CHAPTER 1: INTRODUCTION

Globally, undernutrition contributes to nearly 35%, i.e. three million deaths of children under five years of age (Black et al. 2008). The National Family Health Survey (NHFS) – 3, 2005-06 shows that 40.4% of children under three years of age are underweight in India (NFHS-3 2007).

Child malnutrition is mostly the result of inappropriate infant and young child feeding and caring practices, and has its origins almost entirely in the first two years of life (Shrimpton et al. 2001). It has been established that early childhood nutrition is the single most important child survival intervention (Bhutta et al. 2008). Of the available interventions, counseling on breastfeeding has the greatest potential to reduce the burden of childhood morbidity and mortality. Also, improvement of complementary feeding practices through strategies, such as counseling about nutrition for food-secure populations could substantially reduce stunting and related burden of disease (Bhutta et al. 2008).

The national guidelines on infant and young child feeding practices (IYCF) recommends; early initiation of breastfeeding (EIBF) within 1 hour of birth, exclusive breastfeeding (EBF) for the first six month of life, followed by continued breastfeeding for up to 2 years and beyond with adequate complementary food, as the most appropriate feeding strategy for infants and young children (Tiwari et al. 2010). Translating the optimal IYCF practices to coverage of 90% is estimated to contribute to 19% reduction in the deaths of children under five years i.e., saving about 450,000 under five years deaths in a country like India (Jones et al. 2003, BPNI Bulletin 2006).

The 11th Five-Year Plan vision for malnutrition reduction also incorporates, improving home child care practices, including IYCF and care practices for newborns through enhanced EIBF, EBF and complementary feeding (CF) (GOI 2007).

The persistent high levels of child undernutrition in India are the consequences of a complex interaction of basic, underlying and immediate factors as given in the theoretical frameworks of Mosley and Chen (1984) and UNICEF (1990). While any single intervention cannot address such a complexity of determinants, India depends heavily on the package of services provided by Integrated Child Development Services (ICDS) to address the immediate causes of undernutrition, namely, inadequate dietary intake and childhood infection. ICDS is thus, a well designed intervention and is an appropriate response to the problem of undernutrition in India (Gragnolati et al. 2006).
Introduction

India’s Integrated Child Development Services (ICDS) programme was established in 1975 and is the world’s largest early child development programme. The programme approaches child health holistically and comprises health, nutrition, and education components for pregnant women, lactating mothers, and children under-six years of age. The programme is implemented through a network of community-level Anganwadi centers. The range of services targeted at young children and their mothers include growth monitoring, immunization, health check-ups, and supplementary feeding, as well as nutrition and health education to improve the childcare and feeding practices that mothers adopt. Preschool education is provided to children between three and six years of age (http://wcd.nic.in/icds.htm).

Promotion of community based optimal IYCF practices is one of the components of the ICDS programme in India, in which the ICDS Anganwadi workers (AWWs) and their Supervisors, need to play a vital role.

Further, globally and especially in India, Growth Monitoring and Promotion (GMP) is widely used as a community based tool for child survival. The use of growth monitoring extends beyond problem detection; it has been used to provide a basis for communicating with mothers on child health and nutrition by stimulating the thinking about the causes of poor growth and malnutrition (ACC/SCN 1990a).

Growth monitoring (GM) is the process of tracking the growth rate of a child in comparison to a standard by periodic anthropometric measurements in order to assess growth adequacy and identify faltering at early stages. Assessing growth at regular intervals allows capturing growth faltering before the child reaches the status of undernutrition and makes it possible to take quick corrective action (UNICEF 2008).

GMP is a prevention activity that uses growth monitoring, i.e. measuring and interpreting growth, to facilitate communication and interaction with caregivers and to generate adequate action to promote child growth (UNICEF 2007a).

Conceptually, effective GMP program should ensure early detection of growth faltering, appropriate counseling and increase contact with health services leading to improved nutritional status and reduced morbidity and mortality (UNICEF 2008). The quality of implementation of GMP depends on five main activities linked with it which are (1) weighing accurately; (2) plotting on a growth chart; (3) interpreting the growth curve; (4) discussing options with the caregivers and agreeing on future action; and (5) evaluating the child’s response (Ashworth et al. 2008). This process must include the active engagement of the caregiver in problem-solving about the child’s growth. These conditions can best be met in the community setting, and have the best
Introduction

opportunity for producing results at a public health level if they reach all children in the age group of 0-24 months (mo.) in a defined catchment area. GMP sessions should be linked to other health services in community and be designed to have an effective system in place to refer children to health services when needed. The GMP process may also be possible in a clinic setting (UNICEF 2007a).

The objective of GMP is to determine inadequate growth early enough and undertake actions to prevent further faltering before the child reaches a status of undernutrition; hence it is primarily a preventive and promotive activity. The expected outcomes of GMP are (UNICEF 2007a):

- Heightened awareness of the importance of caregiver practices for adequate growth and the link between adequate growth and child health
- Increased knowledge and skills and subsequent improved child feeding and health care practices by caregivers
- Increased coverage of particular health services, if they are offered along with it
- Improved care-seeking/utilization of services when these are promoted/supported through the GMP counseling.

However, it is important to note that child anthropometric measurements for assessing nutritional status are not GM or GMP. Periodic measurements at appropriate intervals are crucial to the GMP concept and assessment of nutritional status even at a quarterly or biannual rate does not have the ability to capture growth faltering and prevent undernutrition. GM and GMP thus should not be considered a surveillance, or just to be merely used to determine levels of undernutrition to decide on eligibility for the correction of poor nutritional status (e.g. food supplementation, therapeutic feeding, etc). When GM information is not used to inform the education and promotion element of an intervention then it is not GMP; both the monitoring of growth and using that growth information in counseling are essential to GMP. It is important to emphasize that the GMP periodic measurements and counseling are primarily considered as preventive activity ensuring that the growth faltering is caught early enough so as not to reach the status of undernutrition. However, the framework of GMP may catch also children at different stages of undernutrition and refer to relevant services for additional interventions (UNICEF 2007a).

GMP alone is not a program or comprehensive intervention to address established undernutrition, but is an important activity that can be built on to become a basis for comprehensive community nutrition interventions and programs based on thorough causal analysis of undernutrition. In order to reduce undernutrition rates in the community, these community nutrition programs could be designed with GMP as an
entry-point or platform and as a continuous monitoring tool. Thus, GMP will continue to serve as a preventive and promotional measure, and will facilitate the building of a community nutrition program. In addressing the full spectrum of malnutrition (i.e. under- and over-nutrition), the role of GMP in capturing over-nutrition especially through the use of new WHO standards needs to be further explored (UNICEF 2007a).

Even though simple in concept there are abundant difficulties with GMP and, as a result only 20% (35/178) countries contacted in 1998–2000 reported having no problems with the use of growth charts (de Onis et al. 2004), which is similar to the proportion (22%) reported in 1978 among health personnel contacted in 50 countries (O’Brien 1978).

The GMP issues with ICDS of India are no different than this. Incorrect weighing and plotting (Kapil et al. 1996), failure to identify children with growth faltering and lack of nutrition counseling have been reported (Gopaldas 1988, Lalitha and Standley 1988 and Gopaldas et al. 1990) resulting in no impact on weight for age or morbidity (Kapil et al. 1996, Lalitha and Standley 1988).

Studies of various GMP programs have shown that inadequate training of health workers; especially in equipping and enabling them to provide effective counseling have been identified as a very important contributing factor to poor quality of implementation (Karim et al. 1994, Kapil et al. 1996, Marek et al. 1999).

To be effective in reducing child malnutrition and mortality, GMP (Ashworth et al. 2008);

- Must be accompanied by community-based health and nutrition interventions
- Should prioritize infants and children aged 0-18 months.
- Utilize all child health contacts for nutrition counseling
- Improve training, supervision and support for health workers.

The impact of any program is dependent on coverage, intensity of contact, frontline worker performance, and adequacy of resources. Training, supervision and support for workers must be improved if they are to be effective counselors in growth promotion programme (Ashworth et al. 2008).

The 11th Five-Year Plan recommends, weighing of all children under-three years at the Anganwadi centre (AWC) and counselling their mothers as a key coverage, as well as service quality indicator (GOI 2007).

Although ICDS coverage is fairly high, from the 84% of children under-six years in Gujarat who are in areas covered by an Anganwadi centre, a little more than two-fifth (44%) receive services of some kind from a centre (NFHS-3 Gujarat 2008).
Introduction

Also, the current ICDS training system appears to be quite divorced from field reality and practitioner experience. Building more lively and effective training programmes, linked with ground realities, would require building crucial linkages between training, programme implementation and review, and child development knowledge and practice” (GOI 2007).

In Gujarat, the prevalence of 41.1% underweight, 49.2% stunting and 19.7% wasting, among children under three years, clearly indicates that the poor feeding practices is the primary reason for the high level of malnutrition (NFHS-3 2007). As per the District Level Household and Facility Survey (DLHS) – 3, 2007-08 for Gujarat, only 19.5% children 6-24 months met all the three criteria of optimal IYCF feeding i.e. children 6-24 mo. who were, breastfed within 1 hour of birth, exclusively breastfed for six months, and presently receiving solid and semi-solid food (DLHS-3 2010).

As a result, in the year 2007, for converging the services of ICDS and RCH under one umbrella, the strategy of MAMTA Abhiyan was launched by the Government of Gujarat with additional focus on:

- universal coverage for growth monitoring and promotion for children,
- preventive health services to women and children
- nutrition counseling and follow-up of children with faltering growth

MAMTA Divas, also known as “Village Health and Nutrition Day”, is the key activity of MAMTA Abhiyan which is observed on the fixed day of immunization sessions across the state. The major focus of MAMTA DAY (Village Health and Nutrition Day - VHND) is GMP and counseling on IYCF practices which are expected to bring about change in the IYCF practices of parents and caregivers and eventually prevention and reduction in malnutrition.

Previous studies have shown that effective educational interventions such as group training, individual counselling and interpersonal communication can change caretakers’ feeding behaviors, thereby enhancing children’s dietary intake and growth (Guldan et al. 2000, Salehi et al. 2004, Kilaru et al. 2005, Penny et al. 2005, Roy et al. 2005).

A search of the literature, however, showed that there is dearth of data on the role ICDS can play in promoting and improving appropriate IYCF practices. As mentioned earlier, appropriate IYCF practices can play a key role in reducing undernutrition. A key function of the ICDS AWWs is imparting Nutrition Health Education and counseling the mothers of young children on feeding practices and was envisaged as a key component of MAMTA DAY. However, how well equipped are the ICDS AWWs in carrying out this function needs to be studied and also the impact that that building
their capacities on this aspect has on improved IYCF practices and undernutrition at community level needs to be assessed. In view of this, an interventional operational research study was undertaken in semi tribal Vadodara with the aim to answer the following research question

Whether capacity building of ICDS functionaries, on growth monitoring and promotion, and infant and young child feeding practices, can bring about a required change in the infant and young child feeding practices of parents and care providers, and eventually a reduction in undernutrition among children under two years of age?

The broad objectives of the study were:

- To build the capacity of Anganwadi workers of ICDS scheme on growth monitoring and promotion, and infant and young child feeding, and to assess its impact on infant and young child feeding practices and nutritional status of children under two years.

Specific Objectives:

1. To assess the knowledge and perceptions of Anganwadi workers with regard to growth monitoring and promotion and infant and young child feeding practices, among selected rural Anganwadi centers’ of Vadodara district.

2. To assess the prevalence of undernutrition and associated IYCF practices of care providers of children under two years.

3. To build the capacity of Anganwadi workers’ on growth monitoring and promotion and infant and young child feeding in two stages:
   a. Formal Capacity Building – Group training
   b. Hands-on Capacity Building – Individual on-the-job training

4. To assess the impact of capacity building on knowledge and perceptions of Anganwadi workers’ with regard to growth monitoring and promotion, and infant and young child feeding practices.

5. To assess impact of capacity building on undernutrition prevalence and associated infant and young child feeding practices of care providers of children under two years.