

Title: An Integrated Community-based Home Visitors Program improves Early Childhood Development in West Bank, the Occupied Palestinian Territory

Background and Rationale

World Health Organization's Nurturing Care Framework highlights five components of nurturing care for early childhood development (ECD): responsive caregiving, security and safety, opportunities for early learning, good health and adequate nutrition. The Palestinian Authority (PA)'s National Strategy for ECD and Intervention recognizes these needs and the service gaps in West Bank, especially at community level, where young children and their caregivers are at increased risks for toxic stress due to protracted military occupation, poverty, violence and restricted movement. There is a need to adapt existing approaches to reach mother-infant dyads at risk. Since 2010, World Vision (WV) have collaborated with the PA Ministry of Health (PA-MoH) to train female community health workers (CHWs) to deliver timed, behavioural change communication on health and nutrition for the First 1000 Days to pregnant (PWs) and postpartum women through scheduled home visits. This community-based approach is known as Timed and Targeted Counseling (ttC). Cognizant of the unmet needs for nurturing care, from 2017-19, WV tested "Enhanced ttC" (EttC) which integrated ttC with capacity building in early childhood stimulation (ECS) for caregivers and psychosocial support to mothers. WV subject matter experts provided additional training to female CHWs, who delivered EttC during scheduled home visits to PWs until their infants' first birthday. These CHWs were also trained to facilitate group sessions at the local clinic or community venues to reinforce caregiver capacity in ECS.

Methods:

Twenty-six communities (clusters) in Nablus, Salfet and Ramallah governorates were randomized to receive either ttC (Control Group) or EttC (Intervention Group). From April to June 2017, 469 PWs in their 2nd or 3rd trimester were assigned to the Intervention (n=238) or Control (n=231) arm based on village of residence, and received the group-specific service package through an average of 25-30 home visits from the CHW in their own community. Standardized questionnaires were administered, including health, nutrition, and childcare practices at baseline and endline for mother-infant dyads, maternal antenatal and postnatal attachment scales during pregnancy and after delivery respectively. Ages and Stages Questionnaires (ASQ-3) were used to assess child development at 2,4,6,8,10, and 12 months.

Analyses

To account for the cluster randomization design, intra-cluster correlation coefficients (ICCs) were calculated for each ASQ domain at each time point. A mixed linear model was applied because participants within a community (cluster) share more similarities than those from other communities. Mean ASQ scores for the Intervention and Control arms for each developmental domain and timepoint were adjusted using co-variates: maternal education level, fathers' work status, and sex of infant as fixed effects; community as random effect.

Results

At 12 months of age, the mean ASQ scores for 4 of the 5 developmental domains were higher in the Intervention Group than Control [Communications 59.5 vs 55.9, Personal Social 88.8 vs 79.0, Problem Solving 58.6 vs 52.8, Fine Motor 57.7 vs 53.1] ($p < 0.05$). The effect sizes of the Intervention on the developmental domains range from 0.4 to 0.8, compared with that of stand-alone ECD interventions which tend to range from 0.2-0.5. These results suggest that EttC has beneficial effects on 4 of the 5 developmental domains among infants during the first year of life. Further analysis is underway to examine the relationship between ASQ scores and measures of maternal attachment, and postnatal depression.