



THE ROLE OF CARE IN PROGRAMMATIC ACTIONS: Designing and Evaluating Programmes Involving Care

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We are continually learning about the powerful effects of psycho-social care on children's growth and development. In the 1950s, John Bowlby discovered the significance of a child's attachment to a single caregiver for normal emotional, cognitive and physical development. About the same time, Wayne Dennis (1973) observed infants at two years of age in orphanages who could barely sit up, and could not speak. They had little contact with the child care workers in the facility. As an experiment, he selected a group of infants for special treatment; he assigned each child to one particular caregiver, who was asked to pick the child up, give hugs and talk to the child on a daily basis. Children with this treatment changed radically; they began to talk, developed rapidly in terms of their motor behavior, and grew rapidly. The treatment was care.

Since these early studies, much research has illustrated the importance of this early bond or attachment between child and caregiver, a "unique and enduring bond" for all aspects of a child's development. Yet despite this knowledge, in 1991 the world witnessed the deprived conditions under which Romanian orphans were being raised. Cruzinger (1997) describes one of these orphanages: Each caregiver was responsible for 20 children under three, and worked for 24 hours at a time. The care providers felt overwhelmed by the work and the children's needs. They believed that they had to train the children to be able to survive in the institution that they would move into at age four (the Children's House), and had to make the children "tough". Also, care providers and administrators felt that orphans or abandoned children were "different emotionally" since they came from a poor heritage. Working with them was considered a low status job. Children were rarely held, for fear that they would demand more than the caregivers could provide. If children cried from a fall, they were told to shut up and stop crying. They were continually hurried to the next activity of the day. As a result, the children soon became silent, non-verbal, and they grew up totally unprepared for life beyond the institution. One mother who traveled to Romania to adopt an 18-month old child reported that he could not sit up, and one side of his head was flattened from curling up next to the bottle that had been attached to his crib "as if he were a hamster" (Holden 1996).

As these infants were adopted into Canadian families, the opportunity to repeat the classic experiment emerged. Could they recover as well as Dennis' Iranian orphans? Morison et al. (1996) report a careful assessment of the children's developmental levels before they were adopted into Canadian homes and a year later. Two groups of children were identified: those who were

adopted prior to four months in the orphanage, and those who had spent at least 8 months in the orphanage, usually closer to 18 months. Prior to adoption the parents visited the facility, and rated the developmental status of their adoptees. In both groups, almost all of the children were rated as delayed in language, social development, fine and gross motor development. Both groups changed dramatically in the subsequent year. At that assessment, over half of the children were reported as normal; progress was significant.

However, the comparison between the two groups of children on the later assessment was most revealing. Even though there had been dramatic improvement in both groups, the children adopted before 4 months were indistinguishable from comparison children born in Canada; however, the children adopted later still lagged far behind their compatriots, particularly in language and social development. Moreover, these children as a group showed a series of behaviors that tested the patience of their caregivers; they had difficulty with food, often eating far more than needed. They formed only weak attachments to their new parents, and some were indiscriminately friendly to strangers. Their most difficult but most common characteristic was poor control over attention-seeking behaviors, and frequent episodes of anger and irritability. The longer the children were institutionalized, the more persistent the problems (Morison et al. 1995; Sloutsky 1997).

Incorporating care practices and resources for care into existing health, nutrition, and integrated programs can have significant positive effects on children's growth and development. A few intervention studies and a number of efficacy trials suggest the promise of this approach to improving the survival, growth, and development of children, particularly those under three years of age. We have begun the process of defining how and when to intervene to improve care. We have also raised awareness of some policy makers to the importance of care. Now we need to define more generally the kinds of problems in care that need attention, develop a more extensive set of interventions to address these problems and select the best among them, and link interventions to existing strategies for improving the health and nutrition of children.

We are following the same steps with care that led to the breastfeeding promotion efforts currently widely used. Work progressed from recognition of the importance of breastfeeding for children's development, to an assessment of the kinds of situations resulting in lack of breastfeeding, development of strategies to improve breastfeeding, and finally testing of interventions to increase breastfeeding. As a result of this work, a training course and global programs were instituted to continue support for breastfeeding. However, this work is not yet done; through a constant iterative process, it is clear that in order to support continued breastfeeding, it is necessary to strengthen the community component.

Central to all effective programming is the matching of the intervention to the existing conditions—to the problems and the strengths of the institution to be changed. When the institution is a hospital, or a corporation, one set of problems emerges; however, when the institution is a community or a family, the problems are quite different. The initial assessment may take more time, and the solutions may be more varied. In these ever accelerating times, the efforts to make sure that the intervention is appropriate to the problems, and that it has the ownership and support of the participants may seem too slow. Even though it is undeniably logical that child growth and development is directly dependent on the behaviors and practices of caregivers, the complexities of behavior and behavior change may cause us to question whether we should invest the

time and effort for care. Or we may look for the quick fix, the simple message that will result in improved care practices.

The purpose of this paper is to describe four intervention strategies for health and nutrition that incorporated care, discuss lessons learned from these and other experiences, review briefly current actions which UNICEF and others are taking regarding care, and suggest next steps that we need to take. But first we will expand on the concept of care, and what characterizes a programme which “incorporates care”.

Defining care

Care as it has been defined in the past 10 years refers to the behaviors and practices of caregivers (mothers, siblings, fathers, and child care providers) to provide the food, health care, stimulation, and emotional support necessary for children’s healthy growth and development. These practices translate food security and health care resources into a child’s well being. Not only the practices themselves, but also the ways they are performed with affection and with responsiveness to children are critical to children’s growth and development (Engle 1997).

Food, health, and care are all necessary, but not sufficient conditions for good nutrition outcomes. Adequate care alone will not result in optimal health and nutrition for women and children. All three elements must be satisfactory for good nutrition. Even when poverty causes food insecurity and limited health care, enhanced caregiving can optimize the use of existing resources to promote good health and nutrition in women and children. Breastfeeding is an example of a practice that provides food, health and care simultaneously.

Whereas the underlying factors of household food security and health care have been described in great detail, care of women and children has been less well defined. This paper summarizes the most recent consensus on care in order to help programmes develop strategies to improve women and children’s nutrition. Because care problems, like other nutritional problems, will not be resolved through nutrition programs alone, an inter-sectoral approach is needed. Care practices and resources can be improved through actions of different sectors, including health, early child development, agriculture, community development, women’s income generation, water and sanitation, and the environment.

Caregivers need resources in order to provide this care. Human, economic, and organizational resources contribute to care at family, community, national and international levels. Human resources at the family level include the caregivers’ knowledge, beliefs and education, and enough physical health and mental health and confidence to put the knowledge into practice. Economic resources include caregivers’ control of resources, and time in order to provide care. Organizational resources include alternate caregivers and community care arrangements, and emotional support from family members and community networks (Jonsson 1995).

Caring practices and resources vary tremendously by culture, and even by groups within cultures. These differences must be recognized and supported, and the care framework must be adapted to each setting. And we are all human, much more similar than we are different. Children’s basic needs for food, health care, protection, shelter, and love are the same in all cultures. Differences may be seen in how each culture attempts to meet these needs. Widespread changes in families due to urbanization, women’s increased economic role, and population increase require adapta-

tions in care practices. Understanding caring practices and resources for care should help people identify the practices and resources that are important for their cultural and ecological setting.

Care practices include 1) care for women, including care for pregnant and lactating women, 2) breastfeeding and complementary feeding, 3) psycho-social care, 4) food preparation and food hygiene, 5) hygiene practices, and 6) home health practices. This paper will focus on two of the care practices: care during complementary feeding, and psycho-social care since these are two areas that have received least attention, and are closest to the focus of this workshop.

CARE DURING COMPLEMENTARY FEEDING

High quality complementary food, which is provided from about the 6th month of a child's life onward, is a key component of good nutrition. Much attention has been paid to the food quality, but less concern has been given to the ways that caregivers facilitate and encourage eating by young children, yet these practices affect children's nutrient intake. Four behavioral influences on intake are: 1) adapting the feeding method to the child's psychomotor abilities (e.g., spoon handling); 2) feeding responsively, including encouraging a child to eat, attending to possible low appetite, balancing child versus caregiver control of eating, and using an affectionate or warm style of relating to the child during feeding; 3) creating a satisfactory feeding situation by reducing distractions, developing a consistent feeding schedule, and supervising and protecting children during eating; and 4) feeding frequently and when children are hungry.

Adaptation to Psychomotor Abilities to Feed Themselves. Adapting to children's changing motor skills can require close attention by the caregiver, since these abilities change dramatically during the first two years of life. For example, children's capacity to process food by suckling, sucking, munching or chewing increases with age. By 7 months of age, the gag reflex moves to the posterior third of the tongue, permitting the child to ingest solids more easily than earlier (Milla 1991, cited in Brown et al. 1996). The time required for a child to eat a certain amount decreases with age for solid and viscous foods, but not for thinner purees. Children's abilities to hold a spoon, handle a cup, or grasp a piece of solid food also increase with age. Caregivers need to be sure that children are capable of the self-feeding expected of them. Children also have a drive for independence, and may eat more if they are allowed to use newly learned finger skills to pick up foods.

Feeding Responsively can be particularly important for young children. Caregivers can encourage, cajole, offer more helpings, talk to children while eating, and monitor how much the child eats. The amount of food that children consume may depend more on the caregivers' active encouragement of eating than the amount offered. Helping mothers encourage their children to eat may be as effective as telling mothers what to feed their children.

Children should be encouraged to ask for more. Mothers and other caregivers that show or model for children how to eat healthy foods will encourage children's eating, especially when food quality is low. A relaxed and comfortable atmosphere without conflict will increase intake. With gentle encouragement and responsive feeding, evidence shows that children will often eat more than if they are left without encouragement.

Caregiver understanding of and response to children's hunger cues may be critical for adequate food intake. For example, if caregivers perceive a child's typical mouthing actions in response to new food sensations as a food refusal and cease to feed, a child will receive less food.

Caregivers may not be aware of how much their children eat; one project found that when mothers paid more attention to the quantity children ate, they were surprised by the small amounts, and were willing to increase amounts fed. When children are fed from a common pot, the amount eaten is not easy to determine. Having a separate bowl for each child can help determine quantities eaten and protect the slow eater.

The person who is doing the feeding may influence the child's willingness to eat; often children will refuse food if the preferred caregiver is not present. Patience and understanding, plus recognizing the child's need to gain familiarity with the caregiver, will increase the chances of successful feeding.

Cultures vary along a dimension of control of eating; at one extreme the caregiver has all of the control, and children should be force-fed, whereas in the other extreme, control is given entirely to the child. Neither extreme is good for children. When too much control is in the hands of the caregiver, force feeding, or continued and even intrusive pressure on children to eat, is seen (Brown et al. 1988; Dettwyler 1989). Rather than providing an opportunity for interaction and cognitive and social enhancement, feeding can become a time of conflict with intrusive ineffective caregiver strategies and high levels of child refusal. A responsive caregiver who can adapt to child refusals with gentle encouragement can often increase food intake.

Caregivers on the other end of the dimension are passive feeders, letting children define the amount eaten. At a certain age, children need and want autonomy in eating; however, before that time, too much autonomy will lead to insufficient intake. Passive feeding may be due to lack of time and energy, or to beliefs that children should not be pressured to eat, that "the stomach knows its limits". Although this belief may seem reasonable, if a child has anorexia or poor appetite, extra encouragement may be necessary for adequate nutrient intake. Caregivers have been observed to encourage feeding only after seeing that the child is refusing to eat, which may simply result in fruitless battles.

The feeding situation may also influence food intake of young children. Children can be fed on a regular basis each day, sitting in a prescribed place with food easily accessible, or feeding can occur while children wander around or at the time that the caregiver finds convenient. If the main meal is prepared late at night, children may fall asleep before it is completed. Children can be easily distracted, particularly if food is difficult to eat (e.g., soup with a spoon the child is unable to use) or not particularly tasty. If supervision of feeding is not adequate, other siblings or even animals may take advantage of a young child's vulnerability and take food away, or food may be spilled on the ground. The best feeding situation for a child is a special place that is consistent from day to day, and protected from distractions and intrusions.

PSYCHO-SOCIAL CARE

A second set of care practices which influence both growth and development of children are the kinds of social, emotional, and cognitive interactions between caregivers and children. These interactions are as necessary for healthy development as food is for growth. Four major kinds of practices have been defined (Engle 1997; Engle and Ricciuti 1995).

Responsiveness to developmental milestones and cues affects children's growth and development. This includes the extent to which caregivers are aware of their children's signals and needs, interpret them accurately, and respond to them promptly, appropriately and consistently (Engle

and Riccui 1995). What the most appropriate response is changes with the child's developmental stage. For a very young child, the response to fussing may be touching and holding, whereas at an older age, it could involve showing the right behavior or talking.

Responsiveness can be illustrated by the caregiver's behavior when a child cries or fusses. If the caregiver does not have time to respond, or misinterprets the reason for the crying, the caregiver may miss an opportunity to feed the child when the child is hungry. Helping caregivers develop the ability to respond to children's cues may require reducing constraints to care for women since responsiveness necessitates having time and physical and mental health. When caregivers are under stress from too many responsibilities and insufficient resources, they may be unable to respond appropriately.

Responsiveness is also important for developing language. Even before they can talk, children understand simple adult speech, and can learn the give and take of conversation. Caregivers who talk to their children in simple language, and respond to children's verbal play, will help their children learn language earlier.

Parents' expectations of the age at which children learn important skills like walking or speaking their first word (Developmental Milestones) also affects their children's development; parents who expect earlier development are likely to have children who develop earlier. Helping parents to be aware of developmental stages can have positive effects on children's development.

One of the most common indicators that a child is not developing well is listlessness, low activity level or delayed achievement of developmental milestones. An alert caregiver will be able to notice this problem, and try to encourage the child more or find out the reason for the low activity. This low activity is often a result of illness or poor nutrition.

The attention, affection and involvement that caregivers show to children influence their growth and development. The most important factor in a child's healthy development is to have at least one strong relationship (attachment) with a caring adult who values the well-being of the child. Lack of a consistent caregiver can create additional risks for children.

Frequent positive interactions, caring about children's well-being on a day to day basis and taking appropriate actions for children's benefit are ways in which caregivers show attention and involvement. Affection can be shown by physical, visual and verbal contact with children; the way affection is expressed will vary by culture. Even before a child can talk, she can understand and enjoy language and songs, and will develop better language abilities.

Maintenance of valuable traditional practices. Traditional customs often provide warmth and support for young children. Examples are infant massage in India, postpartum rest of mother and child in many Muslim countries, and responsiveness to child's desires in Bali. These customs may be undermined by an encroachment of Western values and urbanization.

Breastfeeding not only provides food, but also much-needed attention and affection to the child. Although it is possible for bottle-feeding mothers to provide similar amounts of affection, too many times bottles are propped, or the close touching, holding, and mutual gaze which are a part of breastfeeding do not occur.

Encouragement of autonomy, exploration and learning by caregivers can improve children's intellectual development and nutritional status. Young children are born with the ability to learn,

but they need the encouragement and freedom to be able to develop that ability. Several studies in developing countries found that malnourished children who had been given verbal and cognitive stimulation had higher growth rates than those who had not (e.g., Super et al. 1990). Caregivers need to provide safe conditions for play, encourage exploration and provide learning opportunities in addition to good nutrition.

There are many ways that caregivers can encourage a child's development—caregivers are the child's first teachers. Children at all ages watch and copy adults and older siblings, and can learn from a kind of “guided apprenticeship” to do adult tasks without specific teaching. Children learn from games, play and guided imitation. Caregivers who allow children to play and who interact with them frequently can stimulate their cognitive, language, social, and motor development. One of the important things caregivers can teach children is proper self-care, such as hygiene behavior (hand-washing, cleaning themselves, and feeding themselves hygienically). Often children can learn much more than parents expect them to.

Having time is necessary but not sufficient to allow for beneficial psycho-social interaction; caregivers need to interact positively and be responsible for child care tasks and decisions. Caregivers have their own ideas about what is important for child development, and why children behave the way they do. Understanding these ideas is helpful in developing programs for parents.

Prevention of and protection from child abuse and violence are ways of caring for children. Abuse of children beyond what is culturally acceptable results in a vulnerable adult, who may be more likely to repeat the abuse. Children exposed to aggression, and children who have been victimized are likely to repeat these roles. Too often children are exposed to the violence of war or natural disasters, and these experiences can result in stress, which can have psychological and even biological effects years later.

DEVELOPING THE CONCEPT OF CARE

Occasionally a concept will be recognized as logically necessary and critical to understand, long before the details of definition, conceptual mapping, indicators, and even evidence for effectiveness are well established. This is true for care; the concept was recognized by a number of researchers during the Iringa experiment of the 1980s, explored further in Zeitlin's positive deviance work, reinforced by the success of social marketing, and supported by new research indicating that factors other than income, such as maternal education, were important predictors of undernutrition.

The process of defining care, and making it a usable construct that can become part of our planning and programming has been the work of the 90s. As with breastfeeding, the process has followed a logical progression from literature review, to research which suggests that care plays a significant role in child growth and nutrition, research delineating the kinds of problems which result in poor care, the intervention and programme phase, and finally scaling the interventions up to national or international levels. The development of indicators emerges during this process. The research efforts indicate quite clearly the importance of care for growth and development, and the kinds of problems that lead to poor care. Interventions are less well developed, and we do not yet have universally accepted agreements on the measurement of care practices in all areas. Because the concept is complex and behavioral, it may take longer to define the key parameters than with a simpler intervention. We should be willing to be patient.

What is inadequate care? The local cultural norms as well as international instruments such as the CRC may define inadequate care. Any behavioral practice, which limits the child's ability to develop to his fullest potential given the resources potentially available, could be inadequate. Inadequate care could be defined in three ways:

- Lack of knowledge on the part of caregivers about children's needs. For example, a lack of knowledge of the importance of attachment and early bonding may result in encouragement of women to work within 15 days of a child's birth, as observed in the Philippines.
- Practices inappropriate for healthy child development, whether or not the knowledge is present. For example, excessive use of physical punishment for child management can be replaced by alternative strategies such as reasoning, rewards, and establishment of family guidelines.
- Inadequate resources for care. For example, one of the most important potential care providers and supports for women is men in families, who may be excluded from nutrition and child development programs by cultural patterns or expectations, or occasionally by failing to recognize how they could be effectively included.

Many investigators are identifying a particular characteristic of caregiver/child interaction as the key element in determining outcomes for children. Stemming from Vygotsky's research, it appears that learning is most likely to occur when information is appropriate to the child's developmental status, or in his "zone of proximal development". The extent to which a caregiver can adapt information and interaction to the child's emerging structures will determine the effectiveness of the learning (Karpov and Haywood, 1998), a process akin to scaffolding. If this is a primary mechanism of learning, then the caregiver's ability to be responsive or sensitive to the child's emerging abilities becomes THE key variable in development. Sensitivity is the "ability to accurately perceive and interpret the infants' attachment signals, and to respond to them promptly and adequately." (Ijzendoorn, Juffer and Duyvesteyn 1995, 158).

Research has documented the importance of this characteristic for children's learning. For example, Baumwell et al. (1997) found that maternal sensitivity at 9 months uniquely predicted 13-month-old children's language comprehension more than child's comprehension at 9 months. Two factors of maternal interaction coded during mother/child interaction during play, and videotaped were maternal sensitivity (verbal) and verbal intrusiveness. Language comprehension was consistent over time.

Meins (1997) asked mothers to construct a box with their 36-month-old children. Mothers who had a close relationship with their children (securely attached) were more likely to use feedback from their children's performance in gauging the level of specificity of their succeeding instructions than mothers with a more distant relationship. Mothers may be more able to pitch their interventions at an appropriate level. She described these findings in terms of the zone of proximal development; mothers had the ability to tutor their children within the "region of sensitivity to instruction".

Effects of care for child growth and development: correlational studies. In many cases, a lack of correlation between household economic resources, or changes in household resources, and child growth has been reported. On the other hand, many studies find associations between maternal characteristics, specific practices, and child growth. These correlational arguments for care have

been summarized elsewhere (Engle, Menon, and Haddad 1997; Engle and Ricciuti 1995; Engle, Lhotska, and Armstrong 1997).

Effects of care for child growth and development: experimental studies or efficacy studies.

Several recent reviews of the experimental literature on the effects of various forms of early intervention on children's growth and cognitive development provide evidence that a psycho-social intervention can have significant effects on children's development. Also a nutritional intervention can affect growth and development (Dickin et al. 1997; Martorell et al. 1997; PAHO 1998). There are some suggestions that a psycho-social intervention might have effects on growth as well (Super et al. 1990; see Engle, Menon, and Haddad 1997). Whether there is a synergistic effect of a nutritional and psycho-social intervention on growth and development was tested by Grantham-McGregor et al. (1991) and no evidence for a synergistic effect was found.

INCORPORATING CARE IN THE DESIGN OF PROGRAMMES

How does programming change if care is included? Taking care into account when programming for care involves three principles; a fourth principle is often included.

First, the programme will assess, analyze, and take action on practices that occur in the home rather than limiting the focus to food or health. For example, a food supplementation programme could incorporate care by not only distributing food, but also including group sessions to teach caregivers how to prepare it. Second, the programme would assess and change not only care practices, but also the resources that are needed for the care practice. Part of this effort involves an assessment of the caregiving situation. Thus a major focus of a nutrition education programme could be to increase men's involvement in food purchasing. Third, not only whether the practices are done, but how they are performed would be included in the programme. For example, in a growth monitoring programme, the workers would learn strategies for providing less than positive feedback to mothers. Fourth, many of these programmes, but not all, would include a component on psycho-social care. We know that there is a synergy between child activity levels, child development, nutrition, and caregiving.

From these four principles one can deduce that although increasing knowledge is important, it is not enough; we must assess and analyze the behaviors or practices of the caregivers as well. We must also recognize that caregivers have certain values or goals for children's development and we must make every attempt to build on them. Perhaps the last principle of synergy is the most exciting, and most difficult, aspect of care. Many of these principles or techniques exist under different names, but the concept of care is unique in focussing attention and interest in the domain of the caregiver and the child.

EVIDENCE FOR THE EFFECTIVENESS OF CARE IN INTERVENTIONS

To illustrate how programmes change when care is taken into account, four kinds of programmes for children under three which have care incorporated are presented: a nutrition education project, a hospital and home visiting treatment for low birth weight infants, an ECD and health/nutrition integrated parent education program, and child care or day care program. These descriptions indicate which component might be labeled "care", and present evidence for the effectiveness of the programme. They are summarized in Table 1, which lists not only the research or program study, but also a possible part of an ongoing program that is care.

Nutrition Education

The Academy for Educational Development's Nutrition Communication Project (1996) used the principles of nutrition education and social marketing to create, implement, and evaluate strategies to improve maternal and child nutrition without increasing income. Major projects took place in Mali, Niger, Burkina Faso, and Honduras for 7.5 years. In each case, the strategy involved a five-step process of assessment through formative evaluation and surveys, planning, preparation of materials, implementation of the intervention, and evaluation. These projects involved care because specific practices in the home, and resources for care, were included in assessment, intervention, and evaluation. Other components of the project focussed on increasing the supply of vitamin A (e.g., make sauces with green leafy vegetables).

The Mali project provides a good example of how care links to a nutrition education project. (AED 1995) The nutrition problems identified were wasting (11%), stunting (25%), low birth weight (15%), and night blindness. Formative evaluation and surveys led to the identification of problems; some of which are caring practices. These were: delayed introduction of complementary foods to 9 months; 80% of young children's meals were not supervised; 66% given prelacteal foods. Some were resources for care: neither men nor women were aware of children's and women's dietary needs; and men were responsible for many food purchases.

Based on the assessment phase, behavioral messages and targets were defined. In addition to food messages, some messages involved the process of feeding, a care practice:

Promote more appropriate active feeding behaviors; specifically, three supervised meals a day, use a separate bowl for children 6-24 months; and make sure child finishes the bowl, and give more if child is still hungry.

One involved a resource for care: Emphasize men's responsibility for women's and children's nutrition; men can keep children happy by buying healthy food at the market.

These messages were communicated through community mobilization. Some of the techniques were:

- Story pictures using local women succeeding
- Interpersonal communication (carnet, counseling cards)
- Use of stickers placed on the carnet to reinforce counseling
- Men shown in pictures on carnet

An evaluation of the program from 1991 through 1994 indicated significant changes from pre-test to post-test in a comparison group design that low weight/height reduced from 38% to 28% in trial villages, whereas it increased by 1% in experimental villages. Stunting was reduced from 46% to 31% without an increase in household income. Fathers were more likely to bring food home to the families, and mothers were more likely to eat what they bought.

In Burkina Faso, several key target behaviors involved having women eat more during pregnancy and work less in the third trimester (Care for Women). In Burkina Faso and Niger, focusing on men's food purchasing patterns and workloads also increased resources for care.

However, results were less impressive in Burkina Faso than Mali; in Mali, NGOs and local work-

ers presented the message in the community and the homes, whereas in Burkina Faso, the health care workers communicated the message during health care visits.

Among the lessons learned were the following: one needs workers dedicated to the project in order for it to be effective; specific messages need to be given to specific audiences; social support needs to be strengthened; and different behavior changes require different methods. Whereas food-based social marketing could be used for vitamin A foods, changing complementary feeding behaviors, they concluded that complementary feeding is most difficult to change, and will require intensive interpersonal communication, whereas increasing intake of vitamin A requires a more media-based approach discussing the various foods.

High-risk Infants: Low Birth Weight Children.

A number of efficacy studies (Table 1) have shown in carefully controlled designs that the combination of early skin-to-skin contact plus rooming-in in a hospital, parental teaching of responsiveness, and tactile stimulation with low birth weight or very low birth weight babies will result in more rapid initiation of breastfeeding (Blaymore et al. 1996). One study even reported higher cognitive development in children (DeRoise and Bushnell 1996) as a result of tactile stimulation postnatally.

In the US, a large effectiveness trial to assess the possibility of avoiding long-term deficits among low birth weight, and very low birth weight infants was conducted. This program, the Infant Health and Development Program for LBW infants combined home-based activities for the first year, then intensive center-based activities for the next 2 years, plus parent support groups. In a randomized trial, children receiving the home visits and center-based program showed a significant increase in IQ (IHDP 1990). The greatest impact occurred in the group with the highest level of involvement of the child. The care component was psycho-social care and enhancing the resources for care of the families through home visits and support groups.

Among the lessons learned from this and other programs was that these home visiting programs were most effective when the families perceived the need for the visits; visits to low income families with term infants showed mixed results (Dickin et al. 1997). Second, the most effective interventions are those which work directly with children rather than only with parents (Ramey et al. 1998).

Integrated Programs: Providing Parenting Skills and Health, Nutrition, and Early Childhood Development Information

In the Philippines, the Parent Effectiveness Service provides low income and disadvantaged families with an opportunity to increase their knowledge and skills in 13 areas, including health and nutrition, child growth and development, and responsible parenthood. Families are recommended to the neighborhood parent effectiveness assembly (DPEA) for the sessions. About 10 families (almost totally women) meet weekly with a social worker, the implementer, or a parent volunteer, to discuss the material and use role plays and activities to learn the concepts.

Two evaluations were reported, one in 1989, the other conducted in 1993. Both were onetime surveys of parents in the program and the program leaders (post test only, no control groups). These evaluations suggest that parents are generally pleased with the program. They report positive changes in their own behavior, and in their interactions with their children. Parents felt that the sessions on husband/wife relationships and responsible parenthood were most useful; there

was slightly less interest in the sessions on child development, and very little regarding games and children with disabilities. No objective measure of impact was taken. In both evaluations, most parents did not attend all of the sessions.

A number of lessons were learned. When the evaluation sample of parents were asked to identify their child care activities, 81% mentioned feeding, and 56% mentioned grooming. Very few mentioned early child development. Not surprisingly, parents found the sessions on child development less useful than those on health and nutrition. As in the previous program, perception of the need for the program seems to be an important component of success. The most valuable program, however, from the perspective of the parents and the social workers were sessions on husband/wife relationships and responsibilities and duties of parents, including discussions of special rules of the house and child management techniques.

The group leaders, social workers, had only five days of training on the approach and no follow-up training. Some felt that they had not mastered the technical information in the health and family planning sessions; they recommended asking representatives from the Ministry of Health or Family Planning to present these sessions. Lessons learned included to cut down on the workload of the implementers or increase their training.

Day Care Centers, Creches, Alternate Child Care Strategies

Child care for working mothers, particularly for children under 3, is an increasing need in many parts of the world, particularly in the growing megacities of the South. A variety of alternate care systems are used: institutional day care, home day care (a non-relative caring for several children in her home for funds), informal arrangements with family members, and paid workers in the home. Each of these arrangements involves food, health and care.

Mehra, Kurz and Paolisso (1992) evaluated 9 well-known day care center projects for children under three in developing countries to examine the effects of these institutions on children's nutritional status. Table 2 (not available) provides an overview of five of the programs, their nutritional impact and their limitations and success factors. Programs reviewed included India's Mobile Creches, Senegal's seasonal day care centers, and Ghana's Accra Market Women's Association. These programs tended to be closely connected to the women's workplace.

According to the institutions' reports, significant increases in nutritional status as a function of the interventions were found in over half of the projects. Children in day care homes, or preschools had lower rates of mortality and morbidity than their non-schooled mates. The authors conclude that the food served, the cleanliness of the locations, and the protection of the space results in these significant effects of the parent program on children's health.

The psycho-educational component of these programs was not specifically evaluated in the report. However Mehra et al. (1992) concluded that this component of the institutional programs was not nearly as strong as the health and nutrition component. The ratio of caregiver to child was about 1 to 15 or 20 in both institutional and home day care. This ratio contrasts with the recommendation in the US of 1 to 3 for children under 3. Kits for educational instruction were sometimes available but not always used due to lack of knowledge of how to use them, or fear that the children would harm the materials.

The lessons from this review were that easy access to these centers was a key determinant in the use of the day care program, that there is a need for quality control and training of caregivers, in

child development, nutrition, health and hygiene, and that nutrition can be improved with these programs. Finally, since less is known about providing the psycho-social care to children there is a need for research on the best models or techniques for care. Perhaps this work can be informed by work in the West. An extensive investigation of day care quality for under 3s in the US concluded that there are only three factors consistently influencing children's development: low ratio of caregiver to child, small size of the group, and absence of authoritarian, or rule-based, attitudes by the child care providers (NICHD 1997).

The number of children in these care programs was very small compared to those in informal alternate care. However, a far larger number of children are in alternate care arrangements which are less than optimal, and with little support for the alternate caregiver. At the least, an assessment of where children are cared for when the primary caregiver is out of the home for income generation should be an essential part of demographic and census reports.

CURRENT WORK ON CARE

Interest in combined nutrition, health, and child development or psycho-social care programs has increased dramatically recently. Several major efforts by the World Health Organization's Child Health and Development Division, (Dickin et al. 1997), the Pan American Health Organization, (PAHO, World Bank, and Tropical Metabolism Research Unit 1998) and the World Bank (Young 1997) to compile best experiences and research is providing a basis for building programmes for care.

UNICEF has made considerable effort to incorporate care into its programming. In a review of the annual reports from 1996, 40 countries mentioned projects involving care, most related to early child development. Many mentioned training materials and courses. Collecting and evaluating these materials could be an important role for UNICEF to take. The Nutrition Section has been providing training and workshops for policy makers and planners in a number of countries during the 1997-1998 period: India, Pakistan, Vietnam, Lesotho Regional office, Brazil, Central and Eastern Europe, Jamaica and the Latin American region, West Africa, and the Philippines. In each country, efforts are being made to incorporate care into programs, using models such as the ones described in Table 1. The Care Initiative has been translated into a number of languages.

Much of the basis for program implementation has been wisdom rather than research findings. Currently a highly controlled efficacy study is being planned to test the hypothesis that increasing active feeding will result in greater nutrient intake (Bentley et al. 1998).

Within the next five years, we should have much more information on the effectiveness of incorporating care into health and nutrition programs, particularly psycho-social care. In Bangladesh, the BINP program has care components. The World Bank and the Asian Development Bank in Bolivia, Uganda, the Philippines, and Indonesia are sponsoring integrated programs that include nutrition, health, and psycho-social development. They are also being designed by NGOs such as Save the Children in Nicaragua.

These efforts should help us move from research studies to programmatic efforts. At this point, however there is a need for more specific guidelines for programs, particularly those that focus on psycho-social care and active complementary feeding behaviors. Concern about the content and delivery of these integrated programs has been raised by numerous experts. Do we have the

appropriate materials to guide these efforts? How can the psycho-social component be most effectively integrated? Who has the resources to present this information; what should the delivery mechanism be?

The programmatic experience reviewed here raises several questions about approach and about delivery that should be addressed. Four different approaches to improving psycho-social care for young children have been tested. These are:

- 1) providing caregivers with milestones of development, and assessing their progress using a growth monitoring model, as occurred in Indonesia with the KKA (Coletta et al. 1993);
- 2) providing information on the stages of child development and factors which influence that development, as in UNICEF's Better Parenting Initiative and materials (Landers);
- 3) teaching caregivers skills for interacting with their children, such as the Parent Effectiveness Service in the Philippines or the WHO Mental Health (8 principles) approach;
- 4) Strengthening the resources for care through improving parents' abilities to provide economic and human resources to their children (e.g., two generation programs described by St. Pierre 1995).

Probably each of these approaches is effective in a particular context, and each has its limitations. The first may result in parents' focusing on their children's achievement of norms. If they cannot pass these tests (administered in a group session) parents and children may feel shamed or unwilling to attend future sessions, as described by Coletta et al. (1993) in Indonesia.

The second approach may be of most interest to parents who understand and value child development; it has been well accepted in the MENA region and in the US but has not been as widely used in other areas. Many parents think of "care" as feeding and cleaning their children rather than psycho-social care, as illustrated in the Philippines study (1989), as well as current work in Guatemala by the first author (unpublished data). Parents may need to understand and value child development for the greatest effectiveness of this approach.

The third model appeared to be of interest in the Philippines, where the concept of psycho-social care was still new. It is consistent with current psychological theory which stresses the importance of the sensitivity or responsivity of the caregiver to the child in interactions for optimal development (e.g., Karpov and Haywood 1998; Valenzuela 1997). A pilot program in South Africa is using the 8 guidelines for interaction of WHO as a family support program. This model seems to be a promising direction.

The fourth was effective in the AED nutrition communication projects (AED 1996) and probably should be a part of all studies. However, it appears that direct programs for children may be more effective than working only with parents (St. Pierre et al. 1995; Ramey 1998).

The delivery mechanism was also a concern in a number of programs. Projects which relied on health care workers incorporating care messages into their daily work were much less effective than those which took the message into the homes, either through home visits, community actions like dramas, or parent support groups. There is a concern as we move toward integrated programs that training a single person to be capable in child development and family functioning as well as health and nutrition issues may not be wise. In the Philippines PES, the social workers could not handle all of the information. The Indian ICDS workers are unable to provide home

visits for the younger children, both because of time and knowledge constraints (Levinson 1998). Yet frequency of contact seems to be a key element to program effectiveness (Powell and McGregor 1989).

These delivery issues will require carefully evaluated studies. In the World Bank project in the Philippines, a new “child development” worker is being created. A similar approach was followed in the PANDAI in Indonesia. The Philippines PES program trained parents to be group facilitators, who were as effective as the paid implementers. As experience with the integrated projects grows, the benefits of this approach will be better understood.

CONCLUSIONS AND RECOMMENDATIONS

The importance of care practices and resources, particularly the linkages between health, nutrition, psycho-social care, and psycho-social development, seems to justify its inclusion into programming. Some conclusions are now evident from the literature. These are:

- Programs that include care are likely to be effective in increasing nutrient intake and improving growth and development of children from 0 to 3.
- Early preventative interventions are more effective than later ones.
- Effects on children are most likely to be seen with high intensity interventions directly with children, rather than through contacts with parents.
- A key element in psycho-social care is the sensitivity or responsivity of the caregiver to the child’s emerging abilities.
- Effective delivery of messages or support for care is more likely to occur in a home setting.
- The potential contribution of men in families to the well being of their children needs to be used.

Other issues are much less clear. What contextual factors should be taken into account to determine which of the four methods (testing milestones, providing knowledge about child growth and development, facilitating skill development, or strengthening resources in these programs) should be provided most weight? What are the synergies between responsivity in feeding, caring for a sick child, and providing stimulation? Can the general skill of responsivity be taught, and will it generalize to all of these areas?

Delivery mechanisms also will require further investigation; however, a number of successful models exist. Materials and training methods for care in general, and for psycho-social care and complementary feeding practices in particular are urgently needed. These should be based on research and evaluated programs. Building a base of research from the ongoing programs will be an essential element of this process.

Particular concern should be accorded to the urban context and the special caregiving challenges under those conditions, including day care and informal care arrangements.

Finally, the relationship between terms and concepts should be made consistent. Early childhood care and development, family and community practices, and Care are all overlapping constructs. We would facilitate communication if we could come to consensus about these terms.

TABLE 1. Incorporating Care into Health, Nutrition, and Integrated Programs: Care Component and Research Evidence for Sample Programmes

TYPE OF PROGRAMME	CARE COMPONENT Practice or Resource	RESEARCH EVIDENCE (+) means shown to be effective in an intervention trial; (0) indicates that it was not effective
Primary Health Care	Encourage active feeding and stimulation of sick children	
Maternity Care	Provide social support during pregnancy to reduce stress	Randomized controlled trial of prenatal home visits resulted in decreased incidence of abuse, more positive childrearing attitudes. (Kitzman et al, 1996) (+); Multicentric trial of social support during pregnancy in Latin America showed no effects on birthweight or complications (0)
Nutrition Education	<p>Include messages on supervision of eating, need for a separate bowl, increased monitoring of child intake, offering additional foods</p> <p>Increase resources for food by increasing the value of feeding women and children by men</p> <p>Combine teaching about parenting skills and interactions regarding food with food recommendations for toddlers in low-income families.</p>	<p>AED project in Mali showed significant increases in child nutritional status, and feeding behaviors, as a result of the communication (+)</p> <p>AED project in Mali was able to increase fathers' role in food purchasing (+); Iringa project in Tanzania increased men's labor to free women's labor (+)</p> <p>Building Blocks for Toddlers Program (Cornell University Extension) combined home visits and small groups enrolled in WIC programs Significant differences in nutrition knowledge, food variety, and self-reported parenting strategies were found (+).</p>
Growth Monitoring and Promotion	Teach caregivers about developmental norms as well as improved diets for young children	KKA project in Indonesia in which mothers were given monthly developmental norms and techniques for working with their children. No effects on nutritional status were seen (0) but feeding behaviors improved (+) (Coletta et al., 1993)
Special Needs Children: Low birth weight infants	Increase opportunities for tactile stimulation; provide opportunities for early skin to skin contact	(LBW) early skin to skin contact and rooming leads to more rapid feeding initiative, higher cognitive development at 18 months. (DeRoise & Bushnell, 1996); (LBW) skin-to-skin contact leads to increased rates of breastfeeding (Blaymore et al,1996) (+)

TYPE OF PROGRAMME	CARE COMPONENT Practice or Resource	RESEARCH EVIDENCE (+) means shown to be effective in an intervention trial; (0) indicates that it was not effective
Special Needs Children: Low birth weight infants (continued)	Home visiting for parent instruction	Infant Health and Development Program for LBW infants combined home-based activities for the first year, then center based activities. Significant increase in IQ (IHDP, 1990).
Special Needs children: HIV infected children	Increase cognitive stimulation; increase caregivers' awareness of feeding problems	Behavioral consequences of HIV may affect care cognitive deficits at 18 months (Drotar et al, 1997) and reported feeding difficulties (Melvin et al. 1997)
Special Needs Children: Malnutrition	Increase maternal motivation to change feeding practices by seeing change in children over the two-week period.	HEARTH Model of intensive two-week feeding and group sessions resulted in significant changes in proportion of moderately and severely malnourished children in Vietnam and Haiti
Integrated Programs: Home visiting programs for low income families	Include direct services for children; parent support provided to help with literacy, jobs, etc.	Results of randomized trials in US show only short-term effects on cognitive development, few effects on parents (St. Pierre, 1995). (0)
Integrated Programs: Parenting programs with health and nutrition component	Provide information on growth and development of children as well as role plays and materials on (husband/wife relationship and rights and obligations)	Two evaluations of Parent Effectiveness System in Philippines (1997, 1989). Parents met in groups on a weekly basis to learn and role-play in 13 topics including child growth and development, health and nutrition, and husband/wife relations; they reported significant changes in their and their children's behavior. (+? no other impact data)
Child Care Programs for Working Mothers.	Strong components of both nutrition and early child-stimulation are needed.	Bolivia results were positive with home day care centers. Some of the centers reviewed by ICRW also showed positive effects on growth.

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