UNICEF decides the aspect of care to be one determinant factor of children nutritional status. Realizing that there is a limited knowledge and skills among families about care resources and practices, it is very urgent to make efforts in improving care practices and analyze their effect on children nutritional status.

The objectives of the study are: (1) To develop care resources and care behaviors instruments, (2) To assess care resources and behavior of mother, cadre, and
pre-married women, (3) To develop instructional materials and instrument of care empowerment, (4) To implement care empowerment intervention to mother, cadre, and pre-married women, and (5) To evaluate care empowerment intervention to children growth and development

This study conducted in West Java Province. Sample involves mothers and their children under three years old, divided into two experimental units and four groups; each experimental unit consists two groups (poor and non poor family). About 20 village cadres and pre-married women also get intervention to support building capacity and the sustainability of activities. Research activities include collection of base-line and end-line data, development of instructional materials and research instrument, care intervention, and extension activity to cadre and pre-married women.

The baseline data were carried out at June 2008 and the endline data were carried out at November 2008. The data were taken by interviewing using questionnaires. Data collected include family socio economic status, care resources and care behavior, mental health, time allocation, social support, child health care, home sanitation and hygiene, child value, childcare environment, data related to child’s nutritional status (age, body weight, and body height), data about development of child (psychomotor, communication, intelligence, and social) and care resources and behaviour of cadres and pre-married women.

Child growth was measured using anthropometry (weight for age, height for age, and weight for height), each was classified into two groups, namely normal nutritional status (-2 ≤ Z score ≤ 2) and abnormal nutritional status (Z score < -2 or Z score > 2). The variable used generally had a good reliability (alpha-cronbach) from over 0.7 (hygienic behavior) to 0.9 (child development), except for the reliability of child value at α = 0.622, because the data of some items was not variatif. Tests of correlation, distinction, and effect are used to answer the research objectives.

The samples in the District of Pamijahan was determined as the treatment group, whereas those in the District of Ciampea as the control group. The samples in Pamijahan were in the greater need for intervention because of lower or limited factors: (1) social status (length of mother and father’s education) and family’s economy, (2) mental health, childcare environment, and score of care resources and behavior, and (3) access to advances, information, and public services because
its longer distance from the town.

The age of children as the samples was less than three years; with the biggest percentage of children (60 percent) aged between 13-24 months, and the ratio between males and female was almost equal. Most mothers were 31-40 years old; whereas husbands between 31-50 years old. The highest percentage of samples in both groups had the medium-size families of 5-6 members.

The majority of mothers (94 percent in the control groups and 97 percent in the treatment group) did not complete the compulsory education or only finished elementary school or its equivalent, while the husbands’ education varied. Most husbands in the treatment group did not finish the compulsory education, but in the control group some completed senior high schools (51.5 percent) and even finished tertiary education (18.2 percent). Most mothers were housewives, whereas all husbands had various occupations such as laborers, merchants, government civil servants, private employees, or drivers of ojek or motorcycles to carry passengers.

The average monthly income per capita in the control group was higher (Rp 319,600/cap/month) than in the treatment group (Rp147,420/cap/month). Based on the poverty standard of World Bank at 1 dollar/capita/day, only the samples in non-poor families in the control group were not in the category of poor families; and if the poverty standard of 2 dollar/capita/day, all samples were in the category of poor families. The research found an inconsistency in the categories of poor families and the wrong target of the aid program for the poor on the field. Almost only half of the samples from poor families did get the aid programs (rice, health insurance, and direct cash), but some non-poor families received such aids.

Although only few mothers worked, they contributed around 36 percent to the family income because such jobs as merchants and opening small shops could offer higher income than that of husbands who worked as laborers. The property or asset owned by a family is a house (45 percent in the control group and 70 percent in the treatment group), although only 3 out of 10 samples had adequate housing density (≥ 8m2/capita). Because most mothers do not work, the allocated time for them to take care of children is equal to the time for keeping the households. The main sources of information about nutrition, health, childcare, and family resources were Posyandu (integrated service centre) and TVs. There were still 15 percent of mothers in the control group and 24 percent in the treatment group did not participate in the activities of Posyandu.
Most mothers in both groups viewed a child as the trust from the Almighty God, the parent’s investment at the old age, and that a child could improve the social status of the family and bring happiness. Further, a number of physical and mental health problems were faced by mothers. The outstanding problems suffered by most mothers were exhaustion (>60 percent), headaches (>74 percent), and anxiety and worries (>78 percent). The social support mostly received by the mothers in both groups was in the forms of aids in childcare, loan (money), and advice for the families in conflict. Seven of eight mothers in treatment group and three quarters of the mothers in the control group admitted receiving the support in terms of childcare.

The mothers were dominantly involved in managing money for buying daily needs and did not find any constraints in time management because they generally did not work. Most samples admitted always having discussion husbands in making decisions and felt satisfied with the discussion process and no intervention of others in the decision making.

The condition of sanitation and hygiene practices among the mothers was indicated by the biggest percentage of mothers living in houses with cemented-block floors, adequate ventilation, sufficient sunlight entering the houses, and use of well water. However, many mothers still had the water source with the distance of <10 m from the septic tanks, no bathrooms and water closets of their own, and their bathrooms and water closets were dirty. Most mothers were used to throwing away wastes in the home yards or any openings or rivers. Some samples (mothers and children) were not accustomed to washing hands before eating, covering food, washing eating utensils with soap, cutting finger nails once a week, bathing with soap and using shampoo when washing hair, brushing teeth at least twice a day with toothpaste, and changing clothes after a child played.

The poor condition of sanitation and hygiene practices had caused a high number of children to suffer from diarrhea and upper respiratory tract infections in a shot period. One third of children in the control group and more than half of those in the treatment group experienced diarrhea within the last two weeks, on the other hand respectively nine of ten children in both groups suffered from upper respiratory tract infection in the same period of time.

Care empowerment was conducted 12 times based on the topics of care resources and behavior required by the targeted persons. The targeted mothers as extension
participants were enthusiastic to attend the extension, which was indicated by the high level of participation of 81 percent - 95 percent. The resulted evaluation showed there was an increase score obtained by the participants in the post test compared to that of the pre-test. The instrument developed for care resources and had a high reliability and a good validity of content and construct, which was indicated by a close and significant correlation between care components and variables of childcare environment.

The care empowerment in the treatment group significantly improved care resources and behavior in the group. This caused a significant change in the treatment group, from a lower score of care resources and behavior to a higher score after the intervention.

The analysis of childcare environment found that some mothers had negative behaviors toward their children such as shouting, showing disappointment, beating and scolding children. Mothers had limited capacity of organizing child environment and providing children toys. There was a significant improvement in the childcare environment in both groups, but the increased score was higher in the treatment group, and thus after the intervention the childcare environment became equal in both groups – the score was previously better in the control group before the intervention in the treatment group.

There were 36.4 percent of the samples at the time of sampling categorized in the status of malnutrition (based on the index of body weight for age), but they were in the normal nutritional status in the baseline data. The average Z-score of body weight for age (WA) among the samples in both groups and both types of socio-economic statuses was in the category of underweight (-2 > Z-Score). The relationship pattern of the three nutritional status indices showed that some samples suffered from acute malnutrition and others experienced chronic malnutrition. The test of distinction for the change in the child’s nutritional status before and after the intervention in both groups indicated that unlike the control group where there was a decrease in the WAZ-score, the treatment group in fact had an increased WAZ-score despite statistically no significant difference.

Nearly all children attained their developmental tasks and experienced improvement in seven components of development (hard motoric skills, soft motoric skills, active communication, passive communication, intelligence, helping one’s self, and social behaviors). Developmental improvement occurred in both
groups in which the average number of improved developmental items in the treatment group was higher in the treatment group than in the control group in spite of no significant statistical difference.

The resulted test of correlation between the research variables found a pattern of close and meaningful relationship between the improved care resources and behavior with the improved childcare environment, and between the improved childcare environment and the change in the WAZ-score and in child development. There was not a direct correlation of the improved care resources and behavior with the increased WAZ-score, but a close and meaningful relationship with the change in child development.

The correlation between the indices of nutritional status at the baseline and endline, as well as the changes in the Z scores showed a pattern in which the samples experienced a chronic long malnutrition, and some of the samples also suffered from an acute malnutrition. Therefore, the WAZ-score was used as the response variable to determine the effect of some research variables. The analysis results showed that the change in the Z scores for WA was influenced by the improvement in childcare environment. However, when analyzed with the model of regression that elaborated the effect of the components in childcare environment and in care resources and behavior, the increased Z score for WA was influenced the improvement in the supply of children toys (the component of childcare environment variable), and the improvement in the knowledge of food safety, sanitation and hygiene (components of care resources and behavior variables).

The analysis on the effects of research variables on the improved child development indicated that the improvement of children developmental tasks was influenced by the improvement of care resources among mothers. An analysis of the model regression by involving sub-variables found that the improvement of child developmental tasks was affected by the improved knowledge of mothers about the psycho-social and cognitive stimulation of children (care component) and the improved accepted by mothers toward a child’s behaviors (component of childcare environment).

Care empowerment for cadres and youth also improved their care resources and behavior. Further, the cadres and youth’s participation in care empowerment has increased their motivation and self confidence in implementing their functions, roles, and tasks in the activities of Posyandu. Cadres are the spearhead of the effort
in monitoring and improving the nutritional and health status of children aged below five years. Thus, care empowerment can be viewed as a part of capacity building in nutritional and health program in the community.

This study gives scientific evidence that care resources and behavior have an effect on the increased Z score for WA and the improved achievement of child developmental tasks. Thus, care empowerment is important particularly for the families with limited resources (human resource, time, and materials) as in indicated by the majority of research samples who did not finish the compulsory education, and only had little economic assets as well as limited knowledge and skills of childcare. There were still some practices of childcare, house sanitation and that needed improvement, and this was also true for the management of family resources to meet the needs of child growth and development.

Based on the research results, the researcher suggests that all related parties participate in the improvement of care resources and behavior for parents through the existing channel such as posyandu, or by other means available in the community such as pengajian (religious meetings), arisan (an activity in which each member collect some money and the collected sum is given to the member by a lucky-draw; this continues in the next meetings until all members get the same amount of money), and the guidance of PKK (Pendidikan Kesejahteraan Keluarga, family welfare education). It is also recommended that the puskesmas (Community Health Center) and District governments improve the effectiveness of the programs for the capacity building of cadres and cadre candidates in order to improve the knowledge of child growth and development through both the revitalization of posyandu and the program on the guidance of families having children aged below five years.