory of change, by improving knowledge and skills in ECD promotion among CU3 parents/ families, and strengthening primary health care providers' capacity in quality ECD counselling, screening for early identification of delays/deviations, and all these

combined with health, nutrition promotion, will result in better child growth and development (prevented or reduced stunting; improved neurocognitive development).

Funded by the **Bill & Melinda Gates Foundation - Grand Challenge Award**, in 2014 November, World Vision Armenia (WVA) conducted a research project, called 'Go Baby Go! – the Equalizer'. The research intended to pilot test the effectiveness of an integrated ECD and maternal, newborn and childhood health (MNCH) interventions, comparing it against the WVA traditional MNCH program.

Go Baby Go intervention package includes the following:

- WV developed and adapted resources,
- established and capacitated delivery platforms, such as GBG facilitators (community active, educated women, social workers, nurses, etc.) and the primary health care cadres
- behaviour change communication (group sessions) among CU3 parents, family members on integrated ECD, health, nutrition and child protection, and
- appropriate ECD counseling, screening and early referrals in case of ECD delays, deviations among CU3.

5 Shonkoff, Jack P., et al., From Neurons to Neighborhoods: The science of early childhood development, National Academy Press, Washington D.C., 2000.

6 World Vision Armenia strategy baseline report. 2015

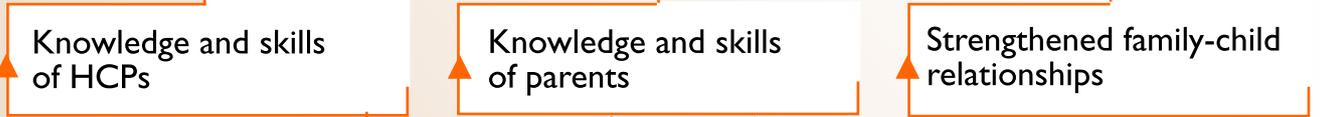
7 Formative research on ECD practices among parents of children under three in Gegharkunik Marz, Armenia. World Vision, 2015

8 Armenia Demographic health survey 2010

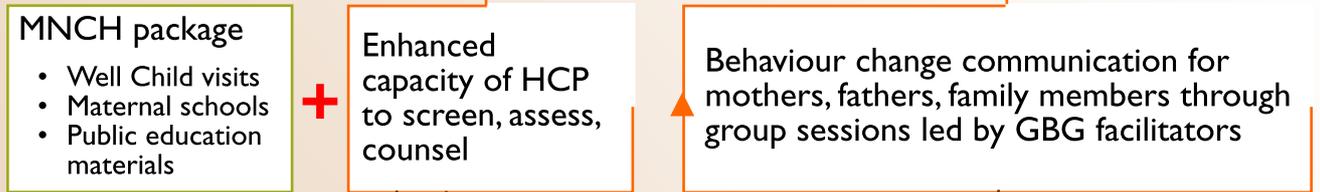
9 American University of Armenia, "Nutrition survey among the children under five in Talin communities of Armenia", 2013

# THEORY OF CHANGE

OUTCOME

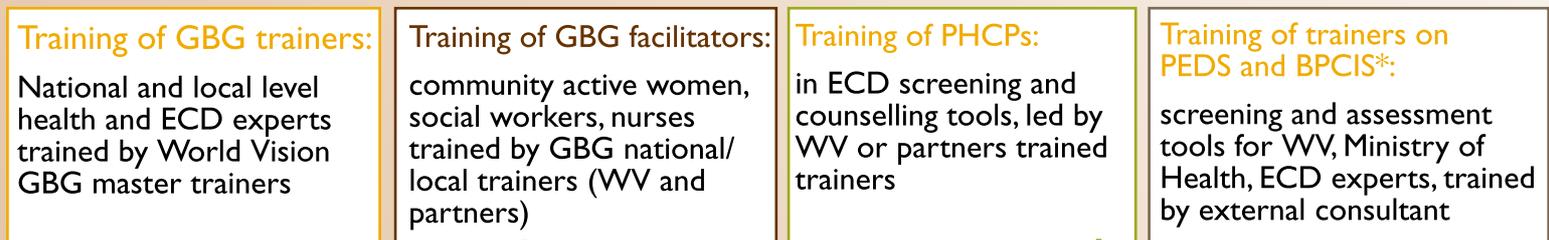


OUTPUT



ACTIVITY

# INTERVENTION PACKAGE



QUALITY

ASSURANCE

**Behaviour change communication** led by GBG facilitators:

- Six GBG sessions for mothers
- One GBG session for fathers and grandmothers each
- Public events competitions for mothers
- Distribution of public education materials

**ECD counselling, screening, assessment, referrals** led by PHCPs:

- Per "Well Child visits" national schedule
- Assessment conducted at research baseline and evaluation

\*PEDS - Parent Evaluation Development Status and BPCIS - Brigrance Parent-Child Interaction Scale

# RESULTS

WVA conducted a non-randomised intervention-control study in Gavar and Vardenis regions. WVA recruited all the 1,300 children under 23 months living in 43 communities. For 14 months the intervention communities received integrated GBG and MCHN interventions, while the control sites received the traditional MCHN package.

The analysis shows that children from the intervention arm had significantly better neurocognitive development compared to the control group. Using BSID-III<sup>10</sup>, Bailey total composite score<sup>11</sup> indicated that 71.4% of children in intervention arm versus 59.2% in control arm yielded over 85 in all 3 composite subscales.

This relationship became even stronger after accounting the effect of possible confounding factors in multivariate logistic regression model, showing that children in intervention arm had 83% higher odd of total composite score compared to children in control arm (aOR 1.83; 95% CI: 1.08-3.09; p=0.025).

Developmental outcomes	Control (n=130)		Intervention (n=140)		Univariate analysis			Multivariate analysis		
	N	(%)	N	(%)	OR	(95% CI)	P value	aOR	(95% CI)	P value
<b>Total composite<sup>1</sup></b>										
Lower	53	(40.8)	40	(28.6)	Ref			Ref		
Higher (at least 85 in all 3)	77	(59.2)	100	(71.4)	1.72	(1.04-2.86)	0.036	1.83	(1.08-3.09)	0.025
<b>Cognitive composite<sup>2</sup></b>										
Below 85	32	(24.6)	25	(17.9)	Ref			Ref		
85 and above	98	(75.4)	115	(82.1)	1.50	(0.83-2.71)	0.175	1.50	(0.83-2.71)	0.175
<b>Language composite<sup>3</sup></b>										
Below 85	22	(16.9)	18	(12.9)	Ref			Ref		
85 and above	108	(83.1)	122	(87.1)	1.38	(0.70-2.71)	0.349	1.68	(0.83-3.43)	0.151
<b>Motor composite<sup>4</sup></b>										
Below 85	32	(24.6)	27	(19.3)	Ref			Ref		
85 and above	98	(75.4)	113	(80.7)	1.36	(0.77-2.44)	0.291	1.36	(0.77-2.44)	0.291
<i>1 Total composite: adjusted for wealth score</i>					<i>3 language composite: adjusted for fuel, age and wealth score</i>					
<i>2 Cognitive composite: no co-variate to distort OR over 10%</i>					<i>4 Motor composite: no covariate to distort OR over 10%</i>					

Since the population of Gavar and Vardenis regions differed notably by socio-demographic characteristics, the analysis stratified by region helped to assess the effect of intervention per geographic variability. For Vardenis, with higher poverty rates, the effect size was even bigger, indicating the equalizer effect of the intervention on the total composite score, p=0.003. Language and motor composite scores were p=0.016 and p=0.013.

For child care and nutrition practices receiving minimum dietary diversity at the intervention site was 55% higher compared to the control, which was statistically significant after controlling for all possible confounding factors (aOR=1.55, 95%CI 1.10-2.19, p=0.013).

Likewise, the parents from the intervention communities demonstrated better child care/support for learning practices compared to the control sites (aOR=2.22, 95%CI 1.19-4.16, p=0.012).

Prevalence of stunting at the two arms were almost equal. There was no evidence of beneficial effect of intervention on child nutrition outcomes (adjusted OR 1.11; 95%CI: 0.83-1.48; p=0.501).

The violent discipline practice was comparable across the study arms, indicating no evidence of effectiveness. These can be interpreted by project short duration, lack of quality equipment for anthropometric data collection, validity of Multi-cluster Indicator Survey tool in Armenia context.

# CONCLUSIONS

The GBG integrated model, holistically addressing the key needs of 0-3 age children, such as ECD, health, nutrition, protection, has proved to be effective, especially on the most vulnerable children.

Most importantly, targeting parents as the primary custodians of child growth and development, enabled them to practice appropriate parenting (care, nutrition).

Building and capacitating of key community delivery platforms, such as community groups, social and health care system providers, facilitated the need-based behavior change communication and quality service provision.

The GBG model will further be validated at scale, and tested in emergency contexts for effectiveness.

10 Bailey Scales of Infant and Toddler Development-IIIrd version

11 Children achieving at least 85 in all three cognitive, language and motor composite scores.