

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.¹

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.²

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 per cent of adult size.³

This period is considered to be the 'power 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.⁴

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





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 and poverty can damage healthy brain development with lifelong negative impact on health, behaviour, learning and productivity.⁵

In Armenia many children do not reach their full development potential because of poor parenting behaviour and insufficient brain stimulation.⁶ Simple family interactions like playing, singing and reading with young children are not perceived as important for child care in a typical Armenian culture.⁷ 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)⁸ and anemia (44.6%)⁹ among children under five.

WHAT IS 'GO BABY GO'?

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 help them to promote young children's development and growth in a healthy, positive environment. The model also builds primary healthcare providers' skills and equips them with the resources for appropriate ECD screening, counselling, early detection and referrals.

According to the GBG model's theory of change, better child growth and development (e.g., prevented or reduced stunting; improved neurocognitive development) will result by improving knowledge and skills in promotion among CU3's parents and families, strengthening primary

healthcare providers' capacity in quality ECD counselling, screening for early identification of delays/deviations, all in conjunction with health promotion.

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 (examples include community active, educated women, social workers and nurses) and the primary healthcare cadres,
- behaviour change communication (group sessions) among CU3 parents and family members on integrated ECD, health, nutrition and child protection, and
- appropriate ECD counselling, 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.

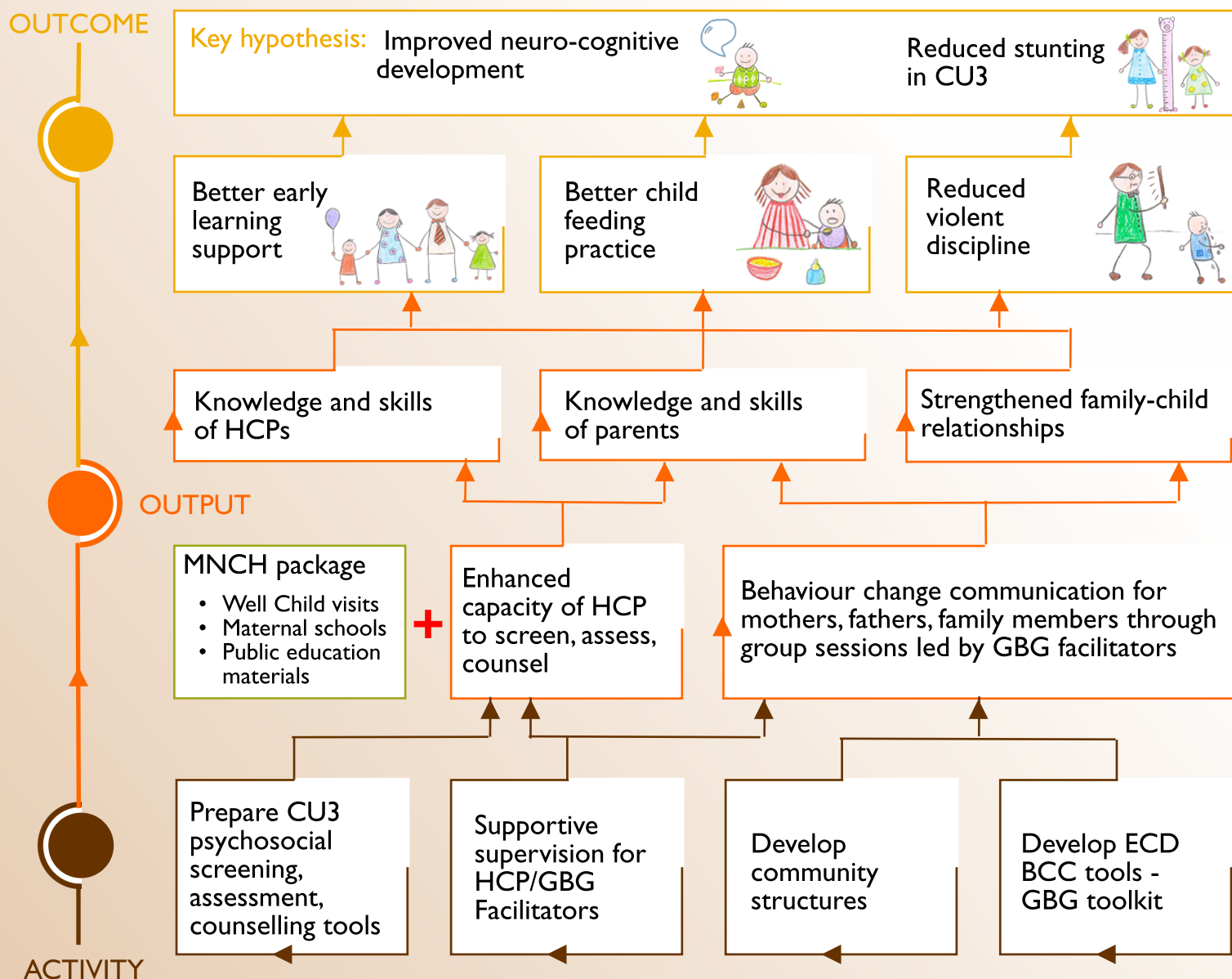
6 World Vision Armenia strategy baseline report. 2015

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

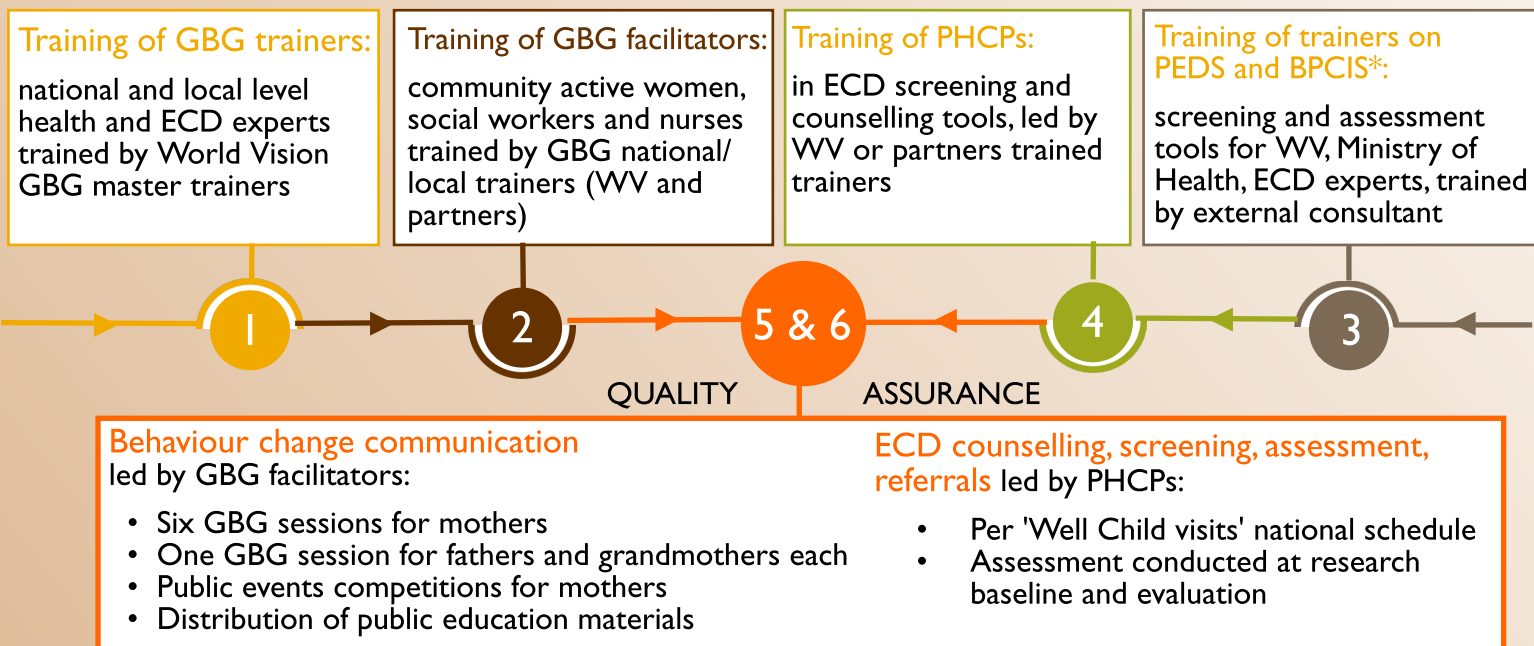
8 Armenia Demographic health survey 2010

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

RESULTS CHAIN



INTERVENTION PACKAGE



*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-III¹⁰, Bailey total composite score¹¹ indicated that 71.4 per cent of children in intervention arm versus 59.2 per cent 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 per cent 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
Total composite¹										
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
Cognitive composite²										
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
Language composite³										
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
Motor composite⁴										
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 per cent higher compared to the control, which was statistically significant after controlling for all possible confounding factors (aOR=1.55, 95 per cent 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 per cent 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 per cent 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 the project's 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, which holistically addresses the key needs of 0-3 age children, such as ECD, health, nutrition and 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 healthcare 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.