TESTING FEASIBILITY OF DELIVERING VITAMIN A TO NEWBORNS IN BANGLADESH’S HEALTH CARE SYSTEM

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ABSTRACT

Objective: To evaluate the feasibility of delivering vitamin A to newborns through two existing maternal and child health services in Bangladesh.

Methods: In 2010, two sub-districts in 3 districts were randomized to one of two newborn vitamin A supplement (NVAS) distribution strategies: (1) providing the NVAS and administration instructions to pregnant women during ANC visits so that the mother or family member could dose the newborn soon after birth (ANC model), and (2) having a health worker directly dose newborns during a post-natal visit [PNC model]. All intervention components (i.e. health worker training, vitamin A capsule supplies, delivery of education messages and birth notification) were implemented through the existing health infrastructure. Coverage achieved (as % of eligible children reached) was compared between the two delivery models.

Results: 57.4 % and 44.1 % of newborns were supplemented in ANC and PNC models, respectively. No serious side effects were reported.

Conclusion: Introducing newborn NVAS through existing public maternal and child health services may be feasible in Bangladesh. Larger implementation research studies are warranted.

BACKGROUND

• Newborn Vitamin A supplementation (NVAS) involves supplementing infants shortly after birth with a single dose (50,000 IU) of Vitamin A.

• The intervention has been tested in field trials in Bangladesh (Klemm et al., 2008), India (Rahmathullah et al., 2003) and Indonesia (Humphrey et al., 1996). Each trial reported a ≥15 percent reduction in infant mortality in the first six months of life.

OBJECTIVE

The objectives of this implementation research are to:

• Test the feasibility of integrating newborn Vitamin A supplementation within the existing government health services.

• Identify the platform, antenatal care or postnatal care, that is best suited for delivering NVAS (within 48 hours of birth) as measured by coverage.

• Evaluate the acceptability of NVAS in the community.

METHOD

• Two delivery models (ANC and PNC dosing) were designed based on in-country stakeholder consultations and implemented over a six month period in 2010 (Figures 1 and 2).

• Specially packed NVAS capsules were provided to the health system.

• Health workers were trained on NVAS dosing.

• Monitoring system to track supplies, dosing and knowledge, attitude and practices of care-givers and health workers was developed.

• Baseline and endline surveys to measure the proportion of newborns receiving NVAS capsules and the acceptability of NVAS by the community.

RESULT

• Health workers were willing to incorporate NVAS into ANC and PNC practices, and they were successful in dosing infants according to proper protocol.

• Training of health workers and delivery of behaviour change interventions through existing health systems was successful.

• Mothers and family members were fairly comfortable in dosing their child themselves.

• Overall, ANC model had higher dosing coverage (57.4 %) than PNC model (44.1 %) (Figure 3).

• Less than 1 % of care-givers reported side effects.

• Birth notification by mobile phone increased in both models.

• PNC visits increased from 32.4 % to 63.2 % as a result of integrating NVAS in the health system. ANC visits remained the same (59.7 % at baseline and 57.4 % at endline).

CONCLUSION

• Introducing newborn NVAS through existing public maternal and child health services at a larger scale may be feasible in Bangladesh.

• NVAS has high acceptability in the community - Mothers and health workers did not report serious problems with the programme or negative side effects that were not self-limiting.

• Mothers may feel more comfortable with a health worker dosing their infant, but higher coverage in the ANC model indicates that women take responsibility for ensuring supplementation when given a capsule at ANC.

• The NVAS programme, in both delivery models, significantly increased the coverage of PNC visits and birth notification by mobile phone.

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