



INNOVATIONS IN DEVELOPMENT

COMMUNITY-RUN CENTERS IMPROVE NUTRITION FOR WOMEN AND CHILDREN

Andhra Pradesh Rural Poverty Reduction Project

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Community-Run Centers Improve Nutrition for Women and Children

Although India has seen strong economic growth over the past 20 years, childhood malnutrition rates have remained very high. The prevalence of malnutrition in children under five in India continues to be among the highest in the world – higher even than in Sub-Saharan Africa.

A pilot program carried out under the World Bank-supported Andhra Pradesh Rural Poverty Reduction Project has shown that community-managed Nutrition-Cum-Day Care Centers (NDCCs) can make a difference. Although it is too early to measure overall reductions in malnutrition levels, early indicators show that the NDCCs display promising potential to improve the nutritional status of pregnant and lactating women and their children in the long term.

A number of innovative aspects account for the pilot program's success. Foremost among these is the fact that, unlike current programs that are administered in a top-down manner, the NDCCs are community-driven, community-owned, and community-supervised. They have been built on the strong social infrastructure of Andhra Pradesh's women's self help groups (SHG), their village organizations, and federations

that has been established across the state over the past 16 years. With local women functioning as leaders, mentors, and trainers, the program has been able to gain wide acceptance within communities and scale up across the state with ease.

Unlike current programs that provide supplementary nutrition in the form of dry rations for the women to take home, the NDCCs provide pregnant and lactating women and their children under 2 with three cooked, well-balanced meals a day, ensuring that the food is indeed consumed by the beneficiaries themselves and not diverted to other family members.

The pilot program's other groundbreaking feature is that the centers get a one-time grant of ₹ 300,000 (US\$ 6,000 approx.), unlike other grant programs where resources are required year after year. Moreover, the cost of the meals is recovered in full, making the program financially sustainable over the long term. A number of measures have been adopted to reduce the costs of the meals. This is done by tying up with various government programs such as the Integrated Child Development Scheme (ICDS) and the Public Distribution System (PDS) to obtain supplementary nutrition powders and staples such as rice/

wheat, dal, and oil at subsidized prices; bulk purchasing dry rations such as pulses, oil etc. at lower prices through the women's SHGs; and using fresh produce from the centers' own community kitchen gardens. Profits from the other activities that are routinely undertaken by the SHGs, as well as interest income from the one-time grant, are also used to finance the cost of the meals.

One third of the cost of the meals is recovered from the women themselves. As a part of the SHG network, the women are helped to come together in groups to undertake safe livelihood activities so that they do not have to engage in manual labor to earn a living during this vulnerable period. These activities enable the women to earn about ₹800 to ₹1,000 a month, making it possible for even the poorest of the poor

to contribute towards the cost of their meals, as well as take home an income.

Since 2007, some 4,200 NDCCs have been established in villages across Andhra Pradesh, reaching some 220,800 women and young children so far. Many of the centers have been set up in areas which are home to predominantly disadvantaged communities, including tribal and fisherfolk groups. Some 1,100 centers are functioning in districts where left-wing extremists are active.

Similar pilots are also being implemented under World Bank-supported projects in Bihar, Chhattisgarh, Madhya Pradesh, Orissa and Tamil Nadu, and there are plans to replicate the model across the country under the National Rural Livelihood Mission.



Challenges

Poor health and nutrition are two of the greatest barriers to overcoming poverty. Young girls often enter their reproductive years in an undernourished condition, and a staggering 75 percent of them are anemic. National nutritional surveys show that the majority (60–80 percent) of India's poor, rural and socio-economically marginalized populations have a 20–40 percent shortfall in their protein-energy intake. This is even greater for pregnant and lactating women and young children. Expectant mothers put on less weight during pregnancy than they should - 5 kgs on average compared to the worldwide average of close to 10 kgs.

Malnutrition affects children's chances of survival as well as their cognitive and learning ability



Not surprisingly, almost one third of all babies in India are born with low birth weights, almost half of all children under 5 are chronically malnourished, and over 40 percent are stunted. Malnourished children are more susceptible to disease, have a reduced capacity to learn, and are much more likely to drop out of school. Once in the job market, their productivity is low. For the economy as a whole, this translates into losses of nearly 3 percent of GDP. All this places India's large young population – the basis of its much-awaited demographic dividend – at a growing disadvantage in today's globalizing world.

Evidence shows that most of the damage caused by malnutrition happens either when the child is in the womb or in the first two years of life. And most of the impairment to brain development and future productivity in these early months of life is irreversible. Unfortunately, communities have by and large seen little value in improving nutrition, especially for this vulnerable group.

Currently, programs that provide supplementary nutrition to pregnant and lactating women and their children meet with limited success. Other programs, for example those that provide ready-to-use therapeutic food for severely malnourished children, while useful in themselves, have had little long-term impact. They neither address the root of the problem nor the intergenerational nature of malnutrition.

The Society for the Elimination of Rural Poverty (SERP), under the World Bank-supported Andhra Pradesh Rural Poverty Reduction Project, has been working with women's self help groups in Andhra Pradesh since 2000. As part of SERP's comprehensive development strategy, it has collaborated with these groups to improve the health of rural women and children. In 2007, it introduced the concept of community-managed Nutrition-cum-Day Care Centers (NDCCs) and piloted these centers in a few villages in each district of the state.

Nutrition-cum-Day Care Centers

The NDCC model provides complete nutrition for pregnant and lactating women from the poor and the poorest of the poor families, and their children under 2 years of age (under 5 in tribal areas, where access to other services is limited). In a radical departure from the top-down Integrated Child Development Scheme (ICDS) model, the centers are community-owned and community-managed. The centers seek to ensure:

- Healthy weight gain during pregnancy.
- Complete antenatal care for all pregnant women.
- No low birth-weight babies.
- Complete postnatal care for mothers and immunizations for children.
- Complete uptake of newborn care practices (colostrum feeding, delayed bathing, immediate wrapping, exclusive breastfeeding for 6 months, provision of proper weaning foods after 6 months).
- No stunted (low height for age) or wasted (low weight for height) children.
- Increased awareness of healthy behavior and nutritious eating practices.
- Repayment for services received at the NDCC by all beneficiaries.

To achieve these objectives, the NDCCs provide the women and children who join the program with three complete meals a day. Unlike the ICDS, which provides supplementary foods to pregnant and lactating women to take home, the women and children enrolled at the NDCCs eat cooked meals at the centers' own premises. The cooks, who belong to local communities, are trained in nutrition at the Home Science College in Hyderabad. The meals ensure that the women receive essential nutrients which are often missing in their meals at home, that primarily consist of rice, 'rasam' (a thin soup of tomato and tamarind), a small amount of vegetables, and occasionally some dal (pulses). By contrast, meals at the NDCC include nutrient-rich foods such as locally available millets, as well as substantial servings of green leafy vegetables to ensure the adequate intake of iron.

Meal Costs Met in Full

To ensure the program's long-term financial viability, meal costs are met in full. For instance, a number of measures are taken to reduce the cost of the meals. SHG activities also generate funds to meet a part of the meal costs. In addition, the women who participate in the program are provided with safe livelihood opportunities that enable them to earn as well as contribute about a third of the cost of their meals:

- **Benefits available under government health and nutrition services are used:** The NDCCs save on the costs of the meals by dovetailing their activities with those of ongoing government programs. For example, they obtain supplementary nutritional powders or basic staples such

as rice, dal, and oil from the ICDS and the PDS. In November 2011, the Government of Andhra Pradesh issued a government order to provide supplementary foods directly to the NDCCs for all the ICDS beneficiaries enrolled in their program, instead of giving them take-home rations.

- **Vegetables are grown in community kitchen gardens:** The costs of the meals are further reduced by using produce from local community kitchen gardens set up by the NDCCs - particularly the vegetables and millets that are rich in micronutrients. A spin-off benefit of these kitchen gardens has been that local households have begun to diversify and improve their overall diets.
- **Funds are raised through a number of SHG activities:** SHG members also help

Pregnant women and their children are provided three cooked, well balanced meals a day



generate income for the NDCCs through a number of measures. For instance, once a month they buy basic food items in bulk from the wholesale market and sell food baskets to rural households at prices that are lower than the local market, earning some ₹5000–6000 per month. Village organizations lease out common lands for the creation of kitchen gardens and plant nurseries under the National Rural Employment Guarantee Scheme (NREGS). They also receive a fee whenever they depute NDCC office bearers to train staff at new centers. Earnings from these and other activities are used to fund NDCC expenses.

- **Safe livelihood opportunities enable the women to earn and pay:** In an innovative measure, the program has made use of the managerial capacity and the credit

management expertise of the SHG network to provide pregnant and lactating women with safe livelihood activities to enable them to pay a part of the cost of their meals. The women get together in groups to undertake light work such as the packaging of spices, deseeding tamarind, making leaf plates, preparing savories, etc. These activities not only give the women the opportunity to earn some ₹40–50 a day, they also provide them with much-needed alternatives to manual labor jobs since physically taxing work is one of the major causes of deaths, untimely abortions and complications during pregnancy. The women are thus able to contribute ₹10 a day towards part of the cost of their meals and take home the rest as earnings, enabling even the poorest of the poor to join the program. Mothers are free

Fresh produce from community kitchen gardens helps reduce the cost of the meals



to work since their children are allowed to stay on at the centre during the day in the care of an SHG member.

Typically, the daily cost of the meals at the NDCC is met as follows:

| | Rupees a Day |
|--|---------------------|
| Member Contribution | 10 |
| SHG Income Generating Activities | 10 |
| Interest on Corpus | 5 |
| Profits from Village Organization's Activities | 5 |
| Dovetailing with ICDS/PDS | 5 |
| Total Cost | ₹35 |

Good Health Beyond Pregnancy

After the birth of their babies, the women continue to be members of the NDCC for up to a year. To ensure that the benefits of the program are sustained, the women are trained in good

Safe livelihood activities help the women earn



practices for feeding their infants and young children. Once every two weeks, the mothers get together to prepare weaning foods to complement breastfeeding. These foods combine powdered cereals (such as rice or wheat) with pulses and oilseeds (such as ground nuts or gingelly) as well as 'jaggery' or unrefined sugar to boost the child's nutrition. Once the women complete the NDCC program, they continue to be members of the SHG and are routinely exposed to health and nutrition messages during weekly meetings.

Apart from providing meals, the NDCCs serve as focal points for health education and behavior change among poor rural communities. A health activist, a woman from the community who is trained in maternal and child health issues, helps convince pregnant and lactating women to join the program – an intensive process which frequently entails convincing the mothers-in-law and husbands who are the key decision makers

Mothers are trained in good feeding practices



in most village families. Often, these activists have suffered during their own pregnancies as a result of which they speak with greater conviction. In addition to teaching the women about nutrition, these activists serve as facilitators, helping the women and children access the routine health services and benefits that are due to them under various government programs.

The NDCCs ensure that their members attend the Nutrition and Health Days which are held twice a month under the aegis of other government programs. During these days, functionaries from the government's health department, including the village ASHA¹ and the Auxiliary Nurse Midwife (ANM), as well as members of the health committees of the SHGs, impart health education and counseling to the community.

¹ The ASHA or Accredited Social Health Activist is a trained female community health worker who is selected from the village itself and is accountable to it. The ASHA plays a key role under the National Rural Health Mission and is trained to work as an interface between the community and the public health system.

Community-Driven Initiative

A key feature of the program is its social sustainability. Being a community-led, community-owned and community-supervised initiative with local women as leaders, trainers and mentors, the NDCC model not only remains sensitive to the cultural needs and preferences of local communities, but also becomes inherently self-sustaining. This is because it is the local women who have successfully held positions at the NDCCs who are the ones to train new staff whenever another center is set up - with minimal input and technical oversight by the project authorities. In fact, it is these community resource persons who form the backbone of the intervention, and it is through their expertise that the model has been able to scale up across the state with ease.

Women learn the importance of nutrition and healthy behavior



Mothers are taught how to prepare nutritious weaning foods

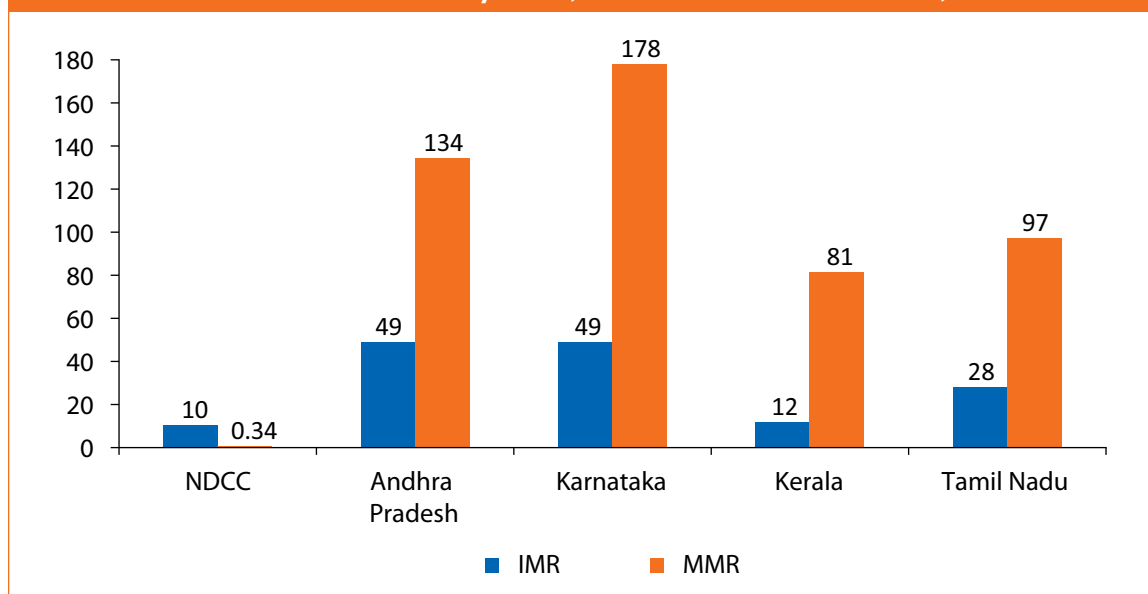


Although it is too early to measure impact indicators such as reduction in child malnutrition levels, outcome indicators show that the NDCCs have the potential to improve the nutritional status of women and children in the long term. According to the MIS of the program, the infant mortality rate over the 13,300 births to women who attended NDCCs in 2007–2011 was 10 per 1,000 live births compared to 49 for Andhra Pradesh as a whole, and maternal mortality was 0.34 per 100,000 live births compared to 134 for

the state (Chart 1). Other indicators were also considerably better (Chart 2).

The phased establishment of the community-managed NDCCs across districts made it possible to compare between pilot and non-pilot villages. A study conducted in 2008–2009 by an independent non-profit research group in 500 villages in eight districts showed that maternal health outcomes amongst NDCC beneficiaries were all better than among non-beneficiaries (Chart 3).

Chart 1: Infant and Maternal Mortality Rates, NDCCs and Southern States, 2007–11



Note: IMR: Number of deaths of children under one year of age per 1,000 live births.

MMR: Number of maternal deaths per 100,000 live births.

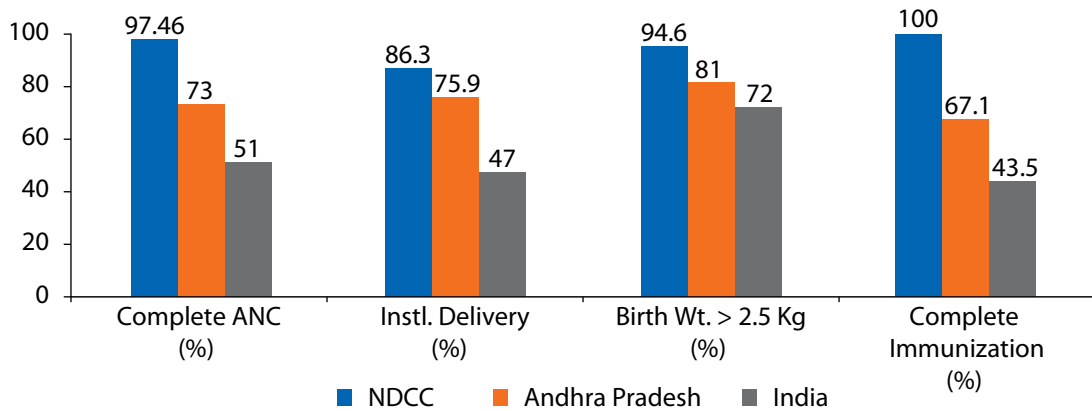
NDCC data cover 13,300 births for 4,200 NDCCs in 22 districts (2007–11). MMR data have been extrapolated.

Sources: NDCC data: Program MIS. State data: Sample Registration Survey (IMR: 2009, MMR: 2007–09).

http://www.censusindia.gov.in/vital_statistics/SRS_Bulletins/SRS%20Bulletin%20-%20January%202011.pdf

http://www.censusindia.gov.in/vital_statistics/SRS_Bulletins/Final-MMR%20Bulletin-2007-09_070711.pdf

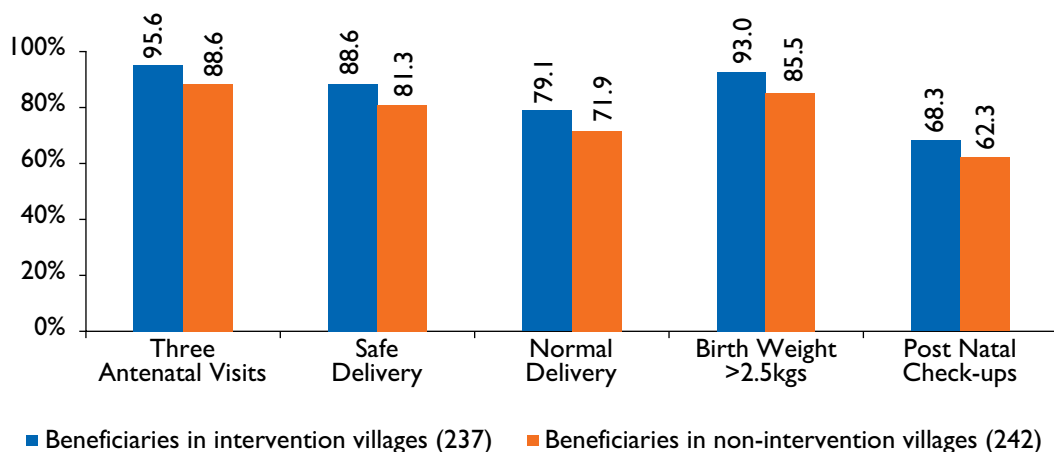
Chart 2: Maternal and Child Care Indicators, 2007-11



Note: ANC: Antenatal Care.

Sources: NDCC data: Program MIS. AP and India data: Antenatal Care, Institutional Deliveries, and Birth Weight from UNICEF (http://www.unicef.org/infobycountry/india_statistics.html); Immunization: Indian Academy of Pediatrics Committee on Immunization 2009-11, IAP Guide Book on Immunization (NHFS 2005-06 data) (<http://www.indg.in/health/child-health/IAP%20GUIDE%20BOOK%20ON%20IMMUNIZATION%202009-2011.pdf>).

Chart 3: Maternal Health Outcomes, 2008-09



Note: In both intervention and non-intervention villages, universal health activities such as fixed Nutrition and Health Days and training of SHG members in health matters regularly took place.

Source: Society for Human Rights and Social Development (May 2009). An Assessment of Early Outcomes of Health and Nutrition Pilot in IKP. Andhra Pradesh Rural Poverty Reduction Program Summary Report.

The first NDCCs were set up in 2007. Since then, these centers have been established in 4,200 villages across Andhra Pradesh, reaching some 220,800 women and young children (Chart 4). Many of the centers have been set up in areas which are home to predominantly disadvantaged communities, including tribal and fisherfolk groups. Some 1,100 centers are functioning in districts where left-wing extremist are active.

The NDCC model has evolved over time. Livelihood activities for the women were introduced in 2009 to provide alternatives to taxing labor-based livelihoods during pregnancy and lactation. Community kitchen gardens were set up a year later when it was found that nutritious vegetables such as leafy greens were not easily available in local markets. Many of these new ideas came from the grassroots communities themselves. Going forward, the program will be expanded in several directions:

Many new ideas have been generated by rural communities



In Andhra Pradesh

The Government of Andhra Pradesh plans to open NDCCs in all the tribal villages in the state by 2014–15. The National Rural Health Mission will fund part of the expansion by providing the one-time grant of ₹ 300,000 per center. The resources needed for the capacity building of village NDCC teams in the first two years of operation are being identified. Further, it is proposed to include adolescent girls in the program to ensure that they receive the right nutrition in their critical growing years. It is also planned to broaden the livelihood opportunities available to the women at the NDCCs by tying up with the National Rural Employment Guarantee Scheme (NREGS). NREGS guarantees 100 days of employment every year to adult members of rural households willing to do unskilled manual work at the statutory minimum wage notified for the scheme. Under NREGS, only light work such as raising and tending plant nurseries etc. has been specified for pregnant

Adolescent girls will now be included in the program



and lactating women. Efforts are continuing to integrate NDCC services with those provided under various other programs.

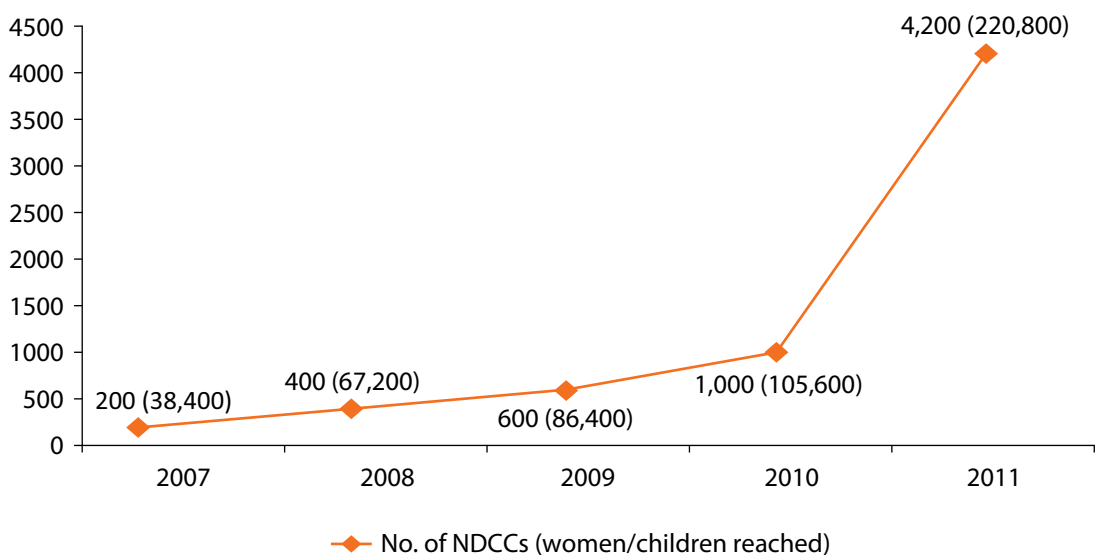
At the National Level

At the national level, similar pilots are currently underway in World Bank-supported projects in Bihar, Chhattisgarh, Madhya Pradesh, Orissa and Tamil Nadu. The Government of India is working on a dedicated National Nutrition Mission to reform the ICDS, and the NDCC approach is one of the ideas being considered for replication. As this approach requires well-developed managerial capacity among communities, as well as the institutional architecture and the credit management expertise of the SHGs, it is expected that the National Rural

Livelihood Mission (NRLM) – which focuses on developing strong community-based institutions – will lay the foundation for the expansion of these centers to other parts of the country.

“Sustainable solutions emerge when the people themselves develop them, own them and manage them. That is why community-managed models have a higher chance of succeeding,” says Lakshmi Durga Chava, Director, Community Managed Health and Nutrition, Society for Elimination of Rural Poverty (SERP), Andhra Pradesh. *“After working closely on the project for the past 10 years, I am convinced that it is neither the public nor the private sector that can deliver services to the last mile. Rather, it is the poor people themselves who, if trained and empowered, are the best able to do so.”*

Chart 4: Expansion of NDCCs, 2007–11



Source: Program MIS.



Voices from the Ground

Married at 16, Sudha Ratna worked as a farm hand alongside her husband, eating meals of just rice and chilli powder twice a day. Malnourished from the start, she bore two children in quick succession; both were underweight and anemic. While her son died within a year of his birth, her daughter remained sickly.

Sidelined by her husband's family because of her constant medical expenses, Sudha Ratna volunteered to become a health activist in her local self help group in Chittoor district. Here, she earned ₹ 200 a month for taking pregnant women and lactating mothers for check-ups to the Auxillary Nurse Midwife (ANM) when she visited the village once a month.

Having suffered during her pregnancies, Sudha Ratna worked hard to set up a Nutrition-cum-Day Care Center (NDCC) for the other women in her village, although she had to overcome strong caste differences within the community to do so. "At the NDCC, I keep track of the pregnant women's health," she explains. "I note down whether they have had any abortions, how much weight they have gained during their pregnancy, are their babies growing well in the womb, and does the doctor expect a case of difficult labor."

Once the babies are born, Sudha Ratna weighs them regularly and compares their growth with those who are not enrolled. "I also ensure that the women learn the methods of cooking that can best retain the nutrients in the food – which are followed at the centers," she says.

Because women's health is affected by a number of factors other than physiology - such as by social norms and family relationships – Sudha Ratna's work forms part of a wider range of activities carried out by the self help groups to improve women's status within the household and in society.

For instance, as part of their strong community outreach program, Social Action Committees run Family Counseling Centers that help convince rural families to delay the marriage of their daughters till their bodies are mature enough for childbirth.

"All too often, girls are married off by the time they are 13 or 14 years of age, and become mothers by the age of 16 or 17. This affects their own health as well as that of their babies, in a vicious cycle that goes on through the generations," says Shailaja, a health activist from Warangal district.

The counselors also try to counter prevailing social norms whereby food is unequally distributed among family members. "A custom among poor rural families is to feed the male head of the family first, followed by his parents, then the sons, with any left-over food being kept for the girl children and the wife, even if she is pregnant or breast feeding a young baby," adds Venkat Satya, a health activist from Vishakhapatnam district. Counselors therefore explain to the decision-makers in the families that their medical expenses will be markedly reduced if they ensure that food is equally distributed among all. Also, by taking care of the girl children and their wives, they will be able to ensure the well-being of future generations.

"The counseling centers don't hesitate to take up difficult issues either," Venkat Satya says. "This includes matters such as frequent drinking by the men, as this reduces the money available for food for the family. It also frequently leads to domestic violence, which in turn affects the woman's ability to give birth to a healthy child."

Although changing societal attitudes to gender issues takes time, the women are confident that their efforts to improve nutrition for the women and children of their communities are making an important difference.

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