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**ANALYSIS OF EXISTING DATA ON KNOWLEDGE,
ATTITUDES AND PRACTICES (KAP)
OF MOTHERS IN FAMILY PLANNING NUTRITION PROGRAM**

Project 0305

Village Family Planning / Mother Child Welfare

USAID / POP Indonesia

May 18, 1983

UNITED STATES GOVERNMENT
memorandum

DATE: May 18, 1983 *rw*
REPLY TO: Rebecca W. Cohn, POP
ATTN OF: C.N. Johnson, POP
SUBJECT: Analysis of Existing Data on Knowledge, Attitudes and Practices (KAP) of Mothers in KB/Gizi Program.
TO: William P. Fuller, DIR

Background

During a recent meeting with Dr. Henry Mosley, we agreed that one of the foci of the KB/Gizi program is and should be changes in the knowledge, attitudes and practices of mothers as an intermediate stage toward the achievement of the project purpose, i.e. a fifty percent reduction in protein calorie malnutrition; 90% reduction in untreated diarrhea; and ultimately decreases in infant and child mortality.

Prior to initiating new additional research/surveys/evaluations as you had suggested, I conducted a review of existing data for the KB/Gizi program to ascertain the degree to which prior surveys have examined changes in mother's KAP. The results of the analysis are attached.

Methodology

Using existing UPGK (National Nutrition Program) materials, I compiled a list of all UPGK objectives and educational messages (see Annex 1). However, to use these UPGK objectives/messages as the universe within which one measures the achievement of changes in mother's KAP would constitute tacit acceptance of current UPGK objectives/messages. In my opinion, current UPGK objectives/messages are too broad, lack specificity and as yet remain untested. For these reasons the knowledge, attitude and practice objectives for mothers which were developed, tested and refined under the World Bank funded Nutrition Education (NE) project were chosen as the framework for this analysis. The NE objectives/messages were developed using formative evaluation; a thorough concept exploration and testing procedure was implemented prior to message development. (Note: The NE KAP objectives should not be considered exhaustive; for example, family planning and parasite infestation/deworming objectives are not included in the NE framework although they are included in the KB/Gizi program.)

Referring to the attached spreadsheets, the left hand column lists the NE KAP objectives for mothers. In the second column an assessment is made as to whether each NE objective is explicitly contained in UPGK; implicitly contained in UPGK; or not included in UPGK. The purpose here is to pinpoint or highlight gaps/differences in UPGK objectives/messages.

I then reviewed existing KB/Gizi baseline surveys, nutrition profile (Bali only) and the recent mid-project evaluation for East Java and Bali and extracted data relevant to assess achievement of each KAP objective. The last column of the spread sheet attempts to make one of several conclusions for each KAP objective:

- 1) Where the KAP objective is contained in the NE program and not in UPGK: if appropriate, the objective/message should be added or refined for the UPGK program.
- 2) Where the KAP objective is contained in the UPGK but information is not available on achievement of that objective: additional information is needed.
- 3) Where the KAP objective is contained in UPGK, information is available but shows the objective is not yet being achieved: further program refinements and improvements are needed.

To conclude, the results of this analysis reveal where gaps in nutrition education strategy objectives/messages occur; where gaps in information/data occur ; and where programmatic improvements are needed to make existing objectives and messages effective.

Conclusions

- 1). Need for additional Surveys and Evaluations: The Bali baseline survey, Bali Nutrition Profile, and Bali mid-project evaluation comprise a more complete data set on the changes of mother's KAP than do the baseline survey and midproject evaluation surveys for East Java. After review it is clear that measurement of mothers' KAP has not been a priority focus of research to date in either province. Further research directed at assessing changes in mother's KAP is warranted, especially in the areas of child feeding practices; food quantity and quality; management of diarrhea; and beliefs regarding diarrhea and the diets of pregnant and lactating women. Another key area for message development is the interface/interaction of family planning and nutrition practices.
- 2). KB/Gizi Nutrition Education: KB/Gizi is primarily an education program which seeks to change the attitudes, knowledge and behavior of mothers to promote better nutrition and health for themselves and their children under age five. The nutrition education component is based upon selected key objectives/messages that if implemented correctly will change mothers' KAP and ultimately improve health/nutritional status. If we backtrack along this chain starting with nutritional status; information from the mid-project evaluation revealed no differences in nutritional status in program versus non-program areas. This analysis

examines the next step back i.e. changes in mother's KAP, but even further, highlights gaps in the UPGK messages and nutrition education objectives themselves. Thus my recommendation is that prior to undertaking further research/surveys on mothers' KAP, the first priority should be an assessment of the effectiveness of the existing UPGK nutrition education strategy and the nutrition objectives/messages within that strategy. Clearly specific messages are needed in the whole area of child feeding to include: management of sick children; use of colostrum and both breasts; giving of breast before food; how to prepare bubur campur; and management and feeding of a child with diarrhea.

3). Need for program Improvements: The key areas for improvement are distribution of the pharmaceuticals to the target troupe; improved counselling based on weighing; and skills upgrading for food and ORS preparation.

Recommendations

This review was intended as a quick look to assess the adequacy of information pertaining to knowledge, attitude and practice changes of mothers in the KB/Gizi program. It appears, however, that the entire nutrition education component of the KB/Gizi program needs to be carefully reviewed leading into development of a complete communication strategy. Development of a communication or nutrition education strategy would include as needed: assessments of current cultural practices; determination of appropriate messages; determination of the educational approach to be utilized; which media to employ for implementation of the strategy and finally, how to implement it. In addition, a literature review may be warranted so we know which relevant studies have been carried out over say the last 5 - 10 years in the key areas outlined above.

Drafted:POP:RCohn:md - 05/18/83

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SUMMARY CONCLUSIONS
MOTHERS KNOWLEDGE, ATTITUDES AND PRACTICES OF IN KB/GIZI PROGRAM

PROGRAM AREAS	ADDITIONAL INFORMATION NECESSARY	ADDITIONAL MESSAGES OR REFINEMENTS NECESSARY	PROGRAM IMPROVEMENTS NECESSARY
I. Baby Weighing Page 1		- importance of bringing sick child	- improve counselling based on weighing results - teach mothers significance of wt. chart
II. Food 1 - 4 months Page 3	- food before breast or vice versa ? - feeding of child when mother gone; - method of feeding	- how to introduce food; - use of colostrum - breast before food - use of both breasts	
III. Food 5 - 12 months Page 6	- preparation and storage of child's food	- recipe for bubur campur - how to introduce food - encourage more frequent feedings - use of oil in diet	- encourage longer breast feeding
IV. Food 1 - 2 years Page 8	- how sick children are fed; - quantity of food given to children; frequency of feeding	- introduction of adult foods - bubur campur recipe - use of snack foods	- recipes and preparation of appropriate foods
V. Diarrhea Page 11	- specifics on mother's use of ORS and management of diarrhea; medical care sought - diarrheal episodes and continuation of breast-feeding and use of foods; - traditions, beliefs on diarrhea mgmt.	- preparation of ORS - how to feed child with diarrhea	- improve nutrition education and skills for ORS preparation
VI. Pregnant Women Page 14	- why pregnant women don't eat more (determine appropriate messages)	- increase food consumption	- improve Fe distribution
VII. Lactating Women Page 15	- beliefs regarding food practices and fluid intake and impact on fetus	- food and drink for lactating mother; - use of snack foods	- Fe for lactating mothers
VIII. Vitamin A Page 20	- Vit. A content of child diets; - composition and quantity of diets of pregnant women and lactating women - longitudinal follow-up of children with eye problems	- Management of children with eye problems	- improve vitamin A distribution

ANALYSIS OF DATA ON NUTRITION KNOWLEDGE, ATTITUDES AND PRACTICES
OF MOTHERS IN KB/GIZI PROGRAM

KNOWLEDGE, ATTITUDE AND PRACTICE OBJECTIVES FOR MOTHERS (TAKEN FROM WORLD BANK NUTRITION EDUCATION PROJECT)	UPGK: COMPARATIVE OBJECTIVES			KB/GIZI: ACHIEVEMENT OF OBJECTIVES PER EXISTING DATA (NOTED BY SOURCE)		PROGRAM IMPLICATIONS	
	Not in UPGK	Expli- cit	Impli- cit	East Java	Bali	More Data Necessary To Access Impact	Addition/ Refinement of Message Necessary
1. WEIGHING OF BABIES							
<u>General Behavioral Objective</u>							
Mothers will have their children weighed every month.		X		70% attended last month ²	72.5% weigh every month ¹		
<u>Specific Behavioral Objectives</u>							
1. The mothers themselves will bring all their children under five years to the monthly weighing sessions.		X		N/A	88.5% bring own child ¹		
2. The mothers will keep the KMS card in their homes and will bring it to each weighing session.			X	66% store at home ²	N/A		
3. The mothers will ask the persons in charge of the weighing sessions to explain the significance of the babies' weight, the nutritional status, and the recommended feeding patterns.	X			41% receive health ed. at weighing ²	75.9% receive counseling based on weighing ¹		X+
4. The mothers will encourage other mothers to attend.	X			N/A	N/A		
<u>Attitude and Knowledge Objectives</u>							
1. Mothers will believe that the weight of the babies is the best indicator of the overall health of the child.		X		50% aware that weighing is useful for Balita health ²	73% aware that weight gain means healthy child ¹		X+
2. Mothers will believe that as the healthy child grows older, his weight will increase.		X		N/A	N/A	X	
3. Mothers will know the different divisions of the weight card and the significance of each.			X	N/A	N/A	X	X

Sources:

¹Bali Mid-Project Evaluation, "Evaluasi proses program terpadu KB-GIZI Propsinsi Bali", University of Udayana (Bali), 1982

²East Java Mid-Project Evaluation, "Aspek Kegiatan di Desa", Health Research and Development Institute (Surabaya), 1982

³East Java Baseline Survey, Nutrition Study Center (Surabaya), 1982

⁴Nutrition Profile of Pregnant and Nursing Mothers in Bali, University of Udayana (Bali), 1981

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	Not in UPGK	Expli- cit	Imp'i- cit	East Java	Bali	More Data Necessary To Access Impact	Addition/ Refinement of Message Necessary
4. The mothers will know the nutritional status and weight increase or decrease of their child.			X	N/A	N/A	X	
5. The mothers will believe that it is especially important to bring difficult to manage, sick, children without appetite and children who have been sick to the weighing.	X			N/A	N/A	X	X
6. Mothers will know that a child whose weight does not increase or whose weight is below the green area on the weight card needs to improve the diet. (These improvements will follow the UPGK flip chart and manual guidelines.)			X	N/A	N/A	X	

Sources:

- 1Bali Mid-Project Evaluation, "Evaluasi proses program terpadu KB-GIZI Propinsi Bali", University of Udayana (Bali), 1982
- 2East Java Mid-Project Evaluation, "Aspek Kegiatan di Desa", Health Research and Development Institute (Surabaya), 1982
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	COMPARATIVE OBJECTIVES			ACHIEVEMENT OF OBJECTIVES PER EXISTING DATA (NOTED BY SOURCE)		More Data Necessary To Access Impact	Addition/ Refinement of Message Necessary
	Not in UPGK	Expli- cit	Impli- cit	East Java	Bali		
II. FOOD DURING THE FIRST FOUR MONTHS							
<u>General Behavioral Objective</u>							
Mothers will breastfeed their infants on demand exclusively during the first four months. (UPGK uses three months.)		X		82% mothers introduce supp. food by 3 mos. ³	97% mothers introduce supp. food before three mos. 55% mothers breast feed child when cries ⁴		X+
<u>Specific Behavioral Objectives</u>							
1. Mothers will not express and throw away the first milk (colostrum) they produce.		X		69% do not give colostrum to baby ³	70% do not give colostrum to baby ¹		X+
2. Mothers will give only breastmilk during the three months of life, i.e. mothers will not give jenang, bulur, banana or other foods to the child during the first four months. (UPGK uses three months.)		X		82% mothers introduce supp. food by 3 mos. ³	75% have introduced food by 3 mos. of age ¹		X+
3. Mothers will always breastfeed their infants before offering anything else for the child's consumption, until the child is five months old.	X			N/A	N/A	X	X
4. Mothers will give the baby milk from both breasts at each feeding.	X			N/A	65% use both breasts ⁴		X
5. Special Note: If the mother must leave the infant and cannot breast feed the child for several hours, she will: - breastfeed completely before leaving the infant	X			N/A	N/A	X	X

Sources:

- ¹Bali Mid-Project Evaluation, "Evaluasi proses program terpadu KB-GIZI Propinsi Bali", University of Udayana (Bali), 1982
- ²East Java Mid-Project Evaluation, "Aspek Kegiatan di Desa", Health Research and Development Institute (Surabaya), 1982
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	Not in UPGK	Expli- cit	Impli- cit	East Java	Bali	More Data Necessary To Access Impact	Addition/ Refinement of Message Necessary
- leave milk or sweet tea for the baby, and if the baby is more than two months, leave some soft food like bubur, bread or banana.							
- continue to breastfeed upon returning home and discontinue the use of the foods.							
<u>Specific Knowledge and Attitude Objectives</u>							
1. The mothers will learn that the first milk has special qualities unlike later milk which provide protection for the infant.			X	69 % do not give colostrum to baby ³	70% do not give colostrum to baby ¹		X
2. The mothers will learn by tasting the first milk that it is not hot, dirty or sour.	X			N/A	N/A		X
3. The mothers will learn that some of these special qualities of this first milk account for its different color and sweet taste and the the yellow color is from the high Vitamin A content of this milk.	X			N/A	N/A		X
4. Mothers will know that their milk is the best food for their young children and if the child can drink enough of this milk it will be healthy, grow quickly and be easy to manage.		X		83.5 % say breast milk best for baby ³	99.7% breastfed their last child ⁴		
5. Mothers will believe that giving food such as jenang, banana or bubur during the first weeks and months of the child's life will cause vomiting and diarrhea.	X			N/A	N/A	X	X
6. Mothers will learn that vomiting and diarrhea occur in young infants because of contamination (dirt) from such foods and/or the immaturity of the child's digestive system, even for halus foods.		X		N/A	N/A	X	X

Sources:

¹Bali Mid-Project Evaluation, "Evaluasi proses program terpadu KB-GIZI Propinsi Bali", University of Udayana (Bali), 1982

²East Java Mid-Project Evaluation, "Aspek Kegiatan di Desa", Health Research and Development Institute (Surabaya), 1982

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	COMPARATIVE OBJECTIVES			ACHIEVEMENT OF OBJECTIVES PER EXISTING DATA (NOTED BY SOURCE)		More Data	Addition/
	Not in UPGK	Expli- cit	Impli- cit	East Java	Bali	Necessary To Access Impact	Refinement of Message Necessary
7. The mothers will know that for each food that the child eats it means less milk for the child which may mean slower growth and a child who lacks strength.	X			N/A	N/A	X	X
8. The mothers will learn that their breast milk supply will decrease if the child receives other foods and therefore sucks less often.	X			N/A	N/A	X	X
9. The mother will learn that her child can become satisfied from her breast milk in less time if she feeds from both breasts. She will learn that especially if she alternates at least twice between breasts that the child will be more satisfied in less time.	X			N/A	33% use only 1 breast to feed ⁴		X
10. Mothers will believe that they will be more attractive if they keep a balance in the size of both breasts.	X			N/A	N/A		
11. The mother will know that if the child cries she must feed the child breast milk and can keep the child quiet for longer if she is producing enough milk and breast feeds completely.			X	N/A	55% breast feed baby whenever cries ⁴		X+

Sources:

¹Bali Mid-Project Evaluation, "Evaluasi proses program terpadu KB-GIZI Propinsi Bali", University of Udayana (Bali), 1982

²East Java Mid-Project Evaluation. "Aspek Kegiatan di Desa", Health Research and Development Institute (Surabaya), 1982

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	Not in UPGK	Expli- cit	Impli- cit	East Java	Bali	More Data Necessary To Access Impact	Addition/ Refinement of Message Necessary
III. FOOD FOR CHILDREN FIVE MONTHS AND OLDER							
<u>General Behavioral Objective</u>							
Mother will be able to select and serve appropriate foods for their children to maintain "normal" nutritional status		X		61% normal nutrition (wt. for age) ³ 86% normal nutrition (weight for height)	66% normal nutrition (wt. for age) ⁵		
<u>Specific Behavioral Objectives</u>							
1. Mothers will continue to breast feed their children until two years. The child will breastfeed on demand until nine months with food supplementing the breastmilk beginning in the fourth month.		X		49.3% are breastfed till age 18-24 mos. ³	66% are breastfed till age 18-24 mos. ⁴ aver weaning age = 20.8 mos.		X+
Beginning in the ninth month, the breastmilk will begin to supplement the food, so that gradually the mother will offer solid food first when the child indicates hunger.	X			82% have introduced food by 4 months of age ³	75% have introduced food by 3 months of age ¹		
2. At four months, mothers will begin to introduce solid foods to the baby beginning with a mixed food "bubur campur."		X		55.8% have food introduced before 1 mo. age. Bananas (30%) and rice/bananas (34.8)% usual. ¹	average age food introduced is 1.2 months. Bananas and mixed rice/bananas usual. ¹		X+
3. Mothers will introduce food (bubur campur) gradually, starting with a few spoons at each feeding and increasing the quantity until the child is eating a small plateful four times per day at six to seven months.		X		N/A	N/A	X	X+
4. Mothers will prepare the children's food at least twice per day.	X			N/A	Food usually prepared once per day ⁴	X	X

Sources:

¹Bali Mid-Project Evaluation, "Evaluasi proses program terpadu KD-GIZI Propsinsi Bali", University of Udayana (Bali), 1982

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	Not in UPGK	Expli- cit	Impli- cit	East Java	Bali	More Data Necessary To Access Impact	Addition/ Refinement of Message Necessary
5. The children's food will be kept covered and stored and served in clean containers.		X		N/A	N/A	X	X

Sources:

- ¹Bali Mid-Project Evaluation, "Evaluasi proses program terpadu KB-GIZI Propsinsi Bali", University of Udayana (Bali), 1982
- ²East Java Mid-Project Evaluation, "Aspek Kegiatan di Desa", Health Research and Development Institute (Surabaya), 1982
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	Not in UPGK	Expli- cit	Impli- cit	East Java	Bali	More Data Necessary To Access Impact	Addition/ Refinement of Message Necessary
IV. CHILDREN NINE MONTHS AND OLDER (UPGK uses one year)							
1. Mothers will feed children nine months and older complete meals using adult foods four times per day.		X		37.7% begin adult food after age 12 mos. ³ 9.7% feed Child 4 times per day; 70% 3 times per day. ³	Adult foods begin over age of 20.2 mos. ⁴		X+
2. Mothers will offer snacks at least once/day to the child twelve months or older (Specific skill objectives ought to be developed here for the preparation of snacks in the home. This may be another opportunity for PKK to teach mothers practical snacks that are well within the budgets of the low income families.)	X			N/A	N/A		X
3. The mother will feed the child recovering from an illness extra food to make up for the loss during the illness. For example, she will prepare and serve the child extra food at each meal or snacks between meals.	X			N/A	91% attempt to feed sick children (in face of appetite loss) ⁴	X	X
<u>Attitude and Knowledge Change Objectives</u>							
1. The mother will know that her milk is the best for her child.		X		83.5% say breast milk best for baby ³	99.7% breast milk fed last child ⁴		
2. The mother will understand that as the child grows over five or six months of age the child needs larger and larger portions of food.	X			N/A	N/A	X	X
3. The mothers will learn that their children can digest the bubur campur.	X			N/A	N/A		X

Sources:

¹Bali Mid-Project Evaluation, "Evaluasi proses program terpadu KB-GIZI Propinsi Bali", University of Udayana (Bali), 1982

²East Java Mid-Project Evaluation, "Aspek Kegiatan di Desa", Health Research and Development Institute (Surabaya), 1982

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	Not in UPGK	Expli- cit	Impli- cit	East Java	Bali	More Data Necessary To Access Impact	Addition/ Refinement of Message Necessary
	4. Mothers will believe that the oil in bubur campur will add special qualities to the foods which will help the baby to be healthier, stronger and more satisfied.	X			N/A	N/A	
5. Mothers will learn the difference between plain jenang and bubur and the mixed food i.e. makanan komplet such as	X			N/A	N/A		X
6. The mother will learn that breast milk is not enough to satisfy the baby at five months and the baby needs extra food or it will be difficult to manage.			X	91% mothers introduce food before 6 months age ³	97% mothers introduce food before 6 months age ⁴		
7. Mothers will learn that their child needs to become used to new foods; and that it is natural for the child to spit out some foods.	X			N/A	N/A		X
8. The mothers will understand that if the child spits out the food it does not mean that the child does not like the food, but only that the mother should try again.	X			N/A	N/A		X
9. The mother will learn that the addition of something sweet (banana or gula jawa) may entice the stubborn child to eat.	X			N/A	N/A		X
10. Mothers will learn that keeping food for babies for more than a few hours or using dirty utensils may cause the food to become contaminated causing sickness and diarrhea.		X		N/A	N/A (Food usually prepared once per day ⁴)	X	X+
11. The mother will understand that the child's digestive system is strong enough by age nine to twelve months to consume adult foods.			X	25% introduce adult food after age 12 months ³	Adult food introduced at average age of 20.2 months ⁴		X

Sources:

¹Bali Mid-Project Evaluation, "Evaluasi proses program terpadu KB-GIZI Propinsi Bali", University of Udayana (Bali), 1982

²East Java Mid-Project Evaluation, "Aspek Kegiatan di Desa", Health Research and Development Institute (Surabaya), 1982

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	COMPARATIVE OBJECTIVES			ACHIEVEMENT OF OBJECTIVES PER EXISTING DATA (NOTED BY SOURCE)		More Data Necessary To Access Impact	Addition/ Refinement of Message Necessary
	Not in UPGK	Expli- cit	Impli- cit	East Java	Bali		
12. The mother will realize that the child with a good appetite is a healthy child.	X			N/A	N/A		X
13. The mothers will realize the value of snacks in increasing the child's food consumption, especially if there has been a decrease in intake because of illness or stubbornness.		X		N/A	N/A	X	X
14. The mothers will learn to make snacks that are especially nutritious for their young children such as ...	X			N/A	N/A		X
15. The mother will understand that a child of 18 months is extremely active, is growing quickly, and needs lots of food.	X			N/A	N/A		X
16. The mother will understand that a healthy child of this age will be hungry, and can eat almost as much as some older brothers and nearly half as much as an adult, man, if the the food is offered frequently.		X		N/A	N/A	X	X
17. The mother will know that a child can recover nutrient losses from an illness. This can be done by feeding extra food until the child's weight returns to the pre-illness weight and begins to increase again.	X			N/A	91% attempt to feed sick child (in face of appetite loss) ⁴		X

Sources:

- ¹Bali Mid-Project Evaluation, "Evaluasi proses program terpadu KB-GIZI Propsinsi Bali", University of Udayana (Bali), 1982
- ²East Java Mid-Project Evaluation, "Aspek Kegiatan di Desa", Health Research and Development Institute (Surabaya), 1982
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KNOWLEDGE, ATTITUDE AND PRACTICE OBJECTIVES FOR MOTHERS (TAKEN FROM WORLD BANK NUTRITION EDUCATION PROJECT)	UPGK: COMPARATIVE OBJECTIVES			KB/GIZI; ACHIEVEMENT OF OBJECTIVES PER EXISTING DATA (NOTED BY SOURCE)		PROGRAM IMPLICATIONS	
	Not in UPGK	Expli- cit	Impli- cit	East Java	Bali	More Data Necessary To Access Impact	Addition/ Refinement of Message Necessary
	V. DIARRHEA						
<u>General Behavioral Objective</u>							
Mothers will correctly rehydrate their children with diarrhea and continue an appropriate diet during and after the illness.		X		Of mothers whose children experienced diarrhea, 31.6% had received oralyte from project. ²	Of mothers whose children experienced diarrhea, 42% had ever given oralyte to child ¹		X+
<u>Specific Behavioral Objectives</u>							
1. Mothers will prepare LGG (homemade oral rehydration) with one tablespoon of gula, a two finger pinch of granulated salt, and one blimbing glass or boiled water or sweet tea.		X		18.4% of mothers are able to make sugar salt ²	28% of mothers whose children had ever had diarrhea had ever given ORS to child; 42% had given oralyte. 34% of mothers who had given ORS to child could mix it correctly ¹		X+
<u>OR</u>							
2. Mothers will prepare ORALIT following the instructions on the package. Hands and all utensils used in the preparation of the LGG or ORALIT will be clean.		X		18.4% know how to mix oralyte correctly ²	34% of mothers who had given ORS to child could mix it correctly (sugar, salt) ¹		X+
3. Mothers will give one glass of LGG or ORALIT after each liquid bowel movement, until the diarrhea ceases.		X		N/A	N/A	X	
4. (ENDEMIC CHOLERA AREAS) Mothers will give LGG or ORALIT and take their child directly to the PUSKESMAS if six or more liquid stools are passed in one day or the liquid stools are combined with vomiting.			X	N/A	N/A	X	

Sources:

¹Bali Mid-Project Evaluation, "Evaluasi proses program terpadu KB-GIZI Propsinsi Bali", University of Udayana (Bali), 1982

²East Java Mid-Project Evaluation, "Aspek Kegiatan di Desa", Health Research and Development Institute (Surabaya), 1982

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	Not in UPGK	Expli- cit	Impli- cit	ACHIEVEMENT OF OBJECTIVES PER EXISTING DATA (NOTED BY SOURCE)		More Data Necessary To Access Impact	Addition/ Refinement of Message Necessary
				East Java	Bali		
5. (NON-ENDEMIC AREAS) Mothers will give LGG or ORALIT and will take the child to the PUSKESMAS if diarrhea lasts more than two days, the child does not want to drink, does not urinate for one half day, and there is blood or mucus in the diarrhea.		X		N/A	N/A	X	
6. Mothers will continue to breastfeed during diarrhea and if the child is older than four months, to give soft solid foods.		X		N/A	N/A	X	
<u>Attitude and Knowledge Change</u>							
1. Mothers will learn that more than _____ loose stools in one day means that the child has diarrhea. (Check with the Communicable Disease Center, Indonesia.)		X		N/A	N/A	X	
2. Mothers will learn and believe that diarrhea is serious; that it is an illness which can lead to death if not treated. Mothers will learn that diarrhea is not just "enteng-entengi" (part of normal child development).		X		N/A	N/A	X	
3. Mothers will believe that they (by themselves) can help reduce the damaging effects of diarrhea by giving oral rehydration fluid and by patiently giving food to their children.			X	N/A	N/A	X	
4. Mothers will learn that they must give enough liquid (LGG or ORALIT) to the child to replace the liquid the child is losing in stools and vomit.		X		N/A	N/A	X	
5. Mothers will learn that even though the stools increase temporarily in volume and frequency after the initial administration of oral rehydration they should continue giving it as directed.			X	N/A	N/A	X	

Sources:

- ¹Bali Mid-Project Evaluation, "Evaluasi proses program terpadu KB-GIZI Proopsinsi Bali", University of Udayana (Bali), 1982
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	Not in UPGK	Expli- cit	Impli- cit	East Java	Bali	More Data Necessary To Access Impact	Addition/ Refinement of Message Necessary
6. Mothers will learn that a child must drink one glass of LGG or ORALIT for every liquid stool that is passed or for each time the child vomits.		X		N/A	N/A	X	
7. Mothers will learn to make LGG and ORALIT correctly and will know where to get ORALIT if they have none in their house.		X		18.4% of mothers can mix oralyte/sugar salt correctly ²	Of mothers who had ever given sugar salt 34% made it correctly; 60% could mix oralyte correctly; 10% mothers know oralyte available at cadre/PLKB house ¹		X+
8. Mothers will learn that rapidly successive completely liquid stools, stools with blood or mucus or fluid stools with vomiting need immediate attention at the PUSKESMAS.		X		N/A	N/A	X	
9. Mothers will learn that palor, weakness, continual crying, increased thirst, or sunken eyes are signs that child is not getting enough to drink and that the child needs LGG or ORALITE in addition to breastmilk or other fluids already used by the mother.	X			N/A	N/A		X
10. Mothers will learn that if the skin is pinched and pulled on the back of the hand and does not snap back, then the child is severely dehydrated and should be given LGG or ORALITE, and the endemic cholera areas should be taken to the PUSKESMAS.	X			N/A	N/A	X	X
11. Mothers will know the importance of continuing with foods during diarrhea, switching to soft foods if the child will not eat his regular diet.		X		N/A	N/A	X	

Sources:

- ¹Bali Mid-Project Evaluation, "Evaluasi proses program terpadu KB-GIZI Proplansi Bali", University of Udayana (Bali), 1982
- ²East Java Mid-Project Evaluation, "Aspek Kegiatan di Desa", Health Research and Development Institute (Surabaya), 1982
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	Not in UPGK	Expli- cit	Impli- cit	East Java	Bali	More Data Necessary To Access Impact	Addition/ Refinement of Message Necessary
VI. PREGNANT WOMEN							
<u>General Behavioral Objective</u>							
Pregnant women will select foods and eat food that meets their needs.		X		N/A	31% aware pregnant woman should eat more than usual ⁴	X	X+
<u>Specific Behavioral Objectives</u>							
1. The woman will increase the quantity of food consumed daily until she eats four full meals/day during the last half of the pregnancy.		X		N/A	31% aware need to eat more if pregnant ¹ 13% ate more when pregnant ⁴	X	X+
2. The woman will eat snack foods between meals and will carry these foods with her if she is away from the house for an extended period. Examples of good snack foods: peyek, bongkol, jadah/tempe bacem, cassava, sweet potato or corn, getuk.	X			N/A	N/A		X
3. The pregnant woman will take 1 iron pill each day during the last 3 months of her pregnancy.		X		40% of pregnant women received Fe ³	65% of pregnant and lactating women rec'd Fe; (77% of pregnant women were in Trimest. I & II) ¹		X+
4. The pregnant woman who feels nauseous or "full" will continue to eat, but will select and eat appropriate foods to decrease her feelings of nausea. Example of foods: boiled or roasted cassava or sweet potato, soup with rice, vegetables and fruit, bubur beras or bubur kacangijo. The woman who feels nauseous or full will eat smaller meals, but will eat more frequently (6-7 times/day)	X			N/A	N/A		X

Sources:

- ¹Bali Mid-Project Evaluation, "Evaluasi proses program terpadu KB-GIZI Propinsi Bali", University of Udayana (Bali), 1982
- ²East Java Mid-Project Evaluation, "Aspek Kegiatan di Desa", Health Research and Development Institute (Surabaya), 1982
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	Not in UPGK	Expli- cit	Impli- cit	East Java	Bali	More Data Necessary To Access Impact	Addition/ Refinement of Message Necessary
5. The percent of pregnant women who go to the health center or bidan for pregnancy checks will increase from _____ to _____	X			83% rec'd pregnancy check (don't know frequency) ³	50% received regular prenatal care ⁴		X
<u>Specific Knowledge and Attitude Objectives</u>							
1. The pregnant woman will understand that her health and weight gain during pregnancy is directly linked to the outcome of the pregnancy.	X			N/A	N/A		X
- to the energy they have (how they feel) during delivery							
- to the strength and health of their baby.							
2. The pregnant woman knows she must gain weight during her pregnancy, not only in the weight of the baby, but throughout her body.	X			N/A	17% mothers think less food is approp. if pregnant ¹		X
					35% mothers ate less food when pregnant ⁴		
The mother knows that if she breast feeds she will lose the extra weight gained during pregnancy.	X			N/A	N/A		X
3. The pregnant women will learn that the essence from the food she eats is transferred to the child. The mother knows that she is feeding herself and her baby with what she eats during pregnancy.		X		N/A	N/A	X	X
4. The pregnant woman will know where to ask for the iron pills (kader, local health worker, Puskesmas).				N/A	N/A	X	
5. The pregnant woman will know the relationship between the iron pill and her strength during her pregnancy and delivery.				N/A	N/A	X	

Sources:

- ¹Bali Mid-Project Evaluation, "Evaluasi proses program terpadu KB-GIZI Propinsi Bali", University of Udayana (Bali), 1982
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	Not in UPGK	Expli- cit	Impli- cit	East Java	Bali	More Data Necessary To Access Impact	Addition/ Refinement of Message Necessary
6. The pregnant woman will know that the iron table may cause the feces to darken or may cause some constipation, but that eating fruits and vegetables will help alleviate the problem of constipation.	X			N/A	N/A		X
7. The pregnant woman knows the importance of continuing to eat even though she feels nauseous or full.	X			N/A	N/A		X
8. The pregnant woman knows the importance of monitoring her pregnancy and the growth of her baby through periodic checks with the bidan.	X			83% rec'd pregnancy check ³	50% rec'd regular prenatal care; 37% irregular care ⁴		X

Sources:

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	Not in UPGK	Expli- cit	Impli- cit	East Java	Bali	More Data Necessary To Access Impact	Addition/ Refinement of Message Necessary
	VII. LACTATING WOMEN						
<u>General Behavioral Objective</u>							
Women will select and eat foods and drink fluids in a pattern appropriate to their needs throughout lactation.		X		N/A	64% ate more than usual; 6% ate less than usual. ⁴ 53% aware lactating mother should eat more than usual (46% say same amount) ¹		X+
<u>Specific Behavioral Objectives</u>							
1. Mothers will drink the equivalent of at least eight or ten glasses of fluid per day. The liquid can be boiled water, tea, jamu, soup. (UPGK uses six glasses more than usual.)		X		N/A	44% aware need to drink more (55% say same amount) ¹		X+
2. The mothers will increase the quantity of food consumed each day until they are eating four full meals per day. (UPGK uses 1-2 additional plates of foods.)		X		N/A	64% ate more than usual ⁴		X+
3. The mother will eat snack foods between meals and will carry these foods with her if she is away from home for an extended period.	X			N/A	N/A		X
4. If the mother feels that her breast milk is hot or her skin is sweaty she will wipe her breast with a damp, clean cloth before feeding her baby.	X			N/A	N/A		X
5. All lactating women will take one Fe pill/day.		X		15% of lactating mothers received Fe 27% do not take it correctly (i.e. once a day) ²	65% of lactating and pregnant mothers received Fe; of these 56% aware to take 1 pill per day ¹		X+

Sources:

- ¹Bali Mid-Project Evaluation, "Evaluasi proses program terpadu KB-GIZI Proopsinsi Bali", University of Udayana (Bali), 1982
- ²East Java Mid-Project Evaluation, "Aspek Kegiatan di Desa", Health Research and Development Institute (Surabaya), 1982
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	COMPARATIVE OBJECTIVES			ACHIEVEMENT OF OBJECTIVES PER EXISTING DATA (NOTED BY SOURCE)		More Data Necessary To Access Impact	Addition/ Refinement of Message Necessary
	Not in UPGK	Expli- cit	Impli- cit	East Java	Bali		
<u>Specific Knowledge and Attitude Objectives</u>							
1. The lactating women will understand the advantages of breast feeding for themselves and for their child.		X		84% say breast milk is best food for baby ³	99.7% breast fed last child ⁴		
2. The lactating women will know that the milk that they make is from the essences of the food they eat, and that their diet is important for the quality and quantity of the milk.		X		N/A	64% ate more than usual ⁴		X+
3. Mothers will understand that the quantity of liquid they consume is directly related to the quantity of milk they can produce.	X			N/A	44% aware need to drink more ¹		X+
4. The lactating women will learn the connection between their fluid intake and their ability to keep their child happy and satisfied.	X			N/A	N/A		X
5. Mothers will believe that this quantity of fluids will refreshen and sweeten their milk.	X			N/A	44% aware need to drink more ¹		X
6. Lactating women will know that increasing the amount of fluid they drink will not give the child a cold.	X			N/A	N/A		X
7. The lactating women will believe that their babies will be happier, more satisfied and grow more quickly if they eat these foods.			X	N/A	64% ate more than usual ⁴	X	X
8. The lactating women will know that the extra green vegetables will help freshen their milk and prevent chicken blindness in their infants.			X	N/A	N/A	X	X

Sources:

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	Not in UPGK	Expli- cit	Impli- cit	East Java	Bali	More Data Necessary To Access Impact	Addition/ Refinement of Message Necessary
9. The lactating woman will believe that her milk is best for the baby in its composition, taste and temperature.			X	84% say breast milk best food for baby ³	99.7% breast fed last child ⁴		
10. If the mother feels hot or sweaty she will know that she can cool her breast by washing them with a damp clean cloth.	X			N/A	N/A		X

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	Not in UPGK	Expli- cit	Impli- cit	East Java	Bali	More Data	Addition/
						Necessary	Refinement
						To Access	of Message
VIII. VITAMIN A							
<u>General Behavioral Objective</u>							
Mothers will make dietary changes to increase Vitamin A intake of all family members.		X		N/A	69% mothers changed diet based on demo. cooking ¹	X	X+
<u>Specific Behavioral Objectives</u>							
1. Pregnant and breastfeeding mothers will eat daily more additional plate of dark green leaves such as bayam, cassava, kangkung, and papaya leaves.		X		N/A	99% aware preg. women should eat vegetables; 84% aware diet should include fruit ¹	X	
2. Mothers will include dark green leaves in the daily diet of all children over four months of age.		X		89% children 1-5 years consume vegetables 1 or more times daily ³	N/A	X	
3. Mothers will use Vitamin A rich fruits in the family diet, for example mango, ripe papaya, and pisang raja.		X		77% children 1-5 years consume fruit 1 or more times daily ³	N/A	X	
4. Mothers will take all children with eye problems or children who stumble in the dark to the health center or the Puskesmas.		X		N/A	N/A	X	
5. Pregnant and breastfeeding women will take the Vitamin A capsule as directed.	X			N/A	N/A		
6. Mothers will give the Vitamin A capsule to their children under five years as directed by the health worker.				32% balita have ever rec'd Vit. A. ²	85% have ever given Vit. A to child; of these 51% aware given every 6 months ¹		X+

Sources:

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	Not in UPGK	Expli- cit	Impli- cit	East Java	Bali	More Data Necessary To Access Impact	Addition/ Refinement of Message Necessary
7. Families will increase the amount of Vitamin A rich food they grow in home yards or in the field for home consumption.		X		60% grow green vegetables in home garden ³	Of 85% w/gardens, 60% grow fruits and vegetables ¹		
8. Mothers will continue the practice of giving roasted liver to children with eye problems.	X			N/A	N/A		
9. Mothers will feed extra large portions of green vegetables or give fruits rich in Vitamin A to children recovering from illness.	X			N/A	N/A		X
<u>Knowledge and attitude Objectives</u>							
1. Mothers will believe that the daily consumption of dark green leaves and yellow fruits can prevent night blindness.			X	N/A	N/A	X	
2. Mothers will know which foods are the best sources of Vitamin A.			X	N/A	N/A	X	
3. Mothers will be concerned with the health of their children's eyes and will know the symptoms of night blindness.			X	N/A	N/A	X	
4. Mothers will believe that eye problems can be serious and should be reported to the kader or the PUSKESMAS.		X		N/A	N/A	X	
5. Mothers will know that after diarrhea, measles, malaria, and other illnesses children are particularly vulnerable to eye problems including night blindness and should eat extra large portions of green vegetables.	X			N/A	N/A		X

Sources:

- ¹Bali Mid-Project Evaluation, "Evaluasi proses program terpadu KB-GIZI Propsinsi Bali", University of Udayana (Bali), 1982
- ²East Java Mid-Project Evaluation, "Aspek Kegiatan di Desa", Health Research and Development Institute (Surabaya), 1982
- ³East Java Baseline Survey, Nutrition Study Center (Surabaya), 1982
- ⁴Nutrition Profile of Pregnant and Nursing Mothers in Bali, University of Udayana (Bali), 1981
- ⁵Baseline Data Survey on Integrated FP and Nutrition Program in Bali, University of Udayana (Bali), 1980

Key: N/A = not available
X+ = program improvement indicated

ANALYSIS OF DATA ON NUTRITION KNOWLEDGE, ATTITUDES AND PRACTICES
OF MOTHERS IN KB/GIZI PROGRAM

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KNOWLEDGE, ATTITUDE AND PRACTICE OBJECTIVES FOR MOTHERS (TAKEN FROM WORLD BANK NUTRITION EDUCATION PROJECT)	UPGK; COMPARATIVE OBJECTIVES			KB/GIZI; ACHIEVEMENT OF OBJECTIVES PER EXISTING DATA (NOTED BY SOURCE)		PROGRAM IMPLICATIONS	
	Not in UPGK	Expli- cit	Impli- cit	East Java	Bali	More Data Necessary To Access Impact	Addition/ Refinement of Message Necessary
	6. Mothers will believe that night blindness which is untreated will lead to permanent blindness.		X		N/A	N/A	X
7. Mothers will know that their increased consumption of green vegetables and fruits rich in Vitamin A during pregnancy and lactation will help their child be healthier (sick less frequently) because the essence of these foods is transferred from the mother to the child during pregnancy and lactation.	X			N/A	N/A		X
8. Mothers will know that the existing custom of giving roasted liver to a child with eye problems is excellent and should be continued.	X			N/A	N/A		

Sources:

- ¹Bali Mid-Project Evaluation, "Evaluasi proses program terpadu KB-GIZI Propinsi Bali", University of Udayana (Bali), 1982
- ²East Java Mid-Project Evaluation, "Aspek Kegiatan di Desa", Health Research and Development Institute (Surabaya), 1982
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- ⁵Baseline Data Survey on Integrated FP and Nutrition Program in Bali, University of Udayana (Bali), 1980

Key: N/A = not available
X+ = program improvement indicated

UPGK MESSAGES (Taken from "Buku Pegangan Cadre")

I. General Objectives

1. All children will be breastfed for two or more years and receive supplementary food in accordance with their needs including vegetables and fruit.

2. Each child with diarrhea will quickly be given sugar salt or oralyte.

3. Every pregnant and lactating mother will eat 1-2 additional plates of nutritious foods compared to before.

4. Every pregnant women will take an iron tablet each day from 6 months pregnancy.

5. Every yard will be utilized to increase family nutrition.

6. Every eligible couple will understand and practice family planning.

7. Every mother will weigh her under five child each month.

8. All children 1-4 years will take vitamin A capsule.

9. Every child will increase weight each month.

10. Children of 36 months will have a weight of 11.5 kg.

11. No children will suffer blindness.

12. A healthy child that is given enough health food and isn't sick will grow long and tall over time.

13. The child that gains weight is a healthy child.

14. The mother should weigh her child each month to know if he is healthy.

II. For Child 0-3 months:

15. Give colostrum to child. (special qualities)

16. Begin breast feeding soon after birth.

17. Breast milk is the best food for the child.

18. For child 0-3 month, give breast milk only.

19. Give breast milk to child any time child cries.

III. For Child 4-6 months:

20. Continue breastfeeding, the more often the better.

21. Begin giving soft foods like bubur, nasi or soft banana. Can add soft vegetable and fruit.

22. Begin with two times increasing to 4-5 small plates.

23. Don't give bottle; if give milk, use spoon and cup.

IV. For child 7-12 months:

24. Continue breastfeeding, the more the better.

25. Begin giving lumpy foods, like rice, nasi tim, bubur, bubur campur, etc.

26. Use many side dishes, vegetables, on changing basis in introducing lumpy foods.

27. Begin one time increasing to 4-5 plates of mid sized portions.

V. 1 Year and above:

28. Continue breastfeeding, at least till two years of age.

29. At one, begin giving adult foods.

30. Each day the food should consist of main dish, side dishes, vegetables or fruit.

31. At the age of 2 years, the child needs one half the food of its father.

32. Serve the child's food first, then serve the parents.

33. Accustom the child to eating with the family members.

VI. For pregnant women:

34. The pregnant woman eats for two people.

35. Each pregnant woman needs to eat 1-2 additional plates of food, especially after 6 month of pregnancy.

36. Each time she eats, don't forget vegetables and colored fruit.

VII. For lactating Women:

37. The lactating woman eats for herself and to produce breast milk.
38. Breast milk is a complete food, contains immunities, clean, easy to use, makes mother healthy, helps mother child bond, free.
39. The lactating mother should eat 1-2 additional plates of food.
40. The lactating mother needs additional fluid to produce enough milk.
41. She should drink 6 glasses more than usual.
42. Jamu can be drunk to increase breast milk.
43. Eat more dark green vegetables to facilitate milk.

VIII. Intensifikasi Pekarangan:

44. Plant gardens with vegetables, nuts and fruit
45. Take care of livestock, fish, etc.

IX. Eye Health:

46. Lack of eating vegetables and colored fruit and other sources of vitamin A causes eye sickness (also carelessness, wounds, cleanliness and other disturbances.)
47. Signs of sight disturbance are night blindness, etc.
48. Children with night blindness and other eye problems should be referred to Puskesmas.

X. Anemia:

49. Signs of anemia are weakness, pale, apathy, tiredness; tongue, lips and nails are pale.
50. Causes are lack of green vegetables, bleeding in childbirth or worms.
51. Anemia is dangerous especially when giving birth.
52. Anemia can disturb the growth of the fetus and endanger its life.
53. Anemia will weaken nursing mothers and disturb the growth of the nursing child.

54. Eating green vegetables, and nuts each day can prevent anemia.
55. Pregnant mothers 6 months or more should receive iron.
56. Iron should be taken with or after meals.

XI. Diarrhea:

57. Diarrhea is a disease.
58. Diarrhea is caused by germs in the stomach, spoiled or disagreeable food and others.
59. Diarrhea is dangerous.
60. Wash food, cook properly, store it closed, drink cooked water and don't give bottles to prevent diarrhea.
61. Personal cleanliness.
62. House with sunlight, fresh air and clean floors.
63. Yard clean from trash and dirty water flows smoothly.
64. Have bathroom facilities.
65. Death can result from the dehydration caused by diarrhea.
66. Only fluid can prevent death from diarrhea.
67. Right away give LGG.
68. If diarrhea more than 5 successive times, drink oralyte.
69. Each diarrhea, drink one glass solution in same amount excreted.
70. If vomit, don't give up. Try spoon rather than glass.
71. If diarrhea, continue breast milk, the more the better.
72. Give food as usual, but make it soft.
73. Send child with diarrhea to Pukesmas: when excreting more than drinking; weak, won't eat; blood in stool; lasts more than two days, one half day doesn't urinate or vomits even though has been given fluid with spoon (with any one of above).
74. Continue giving LGG or oralyte while sending to Puskesmas.
75. All mothers should be given education based on age of child and results of weighing.

XI. Referral:

74. Send to Puskesmas, those who don't increase weight three times; those under red line, those who are sick.

75. Send to Puskesmas pale females, breathing difficulty, swollen feet, especially if pregnant; pregnant women with bleeding, swollen feet or headaches.

POP:RCohn:05/17/83:md