SEMINAR ON NUTRITIONAL PROBLEMS IN T 'WEANING P'RIOD

Addis Ababa, 3-15 March 1969

EM/SEM.NUTR.PROB.'WEAN;PRD./OC.33
10 March 1969

ENGLISH ONLY

CLINICAL APPROACH OF THE ASSESSMENT OF THE NUTRITION PROBLEMS DURING THE 'WEANING P'RIOD

With special reference to clinical nutrition screening methods

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INTRODUCTION

The speed of development of a country is in direct relationship to the degrees of fitness (physically and mentally) of its population.

The food and nutrition problems that affect the great majority of infants and preschool age children of developing countries, before, during and after the weaning period are, no doubt, one of the major (if not the biggest) public health problems that we are facing at present. (1.2.) These problems are matched only by poor environmental health, which of course plays a very important role in the ill-health of this section of the population. (2.3.)

The great importance for the study and proper solution of the food and nutrition problems that affect these children is not only due to its big magnitude, but also because of the ill-effects that they produce in retardation of growth and development (RGD), not only physical retardation, but still more important is mental retardation. (4)

Secondly because long standing severe forms of malnutrition produce irreversible anatomical lessons, (5) thus preventive and curative measures will fail in repairing the permanent damages already produced. Thus if we want to avoid temporary and permanent damages, so that children could grow and develop to their full potentialities, we urgently need to implement action programmes during the short and fast period of growth and development before it is too late. The study and solution of the problems under consideration requires constant, coordinated and interrelated activities from several scientific disciplines namely: Medical, Agricultural, Socio-cultural, educational, economical, etc. each one of them with different approach but all of them geared towards the same aim.

In the medical field, the public health nutrition approach is concerned with two main aspects:

1) To make the Public Health diagnosis of nutrition problems that affect great sections of the population (assessment of the nutritional status of the population); in this case, food and nutrition problems, before, during and after the weaning period and
2) to treat the nutrition problems of the population at large, as one unit (Recommendation of specific measures).

These two steps in the approach of public health nutrition problems are in general the same as those that the clinician applies to a patient (one cell of the community) i.e. diagnosis and treatment.

In order to make the public health diagnosis of nutrition problems we need, as the clinicians, to make use of different diagnostic procedures e.g. clinical history, clinical examination, X-rays, laboratory determinations, physiological test, anthropometric index, statistical data, etc. Sometimes, in developing countries, some of these diagnostic facilities are not easily available and then we have, therefore, to use simple, reliable, accurate methods that will produce basic, relevant and truthful findings with statistical value.

A great deal of research is going on to find suitable methods to overcome some of these difficulties. These methods are known as screening methods. This paper deals with two of such methods that are useful in the public health nutrition approach of the food and nutrition problems in the weaning period. The two methods discussed here are more useful and suitable for developing countries where shortage of well

trained personnel, equipment (laboratory included) other facilities and funds are the limiting factors that handicap and could delay and partially block the activities of a medical nutritionist, duty-bound to produce clear evidence of the presence or absence of nutrition problems, with public health significance. From the public health point of view the most important nutrition problem in the subject under discussion, is Protein-Calorie Malnutrition in early childhood+ (PCM). Unsatisfactory and wrong breast feeding, supplementary feeding and weaning practices (BSW) are one of the main causes of PCM, thus our interest in studying BSW. No doubt that PCM could be reduced to very low figures, (control stage) if BSW is done properly and the final stage (eradication) could be achieved more easily by implementing additional projects. Without improving the traditional methods of BSW practiced at present in developing countries, there is little hope in the near future to make a good impact in diminishing the high prevalence of PCM.

With all these general consideration in mind, we would like to discuss with you two types of simple clinical nutrition screening methods, useful in assessing PCM and BSW practice in developing countries.

1. Breast feeding, supplementary feeding and weaning practice (BSW) survey from the Public Health nutrition point of view.

   1.1. Infants depend on BSW to meet thin physiological nutritional requirements. (6) If BSW is unsatisfactory and wrong the infant

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+ For the purpose of these papers PCM means "an uninterrupted downwards gradient running from normal, through mild and moderate degrees of malnutrition, to serve syndromes, including kwashiorkor and nutritional marasmus". It is a generic term to cover the whole range of mild to severe, classifiable and unclassifiable manifestations, including the two main severe clinical syndromes of Kwashiorkor and nutritional marasmus" (Jelliffe WHO Monograph Series No. 53, page 179) and by malnutrition it is meant "Any disorder of nutrition" Dorland's Illustrated Medical Dictionary 24 edition) and more specifically related to PCM.

will show the first signs of early PCM, usually at the age of 6 months (under weight and under height). (1, 2, 7). Thus the high priority given to the study of BSW.

1.2. Objectives of BSW survey:

The main objectives of this survey could be summarized as follows:

1.2.1. To gain knowledge on how BSW is done and its relationship with PCM.

1.2.2. To implement special nutrition education projects (training of personnel included) based on the findings of the survey, to deal with the problem.

1.2.3. To train personnel.

1.3. Personnel required:

A medical or a non-medical nutritionist should be technically responsible to carry out the survey, assisted by other personnel (as many as possible) that should be specifically trained for this purpose.

1.4. Material:

1.4.1. A special questionnaire should be prepared including the following sections:

a) General information regarding mother, child and father (see Annex I attached). All headings are self-explanatory, with the exception of feeding methods, under the Child's information section. Here (b) means breast feeding alone, (a) means artificial feeding, bottle feeding no breast milk at all, (bs) means breast and supplementary feeding together, (as) means artificial feeding and supplementary feeding at the same time, (sd) means special diet, and (fd) means usual family diet. In addition, specific data should be collected on:

ii) Breast feeding only.

iii) Artificial feeding (means bottle feeding with milk other than breast milk).

iv) Supplementary feeding (means other foods in addition to mother milk).

v) Weaning (means stopping of breast feeding altoghether).

vi) Dietary patterns during pregnancy and lactation.

A set of specific questions should be prepared for each section above (see Annex II attached). Avoid to ask irrelevant questions or questions that are likely to give wrong answers such as trying to determine quantitities of foods given to the child.

1.4.2. Sample:

The sample consists of mothers attending Maternal and Child Health Centres (MCH)and Outpatient departments of hospitals (OPD) and from community.

Size of the sample:

The analysis of the findings of the first 200 lactating mothers (100 from MCH and 100 from OPD) will indicate how big the sample should be. If there are too many variants the sample should be bigger than in samples with few variants.

1.4.3. Only one questionnaire for the surveyor is needed to record the findings of at least 25 lactating mothers.

1.4.4. Transport, to mobilize the surveyors from one centre to another.

1.5. Method:

1.5.1. Lactating mothers should be interviewed alone preferably in a room.

1.5.2. Questions should be asked in simple, clear and easy language, answers should not be suggested.

1.5.3. For each question of sections, i to vi, under para 1.4.1., a set of answers should be given and typed in the questionnaire, e.g. how do you stop breast feeding, answers expected: suddenly or gradually.

1.5.4. Room (space in blank) should be left to record unforeseen answers.

1.5.5. For questions where many answers are expected leave enough space to record answers as they are given e.g. mention foods or drinks that you give to your child in addition to the breast?

1.5.6. The recording of findings is done by writing in front of the answer given, the No. of the case, which appear in the general information form e.g. case No. 20 replied that she weans (stop breast feeding) her child suddenly. Then No. 20 should be written in the answer suddenly.

1.5.7. By recording the findings with the No. of the case it is easy to compare the answers given by lactating mothers of different standards e.g. literate vrs. illiterate, primiparas vrs. multiparas, poor vrs. well to do etc.

1.6. Training of the surveyors:

Apart from the general principles that should be fulfilled in all nutrition training courses, there are certain facts that

deserve special attention in the training of personnel to conduct this type of surveys such as:

1.6.1. Methods of questioning.

1.6.2. Discussion, in details, of the meaning and purposes of each question.

1.6.3. Teaching the method of recording findings.

1.6.4. Conduction of a pilot survey to check, questionnaire and ability, knowledge, etc. of the surveyors and make ammendments when and if required. After questionnaire and trainees (surveyors) have been found satisfactory then the survey should start.

1.7. It is good practice also to conduct this type of survey at community level to find if there is any statistical significance in the findings of the community with those of MCH and OPD centres. If no statistical significance is found there is no need to carry out more surveys at community level. It is faster and cheaper to conduct these surveys at MCH and OPD centres, where many lactating mothers bring their children seeking medical treatment and could be interviewed in a shorter period. A well trained surveyor could interview a mother in half an hour.

1.8. When the findings are tabulated and analysed and rights and wrongs are known, then, and only then, we can plan and implement a sound, practical nutrition education programme suited to the community. Unfortunately nutrition education programmes of all types are usually implemented on "Text book knowledge" always ingnoring how much, right or wrong, the community knows about the problem. The main reason for

the failure of nutrition and health education projects is that they are too close to the "Text book" and too far away from the community. From the findings shown to you of BSW survey conducted in Sudan you could see that practical and sound measures could be planned and implemented to improve conditions found.

This leads us to the discussion of the other screening methods namely to assess PCM as a public health problem.

2. Protein calorie malnutrition surveys (PCM)

It is well known that in developing countries a great majority of children after 6 months old do not continue to grow and develop to their full potentialities. (1, 2). This retardation of growth and development (RGD) is both physical and mental and in its more advanced forms it is known as PCM of which kwashiorkor and nutritional marasmus are the severe final lethal forms. (2). These dramatic forms are the last nails that close the coffin of the malnourished child if not well treated.

Since RGD measured by weight and height can be easily detected in babies 6 months old, this means that the pathological process has begun before that age. But because from its very early inception this is a slow, continuous, chronic, non-dramatic, insidious, pathological process, with silent, un-noticed, underground progress mothers very seldom pay attention to it, until PCM is too advanced and too late. Sometimes malnourished children, suffering from RGD (PCM) are considered "normals" even by some health workers. This could be checked easily just by asking mothers why they bring their children to the MCH or OPD centres and by checking the records of these centres. Mothers very seldom say that their children are not well-nourished, and in the records of the centres, mild to moderate forms of PCM are never recorded (recognized) or treated.

These two epidemiological characteristics of PCM namely: very early inception and insidious, silent, un-noticed, underground progress are of paramount importance in the study and proper solution of the nutrition problems in the weaning period.

PCM surveys are specific nutrition surveys designed and carried out to deal with the two epidemiological characteristics mentioned above.

2.1. Types of PCM surveys:

There are two types of PCM surveys namely:

2.1.1. PCM prevalence survey and

2.1.2. PCM comprehensive survey.

2.1.1. PCM prevalence surveys are specific rapid epidemiological nutrition studies with the following objectives.

1. Objectives of PCM prevalence surveys. The main objectives could be summarized as follows:

1.1. To determine the presence or absence of PCM in an area as a public health nutrition problem and if present

1.2. To establish its prevalence by sex, age groups, seasonal variations, geographical distribution, prevalence of one form or the other of PCM etc.

1.3. To provide baseline data to decide whether or not to carry out a PCM comprehensive survey -

1.4. To assist in the planning, implementation and evaluation of action programmes.

1.5. To train personnel to carry out these surveys, assess the findings, and in the planning, implementation and evaluation of action programmes.

1.6. To make health and other Government authorities aware of the magnitude and importance of the problem to secure impelementation of measures.

2. Personnel required:

A medical nutritionist assisted by a health worker or social worker, should carry out this type of survey. The medical nutritionist should have a good background in public health, ample experience in field surveys, and a thorough knowledge of the etiology, epidemiology, dietary and other characteristics of PCM. The health worker should be not below the midwife or social worker category.

3. Material:

3.1. A special form, attached herewith (see Annex III) should be prepared. In the front side of the form data is collected from 100 children just by ticking the respective column and writing down the age of each child (100 cases on each form makes it easy to find percentages etc.). On the back side of the form, tabulation of the cases recorded in the front side is done in accordance with age groups, sex and nutritional status.

3.2. Sample:

The sample is drawn from children not older than 72 months of age (6 years,) both sexes, attending MCH and and OPD centres. The size of the total sample from an area is established after the analysis of the findings of the first 1000 cases (500 for MCH and 500 from OPD). A well trained medical nutritionist can examine easily 300 cases in a working day.

3.3. Transport is needed to mobilize the personnel from centre to centre.

4. Method:

4.1. As PCM prevalence surveys are special clinical nutrition epidemiological fast screening surveys with specific objectives, the clinical criteria used is the presence of:

4.1.1. Poor muscle development.

4.1.2. Poor cellular subcutaneous tissue development.

4.1.3. Signs of mental disorders e.g. irritability, apathy, unfriendliness etc.

4.1.4. Other signs of pre or full developed kwashiorkor or nutritional marasmus.

To take anthropometrical measurements such as, height, weight, middle arm circumference, head and chest circumference, skin fold thickness, etc. are not necessary in this type of surveys as we are not interested in determining the degrees of malnutrition (three grades according with Gomez classification) in the population. Also a detailed clinical examination to record different signs of PCM is not necessary. These two essential steps should not be omitted in PCM comprehensive surveys, but in prevalence they are not necessary for the purposes of the study and are time consuming.

4.2. Children are quickly examined in the centre while their mothers are waiting, no examination table or room is needed. The medical nutritionist assisted by the health worker examine the child and record the results in the front page of the special form with a tick in the respective column, and writing down the age of the child.

In the column of nutritional status (w) means well nourished and (m) means malnourished.
Tick (W) subcolumn for well nourished children.
Tick (M) subcolumn for mild or moderate forms of PCM and write (K), (M) or (O) for kwashiorkor, marasmus or obese cases respectively in the same (M) subcolumn.

4.3. The overall prevalence of PCM regardless of sex and age is found easily just by counting how many cases were recorded in subcolumn M and the officer in charge of the centre could be informed on the spot. Complete analysis of findings is also done easily and a preliminary report could be prepared in few days.

4.4. When the overall prevalence of PCM found in MCH or OPD centres is 30% or higher a comprehensive survey should be conducted.

4.5. As the findings of PCM in MCH and OPD centres are from selected samples (self selected) they do not represent the community; it is therefore necessary to conduct a survey at community level in order to have a truthful knowledge of the prevalence of PCM in the area and if this is 20% or above a comprehensive survey should be conducted.

4.6. PCM prevalence surveys should always be followed by a BSW survey to complement the data.

5. Training of personnel:

The training of personnel to carry out these surveys deserves few comments.

5.1. Type of personnel to be trained

Because of the criteria used in these types of survey is clinical the surveyor needs to have a good and ample clinical

training in this subject, otherwise the findings are misleading. This means that only MD's public health and hospital nurses, medical assistants, and medical and nursing students in their last year of study are the only canditates suitable for training.

5.2. Training programme

Usually up to now, in the practical training in nutrition given to personnel we have insisted and given too much emphasis in showing and teaching the trainees the clinical and other characteristics of clear, typical cases of kwashiorkor and nutritional marasmus. Very seldom we show and teach them in details the clinical and other characteristics of well nourished children, the other extreme of the nutritional status, which unfortunately is the less common in developing countries. With this kind of training it is logical that the trainees are able to recognize quickly and easily only the severe, acute forms of PCM. For them the mild and moderate forms of PCM are "normal" children, not as fit as the well nourished, but still they consider these forms as "good nutritional status" when in real fact these mild and moderate forms of PCM are the most important ones from the public health point of view for obvious reasons. If we want to overcome this deficiency in the practical nutrition training, we should approach the matter from the opposite direction namely:

a) First and foremost we should show and teach the trainees in details the clinical and other characteristics of well nourished children of different ages and of both sexes. We should show and teach how the eyes, lips, tongue, skin, muscles, height, weight, etc. of a well nourished child should be and should look like. Once a trainee learns well these characteristics and keeps them in mind, he, no doubt,

will be able to recognize any child that does not have these features, and this is PCM in any of its forms.

b) After we are sure that the trainees know well and are able to recognize the clinical and other characteristics of well nourished children, then and only after then we need to show and teach the characteristics of malnourished children, giving more emphasis to the differences between well-nourished children and those suffering from mild to moderate PCM.

c) The last step in this type of training is to show and teach the trainees clear, typical cases of severe forms of PCM namely kwashiorkor and nutritional marasmus. These forms are very easy to diagnose, any health worker after seeing 4 or 5 typical cases can diagnose the next one with no difficulty. This type of training mentioned here is the critical point, the sine qua non condition, in order to be able to carry out PCM prevalence surveys that will have public health meaning. Without this kind of training and knowledge PCM prevalence surveys are not only useless, but also dangerous.

2.1.2. PCM Comprehensive Surveys:

These studies should be conducted as a complement of the prevalence studies.

1. Objectives:

In addition of the objectives of the prevalence surveys already mentioned the comprehensive surveys have the following objectives:

1.1. To measure the intensity and severity of PCM.

1.2. To collect data on other parameters such as anthropometrical measurements, biochemical determinations, detailed clinical signs, etc. to assist in the grading of the severity of PCM.

1.3. To give accurate indices of malnutrition for further evaluation of actions taken.

1.4. To compare findings from different areas or different countries.

1.5. To complete the training of personnel.

1.6. To bring to the attention of other agencies of the existence of PCM as public health problem so that other studies, to determine the causes of the factors should be carried out and programmes, to deal with this factor could be implemented e.g. if one of the causes is shortage of food production the Ministry of Agriculture should take care of the problem, if it is lack of knowledge then it is the responsibility of the Ministries of Health, Education and Community Development to take action and so on. Usually the causes are several and always interrelated, calling for integrated action from several Government agencies.

2. Personnel responsible:

At least the following personnel is needed:

2.1. A medical nutritionist (leader of the team) assisted by:

i) A MD with training in nutrition or a Piediatrician.

ii) A non-medical nutritionist assisted by several surveyors (5 to 10) these surveyors should be well trained in family and individual dietary surveys.

iii) A Biochemist assisted by the necessary technicians and auxiliary personnel.

iV) A socio-anthropologist.

v) Four well trained persons to take anthropometrical measurements, heights, weights, middle arm circumferences, head and chest circumferences, skin fold thickness etc.

vi) A statistician with good background in public health nutrition.

vii) All necessary auxiliary personnel to assist in carrying out the survey.

3. Material:

3.1. Forms to collect and record data on the clinical, dietary, biochemical, socio-anthropological, anthropometrical findings etc. should be prepared. Each one of the technical officers should prepare his own forms and these should be dicussed and agreed by all of them in an effort to avoid duplication of work, and to achieve coordination so that one set of information will complement the others.

3.2. A random sample from the section of the population suffering from the problems should be investigated.

3.3. The size of the sample

These surveys need different sub-samples, and each activity e.g. clinical, dietary, biochemical, socio-anthropological etc. requires its own specific sample. The clinical sample is usually larger than the dietary one. The sample for anthropometrical measurements is larger than that one for biochemical determinations

and so on. The final size of each sub-sample is determined after the statistical analysis of the first 50 or 100 cases.
For example the analysis of the dietary /fingings (family and individual) of the first 50 studies shows that the information is repeated (same information is recorded) then there is no need in increasing the size of this sample, but on the contrary if there are too many variants than the size should be increased based on statistical advice. The same procedure should be followed to determine the final size of each sub-sample.

3.4. All equipment (laboratory, scales etc.) facilities, transport funds etc. should be prepared in advance.

4. Methods:

4.1. The methods used in these types of survey are several as each activity has its own methods e.g. clinical methods are different from those used in biochemical determinations and both of these methods are completely different from those used in socio-anthropological studies and so on.
Nontheless each technical person responsible for his activities should use the best method, world known and well reputed. Regarding the clinical examination and recording of findings, it is advisable to prepare a master list of clinical nutritional and non-nutritional signs. The master list of signs should be prepared by sections e.g. head, hair, scalp, eyes, lips, tongue, teeth, mucous membranes, skin of the face, then chest

signs, arms sign etc. Each sign should be given a number starting from the head and ending on the feet and the general nutrition impression. Grading of severity of signs, although is desirable, it is advisable to avoid because of difficulties in agreement among medical nutritionists, even the same person could change his standard of grading from time to time. The recording of the finding is done just by writing the No. of the sign in the line corresponding to the person examined. The use of individual cards to record findings is good when mechanical methods of punching, sorting and analysis are available, if not the recordings of finding by No. of the sign in a form is the easiest, simple, cheapest and best method to follow. The form for recording the clinical finding is simple (see Appendix IV attached).

Only positive findings should be recorded. It is advisable to record nutritional (PCM and others) and non-nutritional findings to permit the study of the relationship between nutritional and non-nutritional findings by ages, sex, etc. Many nutritionists record only clear nutritional findings, we believe that this is not correct.

4.2. For the analysis of the clinical findings we recommend the main following steps.

i) Tabulation and analysis of the clinical nutritional signs by age group and sex.

ii) Tabulation and analysis of the clinical non nutritional signs.

iii) Comparison of both groups of findings.

iv) Clinical nutrition findings should be analysed by groups of signs produced and related of to deficiency of one or two nutrients e.g. main signs of protein and calories deficiency should be grouped together, signs of Riboflavin deficiency all in one group, signs of vitamin C deficiency also all in one group and soforth.
This will allow us to establish magnitude of deficiencies by ages, sex etc. and give priorities in the implementation of projects to deal with them accordingly.

4.3. Regarding age groups, to study, analyse and report clinical findings, we recommend to use the same recommended daily dietary allowances age groups. In this way we can compare the clinical finding with the dietary finding for the same age groups and sex. Usually clinical findings are studied, analysed and reported for the whole sample surveyed. This method does not tell us in which section of the population the findings are more prevalent, and consequently we do not know exactly the channels of approach. With the method proposed if we found that the highest prevalence of nutritional findings are present in preschool children then we know that we can reach this section of the population through MCH centres, or through school programmes in case school children are the most affected.

4.4. In the clinical sample we should examine in each area: 100% of infants, lactating and pregnant women.

80% of pre-school children
60% of school children.
30% of the non-vulnerable groups of the population.

4.5. In order to know these figures a census of the area to be surveyed should be conducted before the survey.

4.6. With little more personnel, effort and funds PCM comprehensive surveys could be expanded to a general nutrition comprehensive survey that will assess the nutritional status of the population of the area. (1, 8)

4.7. In order to implement action programmes we do not need to wait until the survey has covered the whole country. As soon as findings are known for an area (small or big) action programmes should be implemented.

4.8. Priority for these PCM comprehensive survey should be given to areas where health and other Government services are already in existence, large sections of the population are settled and where PCM was found to be a real public health problem. There are no valid reasons to conduct these expensive surveys in areas with no or very limited Government services, small groups of population, far away with very difficult means of access.

3. SUMMARY:

It has been reported from many developing countries that retardation of growth and development can be detected in a great number of children when they are 6 months old. Retardation of growth and development if not properly treated will definitely develop into mild, moderate and severe

forms of PCM. Kwashiorkor and nutritional marasmus are the two lethal severe and final well known forms of PCM. These dramatic forms with very high mortality are usually the only ones recognized and given proper attention up to the present. Since retardation of growth and development is detected at 6 months babies' life it means that the pathological process begins before that age. The very early inception of PCM together with its slow, silent, continuous, chronic, undramatic, insidious, underground progress are the determining factors responsible for the unawareness of the great importance of studying and finding proper solutions to this big public health problem of PCM.

Two simple, practical, screening methods with statistical value and more suitable for developing countries to study some of the etiological and epidemiological characteristics of PCM are discussed. One method deals with the study of breast feeding, supplementary feeding and weaning practices, and the other with PCM prevalence surveys.

PCM comprehensive surveys are outlined as these studies should follow the same general policy of the general nutrition comprehensive surveys carried out to assess the nutritional status of the population. These types of surveys are described in many reports.

4. Recommendations: It is recommended that:

1. PCM prevalence surveys should be conducted in areas where PCM is suspected.
2. PCM comprehensive surveys should be conducted when PCM prevalence surveys have shown that PCM is a real public health problem.
3. Breast feeding, supplementary feeding and weaning practices surveys should be conducted as complementary of PCM surveys.
4. The assessment of PCM should have high priority to other nutrition problems.
5. The training of personnel to carry out these studies should be as discussed in this paper to ensure accurate, reliable and comparable data.

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ANNEX I

Nutrition Division

Breast feeding supplementary and weaning practices survey. Province. . . . . Date. . . . . .

Districts. . . . . Village Center . . . . . Surveyor. . . . . .

	MOTHER'S INFORMATION								CHILD'S INFORMATION											FATHER'S INFORMATI			
	Age in years	parity P	parity M	No. of child Alı	No. of child dead	yrs of resid	Occupation	Standard of Education	Age in Mnth	sex M	sex F	Feeding Mthds b	a	bs	as	sd	fd	Medical complain	Nut stat W	Nut stat M	Age in yrs	Occupation	Stand of Educa
1																							
2																							
3																							
4																							
5																							
6																							
7																							
8																							
9																							
0																							

ANNEX II (a)

QUESTIONNAIRE FOR BREAST FEEDING, SUPPLEMENTARY FEEDING AND WEANING PRACTICES SURVEY

Section A - General Information (in addition to form)

1. Age groups of Mothers in Years.
2. Are you the only wife?
3. Age groups of children in months.
4. Who looks after your child while you are working?
5. In case of Diarrhoea, do you give any purgative to your child, without H. worker advice?
6. If yes; what purgative?
7. How are you feeding your child?

Section B. Breast feeding (BF) information.

8. Do you think it is important to breast feed your child?
9. Why? Reasons for this.
10. When did you start B.F. your child? (days after birth)
11. How do you BF. your child?
12. How often do you BF. your child?
13. How many times a day do you BF. your child?
14. Do you BF your child at night (from 8 to 5 a.m.)?
15. Do you think you have enough breast milk to satisfy your child?
16. Do you eat or drink any special food when you are BF.?
17. Do you avoid any food or drink when you are BF.?
18. Do you have any disease or abnormality (in your breasts that interfers with BF.?
19. If yes, what disease or abnormality (always check the following)?
20. Do you have a disease (general) that interfers with BF.?
21. If yes what disease?

Section C, Artificial feeding (AF bottle feeding no BF.)

22. Why are you not BF. your child (given bottle feeding) Reasons?
23. What food or drink are you giving your child? (in the bottle).
24. Quantity of the food (without the water) given daily.
25. Dilution given.
26. How often do you give the bottle a day?
27. Care and handling of the bottle.
28. Do you have difficulties or problems in bottle feeding your child?

Section D Supplementary feeding (SF) information.

29. How old was your child when you started SF (other foods than BF or AF.)
30. What are (or were) the first foods or drinks you use in SF?
31. At what age did you give these first foods or drinks to your child?
32. Did these first foods or drinks give any trouble to your child?
33. If yes what troubles? (check the following).
34. What other foods or drinks you use in SF?
35. Have these foods been prepared in any special way?
36. What do you use in SF? (bottle, cup, spoon, others).

Section E Weaning (stop BF) information.

37. How old was your child when you stopped BF (in months)?
38. Why did you stop BF your child? Reasons.
39. How did you stop BF your child?
40. Methods of stopping BF.
41. Did you stop BF all your children with the same method?

Section F Post, weaning period information.

42. After weaning did you give your child special diet or usual family diet?
43. What is the diet (qualitatively) you give your child?
44. At what age did your child take the usual family diet?
45. What are the foods and drinks you think your child should have to grow well, strong and healthy?

46. Reason for this (to grow well, strong and healthy)?
47. What are the foods and drinks you think your child should not have?
48. Reasons for this (foods that the child should not have)?

Section G. Information during pregnancy and lactation.

49. From whom do you receive advice when you are preganant?
50. Do you eat or drink any special foods when you are pregnant?
51. What are these foods or drinks?
52. Do you avoid any special food or drink when you are pregnant?
53. What are these foods (avoid during pregnancy)?
54. Reasons for avoiding foods during pregnancy.
55. Do you eat or drink any special foods when you are lactating?
56. Wh t are these foods?
57. Do you avoid any special food or drink when you are lactating?
58. What are these foods? (avoided during lactation).
59. Reasons for avoiding foods during lactation.
60. From whom do you receive advice regarding BF. AF. SF, and weaning?
61. How often do you go to the child welfare centre?
62. Do you think your child is well nourished?
63. Reasons for this.
64. What is the opinion of the surveyor regarding the Nut. status of this child?

NUTRITION DIVISION

Survey on

Breast feeding, supplementary feeding and weaning practices

Province District Village

Center Surveyor Date

Section A. General Information

1. Age groups of Mothers in yrs.			Tot.
10 - 19			
20 - 29			
30 - 39			
40 - 49			
50 +			
2. Are you the only wife?			
one wife			
two wives			
three wives		4 wives	
Total		Total	
3. Age groups of children in months			
0 - 3	Tot.	19 - 24	
4 - 6		25 - 36	
7 - 9		37 - 48	
10 -12		49 - 60	
13 -18		61 - 72	
Total		Total	

4. Who looks after your child while you are working?		Total
Mother herself		
Grandmother		
Other relative		
Male		
Total		
5. In case of diarrhoea, do you give any purgative to your child without H. worker advice?		
Yes		
No		
Total		
6. If yes, what purgative?		
Na_2SO_4	$MgSO_4$	
Total	Total	
7. How are you feeding your child?		
Total		

Section B. Breast Feeding (BF) Information			
8. Do you think it is important to breast feed your child?			Tot.
Yes			
No			
Total			
9. Why	Yes	Reasons for this No	
Total		Total	
10. When did you start B.F. your child? (days after birth)			
1st day			
2nd day			
3rd day			
4th day			
5th day			
6th day			
7th day			
8th day			
Total			

		Tot.
11.	How do you BF your child?	
	at fix d intervals	
	on demand	
	Total	
12.	How often do you BF your child?	
	Every hour	
	" 2 hours	
	" 3 hours	
	" 4 hours	
	When he cries	
	Total	
13.	How many times a day do you BF your child?	
	Once a day	
	Twice a day	
	Three times a day	
	Four times a day	
	Five times a day	
	Six times a day	
	Soesn't know	
	Total	
14.	Do you BF your child at night (from 8 p.m. to 5 a.m.)?	
	Yes	
	No	
	Total	

15. Do you think you have enough breast milk to satisfy your child?	Total
Yes	
No	
Doubtful	
Total	
16. Do you eat or drink any special food when you are BF?	
Total	
17. Do you avoid any food or drink when you are B.F.?	

		Tot.
18.	Do you have any disease or abnormality in your breast that interfers with BF?	
	Yes	
	No	
	Total	
19.	If yes, what diseases or abnormality? (always check the following)	
	Inflamation	
	Abscess	
	Inverted nipple	
	Cracks in nipple	
	Tumor	
	Small breast	
	Total	
20.	Do you have a disease (general) that interfers with BF?	
	Yes	
	No	
	Total	
21.	If yes, what disease?	

Section C. Artificial Feeding (bottle feeding alone)	Total
22. Why are you not BF your children (giving bottle feeding) reasons.	
Total	
23. What food or drink are you giving to your child? (in the bottle).	
fresh cow's milk	
goat, sheep milk	
skimmed milk	
powder milk	
condensed milk	
Mixed baby's food (commercial)	
gruels (cereal)	
Total	
24. Quantity of the food (without the water) given daily	

	Tot.
25. Dilution given	
right	
wrong	
Total	
26. How often do you give the bottle a day?	
3 times or less	
4 times	
5 times	
6 times	
7 times	
8 times	
Total	
27. Care and handling of the bottle	
Correct	
wrong	
Total	
28. Do you have any difficulty or problem in bottle feeding your child?	
Total	

Section D. Supplementary Feeding (SF) Information.	Total
29. How old was your child when you started SF. (other foods than BF or AF).	
1 month	
2 months	
3 months	
4 months	
5 months	
6 months	
7 months	
8 months	
9 months	
10 months	
11 months	
12 months	
Total	

30. What are (or were) the first foods or drinks you use in SF?	Total
Fresh milk	
Tin milk	
Powder milk	
Fruit juice	
Rice Water	
Gruels	
Sugar Solution	
Total	

31. At what age did you give these first foods or drinks to your child?

Age in mths	Fresh milk	Tin milk	Pow-der milk	Fruit juice	Rice & water	Gruels	Sugar solu-tion				Total
1											
2											
3											
4											
5											
6											
Total											

32. Did these first foods or drinksgive any trouble to your child?	Total
Yes	
No	
Total	
33. If yes what troubles? (check the following)	
Vomiting	
Diarrhoea	
Abdominal pain	
Fever	
Loss of appetite	
Total	
34. What other foods or drinks you use in SF?	
Total	

35. Have these foods been prepared in any special way?	Total
Yes	
No	
Total	
36. What do you use in SF?	
Bottle	
Cup	
Spoon and dish	
Others	
Total	
Section E. Weaning (Stop BF) information	
0 - 3	
4 - 6	
7 - 9	
10 -12	
13 -18	
19 -24	
25 -36	
Total	

38. Why did you stop BF. your child? Reasons.	Total
Sick child	
Sick mother	
Old child	
Pregnancy	
Husband advice	
Gives main (mother)	
due to work	
easy to feed in other way	
small figure of breast	
Total	
39. How did you stop BF. your child?	
suddenly	
gradually	
Total	
40. Methods of stopping BF.	
Applying substance to the breast	
Sending child away	
Denying child the breast	
Others	
Total	

41. Did you stop BF all your children with the same method?	Total
Yes	
No	
Total	
Section F, Post weaning period information	
42. After weaning, did you gave your child special diet or usual family diet?	
Special diet	
Usual family diet	
Total	
43. What is the diet (qualitatively) you gave your child?	

Special diet	Usual family diet	
Total	Total	

44. At what age did your child take the usual family diet?	Total
9 months	
11 months	
12 months	
13-15 months	
16-18 months	
19-21 months	
22-24 months	
Total	
45. What are the foods and drinks you think your child should have to grow well, strong andhealthy	
Total	

46. Reason for this (to grow well, strong and healthy) ?	Total
Total	
47. What are the foods and drinks you think your child should not have?	
Total	

48. Reasons for this (foods that the child should not have)?	Total
Total Section G. Information during pregnancy and lactation	
49. From whom do you receive advice when you are pregnant?	
Doctor	
Med. Assistant	
Nurse	
H. Visitor	
Midwife	
other persons	
Nobody	
Witch doctor	
Total	

50. Do you eat or drink any special food when you are pregnant?	Total
Yes	
No	
Total	
51. What are these foods or drinks?	
Total	
52. Do you avoid any special food or drink when you are pregnant?	
Yes	
No	
Total	

53. What are these foods (avoided during pregancy) ?	Total
Total	
54. Reasons for avoiding foods during pregnancy	
Total	

55. Do you eat or drink any special food when you are lactating?	Total
Yes	
No	
Total	
56. What are these foods?	
Total	
57. Do you avoid any special food or drink when you are lactating?	
Yes	
No	
Total	

58. What are these foods? (avoided during lactation)	Total
Total	
59. Reasons for avoiding foods during lactation	
Total	

60. From whom do you receive advice regarding BS.AF.SF and Weaning?	Total
Doctor	
Med. Assistant	
Nurse	
H. Visitor	
Midwife	
other persons	
Noboby	
Witch doctor	
Total	
61. How often do you go to the child welfare center?	
every week	
Every 2 weeks	
once a month	
every 3\months	
Twice a year	
once a year	
very seldom	
never	
Total	

62. Do you think your child is well nourished?	Total
Yes	
Total	
63. Reasons for this.	
Total	
64. What is the opinion of the surveyor regarding the Nut.status of thisch.	
well nourished	
malnourished	
Pre- or kwashiorkor	
Pre- or Marasmus	
Obese.	
Total	

ANNEX III (a)

NUTRITION DIVISION

ANNEX III a
(front page)

PCM Prevalence Survey

Province..... District..... Village.....

Center Surveyor Date

Case No.	Sex M	Sex F	Age in Mths	Nut Stat M	Nut Stat F	Case No.	Sex M	Sex F	Age in Mths	Nut Stat M	Nut Stat M	Case No.	Sex M	Sex F	Age in Mths	Nut Stat M	Nut Stat M	Case no.	Sex M	Sex F	Age in Mths	Nut Stat M	Nut Stat M
1						26						51						76					
2						27						52						77					
3						28						53						78					
4						29						54						79					
5						30						55						80					
6						31						56						81					
7						32						57						82					
8						33						58						83					
9						34						59						84					
10						35						60						85					
11						36						61						86					
12						37						62						87					
13						38						63						88					
14						39						64						89					
15						40						65						90					
16						41						66						91					
17						42						67						92					
18						43						68						93					
19						44						69						94					
20						45						70						95					
21						46						71						96					
22						47						72						97					
23						48						73						98					
24						49						74						99					
25						50						75						100					

Nutrition Division

Annex III (b) back page

Age group in months	Tabulation of PCM. Findings by sex and age group.																Grand total	
	Males								Females									
	WELL	Mal Nourished					sub total		well	mal nourished					sub total		both sexes	
	tot.	Total	milk moder	kwas	Mrs	obs	No.	% Mal	tot	tot.	milk moder	kwas	Mrs	obs	No.	% Mal	No.	% Mal Nutr
0 - 3																		
4 - 6																		
7 -12																		
13 -24																		
25 -36																		
37 -48																		
49 -60																		
61 -72																		
Total																		
-%-																		

This annex should be pointed in the back of Annex III (a)

Annex IV (a) front page

PROVINCE — NUTRITION DIVISION SURVEY — CODE

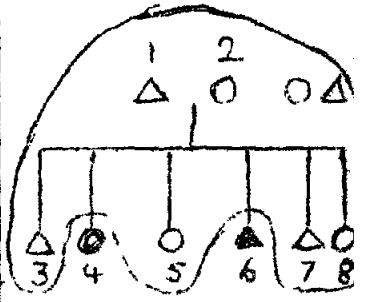
DISTRICT — CENSUS FORM — SURVEYOR

PLACE — RACE — FAMILY

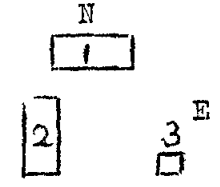
DATE — TRIBE — No. of Males — No. of Females — T o t a l

No.	N A M E S	Physt.	Date of Birth	Date of Death	Education Arab	Education Engl.	Heights 1st	Heights 2nd	Weights 1st	Weights 2nd	Cause of Death No.	Cause of Death
1	Mr. .P.	A										
2	Mrs.S.B.	L										
3	'.P.	S										
4	F.B.			2 yr old								Diarrhoea
5	S.B.	Sd										
6	H.B.			1 yr old								"
7	Y.'.	S										
8	S.'.	T										
9											bo: tions	
10											ate e	
11												
12												
13												
14												
15												

Family Pattern



House Pattern



1 = living house

S

2 = Kitchen

3 = Pitletrine

△ = male alive ▲ = male dead O = female alive ● = female dead

CLINICAL FINDINGS

Annex IV (b) back page

No.	
1	
2	
3	
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10	
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14	
15	