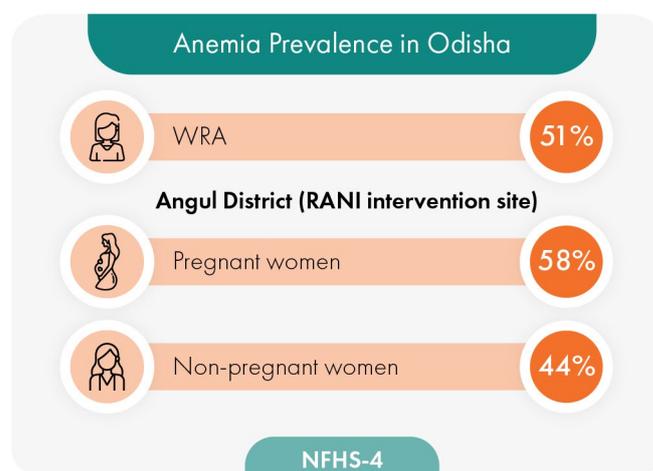


# The Reduction in Anemia through Normative Innovations (RANI) Project, Odisha

*With more than half of Women of Reproductive Age (WRA) anaemic in India, the Reduction in Anaemia through Normative Innovations (RANI) project was a randomised control trial conducted in the Angul district of Odisha to address anaemia by targeting positive social norms and thereby influencing IFA consumption among WRAs. This practice insight aims to capture the key methodology, approach, processes, and learnings from the RANI intervention that successfully reduced the rate of anaemia in the treatment arm by 13%.*

## Context

Despite concerted efforts by the Indian Government, uptake for Iron Folic Acid (IFA) supplements remains low and anemia prevalence high. RANI project in Odisha conducted a trial of a norms-based intervention to reduce anemia among WRA. The project was implemented in two blocks of Angul district of the state. The Randomized Control Trial (RCT) aimed to analyze if social norms-based intervention can increase the uptake of Iron supplement and iron rich foods to reduce anemia. The project was implemented with active collaboration of following partners: (a) Odisha Livelihood Mission (OLM) as the key implementation agency (b) The Health Department, that was involved in the procurement of IFA supplements, anemia testing machines, and testing kits.



## Objectives of the intervention

The project aimed at reducing anemia by 30% among adolescent girls and WRAs in Angul district by adopting the following:

- 1 Increasing awareness on anemia and its prevention through community awareness sessions, media demonstration, and periodic anemia testing
- 2 Improving access, uptake, and adherence to iron supplements for target groups (primarily WRAs and adolescents).

# Methodology

In the study design (Figure 1), a total of 89 clusters of villages were randomized into treatment and control on 1:1 basis. The treatment arm received the RANI intervention while control arm received the usual care. Out of 15 clusters (40-41 villages) a total of 4000 women (2000 in each arm) residing in the selected clusters were randomly chosen to take a part in the data collection process.

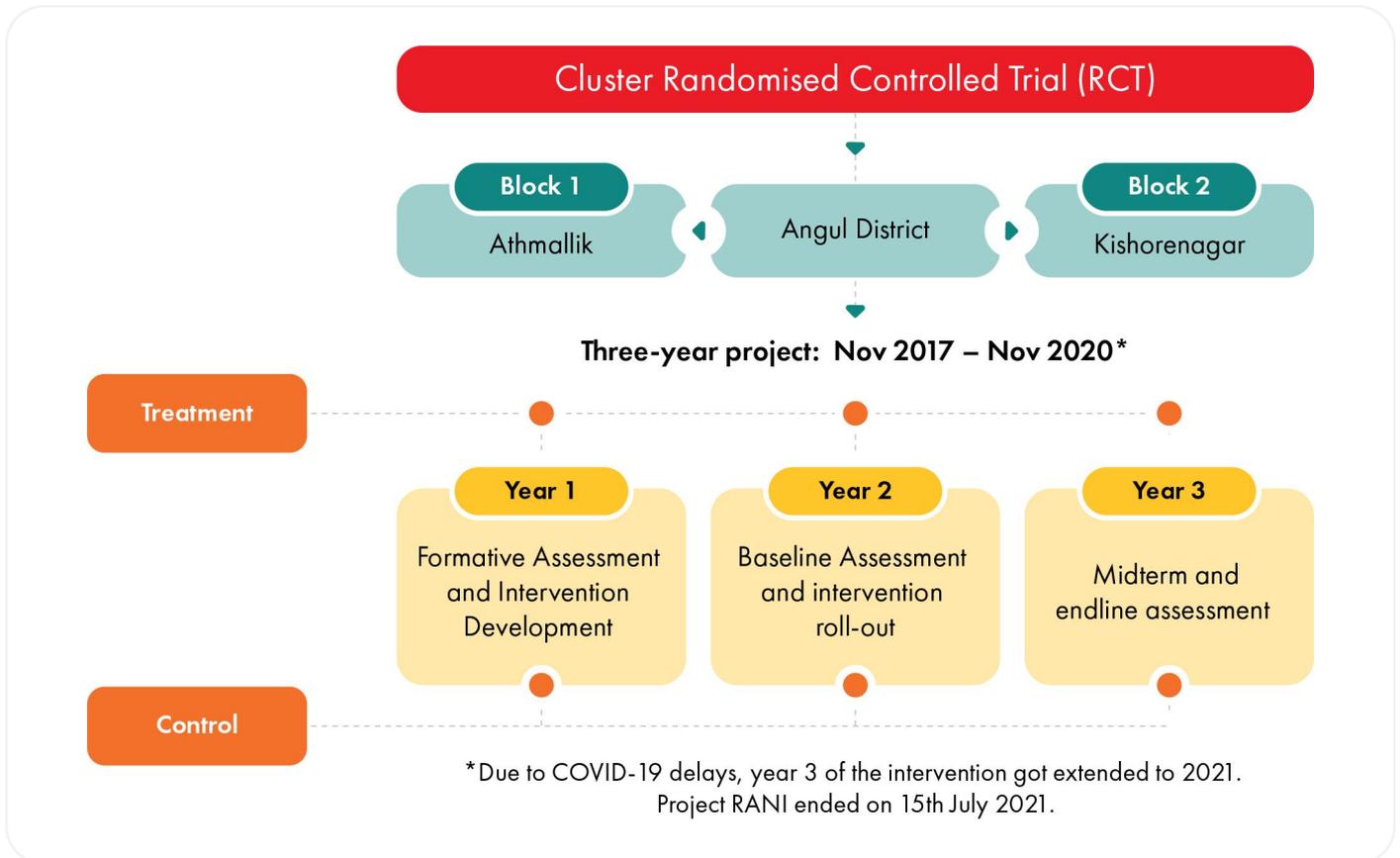


Figure 1: Study Design for RANI Intervention

The study also selected 300 non-pregnant women (150 in each arm) for additional physical activity and cognitive testing. The inclusion criterion was to have 15-49 years old women who is a resident of the village, speaks Odiya, and does not plan to move out of the village for next two years (as it was a longitudinal study).



## Approach of the intervention

### a Formative Research Protocol

To develop the RANI intervention, formative research was conducted to understand the barriers and facilitators of IFA use. The research comprised of having Focus Group Discussions (FGDs), key informant interviews, and perceptual mapping exercise. The study provided the following insights: (i) At *individual level*, many women did not have a clear understanding to anemia risk and the use of IFA (ii) At *interpersonal level*, women lacked decision-making where approval from referent groups (husbands and mother-in-law) played a major role in determining IFA consumption (iii) At the *community level*, there was a common perception around not prioritizing women's health. This influenced their ability to visit the Centre to get tested for anemia, and (iv) At the *policy level*, out-of-school girls and non-pregnant women were missed by the government practices of delivering IFA as health workers distributed IFA to pregnant women and adolescents.

### b Theory of Normative Social Behavior Change (TNSB)

Results of the formative study supported the RANI intervention to take place based on socio-ecological model. The intervention targeted social norms driving behavior of people in the community. Social norms are based on the idea that people change behaviors because others around them are following those behaviors, and they do not want to be left behind. The project focused on three types of social norms: **descriptive norms** (perceived prevalence of a behavior), **injunctive norms** (pressures people conform), and **collective norms** (actual prevalence of behavior) around IFA consumption. The overall theory of change followed by the intervention is depicted in Figure 2.

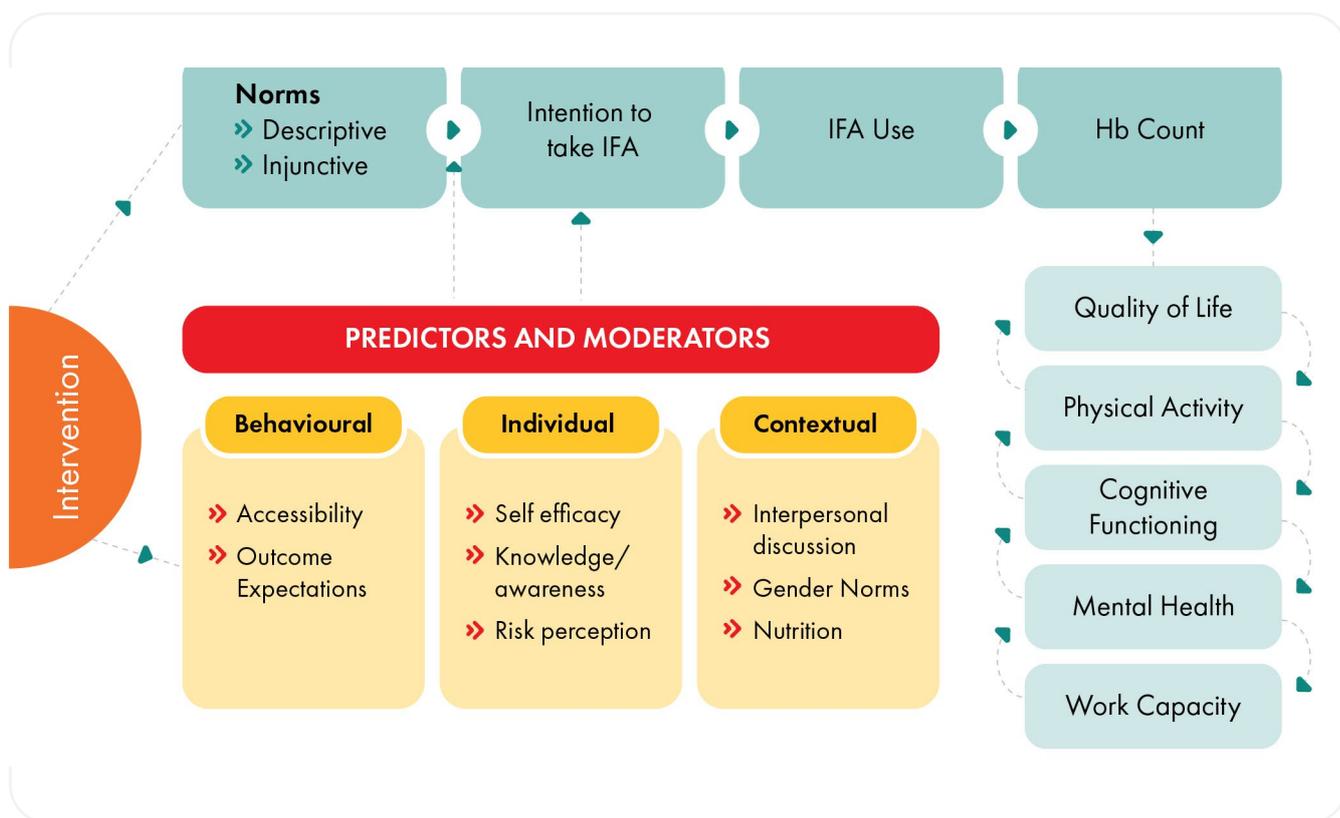


Figure 2: Theory of Change

Source: Yilma et. al BMC Public Health (2020)

Retrieved from: <https://bmcpublihealth.biomedcentral.com/articles/10.1186/s12889-020-8271-2>

Guided by TNSB, the uniqueness of the intervention rested not on entirely altering social norms but promoting positive social norms. The change was envisaged to flow from community to individual level by developing the behavior of peer learning and evaluation. It was based on the premise, when positive descriptive norms around IFA along with positive injunctive norms and risk perception with other psychosocial factors are associated with anemia and IFA, norms tend to translate in IFA consumption despite the existing barriers.

## Key Processes

Based on the level wise engagement in formative research, RANI intervention adopted the approach of introducing change at multiple levels: individual, interpersonal, and community. At the individual level, the intervention aimed at raising awareness and correcting self-perception around anemia and its associated risk. At the interpersonal level, social norms around IFA adoption and diet diversity to increase the iron absorption were focused on more. To work on descriptive norms, demonstration events at the community level were introduced where village level hemoglobin counts were graphically displayed and represented. Family members (mothers-in-law and husbands) of women were focused upon to work around the injunctive norms. Lastly, at the policy level, government engagement was intensified to ensure the execution of IFA guidelines, non-disrupted supply of IFA, and promoting demand-generation activities. On that note, RANI key intervention activities were planned as depicted below.

### Train, Tell, Test, Tweak (T4) Sessions

Monthly Participatory Learning Action (PLA) sessions and community engagement meetings were organised with WRAs, mothers-in-law, husbands, front line workers, and government officials. The mediums used were a mix of didactic learning and games related to anaemia prevention and its theoretical constructs. These sessions were expanded through vibrant community platforms like Self-Help Groups and Village, Health, and Nutrition Days which also became community-based monitoring mechanisms to maintain the adherence towards IFA consumption in the targeted set of beneficiaries.

RANI Comm contained disseminating locally shot videos shown in small groups on smart phones to WRAs, mothers-in-law, and husbands. By third year of the project, RANI comm was introduced as evening viewings on large projectors in each village. Each video highlighted the key messages around positive social norms and addressing myths that were identified during the formative research around anaemia and IFA consumption.

### RANI Comm

### Haemoglobin Testing and Demonstration

Fifteen women from each intervention village went through monthly haemoglobin testing and level of IFA consumption. The goal of this activity was to make it a mode of peer evaluation by integrating three types of feedback- ipsative (comparisons between community haemoglobin levels in the present and past), social (how two neighbouring communities are doing in contrast to participants' results at the individual group), and intervillage level (to trigger the demand of IFA uptake and consumption of iron rich foods).



RANI intervention made the hemoglobin testing distinct and interactive by proposing designed cards of different colors indicating the severity of anemia (green, yellow, orange, and red) along with behavioral stimuli to share the hemocue results. The target population was WRAs for testing and their families for conducting demonstrations.

As the intervention was adaptive and learning oriented, based on the feedback from field teams, reviews of process monitoring data, and discussions with the ground working units, macro and micro tweaks were introduced that were documented in a Micro-Tweak implementation tracker updated on monthly basis. Aggregated intervention data was the shared with field teams during the monthly review and planning meeting to generate feedback loops for making course corrections to the intervention.

## Key Outcomes

The findings of RANI show a definite change across the baseline, midterm, and endline evaluation based on the social norms' intervention activities integrated in the project. The indicators positively changed wherein a significant increase was recorded for IFA consumption (figure 3) and hemoglobin count (figure 4) in the treatment arm compared to the control arm.

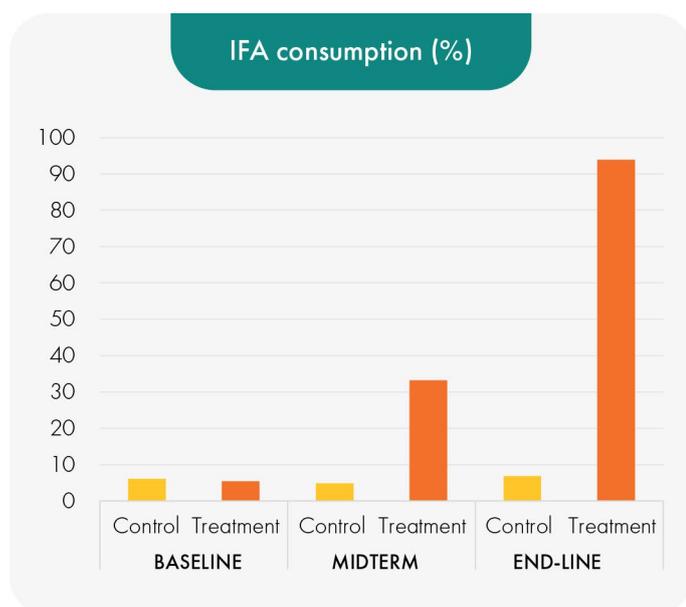


Figure 3: Change in IFA consumption across baseline, midterm, and endline findings

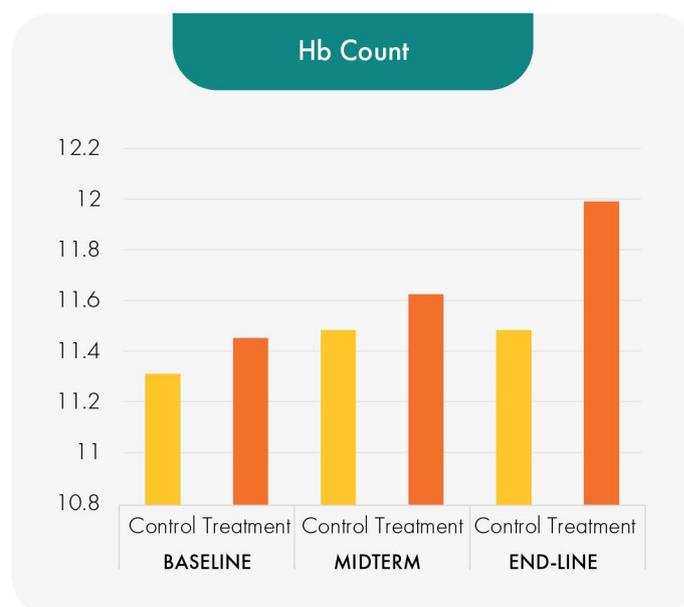


Figure 4: Change in Haemoglobin Count across baseline, midterm, and endline findings

Source for figures 3-4: RANI Topline Findings

Each intervention component was associated with higher IFA consumption, which in turn led to improvement in hemoglobin counts. Strongest influence was recorded through Hb testing, followed by the participation in the learning modules (Table 1).

Component	RANI's effect	Effect on IFA	Total effect size (on IFA)
Learning module	.94	.17	.16
Hb testing	.94	.41	.39
Videos	.95	.07	.07
Cooking demonstrations	.79	.05	.04
Home visits	.92	.07	.06

Table 1: Intervention components and their association with IFA consumption

**To measure the direct effect, exposure to RANI led to 13% reduction in anemia in the treatment arm of trial**

## Key Learnings

- 1 Project successfully influenced behavioral change as it leveraged local people as the champions of change. Team RANI was recruited from the beneficiary group itself. Thus, building community acceptance in addressing social norms was initiated from the team as first steps
- 2 Intervention initially addressed anemia through WRA as a target group, however, the project achieved its success when discussions expanded to men in the community. Anemia was eventually perceived as a common issue requiring cohesive community response
- 3 During the project, the initial rate of IFA uptake based on the supply was high. However, adherence to that behavior over a long period of time was low. Peer support model through Self-Help Groups was then channelized to establish community-based monitoring to maintain the adherence towards IFA consumption amongst the targeted beneficiaries
- 4 Community women learned about the progress of other women regarding the anaemia status through a visual colour code representation during the Hb testing. This helped in inculcating a sense of individual targets to be achieved until the next monthly test. Hb testing and demonstration thus paved a way for a peer mode of evaluation, making the intervention exclusive
- 5 Adopting a normative approach helped in generating spread of change at the community level and lead to a greater acceptance for the desired behaviour.

## Challenges

- 1 The onset of COVID-19 affected the tradition of having quarterly review meetings with the government functionaries both at block and district level. However, one-to-one meetings continued to happen
- 2 Maintaining a constant interest and engagement in the intervention activities was difficult as targeted participants were usually occupied with day-to-day agrarian tasks. This prevented them from attending regular T4 sessions. The FLWs and policy makers in villages emerged as key facilitators of RANI intervention activities to boost the motivation level of the community
- 3 Reaching and engaging men within the ambit of inequitable gender dynamics was a key barrier as the intervention focused on targeting social norms. However, in due course of the trial, community men became more responsive
- 4 Converting dormant IFA demand into an actionable demand using Hb test results as demand generation tool was another barrier. However, point of care delivery of IFA tablets by ASHAs during Hb testing sessions made the intervention more system driven.

## Sustainability and Scalability of the intervention

- 1 Anemia Mukht Bharat (AMB) already recommends Hb testing under Anemia Management Protocol. If done on a large scale, community based Hb testing is cost-effective. Project RANI just intensified the protocol by introducing peer mode of evaluation during the testing which is behavioural and requires minimal stationery costs to be covered
- 2 The social norms approach tapped the behavioural change by tweaking community perception. It makes the project sustainable because even if external partners withdraw from the community on completion of intervention, the change promoted in behaviour will keep the impetus stable as a self-practice followed by the community.

### An Innovative Case Study on Tackling Anemia among Adolescent Girls and Women of Reproductive Age (WRA) Group in Odisha

*Reproductive Age (WRA) Group in Odisha Reduction in Anaemia through Normative Innovations (RANI) project was a randomised control trial conducted in the Angul district of Odisha to address anaemia by targeting positive social norms and thereby influencing IFA consumption among WRAs. The intervention successfully reduced the rate of anaemia in the treatment arm by 13%. This document has been added as an Annexure to the Learning Compendium as an innovative case to add to the learnings on anemia control using normative approaches and, peer learning and evaluation.*

### Author: We Collaborate for Nutrition (WeCan)

WeCan (We Collaborate for Nutrition) is a national level platform to foster cross-learning within the nutrition community, to collaborate and to leverage each other's experiences. WeCan facilitates scaling up of proven interventions for optimal utilization of resources and time to improve nutrition outcomes in India. Our goal is aligned with the overarching mandate of POSHAN Abhiyaan, a multisectoral nutrition flagship program of the Government of India. We work with a special focus on Maternal, Infant and Young Child Nutrition (MIYCN) and its key thematic areas.

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