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Chapter I

Introduction

1.1. Background

In response to the economic crisis, UNICEF has started Rapid Response Complementary Food Initiative (CFI), distributed 500 g packets of micronutrient fortified complementary food “Vitadele (VTDL)” through Posyandu to benefit over 150.000 infants for a period of six months. At the same time, the Crisis Response Program provided the opportunity to restore the Posyandu’s function of growth monitoring and promotion and to provide added incentive for community attendance at Posyandu, which was experiencing a decline currently. This has become a start off for Posyandu Revitalization Program (PRP).

In addition to CFI as one of the primary input for PRP, a training program for health cadres has been placed. The program is meant to strengthen the capability of the health staff to detect growth faltering and provide follow-up nutrition education/counseling. Improved skills of the cadres and CFI availability may increase the coverage and quality of Posyandu services.

1.2. Rationale of the Study

Earlier cross-sectional survey of 1425 households from 36 randomly selected villages in East, Central and West Java conducted by Helen Keller International found that CFI was successful in reaching target children. Ninety one percent of villages received the planned of food on time, 82% households heard about CFI, about 70% coverage of CFI in households with a child in the target age range (6-24 months of age), 72% fed the children 2-3 times per day, and 88% of families reported willing to pay up to Rp.1000,- for a 500 g packet.

Posyandu Revitalization Program targeted a total of 6,267 posyandus, and the CFI component specifically targeted 156,666 infants for complementary food distribution for a period of 6 months. Therefore, a larger evaluation on the effectiveness of the program, that is province representative, and a broader information regarding PRP will provide important information on whether the program has increased the coverage and the quality of the posyandu services. Successful results of the program can be used as a tool for advocacy and for developing policy

guidelines, especially regarding infant feeding and growth monitoring and promotion.

1.3. Objectives

1.3.1. Overall Objectives

To measure the effectiveness of the PRP in delivering nutrition interventions to targeted groups and evaluate the overall impact on malnutrition in four provinces: West Java, Central Java, East Java and West Sumatra.

1.3.2. Specific Objectives:

1. Effectiveness of CFI program in reaching target groups
2. Impact on nutritional status of beneficiaries (weight for age)
3. Impact on proportion of children growing at the appropriate rate
4. Effectiveness of training on cadres' knowledge and skill, particularly regarding growth monitoring and nutrition counseling
5. Impact on mothers' knowledge and practice of adequate infant feeding
6. Improvement in quality of posyandu services
7. Improvement in coverage of posyandu services

Chapter II

Research Methodology

2.1. Evaluation Design

Because the intervention has been implemented at the time of the survey and there was no data prior to the intervention, the design of the evaluation is *a retrospective study with matched comparison* which compared posyandus that received support for Posyandu Revitalization Program and those that did not receive support as a comparison group. The comparison group was matched according to socioeconomic status. For children sample, the comparison was matched according to the age and sex. To evaluate the effectiveness of VTDL, children/families who received and consumed VTDL was compared to those who did not. To evaluate the effectiveness of the training, cadres who received training was compared to those who did not. The design is based on the conceptual framework of the evaluation plan (see Annex 1)

2.2. Population

Posyandu:

Posyandu is the first unit of sampling with representativeness at the province level. The posyandu population were those posyandus which received support for PRP and posyandus which did not received the program. Posyandu that received support was defined as posyandu that received both CFI as well as training program, while popsyandu that did not received support was defined as posyandu that did not receive either CFI or training.

Cadres:

Cadres from all selected posyandus were the population of the study. It was assumed that cadres from CFI-intervention posyandus have received training, while those in non-intervention posyandu have not.

Household respondents

Mothers:

Mothers of all selected children were the population of the study.

Children:

The CFI program has been started since mid 1999 and stopped at the end of year 2001 (between August and December 2001). This means that the cohort of the children who received VTDL are now aged approximately between 18 -59 months. *Therefore, the children population for this study were limited to those age 18-59 months old at the time of the survey, or those who received VTDL about 6 months-3 years ago.* The reason for including this age range was to get complete information about the intervention, as well as to get information on the effect of recent versus later of VTDL consumption on children's nutritional status. In other words, by choosing only younger (for example 18 months old) children, will allow us for getting more information on the recent effect of VTDL on children's nutritional status, however, it will not give enough information about the overall dynamic of the program (e.g. the problems of VTDL supply and distribution at the beginning of the program implementation might be different from the problems arise at the end of the program). On the other hand, if we choose only older children, we will miss both the information about the program implementation as well as the more recent effect of VTDL on nutritional status, however, we might observe retained effect of VTDL program on nutritional status sometime after VTDL program has ended.

2.3. Study Sites, Sample Design and Sample size

2.3.1. Field Constraints during Data Collection.

Based on the preliminary field visit, it was found that the reporting and recording (RR) of the program was not as expected. Many of them did not have a good RR. In addition, in some districts/subdistricts similar program was also exist. Based on those findings, the original plan to select subdistrict randomly was changed. In general, two main selection criteria for districts, subdistricts and posyandu was added, i.e. the relative completeness of the reporting and recording of the program, and relatively not "contaminated" by other similar program. We recognized the possible selection bias that might be emerged from this approach, however, since the evaluation will be very much depend on the completeness of the available information (i.e. reporting and recording), this strategy was chosen.

In East Java, originally both the intervention and control subdistricts will be selected within the selected districts, based on the information obtained during the first field visit. However, after further investigation during data collection it was discovered that all subdistricts in both districts

received VTDL. For this reason another district that has no VTDL program should be chosen as control area. Only one district, Kediri, was finally selected as control area. It was too complicated to choose more than 1 district as control groups for logistic reason (time to obtain permit, transportation, and cost).

The selection of posyandu, cadres and children/mothers to some extent has also adjusted to the local situation. It was targeted that from each intervention subdistrict 5 posyandu, 3 cadres per posyandu and 10 HHs per posyandu will be selected, while from each control subdistrict 2 posyandu, 3 cadres and 10 HHs per posyandu will be selected. However, the field situation was different, including the number of children per posyandu was less than 10, the number of trained cadres was less than 3 for different reason, and the cadres that has been trained were not active anymore. The solution was to select the cadres that have been trained eventhough they were not involve in the posyandu at the time of the survey. In the case the number of HHs /mothers were less than targeted, additional neighbouring posyandus were chosen.

It was planned to make assessment of Kartu Menuju Sehat (KMS) to compare the nutritional status prior and after intervention. However, there were several problems, including the coverage of KMS, the completeness of KMS especially during VTDL program, and the accuracy of the recording.

One of the aim to assess the effectiveness of the training for cadres was to assess the data on coverage and program effectiveness (SKDN). However, the SKDN data in many places were not available or incomplete.

2.3.2. District and Subdistricts selection

In addition to the above, several other selection criteria of district and subdistrict for each province were determined, and adjusted to the local condition, as follows:

1. West Java.

District:

From discussions with UNICEF staff in West Java, 2 districts, **Subang and Sukabumi**, were recommended based on the following considerations: a) there was relatively no “contamination” of other similar program; b) both districts have relatively high commitment; and c) there was a good coordination of the program. However, especially in Sukabumi there was a change in the structural position (PEMDA), including those personnel who were involved in the program has been replaced.

Subdistrict:

Within each district 4 intervention and 2 control subdistricts were selected. Altogether 8 intervention subdistricts and 4 control districts were selected from Sukabumi and Subang

2. Central Java.

District:

In central Java, the area was differentiated based on inner/mountainous and coastal groups. Originally, as in East Java, the control will be selected within selected districts, however, because all subdistricts within each district in Central Java received VTDL, the control groups have to be chosen from non-intervention district. For mountainous area, **Wonosobo** was selected as intervention district and **Temanggung** as control district. For coastal areas, **Rembang** was selected as intervention and **Pati** as control area.

Subdistrict:

From each intervention district, 4 subdistricts were selected, while from each control district 2 subdistricts were selected. Altogether 8 intervention subdistricts and 4 control subdistricts were selected.

3. East Java.

Districts:

East Java culturally was dominated by Javanese (“Mataraman”) and Madurese cultures, therefore the selection of the districts put this aspect as one consideration. **Lamongan and Tulungagung** were finally selected based on the reason that Tulungagung will represent Javanese culture, while Lamongan will represent both Javanese and Maduranese cultures. For control district, **Kediri** was chosen based on the reason explained above.

Subdistrict:

In each intervention district, 4 subdistricts were selected, while in control district 4 subdistricts were selected. Altogether 8 intervention subdistricts and 4 control subdistricts were selected in East Java.

4. West Sumatera.

District:

In West Sumatera, there were no control districts, all districts received VTDL. Instead of control and intervention, the selection was differentiated based on urban (municipal) and rural (district), because there were 9 districts and 6 municipals in this province. Additional criteria was also determined, mountainous and coastal areas. As a result, 2 districts **Agam** (mountainous) and **Padang Pariaman** (coastal areas) and 2 municipals **Solok** and **Padang Panjang** were selected.

Subdistrict:

From each district, 3 subdistricts were selected, while from each municipal 2 subdistricts were selected. Altogether 10 subdistricts were selected.

2.3.3. Selection of Posyandu, Kadres and Children/mothers

1. Sample Size Estimation

Sample size estimation is based on indicators for each sampling unit. In this study the unit of analysis will be posyandu, cadres, and mothers/children. Therefore, there will be three sample size i.e. related to indicators at posyandu level which will serve as the first sampling unit; indicators related to cadres; and indicators related to household (mothers and children aged 8-59 months old). Because this study aims at comparing two groups (intervention and non-intervention) the following formula is used to calculate the sample size:

$$N_1 = N_2 = \frac{[Z_{\alpha/2} + \sqrt{2pq}] + Z_{\beta} \sqrt{[p_1q_1 + p_2q_2]}}{(p_1 - p_2)^2}$$

(adopted from KPC 2000 Field Testing Notification Form by Child Survival Technical Support Project (CSTS), Maryland, 2000, page 48)

The biggest sample size is used as the sample size to be complied by the study. Based on the calculation the range of sample size for Posyandu is 22-46; for cadres is 62-146; and for household (mothers and children) is 128-218 for each province (See Annex 2: Table of Sample Size Calculation). Because of lack of information prior to

intervention (no baseline data) and the data quality might be questionable caused by remote recall bias, the possibility that the difference is caused by chance is more likely. Therefore, a larger sample size is needed to decrease the observed difference that is caused by chance, however we keep only key indicators to be collected. . The targeted sample size was 48 posyandus in each Java province and 50 posyandus in West Sumatera; 144 cadres in each Java province and 150 in West Sumatera; and 480 HHs/Mothers in each Java province and 500 in West Sumatera.

In total, there were 211 (108.8% of expected) posyandu visited, 358 (61.5%) cadres interviewed and 1748 mothers/children (90.1%) interviewed and measured (children).

Table 2.1 Number of Qualitative Samples from Each Province

Province	Districts		Subdistri n	Villages n	Posyandu*) n (%)	Cadres**) n (%)	HHs/ Mothers***) n (%)
	I	C					
W. Java	Subang Sukabumi	Subang Sukabumi	8 Interv 4 Contrl	16 Interv 8 Control	49 (102.1%)	108 75.0%	475 98.9%
C. Java	Wonosobo Rembang	Temanggung Pati	8 Interv 4 Control	16 Interv 8 Control	50 104.2%	77 53.4%	439 91.5%
E. Java	Lamongan Tulungagung	Kediri	8 Interv 4 Control	16 Interv 8 Control	63 131.3%	89 61.8%	404 84.2%
W. Sumatra	D	C	6 Interv 4 Interv	33 Interv	49 98%	84 56.0%	430 86%
	Agam P. Pariaman	Solok P. Panjang					
Total	13		46	105	211 108.8%	358 61.5%	1748 90.1%

*) Total expected # : 48 each from W, C and E Java, and 50 from W. Sumatra = 194

**) Total expected # : 144 each from W, C and E Java, and 150 from W. Sumatra = 582

***) Total expected # : 480 each from W, C and E Java, and 500 from W. Sumatra = 1940

Table 2.2 Number of Qualitative Samples from Each Province

Province	Intervention Groups/Districts		Control Groups/Cities	
	Sukabumi	Subang	Sukabumi/Subang	
West Java	2 FGDs 4 Indepth Interviews	2 FGDs 4 Indepth Interviews	1 FGDs 2 Indepth Interviews	1 FGDs 2 Indepth Interviews
	Wonosobo	Rembang	Temanggung	Pati
Central Java	2 FGDs 4 Indepth Interviews	2 FGDs 4 Indepth Interviews	1 FGDs 2 Indepth Interviews	1 FGDs 2 Indepth Interviews
	Tulung Agung	Lamongan	Kediri	
East Java	2 FGDs 4 Indepth Interviews	2 FGDs 4 Indepth Interviews	1 FGDs 2 Indepth Interviews	
	Agam	P. Pariaman	Solok	P. Panjang
West Sumatera	2 FGDs 4 Indepth Interviews	2 FGDs 4 Indepth Interviews	2 FGDs 4 Indepth Interviews	2 FGDs 4 Indepth Interviews
	Total	16 FGDs + 32 Indepth Interviews		9 FGDs + 18 Indepth Interviews

3.1. Limitation of the Study

3.1.1. Time lapse between period of intervention and time of evaluation

3.1.1.1 Implications on sample selection

Originally, the selection of sub-district, village and posyandu will be done randomly. However, based on the preliminary field visit it was obvious that the reporting and recording (RR) was unsatisfactory and that not all person responsible for the VTDL program were still available. On the other hand, some of the information needed for this evaluation will depend on the availability of RR and the responsible person. For this reason, it was decided that two criteria should be added, i.e. relative completeness of RR and the availability of the person. It is realized that this decision has compromised the bias level of the sample.

3.1.1.2. Effect of CFI program on nutritional status of the children

In general, in the 4 provinces, the VTDL program has ended since 2001, and some of the children received the last package of VTDL even before this time. Theoretically, the nutritional status prior and after VTDL intervention can be obtained from KMS, however, this information was apparently not available, partly because many of the children do not have KMS anymore, or the nutritional status in the KMS were not completely recorded. As an alternative, anthropometry (Weight for Age (WAZ), Height for Age (HAZ) and Weight for Height (WHZ)) measurement was obtained in the survey.

Notes on children's nutritional status measurement:

It is debatable whether nutritional status (either right after the intervention or later), would be useful to be measured in this survey. Since the VTDL intervention has ended in about one year prior to the survey, we will not be able to measure the recent effect of VTDL on nutritional status using direct

anthropometric measurement. We were expecting to observe the nutritional status right after the intervention (approximately at 12 months old) retrospectively through growth chart (KMS) assessment. However, the availability and completeness of KMS recording was as not as expected.

On the other hand, the direct anthropometry measurement of nutritional status through the survey might give useful information. Conceptually, we expect that VTDL program will not just give a short-term benefit on children's nutritional status, but we expect a longer term benefit. First, child's nutritional status at one point in time will influence his/her nutritional status later. Second, VTDL program is meant as a trigger for the mothers to provide a better feeding behavior to their children. Third, nutrition counseling provided by cadres should further strengthen mothers' feeding knowledge and practice. Therefore, data on nutritional status sometime late after the intervention might give valuable information on the effectiveness of the program.

3.1.2. Existence of other similar program

There is possible implication on nutritional status of the children due to the existence of other similar program. In all 4 provinces, similar food supplementation program were also exist (for example: SUN, Katresna, Delvita, etc.). The implication is that the changes in nutritional status of the children, might be attributed to this program. Therefore, it is difficult to measure the changes attributable to VTDL program alone.

Variable	Total	
	I	C
Age (%)		
6- <12 months	0.7	-
12 - <24 months	25.1	36.1
24 - <36 months	40.9	39.9
≥ 36 months	33.4	23.9
Birth Weight (%)		
< 2500 grams	4.6	5.8
Diarrhea in last 3 months (%)		
Yes	26.2	32.8
1 time	52.8	70.5
2 times	19.7	15.4
≥ 3 times	27.4	14.1
ARI in last 3 months (%)		
Yes	26.9	29.2
1 time	57.1	49.3
2 times	24.7	28.2
> 3 times	18.2	22.5

3.2. Results and Discussion

3.2.1. Characteristics of the Sample

Children's characteristics

Children's characteristics that are assumed to have some influences toward children's nutritional status were analyzed. These were infants' age, sex, the number of under-five sibling, birth-weight, history of diarrhea and acute respiratory infection

(ARI) in the last 3 months. Most of the under-five children were aged 24-<36 months (about 40% in both intervention and control groups) and only < 1% aged 6-12 months old. It seems that the children in intervention groups were older than the control groups, i.e. 33.4% of children in the intervention groups aged 36 months or older as compared to the control groups (23.9%) (Table 3.1.). This might be caused by the sample selection process. The sample was those who have ever received VTDL between 6-12 months old, so by the time of the survey many of them were aged 36 months old or more. While in the control the sample was those aged 12-59 months.

In general, there was no difference in the percentage of sex and birth weight between intervention and control groups. There were slightly more boys than girls, which was in accordance to the results of the latest National Census, that is sex ratio of 100.6 (CBS, 1997). Around 10% of children have sibling, which was similar between intervention and control groups. It is interesting to see that the prevalence of the reported low birth weight (4.6% - 6.3%), both in intervention and control groups, was quite consistent with the results from other studies (5.8%) ASUH Baseline Survey (PATH - Centre for Family Welfare University of Indonesia 2002), which was lower than Indramayu's studies (Kusharisupeni, 2000; Purwaningsih 2001).

More children have ever experienced diarrhea in the last 3 months in the control groups (32.8% versus 26.2%), however, more children in the intervention groups experienced diarrhea more frequently than the control groups. The difference was less striking with ARI, the percentage of children in the control groups who have ever experienced ARI was higher than intervention groups. Similar tendency was also found in term of frequency of ARI.

Mothers' characteristics

The following table informs about mothers' education, mothers' working status, and fathers' education, variables that to some extent represent social-economic status of the households.

Table 3.2. Characteristics of Parents by Province and by Intervention/Control Status

Variable	W. Java		C. Java		E. Java		W. Sumatera			Total	
	I	C	I	C	I	C	I	Dist	City	I*)	C
Mother's education (%)											
≤ Junior High, finished	88.4	78.5	87.6	90.4	80.7	74.7	52.3	59.6	40.5	76.2	81.4
≥ Senior High, finished	11.6	21.5	12.4	9.6	19.3	25.3	47.7	40.4	59.5	23.8	18.6
Mother's working status (%)											
No	82.3	86.3	47.2	50.6	52.0	82.7	78.1	77.5	79.1	66.4	72.7
Yes	17.7	13.8	52.8	49.4	48.0	17.3	21.9	22.5	20.9	33.1	27.3
Father's education (%)											
≤ Junior High, finished	75.2	65.0	81.1	89.0	76.8	64.0	59.0	66.7	46.3	72.3	73.0
≥ Senior High, finished	22.3	31.3	18.3	11.0	21.6	33.3	40.1	32.2	53.1	26.3	24.9

*) excluding cities in West Sumatera

Most of the mothers and fathers (about 40%) have finished their elementary school, both in the intervention and control groups. The percentage of mothers and fathers having senior high or higher education was slightly higher in the intervention groups. Mothers who were working were slightly higher in the intervention groups (33.1%) as compared to control groups (27.3%). The percentage of mothers who were working was much higher in East Java (both intervention and control groups) and in Central Java (intervention groups). Mothers' education was slightly higher in intervention than control groups. It seems that the level of mothers' education, which was much higher than other provinces, contributed to the total figure. Fathers' education was also higher in West Sumatra as compared with other provinces.

In general, there were differences between intervention and control groups in each characteristic. The total percentage of cadres aged ≥ 35 year-old was higher in control groups than in intervention groups (43.5% as compared to

Table 3.3.
Characteristics of the Cadres by Province and Intervention/Control Status

Variable	Total	
	I	C
Cadre's age (%)		
≤ 24 years	12.1	3.4
25-34 years	44.4	44.8
> 35 years	43.5	51.7
Cadre's education (%)		
\leq Junior High finished	65.5	50.0
\geq Senior High finished	34.5	50.0
Cadre's working status (%)		
No	63.3	72.4
Yes	36.7	27.6
Duration as cadres		
≤ 2 years	16.0	20.7
> 2 years	83.7	79.3

51.7%). In term of education, cadres' education was notably higher in control groups. Most cadres (50.0%) finished their senior high school or higher in control groups whereas in intervention groups 34.5% finished senior high school. Cadres' working status was slightly lower in control groups. Regarding duration as cadres, the percentage of cadres working for longer duration was slightly higher in intervention than control groups (Table 3.3.). By province, the higher percentage of longer duration as cadres was

higher in intervention groups for East and Central Java, but lower in West Java. Comparing districts and cities in West Sumatera, the percentage of those cadres working longer was higher in the cities (Annex 3: Table 3).

About 72% of mothers reported they received VTDL every month. Most of the children received their first and last pack of VTDL during the intended age period (6-12 months). There were about 14% of the children received VTDL when they had not reached 6 months old, and about 32.1% still received VTDL after 12 months old.

Seventy seven percent of the mothers perceived that they received adequate supply. However the adequacy level based on calculation of the expected VTDL revealed with different results. The percentage of children who received 50% or more of the expected VTDL was 54.6%, while mothers who received 80% or more of the expected VTDL was only 19.4%. It seems that there was a gap of understanding on how much VTDL is sufficient.

Among children who received VTDL at the age of 6 - 12 months old, 66.7% received for less than 6 months. Sixty percent of children received less than 10 packages and 24.8% received 10-19 packages of VTDL.

More than half of the children were served VTDL 3 times daily (as recommended by the program), and 86.7% of the children always or often finished the meal. The reasons for not finishing the meal mainly were the size of the serve were too big and the taste that was not good.

3.2.2. How has CFI program reached target groups?

VTDL Distribution at Province and District Level

The table below shows information on VTDL distribution including dates of first and last supplies and number of packs received in each province.

Table 3. 4. Period of VTDL Distribution by Districts

Province	District	First Supply	Last Supply	# of Pack. received	Range # of box per pack. received
West Java	Sukabumi	May-99	Dec-00	8 times	760-1020
	Subang	Jul-99	Aug-01	6 times	939-10.648
Central Java	Wonosobo	Sep-99	Oct-01	15 times	930
	Rembang	Jul-99	Dec-01	12 times	950-1030
East Java	Lamongan	May-99	Nov-00	6 times	1400
	Tulung Agung	May-99	Sept-01	8 times	1810
West Sumatra	Padang Pariaman	Sep-99	Oct-00	6 times	1425
	Agam	Aug-99	Nov-00	11 times	580-1160
	Solok City	Sep-99	Jan-01	17 times	140
	Padang Panjang City	Aug-99	Feb-01	12 times	No data

The first supplies came within May to September 1999 and the last supplies came within November 2000 to December 2001 period. The earliest supply came in May 1999 in Sukabumi district of West Java, followed by other groups. Range of frequency of receiving VTDL varied from 6 to 17 times. The number of boxes for each supply were varied. Numbers received by each district was actually based on districts' request (in accordance to district's need calculation). This request was communicated to UNICEF. The number of boxes was different for each delivery. There was no complete data for Padang Panjang district because the office of Local Government was burned and so was the data.

Flow of the Supply and Distribution of VTDL

Sectors were responsible for the program in general was PKK (district and sub-district level) or local government (village development unit). Health sector was not directly involved with the program. The involvement of health sector was more obvious in West Sumatra than other provinces.

The selection of village in East and West Java was using criteria of KHPPIA villages, while in Central Java there were no specific criteria. For year 2000, in Tulung Agung, all poor villages were included.

In all provinces, the needs of VTDL was based on first calculation by posyandu, then proposed by village to sub-district and district. The calculation was made by PKK, cadre or Bidan di desa. In West Sumatera it was the nutrition personnel at sub-district level Tenaga Pembantu Gizi (TPG) who made the calculation of the needs. In all provinces, the amount of the following supplies were based on the first calculation. The waiting time between the proposal for VTDL and the supply was between 2 weeks to 3 months.

Cadres in general were complaining about the irregularity of the VTDL availability. At first, the supplies were quite regular, but then it became irregular, especially for the last supplies. There were times that the supply was late, so there was a shortage of supplies for sometime, and when it came the amount was more than needed. Occasionally, in the case of shortage, the cadres have to find VTDL from other villages. In some cases where the supplies were too much, they distributed the VTDL to older children. Usually when the supplies came it was distributed evenly throughout villages. The decision usually was made at sub-district level.

In general, once the supply arrived at the sub-district level, they were distributed to posyandu within 1-2 weeks. Even though they have never received expired VTDL, they did receive VTDL that were almost expired, within 1 or 2 months, particularly the last supply (in 2001, at the end of the program). For this reason, they distributed the VTDL straight away. Cadres either distributed VTDL to children's home or distributed during posyandu venue.

Socialization about VTDL.

Cadres reported that there was no special socialization on VTDL.

Place for storage.

VTDL was usually kept for 1-2 months at district and about 1-2 weeks at sub-district before distribution to lower level. There was funding for distribution from province to district but there was no funding to the lower level. Usually the lower level picked up VTDL from higher level. This was one of the barriers for timely distribution. There was no special place to keep VTDL, in some cases they just put VTDL on the floor. They reported that there was no guidance on how to store VTDL.

Supervision and evaluation

Supervision and evaluation was existed, but not in regular manner, because there was no funding for these activities. In general, PKK, Health Services and Local Government conducted the supervision and evaluation activities.

Funding

There was no special funding for VTDL distribution. The funding was obtained from selling VTDL. The price of VTDL was determined by a local regulation, wich was started with Rp 500,-, then increased to Rp 1000,- The funds was managed by posyandu and PKK.

In all districts, beside VTDL program, there was also other similar program from Social Safety Net in Health (JPSBK) and PMT-APBD1 which was targeted for severely malnourished children.

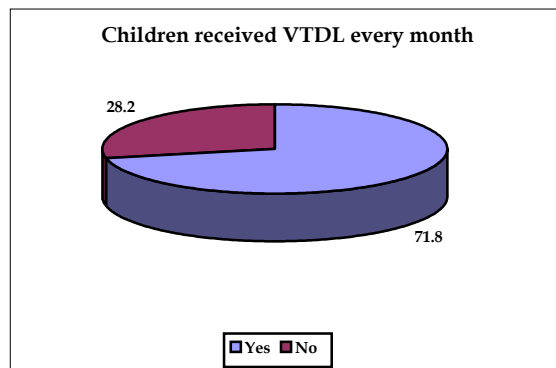
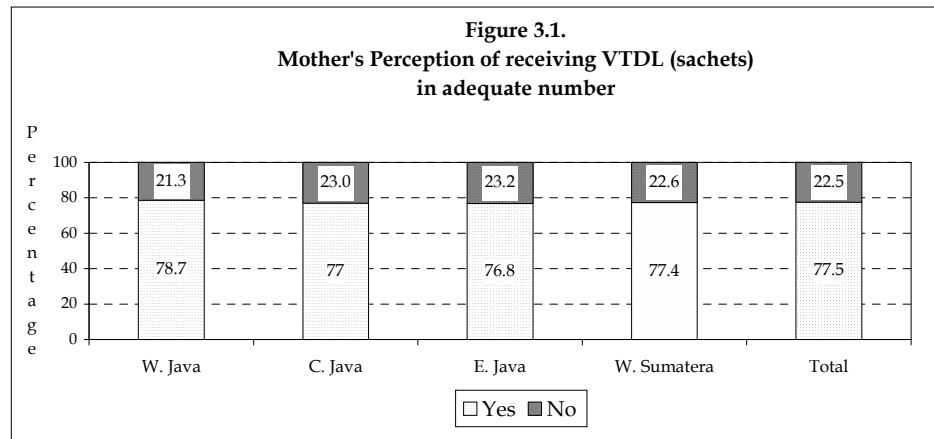
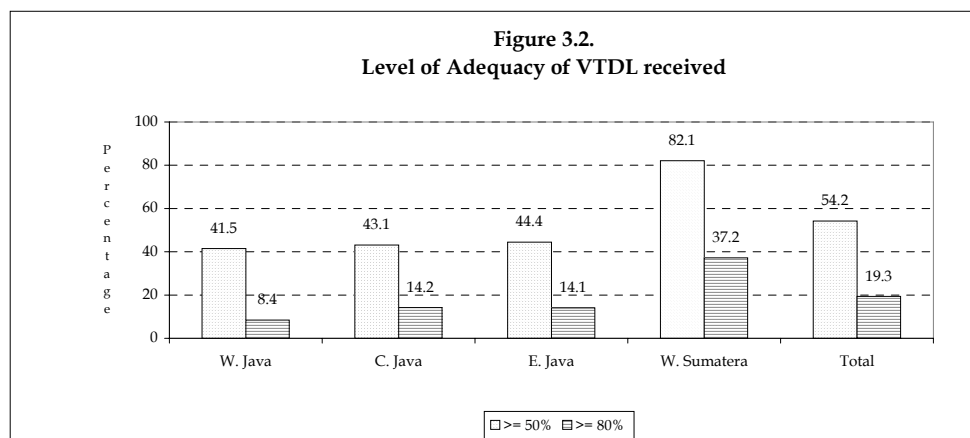


Figure 3.1. provides information on mother's perception of receiving VTDL (sachets) in adequate number in each province. More than 75% of respondents *perceived* that they received VTDL in sufficient number, and most mothers (71.8%) reported that they have received VTDL every month. This figure was quite similar in the four provinces.

Beside based on mothers' perception as explained above, the level of sufficiency or adequacy was assessed based on calculation. Adequacy is calculated by dividing total number of received VTDL by ideal number of VTDL to be received (that is by considering that the number of package to be given is 4 packages per months and the number of months the infant should be given VTDL in the range of 6 to 12 months). The percentage of mothers who received VTDL 50% of the expected numbers or more was 54.2%, while mothers who received VTDL of 80% or more of adequacy was 19.3% (Figure 3.2. and annex 3: table 5).



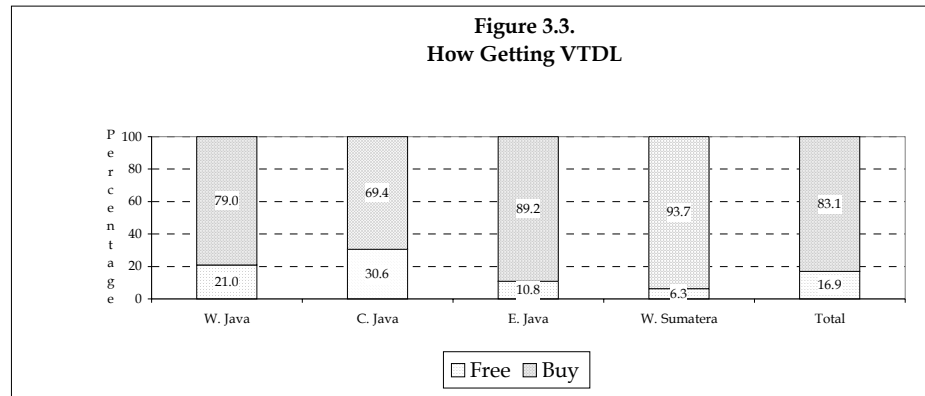
Most infants were in the age of 6-12 months old when they first received (85.6%) and last received (63.3%) VTDL which was in accordance with the intended target of VTDL. However, there were about 14% of the children received VTDL when they had not reached 6 months old, and about 34.4% still received VTDL after 12 months old. Comparing provinces, West Java seems to be the best in reaching the right target group. The possible selection bias was recognized because the samples were those children who have ever received VTDL at that age period.

Among infants age 6-12 months old who received VTDL, 66.7% of them received for less than 6 months period (Annex 3: table 5). Regarding the number of VTDL received, about 60% infants received VTDL only less than 10 sachets, while about 25% of them received 10-19 packages (Table 3.5).

Table 3.5. VTDL Supply and Distribution at Household Level by Province

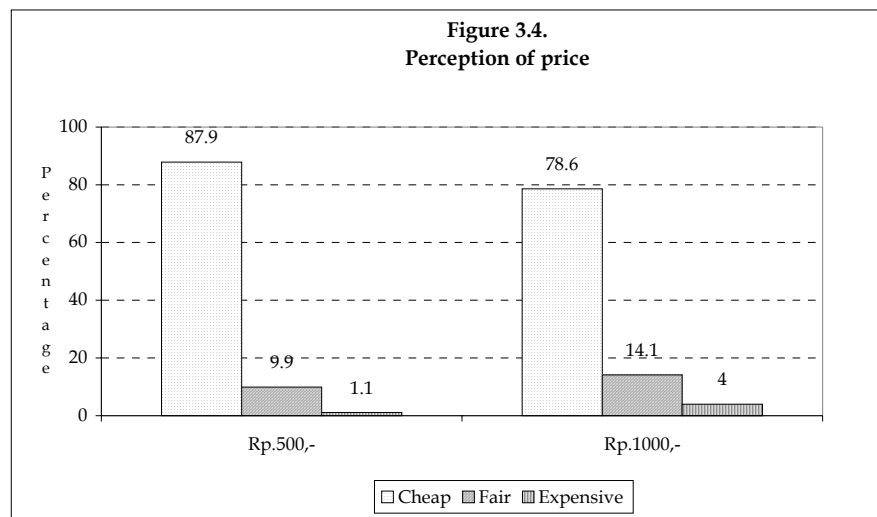
Variable	Province				Total
	W. Java	C. Java	E. Java	W. Sumatra	
Children received VTDL every month (%)					
Yes	69.1	64.6	69.3	82.1	71.8
Age of first received (%)					
<6 month	2.8	24.4	13.4	16.7	14.2
6-12 months	97.0	75.0	86.6	83.3	85.6
Don't know/no answer	0.3	0.6	0.0	0.0	0.2
Age of last received (%)					
<6 month	0.3	0.6	0.0	0.0	0.2
6-12 months	71.9	62.4	58.8	59.5	63.3
>12 months	25.8	34.3	40.8	37.9	34.4
Duration of receiving VTDL among infants 6-12 months old					
1 month	18.3	11.9	19.2	.0	12.5
2 months	17.5	18.2	18.5	7.1	15.1
3 months	14.6	11.9	11.6	13.2	13.1
4 months	9.3	15.4	10.3	16.8	12.6
5 months	12.3	11.2	14.4	15.7	13.4
6 months	7.1	8.4	8.9	7.1	7.7
7 months	20.9	23.1	17.1	40.1	25.6
Number of receiving VTDL per sachet among infants 6-12 months old					
< 10 sachet	72.2	71.3	68.5	30.8	60.5
10 - < 20 sachet	20.7	18.9	24.7	34.9	24.8
20 - < 30 sachet	7.1	8.4	6.8	27.2	12.5
>= 30 sachet	0.0	1.4	0.0	7.2	2.1

Most of mothers obtained VTDL at posyandu (73.0%), while others received it at cadres' home (16.1%), midwife's home (3.2%) or at mothers' home (1.9%) (Annex: Table 5). There was no further information from this survey whether mothers obtained total amount of their monthly needs each time they went to posyandu, or they came to cadres' home every time they need. It is interesting to notice that in Central Java about one



third of VTDL were obtained from cadres' home. This might indicates that mothers could get VTDL outside posyandu or anytime they wanted.

In all provinces, VTDL did not intend to be given freely. However, some mothers get VTDL for free, particularly in Central Java (30.6%) and East Java (21.0%). Qualitative result indicates that those who could not afford to buy they will get for free.



There was a change in the price between the beginning and the end of the program. At the beginning of the program, the price of one sachet of VTDL was Rp. 500.- and at the end of program was Rp. 1000.- . Each posyandu had the authority to increase VTDL 's price slightly in order to add or support the implementation of the program. The increased price did not seem much to change mothers' opinion, i.e. mothers who

considered the price cheap decreased only very little, which was no more than 10% (87.9% at the price of Rp.500,- as compared to 78.6% at the price of Rp.1000,-) (Figure 3.4).

It is interesting to notice that the proportion of mothers who considered the price of VTDL, both at the price Rp.500,- and Rp.1000,-, cheap was considerably higher in central and east Java as compared to West Java and West Sumatra (Annex 3:table 6).

Only half of mothers checked the expiry date of VTDL they received (56.3%). Based on mother's experience, only less than 5% of mothers had ever received expired, damaged pack, lumped up, or color changed VTDL (Table 3.6.). The highest percentages of expired VTDL received were in Central Java (4.0%) and West Java (3.8%) because these two provinces were still willing to assist VTDL distribution even the expired date period of those VTDL were within 1 month (the last VTDL supply).

Table 3.6. Source and Price of VTDL

Variable	Province				Total
	W Java	C Java	E. Java	W. Sumatra	
Checking expiry date (%)					
Yes	50.6	60.9	57.4	57.0	56.3
Received VTDL (%)					
Expired	3.8	4.0	1.5	1.0	2.6
Damaged pack	1.6	1.7	0.4	3.2	1.9
Lumped up	2.2	1.7	2.3	2.0	2.0
Color changed	0.8	0.3	0.4	1.7	0.9

Table 3.7. Consumption of VTDL

Variable	Province				Total
	W. Java N=395	C. Java N=356	E. Java N=306	W. Sumatra N=430	
Who taught to prepare VTDL (%)					
Information on sachet	40.1	37.5	39.8	42.2	40.1
Cadre	24.6	54.2	32.8	33.7	35.6
Health provider	10.6	6.7	17.2	23.5	15.1
Own Experience	3.5	5.0	14.8	2.4	6.1
Brochure	9.9	0.8	3.1	3.0	4.3
Neighbors/ friends	3.5	0.8	0.8	3.6	2.3
Bu kades/Pkk	0.0	0.8	5.5	1.2	1.8
Parents	0.0	0.0	1.6	1.2	0.7
Others	2.1	0.0	1.6	0.0	0.9
Frequency/day:					
Mean	2.6	2.5	2.5	2.5	2.5
Consumption by other HH member (%)					
Yes	48.5	24.2	38.8	41.9	38.8
Received other food complement packages (%)					
Yes	13.5	38.7	14.1	14.4	20.3

Table 3.7. shows that in general, mothers knew how to prepare VTDL from information on sachet (40.1%), cadres (35.6%), health providers which was midwives and/or puskesmas personnel (15.1%) and their own experience (6.1%).

*Qualitative results:
the reason for not receiving VTDL*

The most complains expressed by cadres was the irregularity of the supplies, especially close to the end of the program. Other complains expressed by them were no transportation funds and no incentive for cadres to implement the program.

In term of irregularity, if VTDL came they were distributed evenly to all villages, and in many cases it was not enough, and in others it was too much.

" ...agar semua desa dapat ... biar adil nanti desa lainnya iri"

Sometimes the cadres from the villages with shortage of VTDL would looked for VTDL from other villages. The cadres actually did not know how much VTDL exactly they should receive.

" Kita tinggal nunggu dropping ..."

It was perceived by PKK, PEMDA or health personnel including bidan, that the responsible person for CFI program was cadre. Some bidan for example claimed that even though they know about the program, they did not know about the distribution and the funding because they did not involve them. "I knew about the program ... it's cadres' responsibility. Up to them." I don't know much.... Including the money"

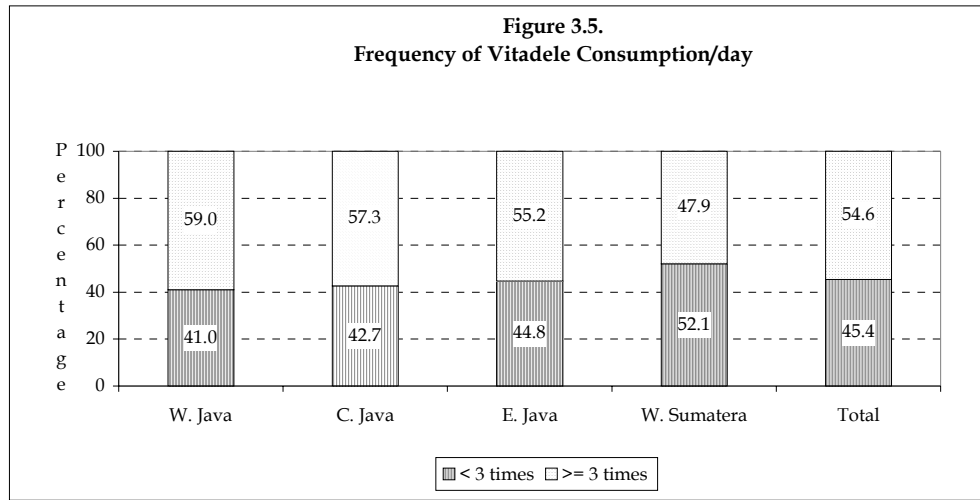
Usually the cadres picked up the VTDL at sub-district or village office. In some areas, the bidan picked up the VTDL, because certain community considers VTDL as a "health related package", and that children's health was bidan's responsibility.

At village level, the VTDL was distributed either directly to the home of the target children, picked up by mothers at cadre's home or during posyandu activities.

Despite of the above complains, cadres perceived that the community like VTDL program and expected that

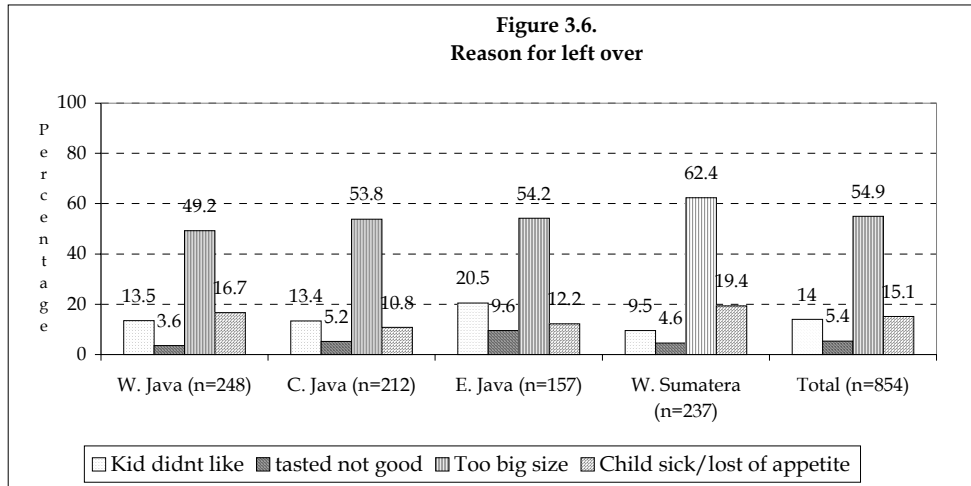
the program will continue. However, they suggested that the supplies should be regular and based on the needs of their posyandu; there should be transportation funds for distribution and incentive for cadres.

Cadres: “ ... kapan ada lagi?..... masyarakat senang ada VTDL ... asal teratur datangnya ...”



Average frequency of VTDL consumption was 2.5 times per day. More than half (54.6%) of mothers served VTDL 3 times (as recommended) or more per day (Figure 3.5.).

The percentage of children who always finished VTDL meal was 41%, and about 45% stated sometimes the children didn't finish. Reasons for left over varied including and in particular the portion per serving that was too big (54.9%), the children did not like the taste (14.0%) and children were sick or lost of appetite (15.1%) (Figure 3.6). The main reason for children did not like VTDL was because of its taste and smell. We did analyze whether those children who did not finished the meal was those who were younger (assuming that the portion was too big), the results indicates there was no such relationship.



Leakage of VTDL consumption in term of false positive, reflected by the receiver of VTDL who were younger than 6 months (14.2%) and older than 12 months (34.4%) and mothers' report on the proportion of other household members who have ever consumed VTDL which was accounted for 38.8%. Other HHs member who have ever consumed VTDL mostly were other kids (62.0%) and mothers (34.0%). In term of other food complement, in all provinces similar food complement program was also existed. It was almost 20.0% of them received it. In Central Java, the percentage was the highest (38.7%) as compared to other provinces (around 15%) (Annex: Table 6)

Qualitative results :

The reason for not consuming appropriately

Those who did not consume or consumed less claimed that the reason was the taste.

" .. anak saya nggak suka rasanya, seperti bau apek ... langu ... seperti bau obat"

" rasanya seperti tepung manis, tidak seperti SUN .. PROMINA ... enak ..."

" ... anak saya sejak dikasih SUN tidak mau lagi makan yang lainnya"

" ... anak saya nggak suka lagi, bosan ..."

Mothers sometimes cooked VTDL as cake (bolu) or banana cake (kue pisang), or mixed VTDL with other product such as SUN and PROMINA.

The taste that was mostly liked was banana in East Java, Central Java (and mung bean flavor) and West Java, because it's sweeter. While in West Sumatra they like red-rice taste more, because it's more creamy.

In general, in West Sumatera people think that VTDL was not nutritious because the price was cheap. "It was cheap (murahan) food, no nutrition .." "It's just like ordinary flour ..."

The same comment was also raised in Central Java: " ... *harganya murah, gizinya masih lebih banyak SUN, PROMINA atau NESTLE ...*"

As stated by cadres, in general mothers like the program and expecting that the program will continue. However the taste should be better and there should be more variation. In general mothers can accept the price.

3.2.3. Children's Nutritional Status

Comparing between intervention and control groups, it is interesting to notice that for all anthropometric indicators (WAZ, HAZ and WHZ) the two groups were quite similar. By province, the difference between intervention and control groups was only found in Central Java, i.e. the prevalence of malnutrition, especially severe malnutrition, in intervention groups was lower than in control groups.

Children in this study were more chronically malnourished rather than acutely malnourished as reflected by the prevalence of those <-2.0 SD for WAZ and HAZ which was more than three times higher than the prevalence based on WHZ.

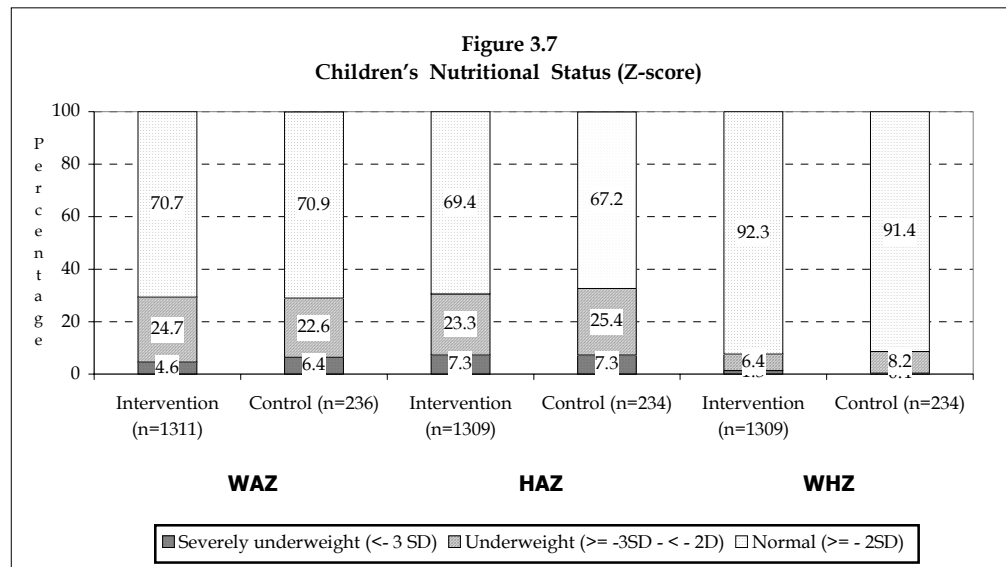


Figure 3.7 exhibited anthropometric status for intervention and control groups, based on the Z-score values of WAZ, HAZ and WHZ. For WAZ indicator, the prevalence of severely underweight was slightly lower in the intervention groups, while the prevalence of underweight was slightly higher. According to HAZ indicator, the prevalence of severely stunted was the same for both groups, while the prevalence of stunting was slightly lower in intervention groups. For WHZ indicator, the prevalence of severely wasting was considerably small, and the percentage was

slightly higher in intervention than in control groups, whereas the prevalence of wasting was slightly lower in intervention than in control groups. In comparison with data from Jahari (2000) the figure of severely underweight from 4 provinces were somewhat better particularly for severe cases. The data showed the prevalence of severely underweight (< -3 SD) among children 0-59 months based on WAZ was 9.5%, and 18.9% were moderate/mild underweight (≥ -3 SD - < -2 SD).

The results show that in term of WAZ and HAZ indicators, the percentages (around 30%) of children under < -2 SD (underweight and stunted) was obviously higher than the percentage (about 10%) of children with WHZ under < -2 SD (wasted). The figures were similar for each province. Low WAZ and HAZ reflect long term malnutrition and poor health while low WHZ implies recent or continuing current weight loss (WHO Expert Committee,1995). Thus, anthropometrically, children in this study were chronically malnourished rather than acutely malnourished. This might be related to a deficit associated with the past event or deficit associated with a long term, continuing process.

As showed in the previous result, more children have ever experienced diarrhea in the last 3 months in the control groups, however, more children in the intervention groups experienced diarrhea more frequently than the control groups. It was recognized that diarrhea has more detrimental effect on nutritional status than ARI has (Mosley and Chen, 1985). Further examination on the relationship between diarrhea and nutritional status (WAZ) showed that diarrhea was significantly related with nutritional status, the prevalence was higher for those children with WAZ < -2.0 SD.

Table below shows the results of Z score on childrens' nutritional status in each province. In West Java, the nutritional status of children between intervention and control groups was similar. In Central Java, the nutritional status of children in the intervention groups was better for all indicators. In East Java, the figures for HAZ and WHZ were similar, while for WAZ the status was slightly better in the control groups. For West Sumatra, all districts received intervention; therefore the comparison was made between cities (represent urban) and districts (represent rural). The results showed that the nutritional status in the cities and districts for all indicators were about the same.

Table 3.9. Children Nutritional Status (Z-score) in Intervention & Control groups by Province

Variable	W. Java (%)		C. Java (%)		E. Java (%)		W. Sumatra (%)		
	I	C	I	C	I	C	I	Dist	City
Weight for Age (WAZ)									
N	391	78	352	83	302	74	428	266	162
Severely underweight (< -3 SD)	6.6	7.7	3.4	7.2	3.6	4.1	3.7	4.1	3.1
Underweight (≥ -3 SD - < -2 SD)	25.3	23.1	24.4	25.3	25.8	19.2	22.7	22.9	22.2
Normal (≥ -2 SD)	68.0	69.2	72.2	67.5	70.5	76.7	73.6	72.9	74.7
Height for Age (HAZ)									

N	393	77	350	83	301	73	428	265	163
Severely stunting (<-3SD)	8.1	6.5	6.3	9.6	8.3	5.6	6.1	6.4	5.5
Stunting (\geq -3SD - < -2 SD)	23.7	24.7	27.1	28.9	20.6	22.2	21.3	20.8	22.1
Normal (\geq -2SD)	68.2	68.8	66.6	61.4	71.1	72.2	72.7	72.8	72.4
Weight for Height (WHZ)									
N	389	77	349	83	300	73	426	265	161
Severely wasting (<-3SD)	1.8	0.0	1.1	0.0	0.3	1.4	1.6	1.9	1.2
Wasting (\geq -3SD - < -2 SD)	6.9	9.1	4.9	8.4	7.3	6.9	6.8	6.4	7.5
Normal (\geq -2SD)	91.3	90.9	94.0	91.6	92.3	91.7	91.5	91.7	91.3

Stratified by sex, there was no difference found for all provinces for all anthropometric indicators. Thus, sex was not an explanatory variable here and will not be discussed further.

3.2.4. Were children growing at appropriate rate?

No conclusion can be drawn due to unavailability of or incomplete KMS recorded.

The impact of intervention on the proportion of children growing at appropriate rate could be evaluated by comparing children under two years old whose weight was not increasing. However, data to be used, that is, data recorded on KMS were either not accessible (more than 30% in intervention groups KMS was not available) or the data recorded on KMS was incorrect.

Qualitative results :

Why it was difficult to get KMS ? _____

The result from qualitative assessment revealed that mothers did not consider important to come to posyandu when the children had finished their immunization (one year old). They considered the only reason to come to posyandu was to get the children immunized. Weighing was not considered important.

" .. apa gunanya datang ke Posyandu kalau hanya untuk timbang"

" .. malu kalau bawa anak yang sudah besar untuk timbang"

The cadres were usually reluctant to make RR information, including KMS and SKDN, there was no incentive for doing RR. They just prepared VTDL reporting and recording when they know that there will be evaluation. Another reason was because the target for VTDL were children 6-12 months old, so there was no reason to make RR because usually the children did not come to posyandu after they reached 12 months old.

3.2.5. Cadres' Knowledge and Skills

In general, cadres' knowledge about breast-feeding is sufficiently good, however, there is almost no difference between cadres' knowledge in intervention and control groups. In both groups, more than fifty percent cadres knew about immediate breastfeeding (< 30 minutes), around 90% knew that colostrums should be given, 61-77% knew that colostrums increase immunity and about 86% knew the length of exclusive breastfeeding was 4 - 6 months.

There was almost no difference regarding cadres' knowledge and practice in weighing. It should be noted that almost 40% of cadres did not know how to record children's weight

The training was conducted in November and December 1999 and 2000 mostly for about 2 days. The training used a module consisted of 11 topics/areas, including Maternal and Child Health (MCH), nutrition, weighing, immunization, supplementary feeding, etc. The number of trainees was about 25 - 100 persons per class, and was conducted at Sub-district office. The trainers were a team from district level (District Health Office, PKK, BKKBN, Agriculture, Puskesmas). In general cadres understood that the purpose of the program was to improve the under-five's nutritional status, and they understand that the target of the program was infant of 6-12 months old.

Tabel 3.11.a
Number of
Cadres
Trained

Variables	Number	
	I	C
N = number of cadres	313	58
Number of cadres attended last training (%)		
≥ 3/posyandu	62.9	65.4
2	23.7	23.1
1	13.4	11.5
Mean	3	3
Median	3	3
Number of cadres attended training and still active (%)		
≥ 3/posyandu	51.0	61.5
2	28.5	21.2
1	20.5	17.3
Mean	2.6	2.8
Median	2	3

Regarding training of cadres, in more than 60% of posyandu in intervention groups having at least 3 of their cadres attended training. However almost the same percentage of cadres in control groups attended training which was given by other programs. Those cadres who were still actively engaged in posyandu's activities was slightly decreased in both groups. The mean of cadres attended last training in intervention groups was 3 but the mean of those who were still active was decreased to 2.6. The median was also decrease from 3 to 2 (Table 3.11.a).

Variables	Number of Active Cadres in Posyandu	
N = number of cadres		
Number of cadre		
≥ 5/posyandu		
4	25.9	10.3
3	28.8	20.7
2	9.3	3.4
1	2.2	0.0
Mean	4	5
Median	4	5

Tabel 3.11b.

To see the current situation about the availability of cadres in posyandu, table 3.11b. shows that the percentage of posyandu's having 5 cadres was much lower in intervention groups than control groups. Most posyandus in intervention groups have 3 - 4 cadres per posyandu.

Cadres' Knowledge and Skill on Breastfeeding and Weighing

Table 3.12.
Cadres
knowledge
about
breastfeeding

Variables	Total	
	I	C
N	313	58
Cadres' knew about immediate breastfeeding (%)		
Know	54.0	53.4
Did not know	46.0	46.6
Cadres' knew colostrums could be given to infant (%)		
Yes	92.9	89.7
Knowledge about colostrums' advantages (%)		
Facilitating uterus' contraction	1.3	0.0
Preventing bleeding	0.3	0.0
Increasing immunity status	60.9	77.6
Preventing illness	21.2	19.0
Strengthen maternal and infant's bond	3.8	0.0
Stimulating breast-milk production	2.2	0.0
Providing nutrient/vitamin	16.3	3.4
Infants' health	14.7	15.5
Others	3.9	1.7
Knowledge about exclusive breastfeeding duration (%)		
< 4 months	9.6	6.9
4-6 months	87.2	86.2
> 6 months	2.2	3.4

there was almost no difference between intervention and control groups. In both groups, more than fifty percent of cadres knew about immediate breastfeeding (<30 minutes). In terms of knowledge about colostrums, the percentage of cadres who knew that colostrums should be given to infant was slightly higher in intervention groups (92.9%) than in control groups (89.7%). In both groups, most cadres knew that colostrums was good, mostly because it increases infant's immunity status and prevents illness. The percentage of cadres' knowledge about 4 months exclusive breastfeeding were slightly higher in intervention groups.

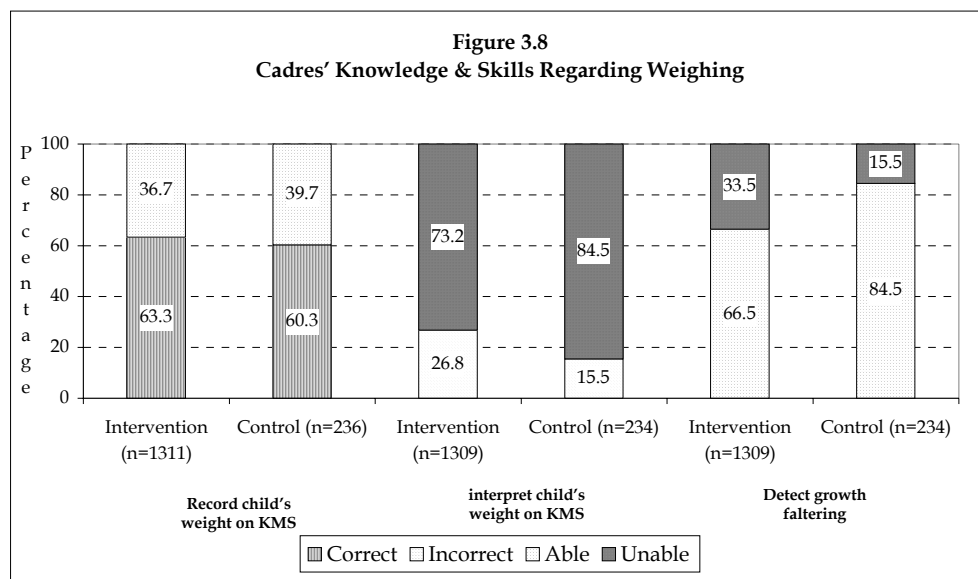


Figure 3.8. provides information about cadres' knowledge and practice regarding weighing. In the questionnaires cadres had been asked to make a plot on KMS based on a given case problem. The percentage of cadres who correctly recorded child's weight on KMS was slightly higher in intervention groups (63.3%) than in control groups (60.3%). The second case problem was asking the cadres to interpret child's weight who was increased but moving to the lower band of KMS. The percentage of cadres who gave correct answer was relatively small in both intervention and control groups, though higher percentage was found in intervention groups. This reflects the lack of ability of cadres to interpret a more complex situation of weight trend. The difference between cadres in intervention and control groups emerged when cadres were asked to detect growth faltering. The ability of cadres to detect growth faltering was better in control groups (84.5%) than in intervention groups (66.5%). One possible explanation for this result was that there was similar program given to cadres in the control groups such as poyandu cadres' training program by JPSBK.

In interpreting the effect of intervention on cadres knowledge and practice, it was important to look back at the cadres characteristics in intervention and control groups. Cadres in control groups had significantly better educational background and older in term of chronological age reflecting more experiences and accumulative knowledge.

*Mother's Knowledge on
Breastfeeding, Feeding Practices and Growth* _____

Regarding knowledge on duration of exclusive breastfeeding, the percentage of mothers in intervention groups who knew correctly was slightly higher (70.2%) than in control groups (67.5%). In term of breastfeeding practices among mothers who knew exclusive breastfeeding 4-6 months only about half of them practiced it both in intervention and control groups.

More than half of mothers in both intervention and control groups knew the ideal position of child's weight on KMS. More mothers in

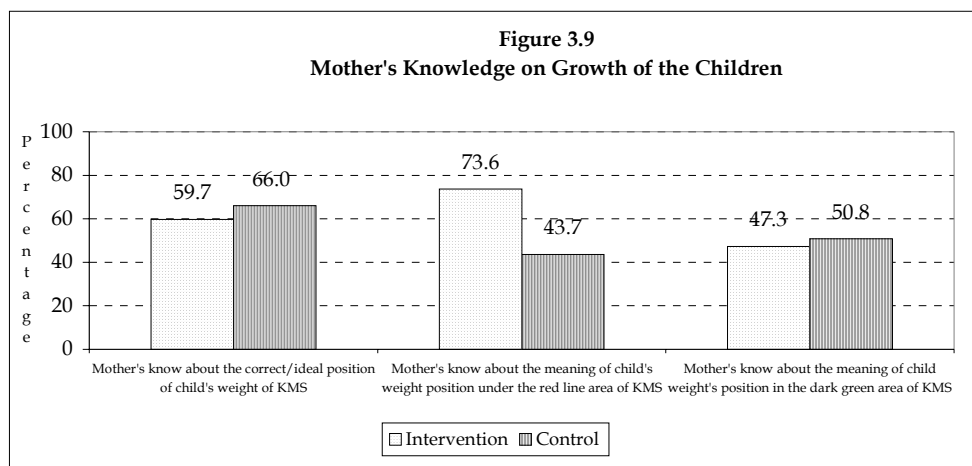
Table 3.13.
Mothers' Knowledge on Feeding Practices

Variables	Total	
	I	C
N	1487	238
Mothers who ever breastfed (%)		
Yes	97.6	97.1
Knowledge about immediate breastfeeding (%)		
Correct	41.3	49.6
Knowledge that colostrums should be given to infant (%)		
Correct	73.7	79.4
Colostrums' practice (%)		
Yes	74.3	84.8
Knowledge about exclusive breastfeeding period (month) (%)		
N	1482	221
< 4 months	20.6	19.7
4-6 months	67.5	70.2
> 6 months	3.5	2.9
Duration of exclusive breastfeeding's practice (%)		
N	1452	231
< 4 months	58.1	57.1
4-6 months	34.7	31.6
> 6 months	1.8	1.3

Tables 3.13. provides information on mothers' knowledge on feeding practices and on growth of children as indicators of the impact of intervention on mothers knowledge and practices.

More mothers in control groups knew that breastfeeding should be given immediately after the baby was born than mothers in intervention groups. More than 70% of mothers in both intervention and control groups knew the benefit and gave colostrums. Regarding knowledge on duration of exclusive breastfeeding, the percentage of mothers who

knew in intervention groups was slightly higher (70.2%) than in control groups (67.5%). However, in term of breastfeeding practices among mothers who knew exclusive breastfeeding 4-6 months only about half of them practiced it both in intervention and control groups.



More than 55% of mothers in both intervention and control groups knew the ideal position of child's weight on KMS. Slightly more mothers in control groups than in intervention groups who knew this matter and so was the meaning of child's position in the dark green area of KMS. Interestingly, there were more mothers in intervention groups (73.6%) than control groups (43.7%) who knew the meaning of child's position under the red line

3.2.6. Quality of Posyandu Services

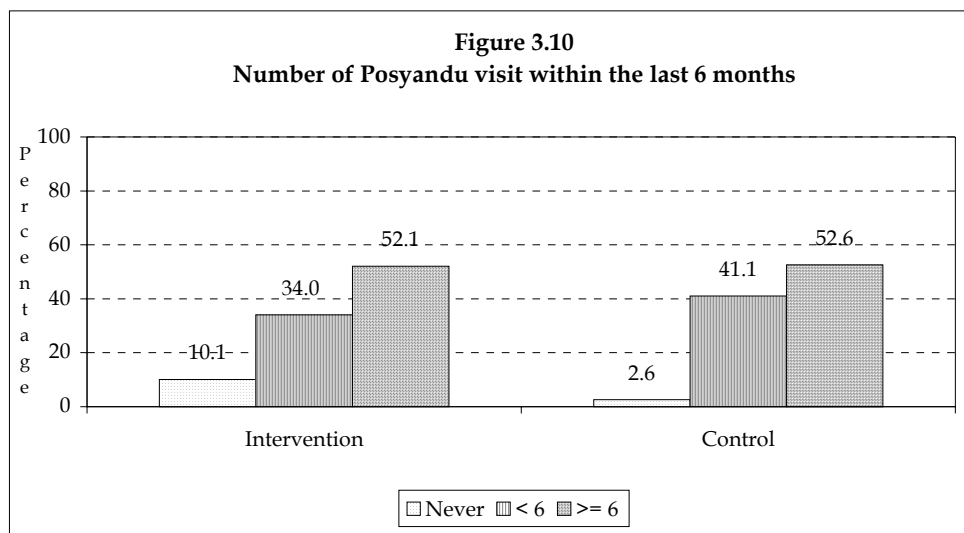
The quality of posyandu services in this study was measured by: mothers' perception about services provided by posyandu, cadres' home visit and counseling activities, and SKDN figures.

In general mothers stated that services given by posyandu cadres was good, only less than 1% of respondent said the service was poor. Based on mothers' perception, there was no different on services provided by cadres between intervention and control groups. Within the last six months, more than half of respondents in both intervention and control groups had visited posyandu about once a month. Mothers who never have come to posyandu were higher in intervention groups (10.1%) as compared to control groups (2.6%). Home visit and counseling activities were similar in both groups.

It is to be noted that not all posyandu have SKDN data. Within the available data, there was inconsistent pattern in the difference between intervention and control groups for all indicator (K/S, D/S, N/S, and N/D). In West Java in general the indicators in the control were better than in the intervention groups, while in Central Java and East Java they were better in the intervention groups. In West Sumatera, the indicators were better in the districts than the cities.

Over 30% of mothers reported they did not have KMS. In West Sumatra 63% of the mothers reported they did not have KMS.

Mothers' Perception Regarding Cadres Services

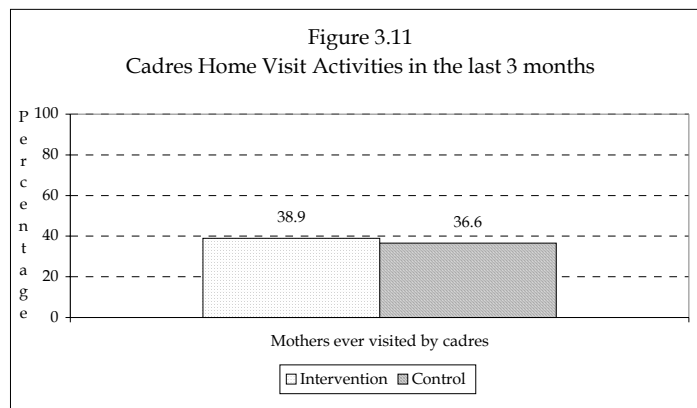


Within the last six months, around 50% respondents in both intervention and control groups had visited posyandu as many as ≥ 6 times, meaning that at least once in a month respondent visited posyandu. Mothers who have never come to posyandu were higher in intervention groups (10.1%)

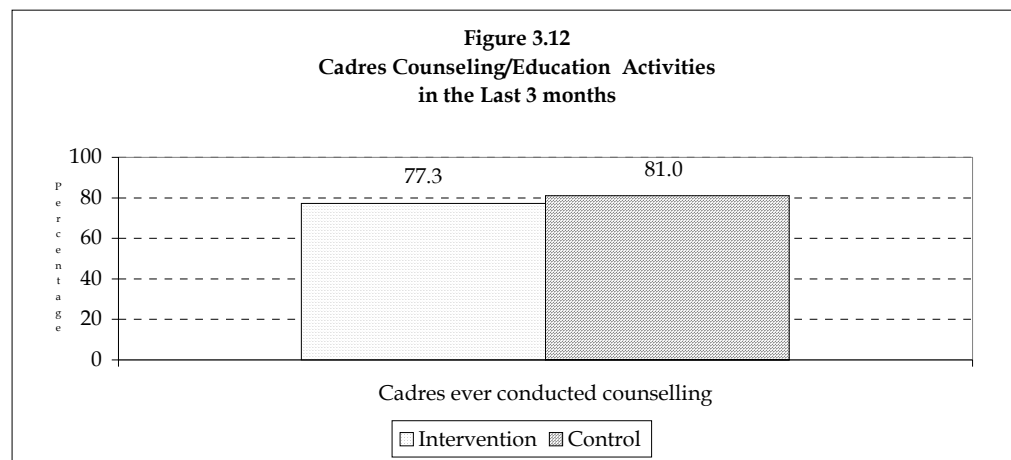
as compared to control groups (2.6%). In general respondents stated that services given by cadres was good, only less than 1% respondent who said that the service was poor. In case of weighing, 51.8% respondents in intervention groups and 47.3% in control groups stated that cadres' service was satisfactorily good (Annex: Table 16).

Cadres' Home Visit and Counseling Activities

Figure 3.11 and 3.12 show the percentages of mothers who had ever been visited and counseled by cadres. Similar to other results, there was no difference found between intervention and control groups. About a third of mothers have ever been visited by cadres in both intervention and control groups.



When cadres were asked whether they had ever conducted home visit and its frequency within the last 3 months, on average around 21% of cadres in the two groups admitted that they have never conducted home visit. Most of cadres had conducted home visit less than 3 times within the last 3 months (46.1% in intervention groups and 39.5% in control groups). Services provided during home visit mostly were health education or finding out mothers or children who did not come to the previous posyandu venue. Information provided by cadres during home visit were infants' health, feeding practices and follow-up actions after weighing.



Generally, in terms of counseling or educating mothers, as many as 77.3% of cadres in intervention groups and 81.0% cadres in control groups reported has had ever conducted counseling. When they were asked on the frequency of counseling within the last three months, most of respondents in both groups (52.8% in intervention groups and 62.2% in control groups) claimed that they conducted it more than three times (Annex: Table 18.)

Coverage of Posyandu Services

The availability of SKDN for year 1999, 2000, and 2001 was low. Of those available, there was no consistent pattern.

Over 30% mothers reported that they did not have KMS and in West Sumatra 63% of mothers reported did not have KMS.

S stands for "semua" meaning all under-five children in Posyandu area. K stands for "KMS" meaning the number of those S children who own KMS card. D stands for "ditimbang" or those children in K who attend and weighed in posyandu. While N stands for "naik" or those children in D whose weight is increasing compared to the previous weight. Four indicators of SKDN are K/S, D/S, N/S, and N/D.

Tables 3.19. Percentage of SKDN profile by Province and by Intervention/Control Status

PROVINCE	Variable	1999		2000		2001	
		I	C	I	C	I	C
WEST JAVA	N	14	8	12	7	18	8
	K/S	99.68	96.31	49.3	98.19	69.28	98.09
	D/S	44.55	76.39	62.47	73.4	67.6	81.3
	N/S	30.3	43.96	41.1	39.2	37.44	52.47
	N/D	54	58.38	62.5	60.2	58.16	61.15
CENTRAL JAVA	N	16	1	16	5	18	6
	K/S	99.94	100	95.3	100	92.21	100
	D/S	84.32	50.76	76.34	47.31	72.5	65.4
	N/S	55.38	42.5	49.5	41.7	46.75	48.98
	N/D	64.83	84.18	66.3	88.3	65.21	71.02
EAST JAVA	N	32	7	35	8	38	8
	K/S	99.3	72	98.65	100	99.25	98.5
	D/S	80.3	49.7	66.25	61.5	67.65	52.5
	N/S	53.2	42.4	51.45	35.4	44.45	33.5
	N/D	60.2	70.50	61.2	63.07	69.15	71.63
WEST SUMATERA		D	C	D	C	D	C
	N	10	4	12	2	13	2
	K/S	79.12*	0.0	85.88	87.44**	99.93	77.53**
	D/S	72.85	0.0	69.46	70.91	75.4	64.5
	N/S	46.08	0.0	59.8	45.7	57.72	39.67
	N/D	72.34	49	87	59.5	82.89	59.06

* Comparing district and city

From the available data, in general, there was no consistent pattern in the difference between intervention and control groups for all indicators (K/S, D/S, N/S, and N/D). In West Java in general the indicators in the control were better than in the intervention groups, while in Central Java and East Java they were better in the intervention groups. In West Sumatera, the indicators were better in the districts than the cities.

Table 3.20.
The Ownership
of KMS (Kartu
Menuju Sehat)

Province	% Mothers reported having KMS
West Java	72.2
Central Java	84.6
East Java	84.6
West Sumatera	37.7
Total	67.7

The following table presents the ownership of KMS. Most of the mothers claimed they have KMS. In West Sumatra the figure was obviously lower than the other 3 provinces. There was inconsistency between KMS ownership as indicates by K/S of the SKDN in year 2001 and what was

reported by mothers. The K/S figure was higher in Central Java, East Java and especially in West Sumatra. The figure was consistent with KMS' ownership in Central and East Java, but contradictory with west Sumatera.

Chapter IV

Conclusions and Recommendations

Was CFI program effective in reaching target groups?_____

The program has reached most of the target groups as measured by monthly VTDL received, age range of receivers and mothers' perception on sufficiency of VTDL supply.

However, most of the children received for the period of less than 6 months, and most of them received VTDL less than 10 sachets.

The most obvious barriers to the success of the CFI program to reach target groups were the supply and distribution mechanism. Those were irregularity of the supplies and distribution, lack of reporting/recording, monitoring and supervision system and lack of transportation's funds to distribute VTDL from sub-district to the lower level.

Consumption of VTDL was moderate. About half of children consumed VTDL as recommended (at least 3 times a day) and 86.7% of the children always or often finished the meal. The most reason for left over was too big portion followed by taste.

Price was not a barrier, but the trade off between "too cheap food" and "no nutrition food" should be considered.

Most of the infants were in the age of 6-12 months old when they first or last received VTDL, which was in accordance to the intended target of VTDL. However, there were about 14% of the children received VTDL when they had not reached 6 months old, and about 32.1% still received VTDL after 12 months old. About 38% of other household members have ever consumed VTDL, mostly other children. One factor that might have contributed to why the program had not reached more children as targeted was irregularity of the supplies, which was common and has caused period of "shortage" and "too much" VTDL. When the supply was too much, the distribution to lower level was not dictated by the number of targeted children, for the reason mostly to avoid expired VTDL. At subdistrict level, all VTDL was distributed evenly to all posyandu/villages regardless of the number of targeted children. At posyandu level, VTDL was distributed to households with underfive children regardless of the age of the children. At the household level VTDL was given to other members of household, mostly other children at the household. Lack of transportation fee from district to lower level has also contributed to untimely distribution. Age range of targeted children (6-12 month) that was too short was also a contributing factor to the "leakage" to non-targeted children at the household level.

While three quarters of the mothers perceived that they had received sufficient number of VTDL, the adequacy of VTDL received was actually lower. *Adequacy* was calculated by dividing total number of received VTDL by ideal number of VTDL to be received (that

is by considering that the number of package to be given is 4 packages per months and the number of months the infant should be given VTDL in the range of 6 to 12 months). Based on this calculation, the percentage of children who received 50% or more of the expected VTDL was 54.6%, while children who received 80% or more of the expected VTDL was only 19.4%. It seems that there was a lack of understanding on the part of mothers regarding how much VTDL was adequate for their children. Understanding the adequate amount of VTDL needed by mothers is important because this will lead to correct consumption by children. It seems that the cadres did not provide enough information regarding the preparation of VTDL as reflected by the results that the main source of information about VTDL preparation was what was written on the sachet (below).

In general, the consumption pattern of VTDL was moderate. Mothers knew how to prepare VTDL mostly from the written information on the sachet, followed by from cadres and health providers. Slightly more than half of mothers served VTDL 3 times or more per day, with the mean 2.5 times per day. Less than half of the children always finished the meal. The reasons for left over were including and in particular the portion per serving was too big (54.9%) and/or the children did not like the taste (14%). Red rice was the most disliked flavor in the three provinces in Java, but the most liked in West Sumatra. There was no significant difference on left over by age of the children, so age was not a factor. Qualitative results revealed that the taste of certain flavor (red rice) and lack of variation of the taste were the main factors for less consumption.

Price was apparently not a barrier to get VTDL according to mothers, most of them who paid perceived the price of VTDL was cheap. However, there was also different perception regarding the price which was connected by the mothers with "perceived quality". Mothers, especially in West Sumatra perceived that the nutrition content of VTDL was low because the price was cheap.

Recommendations:

Based on the facts above, it is therefore recommended that:

- 1. The supply and distribution system be in place prior to the implementation of food supplementation program.*
- 2. Regularity of supply and distribution which is based on real needs and on timely manner were also important factors that need consideration.*
- 3. Monitoring and Evaluation plan should be a part of the program from the beginning, as such to be able to see level of sufficiency of the supply and consumption by the target groups:*

- *Monitoring and evaluation plan for Supply and Distribution (for example develop special form?)*
 - *Monitoring and evaluation plan for Consumption (develop special and simple instrument?)*
4. *It is important to give sufficient and correct information regarding VTDL to mothers including the benefit of VTDL, who should get, how to prepare, the dosage and, the length of consumption. The cadres should be the first groups to be trained.*
 5. *Organoleptic testing of the VTDL, if possible by region, will reduce the rejection by the children.*
 6. *Leakage is almost unavoidable at the household level. Any supplementation program should consider inflating the amount given to the household.*
 7. *Broader age range (for example 6-24 months) for target groups will reduce "leakage" and "missed-opportunity".*

Additional Recommendation:

It was common in the 4 provinces that the involvement of health personnel was low. They felt that they were not being involved with the program. Bidan's involvement is crucial based on the following reasons:

- *Bidan commonly is the health personnel who give services at posyandu*
- *Bidan is a good source of information re: the benefit of Vitadele and how Vitadele might affect children's nutritional status*
- *Bidan can assist the cadres in planning the target, the implementation and the monitoring and evaluation aspect of the program.*

Has CFI program improved the nutritional status of beneficiaries? _____

There was no significant difference in children's nutritional status between intervention and control groups, except in Central Java in which the nutritional status of children in intervention groups was slightly better than control groups.

The impact of CFI program on nutritional status is a joint effect of adequate supply and adequate consumption. In this study, both the supply and the consumption did not reach the optimum expectation. However, there were other factors that can not be explained further but might contribute to the similarity of nutritional status in the intervention and control groups, including the lack of baseline data, the time lapse between intervention and evaluation, and the existence of similar program. Therefore, this program is still considered a potential approach to improve children's nutritional status, provided that VTDL supply and consumption are good.

Comparing between intervention and control groups, the effect of intervention was not so obvious in improving nutritional status. The similarity of nutritional status between intervention and control groups can be explained as followed:

- First, since there was no baseline data we can not conclude whether the current nutritional status has changed. We also do not know whether the nutritional status of intervention groups was similar to those of control groups at the beginning of the intervention. If we assumed that the nutritional status in both groups was similar, there are two possible explanations regarding the current nutritional status figures: both program , i.e. CFI program in intervention areas as well as other similar program in control areas, were failed, if the current nutritional status is the same as or worse than the nutritional status at the beginning of the program; or both programs was successful in changing the nutritional status of the children if the current nutritional status is better than nutritional status at the beginning of the program. On the other hand, if we assumed that the nutritional status of children in intervention groups was worse than control groups at the beginning of the program, it means that the program has been successful in improving children's nutritional status.
- Second, the time lapsed between period of intervention and the survey was not compensated by the retained effect (if there is) of the intervention on nutritional status.
- Third, as explained above, the result of intervention might be masked because of the presence of confounders, for example the existence of similar food supplementation program (JPSBK, etc) in the control groups.
- Fourth, the amount consumed and the length of consumption was not enough to change children's nutritional status.

Recommendations:

Based on the above explanation it is recommended that :

1. *It is important to have data on nutritional status before and after the intervention.*

Because the availability and completeness of KMS in this evaluation could not be used to evaluate the change of the nutritional status, the future similar program should have a built-in tool/instrument for program evaluation, including the use of KMS which should be determined prior to

the implementation. KMS can also be used as a tool to monitor the change of nutritional status throughout the implementation of the program.

2. *The understanding of cadres and mothers on how VTDL can be beneficial to child's growth is important, therefore the program should include training of cadres as part of the program.*
3. *Broader age range for target groups will give more time for nutrition improvement.*

Has CFI program improved the proportion of children growing at the appropriate rate? _____

Comparing the weight of children under two years of age before and after intervention will allow us to evaluate whether the program has increased the proportion of children growing at appropriate rate. The weight of the children theoretically can be obtained from KMS. However, many of the children (for example 30% in intervention group) did not have KMS and those who have KMS the weight was incompletely recorded. *Therefore, no conclusion can be made.*

Has training improved cadres' knowledge and skills on growth monitoring and nutrition counseling? _____

Overall, the training has not reached the expected objective. Almost 40% of cadres did not have the skills on how to record weight on KMS, which is a very crucial skills as a cadre. The ability of cadres to interpret weight on KMS was better in intervention than in control groups, however, in both groups the proportion was low. The ability of cadres to detect growth faltering was better in control groups.

Eventhough the differences were not significant, the cadres ability was better in intervention than control groups, except for cadres' ability to detect growth. There is possibility that the difference between intervention and control groups will be larger, providing that posyandus in intervention are as good as posyandu in control groups, for example cadres' age and education, and the number of active cadres per posyandu. Cadres in control group had better supporting characteristics, they were significantly having better educational background and older in term of chronological age reflecting more

experiences and accumulative knowledge. In this survey older and more educated cadres were significantly having better knowledge.

Beside training program under PRP, similar training program for cadres with similar objectives (JPSBK/(Social Safety Net in Health) was also exist, therefore, no clear cut conclusion of the effect of PRP alone can be made.

Recommendations:

- 1. Training should give more attention on Cadres with low education and younger*
- 2. Ability of cadres in recording the weight and interpreting variation of weight on KMS is crucial, therefore, more focus on this areas for future training is important*
- 3. Considering education level of cadres, training should be implemented in phases*
- 4. Periodic training is important to strengthen cadres' knowledge and skills, especially new cadres*
- 5. Coordination with other similar program regarding the content and methodology of training will complement each other and avoid duplication*

Has cadres' training improved mothers' knowledge and practice on infant feeding and growth? _____

More than half of mothers in both intervention and control groups knew the ideal position of child's weight on KMS. Slightly more mothers in control groups than intervention groups knew the meaning of child's position in the dark green area of KMS, however, there were more mothers in intervention groups (73.6%) than control groups (43.7%) knew the meaning of child's position under the red line.

Has Posyandu Revitalization Program (PRP) improved the quality of Posyandu services? _____

In general, the perception of mothers regarding services provided by cadres was good, which was similar in intervention and control groups. Within the last 6 months, half of mothers visited posyandu for at least 6 times in both intervention and control groups. Home visit and counseling activities conducted by cadres were similar in both groups. However, in term of mothers who have never attended posyandu the percentage was higher (10.1%) in intervention as compared to control (2.6%) groups.

Posyandu performance as reflected by the SKDN figures was not conclusive because the availability of SKDN was low. From the existing SKDN data, in West Java in general the indicators in the control were better than in the intervention groups, while in East Java and Central Java, the indicators were better in the intervention groups. In W. Sumatra the indicators were better in districts than the cities.

Recommendations:

- 1. The benefit and the content of home visit and counseling should be more emphasized in the training material*
- 2. The knowledge about and the benefit of SKDN should also be re-emphasized*

Conceptual Framework of the Evaluation Plan

CFI Program

Supply
To Posyandu



Distribution
to HHs



Consumption
by Target Groups



* *Nutritional Status*
* *Growth Rate*

Training of Health Cadres

Training
of Cadres

⇒ Better KAP
on growth
& nutrition
counseling



* Counsel mothers
* Home visits
* Quality service



* ↑ *Posyandu
Coverage &
Quality of
Services*



* ↑ *Consumption
of VTDL*
* *Better feeding Knowl
& practices of Mothers*



* ↑ *Nutr Status*
* *Growth Rate*

Table 1
Characteristics of Children by Province and
by Intervention/control status

Variabel	West Java		Central Java		East Java		West Sumatra			Total		
	I	C	I	C	I	C	I	District	City	I	C	
B4	IV. <u>Age</u>											
	6-<12 months	1.3	0.0	1.1	0.0	0.3	0.0	0.0	0.0	0.0	0.7	0.0
	12 - < 24 months	38.5	36.3	32.0	41.0	13.1	30.7	15.6	19.9	8.6	25.1	36.1
	24 - < 36 months	43.3	41.3	43.5	36.1	29.4	42.7	44.7	46.8	41.1	40.9	39.9
	>= 36 months	17.0	22.5	23.3	22.9	57.2	26.7	39.8	33.3	50.3	33.4	23.9
B3	V. <u>Sex</u>											
	Boys	54.9	53.8	52.5	53.0	51.0	53.3	53.3	56.6	47.9	53.1	53.4
	Girl	45.1	46.3	47.5	47.0	49.0	46.7	46.7	43.4	52.1	46.9	46.6
B6	# Underfive siblings											
	0	81.8	83.8	91.3	95.2	99.7	90.7	95.6	100.0	88.3	91.7	89.9
	1	14.2	13.8	5.9	4.8	0.3	8.0	4.2	0.0	11.0	6.5	8.8
	>=2	4.1	2.5	2.8	0.0	0.0	1.3	0.2	0.0	0.6	1.8	1.3
B7	VI. <u>Birth Weight</u>											
	< 2500 gr	5.3	11.3	3.1	2.4	4.9	5.3	5.1	5.6	4.3	4.6	6.3
	>= 2500 gr	88.6	86.3	88.8	97.6	93.1	93.3	94.0	92.9	95.7	91.1	92.4
	Don't know/no answer	6.1	2.5	8.1	0.0	2.0	1.3	0.9	1.5	0.0	4.2	1.3
D3	VII. <u>Diarrhea in last 3 months</u>											
	Yes	41.0	46.3	21.9	37.3	19.9	13.3	20.5	18.4	23.9	26.2	32.8
	1 times	54.6	64.9	69.2	77.4	44.3	70.0	40.9	32.7	51.3	52.8	70.5
	2 times	22.7	18.9	16.7	12.9	19.7	10.0	17.0	22.4	10.3	19.7	15.4
	>= 3 times	22.7	16.2	14.1	9.7	36.1	20.0	42.0	44.9	38.5	27.4	14.1
D5	VIII. <u>ARI in last 3 months</u>											
	Yes	62.8	67.1	9.3	14.5	4.6	5.4	24.4	26.2	21.5	26.9	29.2
	1 times	55.3	50.0	45.5	53.8	57.1	25.0	64.8	62.9	68.6	57.1	49.3
	2 times	26.6	29.6	24.2	15.4	28.6	50.0	20.0	21.4	17.1	24.7	28.2
	>= 3 times	18.0	20.4	30.3	30.8	14.3	25.0	15.2	15.7	14.3	18.2	22.5

Table 2

Characteristics of Parents by Province and by Intervention/control status

Variabel	West Java		Central Java		East Java		West Sumatra			Total		
	I	C	I	C	I	C	I	District	City	I	C	
IX. <u>N = All respondents</u>	395	80	356	83	306	75	430	267	163	1487	238	
C1	X. <u>Mothers education</u>											
	≤ Junior high, finished	88.4	78.5	87.6	90.4	80.7	74.7	52.3	59.6	40.5	76.2	81.4
	≥ Senior high, finished	11.6	21.5	12.4	9.6	19.3	25.3	47.7	40.4	59.5	23.8	18.6
C2	Mothers working status											

No	82.3	86.3	47.2	50.6	52.0	82.7	78.1	77.5	79.1	66.4	72.7
Yes	17.7	13.8	52.8	49.4	48.0	17.3	21.9	22.5	20.9	33.6	27.3
C3 Fathers education											
< Junior high, finished	75.2	65.0	81.1	89.0	76.8	64.0	59.0	66.7	46.3	72.3	73.0
Senior high, finished	22.3	31.3	18.3	11.0	21.6	33.3	40.1	32.2	53.1	26.3	24.9
Don't know/no answer	2.5	3.8	0.6	0.0	1.6	2.7	0.9	1.1	0.6	1.4	2.1

Table 5
VTDL Supply and Distribution at Household Level by Province

Variabel	West Java	Central Java	East Java	West Sumatera	Total
XII. N = All respondents	395	356	306	430	1487
E11 Mothers perception of receiving VTDL (sachets) in adequate number					
Yes	78.7	77.0	76.8	77.4	77.5
E6 Children received VTDL every month					
Yes	69.1	64.6	69.3	82.1	71.8
Level of adequacy of VTDL received					
< 50%	58.5	56.9	55.6	17.9	45.8
≥ 50%	41.5	43.1	44.4	82.1	54.2
≥ 60%	21.4	28.9	22.6	55.6	33.3
≥ 70%	19.8	27.7	21.5	55.1	32.2
≥ 80%	8.4	14.2	14.1	37.2	19.3
N= Age 6 -12 months when received VTDL	275	151	149	205	780
Rade Level of adequacy of VTDL received among infant age 6-12 months					
< 50%	57.8	57.3	58.2	17.8	47.3
≥ 50%	42.2	42.7	41.8	82.2	52.7
≥ 60%	19.4	28.7	19.2	52.3	29.7
≥ 70%	17.5	27.3	19.2	51.8	28.6
≥ 80%	6.7	17.5	12.3	36.0	17.5
E5- Duration of receiving VTDL among infant age 6-12 months					
E4					
1 month	18.3	11.9	19.2	.0	12.5
2 months	17.5	18.2	18.5	7.1	15.1
3 months	14.6	11.9	11.6	13.2	13.1
4 months	9.3	15.4	10.3	16.8	12.6
5 months	12.3	11.2	14.4	15.7	13.4
6 months	7.1	8.4	8.9	7.1	7.7
7 months	20.9	23.1	17.1	40.1	25.6
E10 Number of receiving VTDL per sachet among infant 6 – 12 months					
< 10 sachet	72.2	71.3	68.5	30.8	60.5
10 - < 20 sachet	20.7	18.9	24.7	34.9	24.8
20 - < 30 sachet	7.1	8.4	6.8	27.2	12.5
>= 30 sachet	0.0	1.4	0.0	7.2	2.1
N = All respondents	395	356	306	430	1487
E4 Age of first received					
< 6 months	2.8	24.4	13.4	16.7	14.2
6-12 months	97.0	75.0	86.6	83.3	85.6
Don't know/no answer	0.3	0.6	0.0	0.0	0.2
6 month	55.7	36.5	35.9	51.4	45.8
7 month	9.6	8.7	12.1	7.4	9.3
8 month	10.9	9.8	6.2	13.0	10.3
9 month	5.1	5.6	6.5	2.6	4.8
10 month	3.8	4.2	4.6	1.4	3.4
11 month	6.6	3.4	8.5	0.7	4.5
12 month	5.3	6.7	12.7	6.7	7.6
E5 Age of last received					
< 6 months	0.3	0.6	0.0	0.0	0.2
6-12 months	71.9	62.4	58.8	59.5	63.3
> 12 months	25.8	34.3	40.8	37.9	34.4
Don't know/no answer	2.0	2.8	0.3	2.6	2.0

6 month	4.9	5.5	4.9	0.5	3.8
7 month	6.5	6.1	4.6	2.6	4.9
8 month	9.6	5.8	4.6	6.7	6.8
9 month	6.5	6.6	6.6	10.0	7.5
10 month	4.9	6.6	5.9	4.8	5.5
11 month	6.2	4.0	5.2	1.2	4.0
12 month	34.9	29.5	27.2	35.3	32.1
G1 Mothers' perception about VTDL on					
Growth	18.2	19.1	19.9	26.7	21.3
Health	49.6	42.7	48.4	34.4	43.3
Growth & Health	2.8	2.0	4.9	4.2	3.4
Don't know	29.4	36.2	26.8	34.7	32.0

E9 : ((e5-e4)+1)x4
E10 : (((e5-e4)+1)-e7)xE8
Adequate : E10/E9

Table 6
Source and Price of VTDL

Variabel	West Java	Central Java	East Java	West Sumatera	Total
N = All respondents	395	356	306	430	1487
F1 Where to get VTDL					
Home	1.8	4.2	0.3	1.2	1.9
Bidans home	3.5	0.6	2.6	5.3	3.2
Cadres home	7.1	36.5	11.1	11.2	16.1
Posyandu	84.3	48.9	79.4	78.1	73.0
Others	3.3	9.8	6.2	4.2	5.7
Don't know/no answer	0.0	0.0	0.3	0.0	0.1
E1 How getting VTDL					
Buy	79.0	69.4	89.2	93.7	83.1
Free	21.0	30.6	10.8	6.3	16.9
N= Price of VTDL Rp. 500	159	126	134	229	648
E3a2 Perception of price at start					
Expensive	3.1	0.8	0.0	0.4	1.1
Cheep	81.8	96.0	92.5	85.2	87.9
Fair	12.6	3.2	7.5	13.1	9.9
Others	1.9	0.0	0.0	0.9	0.8
Don't know/no answer	0.6	0.0	0.0	0.4	0.3
N= Price of VTDL Rp. 1000	142	120	128	166	556
E3a2 Perception of price at start					
Expensive	9.9	5.0	0.0	1.2	4.0
Cheep	68.8	90.0	94.5	66.3	78.6
Fair	14.9	0.8	4.7	30.1	14.1
Others	5.0	4.2	0.0	2.4	2.9
Don't know/no answer	1.4	0.0	0.8	0.0	0.5
F2 Checking expiry date					
Yes	50.6	60.9	57.4	57.0	56.3
Received VTDL					
Expired	3.8	4.0	1.5	1.0	2.6

Damaged pack	1.6	1.7	0.4	3.2	1.9
Lumped up	2.2	1.7	2.3	2.0	2.0
Color changed	0.8	0.3	0.4	1.7	0.9

Table 7a
Consumption of VTDL

Variabel	West Java	Central Java	East Java	West Sumater a	Total
N = All respondents	395	356	306	430	1487
G7 Who thought to prepare VTDL					
Cadre	24.6	54.2	32.8	33.7	35.6
Brochure	9.9	0.8	3.1	3.0	4.3
Health provider	10.6	6.7	17.2	23.5	15.1
Information on sachet parents	40.1	37.5	39.8	42.2	40.1
Neighbors/other mothers	0.0	0.0	1.6	1.2	0.7
Bu kades/Pkk	3.5	0.8	0.8	3.6	2.3
Own Experience	0.0	0.8	5.5	1.2	1.8
Others	3.5	5.0	14.8	2.4	6.1
	2.1	0.0	1.6	0.0	0.9
G8 Frequency/day					
Mean	2.6	2.5	2.5	2.5	2.5
G8 Frequency/day (%)					
< 3 times	41.0	42.7	44.8	52.1	45.4
>= 3 times	59.0	57.3	55.2	47.9	54.6
G9 Left over every serve					
always	8.9	5.1	12.5	2.1	6.7
Often	7.4	5.1	10.5	4.0	6.5
Sometimes	46.4	49.7	34.2	49.4	45.6
never	37.3	40.2	42.4	44.5	41.1
Don't know	0.0	0.0	0.3	0.0	0.1
G10 Reason for left over					
N	247	213	174	238	872
Kid didnt like/tasted not good	13.5	13.4	20.5	9.5	14.0
Too big size	49.2	53.8	54.2	62.4	54.9
Competition with othe food	2.4	4.7	5.1	2.1	3.4
Child sick/lost of appetite	16.7	10.8	12.2	19.4	15.1
Bore	2.1	3.8	3.8	2.1	2.9
Others	6.5	1.4	1.9	1.3	2.9
G11 Consumption by other HH member					
yes	48.5	24.2	38.8	41.9	38.8
G12 HH member who consumption VTDL					
Other kid	70.2	77.6	54.8	50.6	62.0
mother	27.7	18.8	54.8	34.4	34.0
father	8.9	7.1	22.3	10.6	11.8
Another HH member	19.9	18.8	28.9	39.4	27.7
Others	1.1	5.9	1.8	6.7	3.7
G13 Received other food complement packages					
yes	13.5	38.7	14.1	14.4	20.3

Table 7b
Consumption of VTDL at P. Pariaman & Agam

Variabel	Total	
	Agam	Pariaman
N =All responden	144	123
F1 Where to get VTDL		
Home	2.1	0.8
Bidans home	12.5	4.1
Cadres home	4.9	20.3
Posyandu	74.3	69.9
Others	6.3	4.9
E11 Mothers perception of receiving VTDL (sachets) in adequate number		
Yes	75.0	78.9
Level of adequacy of VTDL received		
< 50%	23.5	16.1
≥ 50%	76.5	83.9
≥ 60%	47.0	56.3
≥ 70%	47.0	55.4
≥ 80%	34.8	34.8
N= Age 6 -12 bulan when received VTDL	81	63
Level of adequacy of VTDL received among infant age 6-12 months		
< 50%	19.7	13.3
≥ 50%	80.3	86.7
≥ 60%	50.0	58.3
≥ 70%	50.0	58.3
≥ 80%	38.2	36.7

Table 8
Children Nutritional Status (Z-Score) by Intervention/Control Status

Variabel	A. Total	
	I without city	C
Weight for Age (WAZ)	1311	234
Severely underweight (<-3SD)	4.6	6.4
Underweight (>=-3 SD - < -2 SD)	24.7	22.6
Normal (>= -2 SD)	70.7	70.9
Height for Age (HAZ)	1309	232
Severely Stunting (<-3SD)	7.3	7.3
Stunting (>=-3 SD - < -2 SD)	23.3	25.4
Normal (>= -2 SD)	69.4	67.2
Weight for Height (WHZ)	1303	232
Severely wasting (<-3SD)	1.3	0.4
Wasting (>=-3 SD - < -2 SD)	6.4	8.2
Normal (>= -2 SD)	92.3	91.4

Table 9
Children Nutritional Status (Z-Score) by Intervention/Control Group by Province

Variabel	West Java		Central Java		East Java		West Sumatra		
	I	C	I	C	I	C	I	District	City
Weight for Age (WAZ)	391	78	352	83	302	73	428	266	162
Severely underweight (<-3SD)	6.6	7.7	3.4	7.2	3.6	4.1	3.7	4.1	3.1
Underweight (>=-3 SD - < -2 SD)	25.3	23.1	24.4	25.3	25.8	19.2	22.7	22.9	22.2
Normal (>= -2 SD)	68.0	69.2	72.2	67.5	70.5	76.7	73.6	72.9	74.7
Height for Age (HAZ)	393	77	350	83	301	72	428	265	163
Severely Stunting (<-3SD)	8.1	6.5	6.3	9.6	8.3	5.6	6.1	6.4	5.5
Stunting (>=-3 SD - < -2 SD)	23.7	24.7	27.1	28.9	20.6	22.2	21.3	20.8	22.1
Normal (>= -2 SD)	68.2	68.8	66.6	61.4	71.1	72.2	72.7	72.8	72.4
Weight for Height (WHZ)	389	77	349	83	300	72	426	265	161
Severely wasting (<-3SD)	1.8	0.0	1.1	0.0	0.3	1.4	1.6	1.9	1.2
Wasting (>=-3 SD - < -2 SD)	6.9	9.1	4.9	8.4	7.3	6.9	6.8	6.4	7.5
Normal (>= -2 SD)	91.3	90.9	94.0	91.6	92.3	91.7	91.5	91.7	91.3

Table 10
Children Nutritional Status (Z-Score) by Intervention/Control Group
by Age

Variabel	18 - < 24		24 - < 36		≥ 36	
	months		months		months	
	I	C	I	C	I	C
Weight for Age (WAZ)	280	67	604	94	492	55
Severely underweight (<-3SD)	2.5	7.5	5.8	6.4	3.3	7.3
Underweight (≥=-3 SD - < -2 SD)	24.3	26.9	23.0	19.1	25.0	23.6
Normal (≥= -2 SD)	73.2	65.7	71.2	74.5	71.7	69.1
Height for Age (HAZ)	282	66	601	94	491	54
Severely Stunting (<-3SD)	6.7	6.1	7.3	6.4	6.1	13.0
Stunting (≥=-3 SD - < -2 SD)	27.3	33.3	20.3	18.1	25.3	27.8
Normal (≥= -2 SD)	66.0	60.6	72.4	75.5	68.6	59.3
Weight for Height (WHZ)	277	66	602	94	489	54
Severely wasting (<-3SD)	1.8	0.0	2.0	1.1	0.2	0.0
Wasting (≥=-3 SD - < -2 SD)	8.3	12.1	6.1	2.1	5.7	13.0
Normal (≥= -2 SD)	89.9	87.9	91.9	96.8	94.1	87.0

Table 11a
Number of Active Cadres in Posyandu by Province and by
Intervention/Control Status

Variabel	West Java		Central Java		East Java		West Sumatra			Total	
	I	C	I	C	I	C	I	District	City	I	C
N	90	26	65	13	73	19	85	48	37	313	58
≥ 5	30.0	76.9	49.2	69.2	50.7	47.4	11.8	14.6	8.1	33.9	65.5
4	21.1	0.0	30.8	23.1	15.1	15.8	36.5	20.8	56.8	25.9	10.3
3	28.9	19.2	20.0	7.7	24.7	31.6	38.8	43.8	32.4	28.8	20.7
2	15.6	3.8	0.0	0.0	8.2	5.3	10.6	16.7	2.7	9.3	3.4
1	4.4	0.0	0.0	0.0	1.4	0.0	2.4	4.2	0.0	2.2	0.0
Mean	4	5	5	6	5	5	4	4	4	4	5
Median	4	5	4	5	5	4	3	3	4	4	5
Std. Deviation	6	2	3	2	2	3	1	2	1	2	2

Table 11b
Cadres Training by Province and by Intervention/Control Status

Variabel	West Java		Central Java		East Java		West Sumatra			Total	
	I	C	I	C	I	C	I	District	City	I	C
D7 Number of cadre attended last training											
N	90	26	65	13	73	19	85	48	37	313	58
>=3	67.8	72.7	49.1	18.2	47.9	84.2	78.8	91.7	62.2	62.9	65.4
2	20.0	27.3	30.2	36.4	33.8	10.5	15.3	6.3	27.0	23.7	23.1
1	12.2	0.0	20.8	45.5	18.3	5.3	5.9	2.1	10.8	13.4	11.5
Mean	3	4	3	2	3	4	4	5	3	3	3
Median	3	3	2	2	2	5	4	4	3	3	3
Std. Deviation	1	2	2	1	1	1	2	2	1	2	1
D8 Number of cadre attended training and still active											
N	90	26	65	13	73	19	85	48	37	313	58
>=3	52.2	63.6	53.8	18.2	44.4	84.2	52.9	52.1	54.1	51.0	61.5
2	22.2	27.3	24.6	27.3	37.5	10.5	30.6	31.3	29.7	28.5	21.2
1	25.6	9.1	21.5	54.5	18.1	5.3	16.5	16.7	16.2	20.5	17.3
Mean	3	3	3	2	3	3	3	3	3	2.6	2.8
Median	3	3	2	1	2	3	3	3	3	2.0	3.0
Std. Deviation	1	1	1	1	1	1	1	2	1	1.3	1.3

Table 12
Cadre's Knowledge about breastfeeding

Variabel	Total	
	I	C
N= All Cadre's	313	58
L1 Cadres knew about immediate breastfeeding		
Know	54.0	53.4
Did not know	46.0	46.6
L2 Cadres knew colostrums could be given to infant		
Yes	92.9	89.7
L3 Knowledge about colostrum benefits		
Facilitating uterus contraction	1.3	0.0
Preventing bleeding	0.3	0.0
Increasing immunity status	60.9	77.6
Preventing illness	21.2	19.0
Strengthen maternal and infant's bond	3.8	0.0
Stimulating breastmilk production	2.2	0.0
Providing nutrient/vitamin	16.3	3.4
Infants health	14.7	15.5
Others	3.9	1.7
L4 Knowledge about exclusive breastfeeding duration		
< 4 months	9.6	6.9
4 - 6 months	87.2	86.2
> 6 months	2.2	3.4
Don't know/no answer	1.0	3.4

Table 13
Cadre's Knowledge and Skills Regarding Weighing

Variabel	Total	
	I	C
N= All Cadre's	313	58
M1 & N1 How cadre recorded child weight on KMS		
Correct	63.3	60.3
Incorect	36.7	39.7
M1 Cadre ability to interpret weight on KMS		
Able	26.8	15.5
Unable	73.2	84.5
N1 Cadre ability to detect growth faltering		
Able	66.5	84.5
Unable	33.5	15.5

Table 14
Mother's Knowledge on Feeding Practices

Variabel	Total	
	I	C
N= All responden	373	86
H1 Mothers who ever breastfed		
Yes	97.6	97.1
H12 Knowledge about exclusive breastfeeding period (month)		
< 4 months	20.6	19.7
4 - 6 months	67.5	70.2
> 6 months	3.5	2.9
Don't know/no answer	8.3	7.1
N= Mother who ever breastfed	364	83
H7 Duration of exclusive breastfeeding practice (month)		
< 4 months	58.1	57.1
4 - 6 months	34.7	31.6
> 6 months	1.8	1.3
Don't know/no answer	5.4	10.0

Table 15
Mother's Knowledge on Growth of the Children

B. Variabel	Total	
	I	C
N= All responden	1487	238
Knowledge about wjat should mother be done when child's weight was flat		
Nothing to do	4.1	2.5
Provide better/much more food	59.3	60.1
Bring child to puskesmas/health personel	21.8	22.4
Provide vitamin/suplementation	25.0	0.0
Take a better rest	1.1	0.0
Others	6.7	11.8
I6 Mothers knowledge about the correct/ideal position of childs weight of KMS		
Correct	59.7	66.0
Incorrect	40.3	34.0
I7 Mothers knowledge about the meaning of childs weight position under the red line area of KMS		
Correct	73.6	43.7
Incorrect	26.4	56.3
I8 Mothers knowledge about the meaning of childs weight position in the dark green area of KMS		
Correct	47.3	50.8
Incorrect	52.7	49.2

Table 16
Mother's Report Regarding Cadres Services

Variabel	Total	
	I	C
N= All responden	1487	238
K1 Number of Posyandu visit within the last 6 months		
Never	10.1	2.6
< 6	34.0	41.1
>=6	52.1	52.6
Don't know/no answer	3.8	3.7
K2 Perception about cadres services in Posyandu		
Good	85.8	87.9
Fair	10.2	8.9
Not good	0.9	0.5
Others	1.1	1.6
Dont know/no answer	2.0	1.1
K3 Mother felt that cadre's service was satisfactory in term of		
Weighing	51.8	47.3
Nutrition Counseling	16.1	16.0
Has good character	39.4	36.7
Frequently visited	2.0	5.3
Provide information & services	16.7	15.5
Supplementation, immunization, vitamin	14.3	13.4
Others	0.2	6.3

Table 17
Cadre's Home Visit Activities

Variabel	Total	
	I	C
N= All responden	1487	238
J1 Mothers ever visited by cadre (%)		
Yes	38.9	36.6
N = Cadre ever home visit	578	87
J2 Cadre activities during home visit		
Tought infant/child feeding practice	16.2	21.8
Infant health	27.8	35.6
VTDL preparation	1.7	1.1
Follow up action after weighing	9.6	14.9
Invite mothers come to Posyandu regularly	33.0	30.5
Provide complementary feeding	4.9	13.6
Health promotion	16.2	35.6
Immunization	1.6	1.7
Provide Vit A	6.1	15.3
Others	4.0	2.3
N= All Cadre's	313	58
F1 Ever home visit		
Yes	65.2	74.1
N = Cadre ever home visit	204	43
F1 Cadre ever conducted home visit within the last 3 months		
Never	17.2	25.6
<3 times	46.1	39.5
>= 3 times	35.8	34.9
Dont know/no answer	1.0	0.0
F5 Cadre's activities during home visit		
Providing complementer feeding	19.7	14.6
Monitoring child who has flat weight	10.1	7.3
Monitoring undernourish childrens	10.1	19.5
Monitoring under red line childrens	3.0	14.6
Monitoring sick child	13.1	17.1
Providing health promotion	39.9	36.6
Findout mothers who did not come to Posyandu	30.3	26.8
Others	30.8	24.4

Table 18
Cadre's Counseling/Education Activities

Variabel	Total	
	I	C
N= All Cadre's	313	58
E1 Cadre ever conducted counseling		
Yes	77.3	81.0
N= Cadre's ever conducted counseling	242	47
E4 Number counseling conducted within the last 3 months		
Never	14.6	11.1
<3 times	32.6	26.7

**Table 19 Cross-tabs
Cadres' Age and Cadres' Knowledge Regarding Weighing**

Age	Recorded child weight on KMS correctly	Interpret child weight on KMS correctly	Detect child growth faltering correctly
≤ 24 years	25.0	15.0	57.5
25-34 years	43.6	23.0	74.5
≥ 35 years	33.7	29.5	66.9
p-value	0.042 *	0.118	0.074

**Table 20 Cross-tabs
Cadres' Education and Cadres' Knowledge Regarding Weighing**

Education	Recorded child weight on KMS correctly	Interpret child weight on KMS correctly	Detect child growth faltering correctly
≤ Junior High Finished	28.6	24.8	70.9
≥ Senior High Finished	51.8	25.5	66.4
p-value	0.000 *	0.870	0.363

**Table 21 Cross-tabs
Child age and Left over every serve VTDL**

Age	Left over every serve	Reason left over				
		Kid did not liked/taste not good	Too big size	Competition with other food	Child sick/lost of appetite	Bore
6 - < 12 months	60.0	16.7	50.0	16.7	0.0	16.7
12 - < 24 months	62.1	26.4	56.7	2.2	13.6	1.3
24 - < 36 months	56.9	28.0	51.5	4.4	18.2	3.3
≥ 36 months	58.6	28.4	57.8	2.9	12.6	3.3

<u>p-value</u>	0.800	0.887	0.396	0.140	0.152	0.089
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Table 22 Cross-tabs
Child Nutrition Status and Diarrhea in last 3 months

Nutrition Status	Ever Diarrhea	Frequency diarrhea		
		1 times	2 times	≥ 3 times
Severely underweight (<-3SD)	37.5	53.3%	26.7%	20.0%
Underweight (>=-3 SD - < -2 SD)	31.2	55.0%	13.2%	31.8%
Normal (>= -2 SD)	25.0	56.1%	21.1%	22.8%
<u>p-value</u>	0.800	0.126		