

**EVALUATION OF A PROGRAMME THAT AIMS  
TO CREATE AWARENESS ABOUT HEIGHT AND  
WEIGHT MONITORING AND PROVIDE  
HEALTH EDUCATION FOR ADOLESCENT  
GIRLS IN BANGLADESH**

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Photograph 1



The girls are often withdrawn from school, to help with household tasks. They are given no recognition of their contribution to the family.

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## GLOSSARY.

### ABBREVIATIONS USED IN THE THESIS.

SBMSS	Secchasebi Bohumukhi Mohila Somajkalyan Somity. (Family Welfare Project.)		
NGO	Non Governmental Organisation		
MCH	Maternal and Child Health		
FP	Family Planning		
ODA	Overseas Development Administration		
FCDI	Family and Child Development Institute, Comilla, Bangladesh.		
FHWS	Family Health Workers.		
MUAC	Mid upper arm circumference.		
SSC	Secondary School Certificate.		
HSC	Higher School Certificate.		
FS	Field Supervisor.		
SPSS	Statistical Package for Social Sciences.		
ICH	Institute of Child Health.		
BRAC	Bangladeshi Rural Advancement Committee.		
RDRS	Rangpur, Dinagpur Rural Service.		
WHO	World Health Organisation.		
NCHS	National Centre of Health Statistics.		
EPI	Expanded Programme of Immunisations.		
EPIINFO	Epidemiological Information. (computer package.)		
FLE	Family Life Education.		
SOAS	School of Oriental and African Studies.		
SES	Socio- Economic Status		
P	Parent	R	Researcher

## SUMMARY.

This study evaluated the usefulness of a health card developed by ODA, in conjunction with a Bangladeshi NGO, to improve the awareness and health of adolescent girls in Bangladesh.

### Aims.

The aims of the card used at the SBMSS programme, Rajshahi, were to create awareness about height and weight and regular growth monitoring, to provide health education to enable the girls to care for their own health, and to encourage them to delay their age of marriage.

### Methods.

The health cards of 159 girls were collected and the data in them analyzed. Questionnaires were used to test their health knowledge and awareness on family life topics. Some interviews were also done with the 8 FHWs.

### Results on the growth data.

There was very little awareness about height and weight amongst the girls. Thirteen and thirty one girls had knowledge about their own height and weight respectively. None of the girls related their measurements to the "at risk" line or future pregnancy.

Only 9 girls were above the "at risk" line for height and weight. From the inter and intra observer variation data it appeared there was a significant amount of variance between

the FHWs in their measuring of each girl and between each FHW measuring one girl.

The growth card is probably insensitive to small increases in height and weight. MUAC data is collected and not utilised.

#### Results on the health messages.

The girls were knowledgeable about the health messages on the cards. Some practises that are universal (such as brushing teeth) do not need to be included on the card; the space could be better used for another message. Certain illustrations are not recognised and need to be improved. The main source of knowledge about ORS and immunisations was reported to be the clinic (including the FHWs) which is encouraging. There needs to be more depth to the information given and it needs to be broader in order to encompass the stated objectives of SBMSS. There also needs to be more contact time, in order to cover the objectives.

#### Results of Family Life Questionnaire.

From interviews with 52 girls, some of their families and the 8 FHWs, it was apparent that the girls had little control over when they married. This is decided by their parents. If the programme wants to delay the age of marriage it must be done by working with all members of the family. The age of marriage may be increased by extending education for the girls. The girls were aware that 20 or more years was a "good" age to marry.

Forty nine girls interviewed were unprepared for the onset of their first menstruation, despite the objectives to provide adequate knowledge on this subject.

Forty seven girls expressed no sex preference for a boy or girl child and 42 of them said that they would not have more children if their desired number of children were all girls. The question is, will they have the power or influence to put their knowledge into practise.

### Conclusion.

The health card needs modification- to make it either a sensitive growth card or a more user friendly awareness creating device. Unless the weighing and height scales are upgraded the latter is probably the more appropriate. Some illustrations need improving and others possibly replacing with a more important message.

The programme has potential for expanding its health and family education role. To do this there is a need for a more structured approach, a curriculum, teaching aids and training of the staff to give them the necessary skills to work with the girls. It is also important to find out what the girls want to know and to encourage active participation. This would reduce the problem of the girls being perceived as "hard to motivate" and the girls would gain more from the programme. Special attention needs to be given to those girls not in school, in order to provide them with some access to information.

Finally, the girls have gained a certain amount of freedom in that they are allowed to go to the clinic and meet other girls. In a society that is slowly changing these girls are experiencing a new independence.

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## CHAPTER 1. INTRODUCTION.

### 1.1 Definition of Adolescence.

Adolescence, has been defined by the WHO<sup>1</sup> to include those aged between 10-19 years. Finding one definition that is valid for all cultures and for both physiological and social aspects is difficult. The WHO Expert committee on the "Health needs of Adolescents"<sup>1</sup>, said true adolescence is a period of gradual physical, psychological and social transition from childhood to adulthood. The needs of 10-14 year olds must be distinguished from the needs of late adolescents, aged 15-19 years old, in relationship to both physical development and health. The development that takes place is generally uneven, in the sense that physical maturity may be achieved well before psychological and social maturity.

Puberty, in both sexes includes a growth spurt, a gradual development of secondary sexual characteristics and gonadal function, and finally the achievement of the possibility to conceive or fertilise an ovum.

In Bangladesh (population 110 million) adolescent girls who are approximately 12% of the total population, are a significant proportion and need to be recognised.

Table 1. Percentage of 10 to 19 year olds in Bangladesh<sup>2</sup>.

	IN BANGLADESH.(1980)	
	males	females
age: 10-14 yrs.	6.76%	6.27%
15-19 yrs.	5.72%	5.46%



## 1.2 Rationale for studying adolescent girls.

1. Adolescent girls are a long neglected group, who may be mothers in the future.

In Bangladesh adolescence is considered a brief interlude between the onset of menstruation and marriage. Traditionally parents feel they should marry their daughters soon after menstruation has started.

If the age of menstruation is lowering and the age of marriage is raised there is an increased chance of sexual activity before marriage. For this reason girls, and boys, need information about their changing bodies and availability of contraceptives. They need to know about the risks of unprotected sex. These topics and those relating to the girl's fears and anxieties are not usually addressed.

2. Knowledge is not easily available or accessible to the adolescent girls, not all of them can read or buy or borrow books. Adolescence is a time when they need information to equip them to grow into confident adults.

3. Adolescent girls need to be aware of :-

- i. The relationship between growth, illness and diet.
- ii. Tetanus toxoid vaccination, especially during pregnancy.
- iii. The risks in pregnancy when too young, too thin and too short.

4. Adolescent girls are a disadvantaged group especially nutritionally and educationally. UNICEF<sup>2</sup> stated that a Bangladeshi girl receives 20% fewer calories than her brother.

The literature suggests that female children are given less food than male children.

table 2. Literacy and School enrolment amongst Bangladeshi girls.

LITERACY RATES IN BANGLADESH. (1981) <sup>3</sup>	
all areas: both sexes	26.5
males	35.4
females	16.5
urban areas both sexes	39.0
males	49.2
females	26.8
PERCENTAGE OF TOTAL PRIMARY SCHOOL ENROLMENTS (ie. class 0-5)	
female enrolment 1971--	37%
1984--	41%
SECONDARY SCHOOL ENROLMENT (ie. class 6-10 )	
in 1987	23% of males were enrolled 12% of females were enrolled

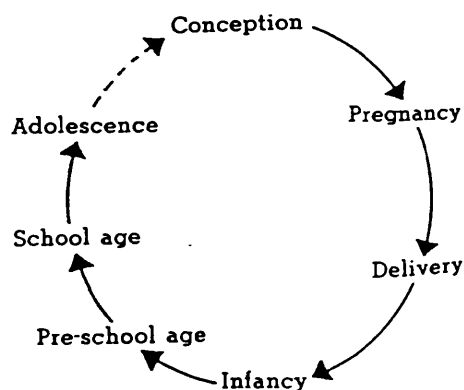
In UNICEF's<sup>4</sup> situational analysis on the girl child in Bangladesh, they highlight the differences that emerge when girls and boys reach 10-14 years of age. The boy is supposed to align himself to the economic activities of the family and for the purpose of contact with the outside world. There is no such appreciation of the economic value of the girl.

The girl engages in house hold activities and in preparation for motherhood, but unfortunately these activities do not bring in any income or financial returns to the family.

5. Several organisations in Bangladesh are interested in adolescents and their efforts need to be coordinated, so as to avoid wasted time and effort.

### 1.3 Stages in the development of the individual.

Figure 1. Stages in the development of the individual.



Ref. G.J. Ebrahim<sup>5</sup>

Adolescence offers the opportunity to break the cycle of undernutrition and low birth weight. Preconceptional care and the chance for catch-up growth and delaying early pregnancy, can contribute to a healthier pregnancy, safer delivery and therefore better health for the mother and infant, (Chen<sup>6</sup>).

Short stature and low weight in the mother are two risk factors in pregnancy. Smithells et al<sup>7</sup> state that improving

maternal nutrition at the time of conception is likely to reduce the number of infant deaths and handicaps.

The SBMSS programme, in Rajshahi, Bangladesh, aims to monitor the growth of adolescent girls between 12 and 16 years and to give them nutritional and "social" advice, and could contribute to a reduction in maternal mortality and low birth weight babies.

#### 1.4 Reasons for the study.

Adolescents are a relatively little studied age group in developing countries. They are of course the future parents and carers of the next generation. Therefore their health status, knowledge and attitudes will have consequences for the coming generation and so planners and providers of health care need to be aware of their needs in order to be able to tailor services to meet these needs.

There is very little growth data on adolescent girls available in Bangladesh, the data collected for the card could add to this body of knowledge.

Some information was needed on what the girls already know, so future health education sessions can be planned to cover any deficiencies. It was also an opportunity to see if the girls were remembering the health messages given them by the health workers.

## 1.5 Reasons for Programme Evaluation.

Adolescent growth monitoring cards are a relatively new concept; the card being used was designed for the programme and has never been evaluated. There is now a proposal to use this card in other projects so it should be evaluated beforehand. It must also be established whether the card is appropriate and understood by everyone involved in the project, the users (the adolescent girls) the professionals (the family health workers) and the management.

Since the 1970's there has been:

"great emphasis on development goals, on integrated programmes..... These changes have raised new questions about our effectiveness - what works and what doesn't and what are we best suited to do"  
(Pietro<sup>o</sup>)

Evaluation is useful to help us form policies and to answer programme questions at the community level.

### 1.5.1 Definition of Evaluation.

Evaluation is an integral part of the management of development projects, designed to:-

1. Identify, during the life of the project, its strengths, weaknesses and relevance to local conditions.
2. Assess the impact of a project on the lives of local community members,

3. Analyze the results and apply the lessons learned to project and programme planning and development strategies.

### 1.6 Growth monitoring.

There are two major objectives behind growth monitoring.

They are :-

The early identification of growth faltering.

The facilitation of Health Worker- Client interaction, especially on education (Gopalan, Chatterjee<sup>9</sup>).

The adolescent programme aims to create growth awareness by regular measurement of height, weight and MUAC. The objectives for education are very comprehensive and are to be achieved through monthly group meetings with the girls.

### 1.7 Overall Aims

To assess whether the adolescent health card is fulfilling the purposes for which it was intended:-

1. To create awareness about short (less than 146 cms) and thin (less than 46 kgs) adolescents.
2. To provide appropriate health education, so the girls can promote their own health.
3. To influence the adolescents to delay their age of marriage (especially if they are less than 146 cms tall and 46 kgs in weight).

The purpose of this evaluation was to assess whether the present card should be extended to other projects.

2.1 Location of SBMSS programme

SBMSS is an NGO that was established in 1983 in wards 28, 29 and 30 of Rajshahi Municipality.

Rajshahi is the divisional head quarters of the Rajshahi division of Bangladesh. There are three other divisions, namely Dhaka, Kulna and Chittagong (see map 1).

Rajshahi has a franchise population of approximately 450,000. The actual population is much larger comprising people who migrate to work and also a large student population.

Wards 28, 29 and 30 are in the east of the Municipality, on the edge of the urban area. The area is bounded in the north by the main road to Natore and in the south by the River Padma (Ganges)  
(see Map 2).

The programme has an approximate total population of 25,000 living in 4,600 households. The SBMSS programme covers 11 sub divisions. The data for this project was collected from only 7 sub divisions because the adolescent health programme only operates in these areas (see programme profile, 2.2).

The clinic where the girls have to attend for monthly growth measuring is situated in Kajla, in the north of the programme area, near to the main road.

### 2.2 Profile of the programme population.

	POP.	HOUSE- HOLDS	ACCEPT FP.	LATRINES		
				PUCCA.	BAM.	NONE
1. Dharampur	4694	784	590	237	412	135
2. Kajla	5831	1215	58	306	475	434
3. Khojapur	4487	730	316	143	356	231
4. Dashmari	2909	501	381	211	204	086
5. Satbaria	3255	494	336	23	202	269
6. Mashkatadighi	683	120	66	17	29	74
7. Rice research	315	60	41	52	7	1

	INCOME		WATER SOURCE			
	< 1500/-	>1500/-	TAP	TUBE	WELL	OTHER
1. Dharampur	464	286		784		
2. Kajla	772	423	110	957	20	128
3. Khojapur	406	324	425	46		
4. Dashmari	261	236		730		
5. Satbaria	319	156		449	45	
6. Mashkatadighi	100	20		96	24	
7. Rice research	8	52		19	1	

The girls for the adolescent health programme were selected from the above population.

The information above was compiled by SBMSS as part of their annual report to ODA Dhaka.



### The adolescent health programme.

The SBMSS programme when started, concentrated on MCH and FP services, income generation and non-formal (health) education. In the year 1989-90 the programme expanded and included adolescent girls as a separate target group. This expansion was done with no increase in resources and was seen as separate from the main programmes.

Once the health card, supplied by ODA, was available growth data and health education was started with an original sample of 100 girls. This was later expanded to include a further 300 girls, giving a total of 400 girls.

### 2.3 Selection criteria.

Girls were included in the adolescent health programme according to the following criteria:-

1. Aged between 12-16 years old.
2. Unmarried.
3. Belong to a family of contraceptive method acceptors.
4. Parents monthly income below 1,500 taka per month.
5. Permanent resident in the programme area.

The girls were recruited by the eight FHWS who work in the designated area, covering 300 households each. Once recruited the girls were organised into groups, with 10 members in each group. All the girls in any one group live near one another in a "para" or neighbourhood. They are expected to attend the clinic monthly for growth measuring and also to attend a monthly group meeting for non formal education, which is held near their house.

2.4 Profile of the total number of girls who were enrolled in the programme.

Table 3. Total number of girls enrolled in the SBMSS Programme.

AGE	NUMBER OF GIRLS	%
10/11	2	(0.5%)
12	120	(35.39%)
13	75	(22.12%)
14	72	(21.23%)
15	50	(14.74%)
16	19	(5.6%)
17	01	(0.29%)
TOTAL	339*	

\* This is less than the proposed 400 girls due to a) groups breaking and b) changes in staff. There were apparently only 35 groups, and not all groups had 10 girls in them.

The criteria for enrolling in the programme were that the girls should be aged between 12 and 16 years, but there were at least three girls who were registered who did not fit this criteria. At the field level it was felt that it was better to be flexible and include girls who were interested, rather than alienating them by being rigid and inflexible.

## 2.5 Programme schedule for the original girls.

For the original 100 girls the following schedule was drawn,

		CLINIC.		GROUP MEETING
FS 1	2 groups	Satbaria	1st. Thursday	1st. Tuesday
	1 group	Kajala	2nd. Thursday	2nd. Tuesday
	1 group	Khojapur	3rd. Thursday	3rd. Tuesday
	1 group	Dharampur	4th. Thursday	4th. Tuesday
FS 2	1 group	Dharampur	1st. Wednesday	1st. Tuesday
	1 group	Khojapur	2nd. Wednesday	2nd. Tuesday
	1 group	Kajala	3rd. Wednesday	3rd. Tuesday
	2 groups	Dashmari	4th. Wednesday	4th. Tuesday

The girls height, weight and MUAC were recorded monthly. Any illnesses and treatments received should also be recorded, along with immunisations.

The programme aimed at 100% tetanus toxoid coverage for the girls.

## 2.6 Objectives of sex education.

The objectives for the sex education (to be taught at the monthly meetings) were as follows:-

1. To provide for the individual an adequate knowledge of her own physical, mental and emotional maturation process as related to sex.
2. To eliminate fears and anxieties relating to individual sexual development and adjustment.
3. To develop objective and understanding attitudes towards sex in all its various manifestations in the individual and in others.

4. To give the individual insight concerning her relationship to members of both sexes and to help her to understand obligations and responsibilities with others.
5. To provide an appreciation of the positive satisfaction that wholesome human relationships can bring in both individual and family life.
6. To build an understanding of the need for the moral values necessary to provide rational bases for making decisions.
7. To provide enough knowledge about the misuses and aberrations of sex to enable the individual to protect herself against exploitation and against injury to her physical and mental health.
8. To provide an incentive to work for a society in which such evils as prostitution and illegitimacy, archaic sex laws, irrational fears of sex and sexual exploitation are non-existent.
9. To provide understanding and conditioning that will enable each individual to utilise her sexuality effectively and creatively in her roles (eg. as spouse, parent, community member and citizen).

### 2.7 Objectives of health education.

The objectives of sex education were to be reinforced with education on the following topics:-

1. Good nutrition, personal hygiene and cleanliness.
2. Foods enriched with vitamin A and D, deworming, preparation of ORS, complimentary diet ( its preparation and use ) and immunisations.
3. Menstruation.
4. Essentials of family planning methods.
5. Evils of early marriage and advantages of delayed marriage.
6. Female education and self reliance.
7. Physical build up, games and sports.

## CHAPTER 3. SUBJECTS AND METHODS.

### 3.1 Data collection.

#### i. Growth chart.

Each girl's health card was collected, photocopied and later returned to her.

#### ii. Questionnaires A, B and C

Questionnaires A and B were used, to gather data about the girl's awareness of the health messages on the card and whether they recognised the food illustrations.

Questionnaire C was used to gather data about the girl's knowledge about making ORS, immunisations, anaemia, habits and behaviour during menstruation, events surrounding marriage and the effects of a short birth interval on the woman's and children's health.

#### iii. FHWS questionnaire and food illustrations recognition.

#### iv. Inter and intra observer variation.

##### 3.1.1 Specific objective 1.

To evaluate the accuracy, validity and utility of the growth data on the adolescent card:-

- a. by inter and intra observer variation in measuring the height weight and MUAC of the girls enrolled in the programme.

- b. by assessing the relationship between age, height, height velocity, weight and puberty rating for the adolescent girls.
- c. by assessing the knowledge, interpretation and actions of the FHWS in relation to the growth data.

**Method.**

Observation of the procedure for weighing and measuring the adolescents and seeing if the cards were properly completed.

- 1. Weighing and the reading of the scales,

Inter and intra observer observation.

TIME. 20 and 21 August 1991.

SETTING. Kajla Clinic, Rajshahi.

OBSERVERS. 2 Field Supervisors, the Group Organiser, the clinic Counsellor and the Paramedic.

SUBJECTS. Ten girls, not necessarily those enrolled in the programme.

METHOD. Each girl was measured by each observer 6 times. The original plan was to measure them 10 times each but because each cycle of the measuring took one hour the constraints of time prevented its completion.

The measuring was done over two days because the observers and girls had other commitments.

During the time the measurements were taken the girls were asked not to eat or drink anything and not to go to the bathroom. On the second day they were also asked to wear the same clothes, to reduce the chance of variation.

2. Recording the weight on the chart,
3. Interpretation of the data,

Interpretation of the growth charts.

To evaluate the FHWS interpretation of the data recorded on the growth charts, some charts with:-

- a. height above, weight above.
- b. height below, weight above.
- c. height below, weight below.
- d. height above, weight below.

the "at risk" line were drawn and they were asked to interpret them.

4. Action taken, if data is interpreted in a way that requires action.

The level of participation of the girls was also observed, to see how involved they are encouraged to be in what is happening to them.



### 3.1.2 Specific objective 2.

To evaluate the effect of the adolescent card as a health education tool.

- a. Assess the girls knowledge and understanding of the health pictures.
- b. Assess the girls current health practices (for example teeth cleaning, wearing of shoes, care of nails and sanitation).
- c. Assess the girls knowledge of other health issues, especially those included on the health card (for example: ORS, immunisations, menarche) and their sources of knowledge.
- d. Assess if the foods recommended to the girls are available and affordable.

#### **Method.**

- a. Illustrations from the card were used.
- b. Their health practises were determined partly through direct questioning and partly by observation. The questionnaires were completed by the researcher, working through an interpreter (photograph 2).
- c. Health knowledge was assessed using a questionnaire.
- d. Observation of the local market, shops and kitchen gardens to see if the illustrated foods are available at "affordable" prices.



Interviewing.

3.1.3 Specific objective 3.

To assess whether the project has the necessary management logistics for performing an adolescent monitoring programme, regarding:-

- a. resources:- card availability and calibration, maintenance and distribution of scales.
- b. training, support and evaluation of the FHWs and their trainers.
- c. Data analysis- the ability of the programme to collate and compare their data with national trends.

## **Method.**

- a. This was achieved by interviews with the management (project director and project officer) and the FHWs.
- b. Completing a questionnaire with the FHWs to find out their educational background, training for the job and what they understand to be the purpose of the adolescent card.

### 3.1.4 Specific objective 4.

Complete a questionnaire with the 100 original girls, when they come to the centre for their family life education sessions, on conception, choice of spouse, affect of child birth on health, family size and menarche.

### 3.2 Selection of the sample for this study.

The original plan was to take a sample of 100 girls from the total 400 girls enrolled in the programme. However a list was not available for a sample to be selected from.

A decision was therefore taken to interview as many of the original 100 girls as was possible. The adolescent health cards were available from the ODA office from October 1990 onwards. For the purposes of this study those girls who first attended clinic in either October, November or December 1990, were considered to be the original 100 girls (there were some girls who had a starting date of January and April 1990, and they were also included).

### 3.3 Conducting the interviews.

#### 3.3.1 Use of a translator.

All the interviews were carried out using a translator. During the period of data collection, it was necessary to use two different translators.

Translator 1    July 14- August 9, 1991

Translator 2    August 18- September 21, 1991

The change of translator was necessitated by the precipitous marriage of the first translator during a brief trip to Dhaka for a seminar on adolescent girls programmes.

Both translators were students of English literature at Rajshahi University. One had finished her BA. and the other was studying for her Honours examination.

Changing translators may have introduced some variation in the way the data was collected<sup>s</sup>- ie. the responses may be interpreted in a different way, the questions may have been asked differently.

The two translators had different approaches to their work and this may have influenced how the girls interacted with them. One of the limitations of using a translator was that not all the response was translated, only the gist of what was said. This possibly led to many of the replies being the same, and the loss of some of the richness of the data.

### 3.3.2 Explanation to the girls about the interviews.

A statement was made as to why the interviews were being done.

"I am trying to find out what adolescent girls in this area know about the health messages on the health cards. This is being done so that the programme can hopefully be improved and be made more interesting for them.

I am speaking to each girl on her own to get her opinion, so you must not feel shy to say what you think. Anything said will not be told to anyone else. This is not an examination, so if you do not know something, that is alright, just say you do not know."

Care was taken not to offend the girls in any way. No comments were passed which may have seemed to put a value judgement on anything they said. At the end of each interview they were always thanked for answering the questions and asked if there was anything they would like to ask.

The questions they asked were very few. The questions asked broadly fell into two categories:-

- i. Regarding the stipend offered by the programme.
- ii. "What are you going to do for us?"

### 3.3.3 Setting for the interviews.

A private setting was essential, adding to the quality of the responses.

Aziz and Maloney<sup>10</sup> suggest that for discussions it is necessary to divide people into 6 basic groups. These groups should be unmarried young people, younger married adults and older married people and divided into males and females. Different aged people cannot easily engage in discussions on private matters in the same group.

The interviews were carried out in wards 28, 29 and 30 of Rajshahi Municipality between July 16 and September 21 1991.

### 3.3.4 Problems encountered with the interviews.

- i. Accessing the girls was sometimes difficult because they were school attenders or at work outside the family home.
- ii. Some girls were not willing to be interviewed, especially for a second time.
- iii. Lack of privacy and prompting by people who are listening to the interview (it was not always possible to prevent this as people wanted to know what we were saying and would not wait outside until we had finished).
- iv. The school examinations were scheduled to start at the end of September, so all the school attenders were keen to go to school during our interviewing period.

### 3.4 Period of the study

June 1991	Writing of the protocol.
July to September 1991	Data collection in Rajshahi, Bangladesh.
October to mid November 1991	Data analysis and writing up the thesis at ICH, London.
November 29 1991	Submission of the thesis.

### 3.5 Type of study.

- i. Analysis of longitudinal growth data.
- ii. Cross sectional study on the health knowledge of the girls.
- iii. Cross sectional study on the knowledge and practises of the FHWs.
- iv. Inter and intra observer variation in measuring the height, weight and MUAC of the girls.

### 3.6 Data analysis.

This was done using the computer analysis package called EPIINFO.

Analysis on the inter and intra observer variation was done using SPSS.

### 3.7. Limitations.

There are two main limitations to this study, namely the sampling and the inability to verify the age of the girls.

### 3.7.1 Sampling.

The original plan was to take a random sample of the 400 girls who were supposedly enrolled in the programme. This was not possible so it was decided to take the original 100 girls who were enrolled and any other girls who were contactable.

The girls enrolled in the programme were a biased sample; their parents had to be family planning acceptors with a monthly income of less than 1,500 taka per month, and the FHWS select the bright girls between 12 and 16 years, (the majority of whom are in school), from within these families.

There were approximately 340 girls enrolled in the programme and 159 (46.7%) were interviewed. They are by not a random sample representative of the general population.

There is no data available at the moment to indicate how many adolescent girls there are in the programme area and how many unmarried 15 and 16 year olds there are, or how many adolescent girls there are who are receiving no education.

### 3.7.2 Age Verification.

The analysis of the growth data has been done by the age recorded on the girl's cards. There is no way of verifying these ages, this may distort the findings.



CHAPTER 4. CHARACTERISTICS OF THE STUDY POPULATION AND THE  
CARD.

4.1 The study sample.

One hundred and fifty nine girls were enrolled in the study, their date of enrolment was used as the criteria for whether they were an "original" girl or other.

Table 4. The sample, by month of enrolment.

no. of girls.	month of enrolling
06	January 1990
01	April 1990
06	October 1990
35	November 1990
36	December 1990
49	January 1991
06	April 1991
01	May 1991
13	July 1991
01	August 1991

For 5 girls the starting date was not known. Either they had no card or the card was blank.

Towards the end of the data collection period (ie. September 1991), priority was given to contacting and interviewing the original 100 girls.

A small number of girls (11) who enrolled in the programme in June, July and August were also interviewed, using a slightly modified questionnaire, to act as a control group. However, the number interviewed was so small as to make this impossible.

#### 4.2 The "non attenders."

There were 84 girls interviewed who enrolled before January 1991. The rest were accounted for as follows:-

Table 5. The "Non Attenders."

No	Age	Reason
1.	15/16 years	Shahaila married
1.	12 years	Tahera unwell
1.		Reena works in "samity"
1.	14 years	Monjeena married
1.	13 years	works in a handicraft society.
1.	13 years	Rahaija in school class 7.
1.		works in "samity"
2.		work in town
1.	10 years	Kanzan Khatoun in school
1.	14 years	Parveen married.
5.		not traced.
16		total

In discussion, Ms. Magfura Begum (Programme Director) said that out of 35 groups, 70 girls had been lost for the following reasons:-

marriage	25
moving house	2
after training demanding a salary	28
either moved or wanted salary	15

The girls demand for a salary seems quite reasonable and it is a limitation of the programme that it cannot provide employment as well as training.

The training given was in cocoon rearing (6 weeks), silk spinning (6 weeks) and the production of potato chips (crisps) and snacks. The programme was unable to provide employment to all those girls that had completed the training and this seemed to produce conflict and disillusionment with the programme.

The income generation side of the programme is being developed by planting mulberry trees, and when these are mature the girls will be encouraged to raise cocoons in their own homes and sell them as an extra source of income. Rajshahi is the centre of Bangladeshi silk production.

#### 4.3 School attendance.

17 girls interviewed were not in school.

54 girls were in class 1-5 (free, primary school level).

39 girls were in class 6-10 (not free, secondary school level).

1 girl was in night school (class 3).

38 girls school attendance unknown. 11 of them were not interviewed, so it was not possible to ask them; the others were the first interviews done and the question of school attendance was not added until after their interviews. Of those asked, 94(84.6%) girls attended school as opposed to 17 (15.3%) girls who did not attend.

In a country where school attendance levels are not high, the majority of the girls enrolled in this programme were school attenders.

#### 4.4 Age distribution.

Table 6. Frequency of girls in each age group.

AGE	FREQUENCY	%
10	03	1.9
11	03	1.9
12	51	32.1
13	48	30.2
14	34	21.4
15	14	8.8
16	6	3.8

The majority of the girls were 12 or 13 years old.

#### 4.5 Data on the front of the record card.

The front of the card has spaces for recording personal data, ie. name, age, father's name, village, serial number.

The girl's name and that of her father were completed on all the records that were observed, as was the name of the village.

There was no date of enrolment on the cards and nowhere to record one. This meant if there was a blank card, there was no way of knowing when it may have been issued or for the other card no way of knowing how long there was between enrolling and first clinic visit.

The age of the girl was usually recorded but none of them know their date of birth or exact age. For the purpose of this study the age recorded on the card was taken as their age, although often different ages were given when the girls were asked for confirmation of their ages. Because the inclusion criteria limited ages to between 12 and 16 years the FHWs felt that the ages of the younger girls may be increased and those of the older girls decreased. There seemed to be a tendency to

think taller girls were older.

Table 7. Number of cards with recorded serial numbers.

NUMBER RECORDED	70
NUMBER NOT RECORDED	87
MISSING CARDS	2

There appeared to be two systems for recording the serial numbers on the cards. One system was to number the cards for one group of girls from 1 to 10; the other system was to number the cards serially, so some cards had really quite large numbers on them.

There is one whole page for recording past illnesses.

An editorial in the Lancet 14 Dec 1985<sup>11</sup> suggested that these spaces are usually left blank and this certainly seems to be the case.

Table 8. Recorded and reported illnesses in the study population.

	NUMBER OF CARDS.	%
ILLNESS RECORDED	7	4.4
ILLNESS NOT RECORDED	152*	95.5
ILLNESSES REPORTED	27	38.0
ILLNESSES NOT REPORTED	44**	61.9

\* all records.

\*\* only questionnaire A.

There were more illnesses occurring than were being recorded.

#### 4.6 Tetanus toxoid and BCG data.

Table 9. Number of girls who had received tetanus toxoid, according to their cards.

	No. of GIRLS	%
ONE DOSE	31	19.49
TWO DOSE	74	46.54
NONE RECORDED	52	32.70
NO CARD	2	1.25
TOTAL	159	

Table 10. Number of girls who had received BCG, according to their cards.

	No. of GIRLS	%
RECEIVED	63	39.62
NOT RECEIVED	94	59.11
NO CARD	2	1.25
TOTAL	159	

The programme aims to have 100% tetanus toxoid coverage. According to the data recorded on the cards this is not being achieved.

#### 4.7 The card as a method of facilitating discussions with the girls<sup>11</sup>.

This is best done using simple, direct and clear messages. The pictures used for this should be large, locally appropriate and clear. If pictures of people are included, they are clearer the more the person is visible.

The girls were asked to identify the food pictures, to test how many were recognisable.

If space on the card is being for health messages, they should be messages that can be reinforced by the environment where they are being promoted. Also it is pointless promoting a message that is already an established practise or is inappropriate.

Diarrhoea is a major cause of death, so teaching about ORS is appropriate.

#### 4.8 Durability and useability of the card.<sup>11</sup>

The card is made of a fairly durable material and all the cards copied were in a reasonable condition. The girls had been given a plastic cover to keep their card in, some did and some did not.

All the girls apart from two, brought their cards with them when they came to be interviewed. It may be that those without cards did not come for interviewing. This is one of the limitations of the sampling technique used for the data collection.

During one discussion with Ms Magfura Begum, she said that about 50 girls had lost their cards at some time and usually they were given a replacement.

#### 4.9 Conclusions.

All the important details, ie. the graph, immunisations, illnesses and treatments are recorded on one side of the card, along with the key messages about height, weight and age of marriage.

The illustrations are culturally specific.

The size of the card is convenient and the material durable.

The main draw back of the card is that it only lasts for one year, giving no continuity.

Some confusion arose from having the height and weight on the same scale and the fact that the scales are so small, means it is not very sensitive. The symbols for height and weight were not used uniformly.

The information on use of health services is crude, ie. only the month when the girl attended is recorded. Immunisation are recorded by a tick which does not give enough detail as to when second doses and boosters are due. The programme also uses the Government EPI card for the girls TT immunisations, which leads to duplication of work and possibly omissions.

The study population is comprised of mainly school attenders aged 12 and 13 years of age.



## CHAPTER 5. RESULTS AND DISCUSSION ON THE GROWTH DATA.

5.1 The minimum requirements for growth monitoring. (Gopalan and Chaterjee<sup>9</sup>)

### **1. A supply of good quality scales.**

The scales used are bathroom type scales. They were the same type as used by other programmes weighing girls and women in Bangladesh, but probably not the standard used for collection of growth data in Britain.

The height scale was a tape measure stuck on the metal frame in which the scales sat. The tape was not however long enough, there was an attempt to lengthen it while I was there but this was a paper extension that was not very durable (see photograph 3).

### **2. Facilities for transporting the scales to where they are needed.**

The girls all came to the clinic at Kajla to be weighed, so it was not necessary to transport them anywhere.

### **3. Facilities for frequent calibration, repair and replacement, of the scales.**

The scales were checked each time before they were used to ensure they were at zero, apart from this there did not appear to be any calibration.

Photograph 3



The routine collection of height data and the temporary extension to the height scale.

#### **4. Methods to ensure accuracy of weight and height measurement, and age verification.**

As part of this study the accuracy of the measuring was checked, by inter and intra observer variation. There did not seem to be any established procedure for doing this routinely. The girls all removed their shoes to be weighed and measured.

**5. Growth charts and health cards in adequate supply.**

There was an adequate supply of cards at the programme office in Rajshahi. These are supplied from ODA in Dhaka.

**6. Training workers in accurate plotting of data and interpretation.**

There did not appear to be an established system for checking the accuracy of the plotting. One way that the accuracy could be monitored would be by having the measurements recorded on the card. Without a recorded measurement the only way of knowing there is a fault in plotting, as opposed to measuring, would be to be there when the measurement was taken.

**7. Facilities for the prompt follow up action as indicated by the growth data.**

This an area that really needs reviewing. There are some facilities available at the clinic but they are not adequate to deal with the growth problems once detected. The responsibility for further action is with the girl's family. One case the researcher came across exemplifies the problem. The girl was losing weight and complained of constant headaches. She had taken paracetamol for weeks to no avail. Her blood pressure was normal. The clinic staff then suggested that she should go to the hospital and have an eye test and see a doctor there. The girl then said that her father was a rickshaw puller and could not afford to take her to the

hospital. Even if the consultation was free, transport there needed to be paid for and possibly treatment as well.

This is by no means an unusual problem, it is one that is frustrating for the girl and the health workers who all wanted to be able to help but could not. Having identified the girl as needing care they were unable to help her receive it. This raises the question of whether it is ethical to raise people's expectations and then not be able to meet them.

#### **8. Facilities for supportive supervision and frequent evaluation.**

This aspect of the programme is slowly being developed.

#### **9. Facilities for collation of growth data for monitoring trends at a national level.**

This does not occur at the moment.

### **5.2 The basic components of a growth card<sup>11</sup>.**

1. A graph or place to record the weight and height.

Weight and height are usually plotted against age, this is a distance chart.

2. Personal data, ie. name, registration number, address, date of birth, date of enrolment in the programme.

3. Potential risk factors or reasons for special care. ie. past illnesses, especially infections, worms, MUAC.

4. Use of health services, ie. date last seen in clinic, immunisations received.

5. Other key factors that may influence growth, ie. worms, diet and menstruation.

#### 5.2.1 The growth card used at SBMSS.

1. The card has one graph for recording both height and weight. The weight is recorded in kilograms (kgs) and the height in centimetres (cms). They are recorded on the y-axis and months on the x-axis. On the chart one space for weight represents one kilo and one space for height represents 2.5 cms, these are small scales and a slight inaccuracy in charting would represent a large variation in either height or weight. For the purpose of checking how accurately the data has been charted the actual weights also needs to be recorded.

The symbols to be used to represent weight and height are not marked on the card, because of this there has been some lack of uniformity in the symbols actually used. The general rule seems to be to use "\*" for height and "o" for weight. To avoid confusion the symbols to be used should be printed on the card.

The card has an "at risk" line marked on it in red, this represents the criteria for selecting women as being "at risk" during pregnancy as regards height and weight. The line is drawn at a weight of 46 kgs and a height of 145 cms.

Growth in adolescence should be related to the stage in puberty that the girl has attained, this card does not do this. In an Islamic society it is not usual to either discuss these things or to examine the girls to do a puberty rating.

The card has 12 spaces for recording values and is designed to last for one year. This is possibly adequate for creating awareness about growth but is not adequate for growth monitoring. Tremlett et al<sup>11</sup>, in their review of growth cards said mothers (and presumably adolescents) found the concept of stepping on charts a difficult one to follow, also splitting the data on two sides of a card limited its usefulness. For growth monitoring over a period of time it is best to have all the data represented together.

### 5.3 Profile of height and weight data.

Table 11. Profile of height and weight data.

	No.of girls		No.of girls
weight >45.9	9	height >144.9	80
<46	136	<145	68
ht. no wt.	6	wt. no ht.	3
no data	8	no data	8
total	159	total	159

For the purpose of this study, the last height, weight and MUAC recorded on the cards were used for this part of the analysis.

#### 5.4 The height data.

Table 12. The number of adolescent girls in the study population with heights below 145cms. and 145cms. and above.

AGE	HEIGHT BELOW 145 CMS.		HEIGHT 145 CMS.OR ABOVE	
	NO.	RANGE	NO.	RANGE
10	02	129,135	00	
11	02	135,141	00	
12	34	120-144	12	145- 152.5
13	21	126-144	27	145- 160
14	07	137-144	25	145- 160
15	02	140.5-142.5	11	145- 157
16	00		06	145- 150
TOTALS	68		81	

Table 13. Mean height and standard deviations, of women from Nigeria, Libya, France, Mali and the study population.

AGE	NIGERIA *	LIBYA **	FRANCE ***	MALI ***	STUDY no.ht
10					02 1.320 (.042)
11					02 1.38 (.042)
12	1.55	1.47 (.06)			46 1.38 (.03)
13	1.60	1.52 (.069)			48 1.44 (.065)
14	1.65	1.52 (.060)			32 1.49 (.060)
15	1.67	1.6 (.05)	1.60 (.057)	1.54 (.084)	13 1.50 (.052)
16	1.67	1.58 (.050)	1.61 (.056)	1.584 (.067)	06 1.485 (.019)

\* Didia et al.<sup>15</sup>

\*\* Shamssain<sup>13</sup>

\*\*\* Prazuck et al.<sup>14</sup>

From the analysis of the height data, 90 girls (67.2%) have not increased in height between their first and last heights recorded on their chart. The actual values were not written on the card so small increases may have been lost during the plotting and the reading of the cards.

Two girls appear to have lost height, which is impossible. This could be due inaccurate charting or inaccurate measuring, one way of checking this would be to record the measured values on the card.

Some girls appear to have gained excessive height:-

16.5 cms in 8 months.

9.0 cms in 10 months.

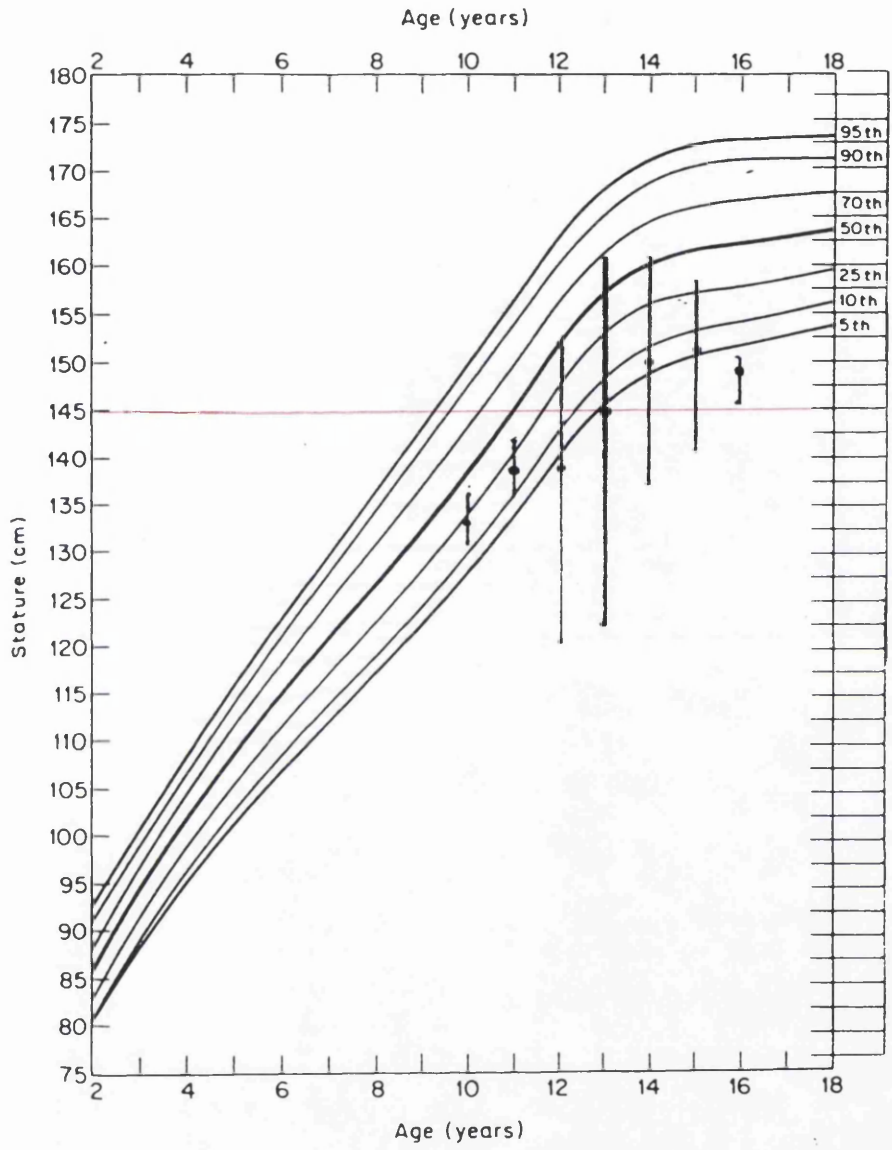
7.5 cms in 7 months. (two cases.)

6.5 cms in 6 months.

These larger than expected gains in height, raise questions about the validity of some of the data.



Figure 2. The range of heights and means in relation to NCHS standards and the "at risk" line.  
 (Ref Tanner<sup>16</sup>)



Population standards for height for USA girls  
 (Data from National Center for Health Statistics. Cross-sectional-type charts)

### 5.5 The weight data.

Table 14. The number of girls in the study population with weights below 46 kgs and 46 kgs and above.

AGE	WEIGHT BELOW 46 KGS.		WEIGHT 46KGS OR ABOVE	
	NO.	RANGE	NO.	RANGE
10	02	26, 35	00	
11	02	24, 30	00	
12	47	20- 45.0	01	48
13	45	24- 44.5	01	51
14	25	30- 44.0	05	46- 51
15	11	34- 45	01	50
16	04	36- 44	01	50
<b>TOTALS</b>	<b>136</b>		<b>09</b>	

Table 15. Means of weight and standard deviations, of women from Libya, France, Mali and the study.

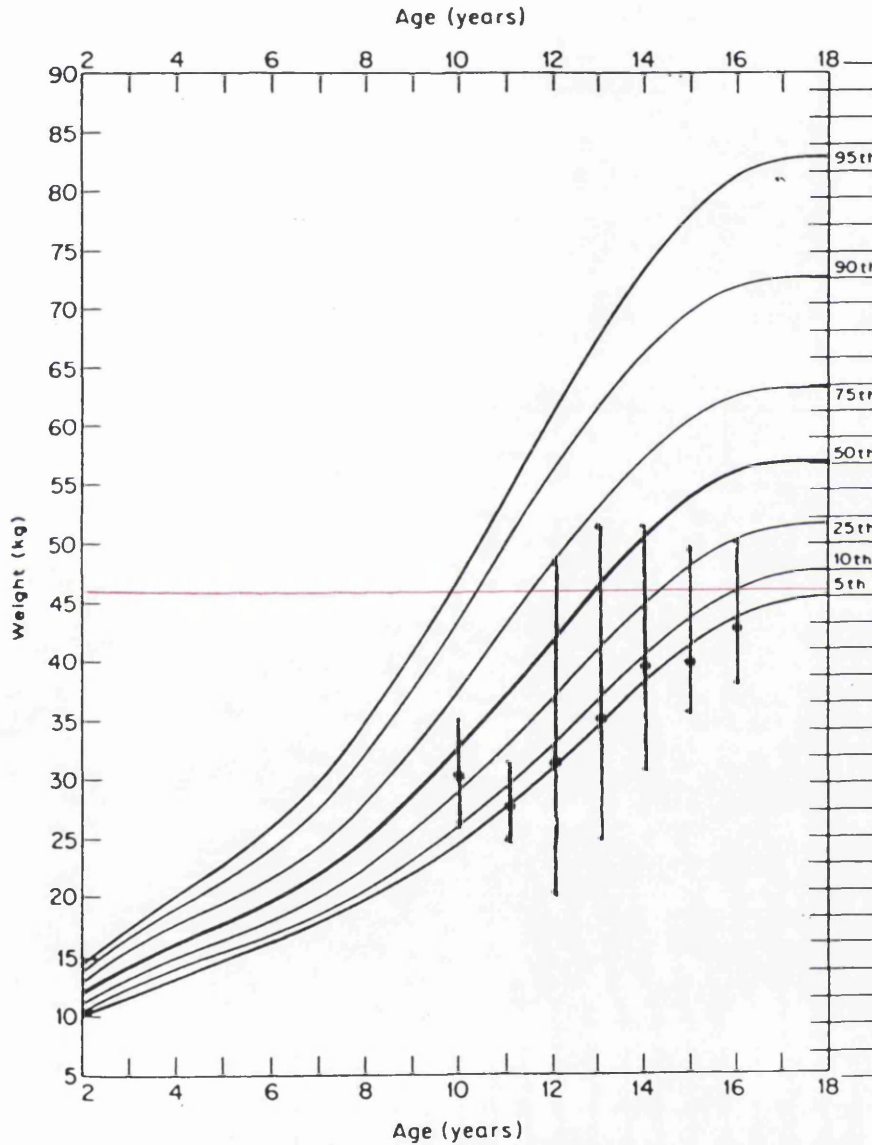
AGE	STANDARD	LIBYA	FRANCE	MALI	STUDY	
		**	***	***	NO.	WEIGHT
10	36.77				02	30.5 (6.36)
11	39.04				02	27 (4.24)
12	43.64	43.07 (8.1)			48	30.89 (6.48)
13	48.07	49.78 (8.8)			46	35.54 (5.34)
14	51.91	48.02 (9.8)			30	39.78 (5.38)
15	54.81	57.27 (7.4)	51.2 (6.9)	43.2 (8.4)	12	39.71 (4.56)
16	56.35	58.70 (6.7)	52.2 (6.6)	49.0 (8.3)	05	42.40 (5.32)

\*\*<sup>13</sup>

\*\*\*<sup>14</sup>

From the analysis of the weight data, 73 girls (55.7%) had not gained any weight since joining the programme. 14 girls (27%) had lost weight; one had lost as much as 8kgs, 44 (33.8%) had gained weight; one had gained as much as 6kgs.

Figure 3. The range of weights and in relation to NCHS standards and the "at risk" line. (Ref Tanner<sup>16</sup>)



Population standards for weight for USA girls  
(Data from National Center for Health Statistics. Cross-sectional-type charts)

5.6 The Height and Weight data in relation to the "at risk" line.

Table 15. Height and weight and the relationship to the "at risk" line.

	HEIGHT BELOW 145 CMS	HEIGHT 145 CMS. AND ABOVE.	TOTAL
WEIGHT BELOW 46 KGS.	66	67	133
WEIGHT 46 KGS. AND ABOVE.	00	9	9
TOTAL	66	76	142

Only those girls with both a height and weight recorded on their card were included in this part of the analysis.

Only 9 girls were above the "at risk" line for height and weight.

5.7 Interpretation of the charts by the FSs.

The field supervisors (FS) were show four charts and asked how they would interpret them and what advise they would give the girls based on these charts.

The responses given by each FS were recorded and are given below, the FS have been called A, B and C.

Chart 1. (height above, weight below the line.)

- A. Height is almost on the danger line. The girl should gain height and weight by increasing food intake, taking more rest.
- B. Height is OK. (almost) but under weight. Must take more food.
- C. Height is just above the line, so that is somewhat risky. Better to be taller to avoid risk. Weight is almost OK.

Figure 4 Chart 1

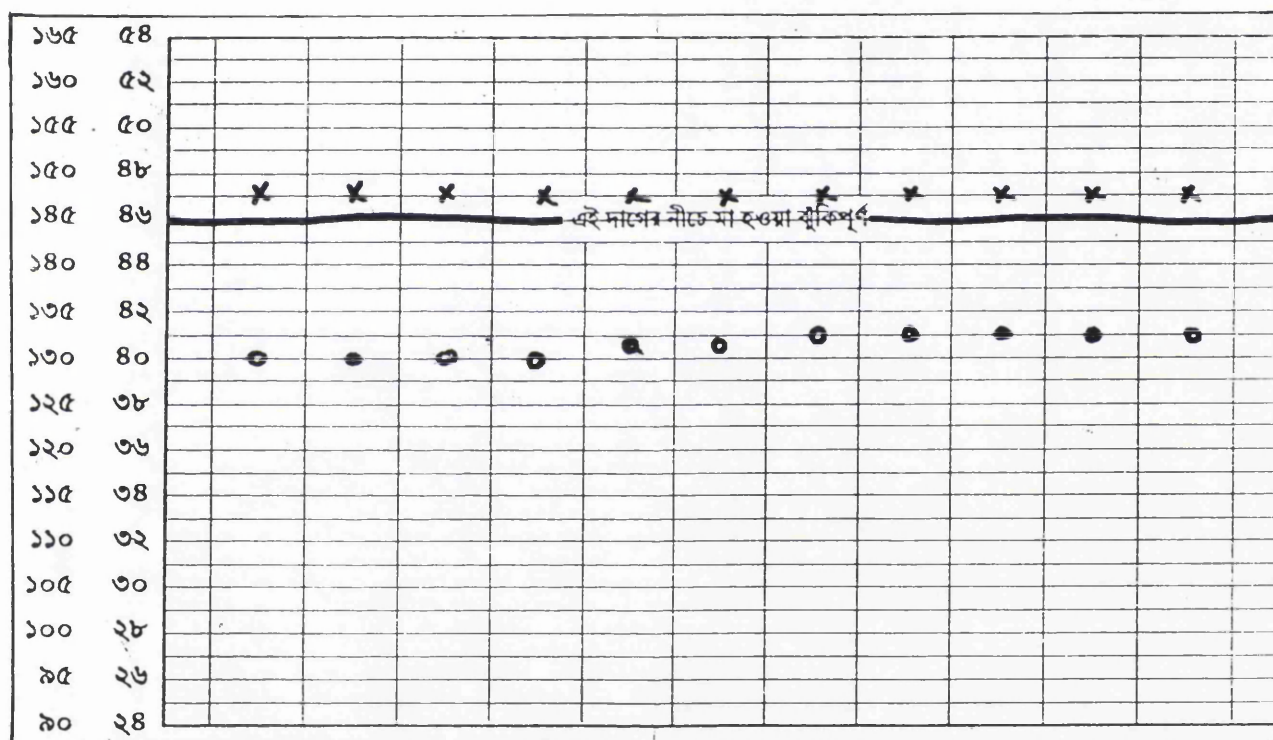


Chart 2. (height and weight below the line.)

- A. Both height and weight are below the line, therefore risky. Would talk to the girl about food and rest.
- B. Height is short, weight is manageable. Height is risky to be a mother. Advise her to do exercise, to play games, so she will grow taller. Would enquire about health and habits, income, sisters and brothers and how much food is available. Also give advice to the parents. Go to the home and tell the parents. If she goes to the home the parents request medicines but she gives advice about cheaper foods that are nutritious.
- C. Very risky to be pregnant, must try to be taller. According to height, weight is quite high. Must do skipping and get good food which will help her to be taller.

Figure 5 Chart 2

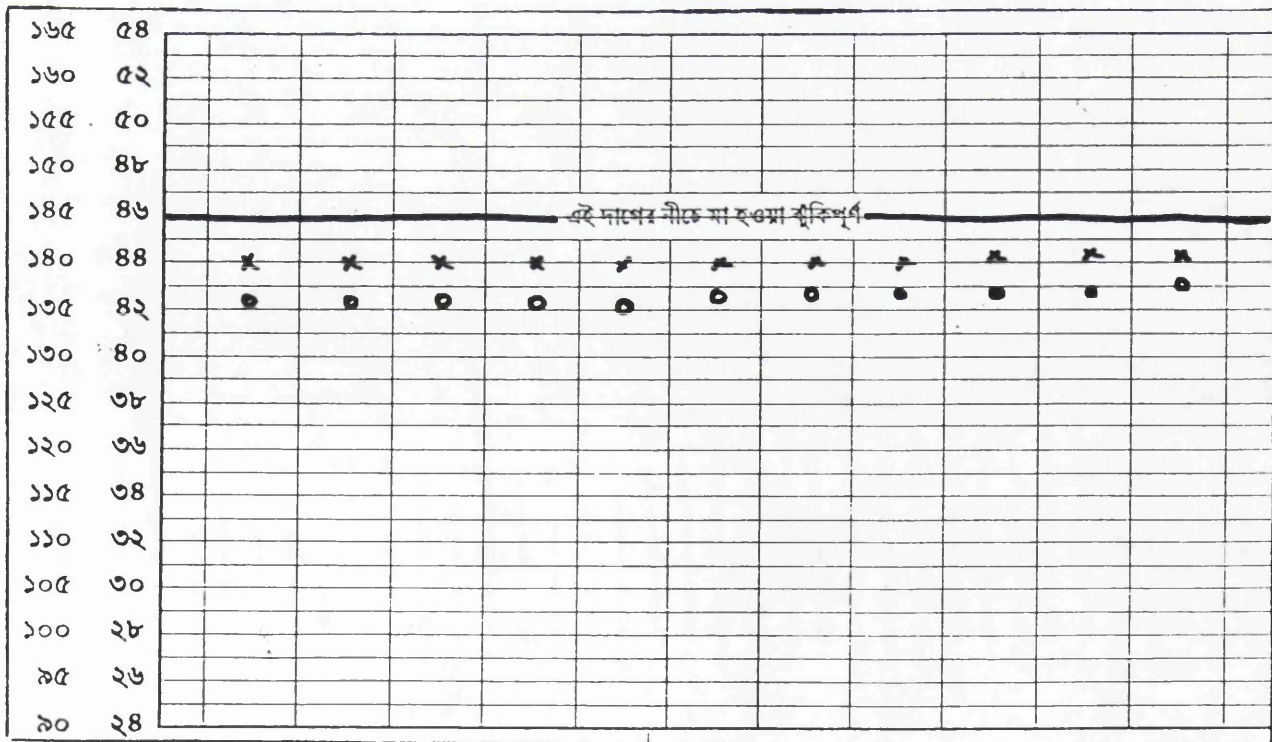




Chart 3. (Height below and weight above the line.)

A. This girl is short and fat, ask her to lose weight, do some skipping.

B. (at first she confused height and weight.)

Height is low, talk about nutritious food and to exercise. Risky one.

C. According to height, weight is far greater. Must lose weight and increase height. How? Skipping and avoiding fat in meals.

In reality, no girl in the sample had this combination.

Figure 6 Chart 3

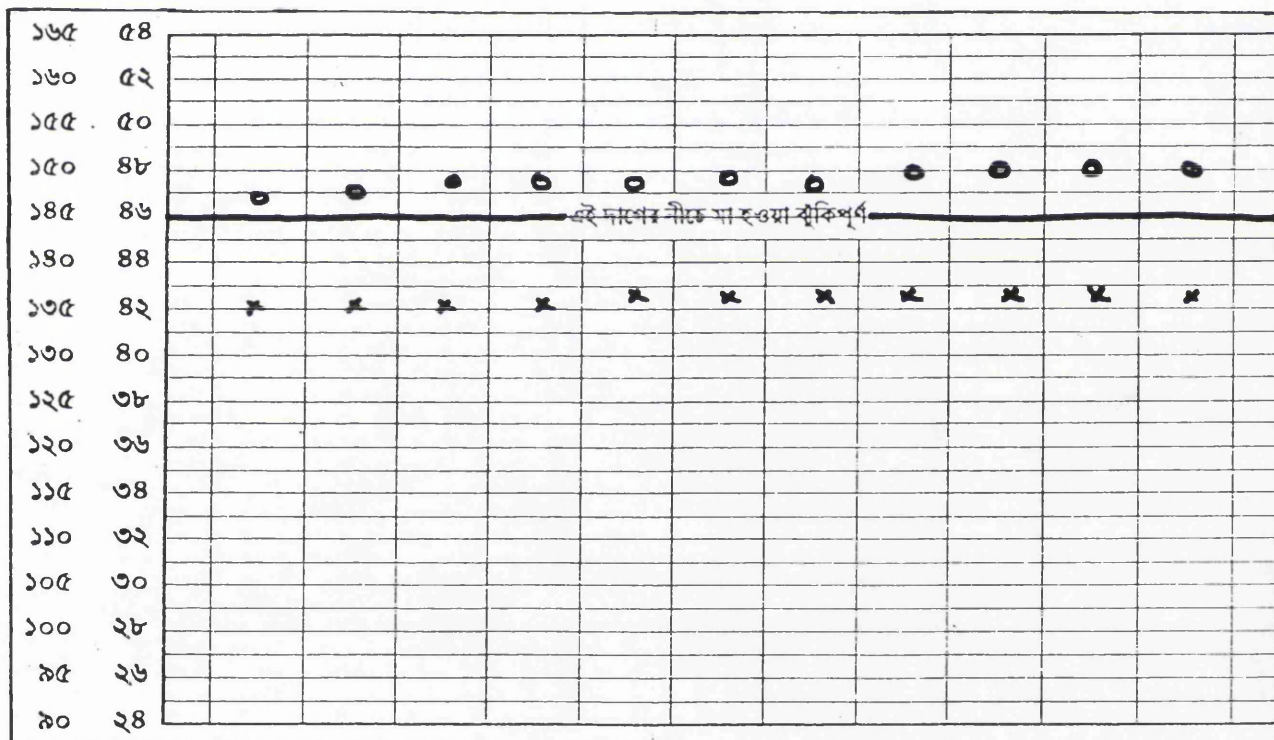


Chart 4. (height and weight both above the line.)

A. Not risky, above the danger line. Warn about weight, should stay where it is and not gain more. 46 kg is the proper weight for a 16 year old. It can be maintained by diet. Should not lose weight. It would be OK to be married and have children, still a problem with the age - otherwise she is fit.

B. OK. Weight and height is normal.

C. Weight should be lost.

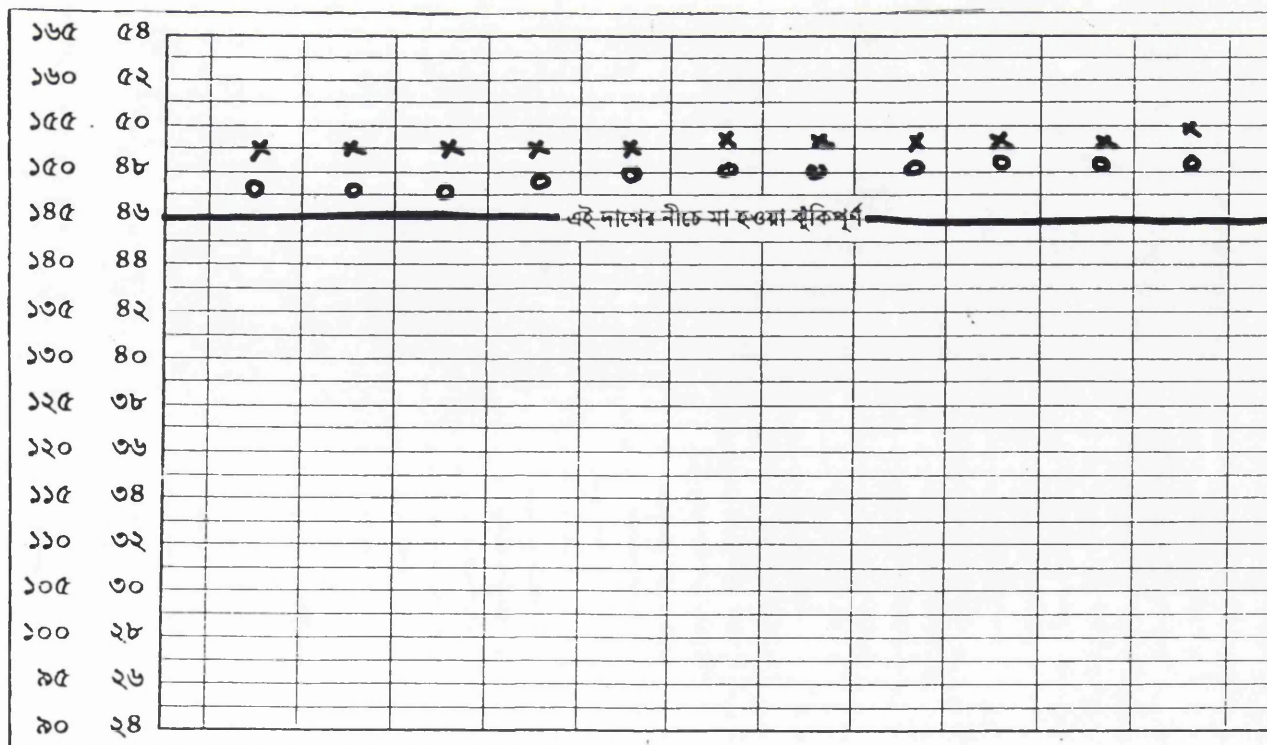
Do you think the girls can follow the advice to eat more food?

A. Yes, they can.

B. Data not recorded.

C. Cannot manage more food in most cases, ask them to do their best. Also talk to the parents, generally at the group meetings.

Figure 7 Chart 4





The FHWS were able to pick out those girls that were above and below the line, but had no resources with which to help those girls where a problem was identified. The only advice they could give to the girls was to "eat more food" and "skipping". During the period of data collection there was no suggestion that the girls actually did any skipping, basically this advice was not followed. There is very little evidence that skipping would in fact increase their height anyway. UNICEF/SAARC<sup>3</sup> made the statement that only 5% of the population consumed an adequate quantity and quality of food, so maybe the girls cannot "eat more food" even if they want to.

#### 5.9 Inter and intra observer variation.

On gross analysis the measurements taken by the field workers of the 9 girls appeared to be very similar. However when the data was subjected to a two way test of variance (ANOVA using SPSS) the variation was found to be significant,  $p < 0.05$ .

The variation was significant for height, weight and MUAC and was significant for all the field workers measuring one girl and also between girls, allowing for the fact that each girl is different.

With the type of weighing scales and tape measure available this variation in results could be anticipated. When added to the chart's scale insensitivity, the error in the growth data collection is compounded.

5.10 MUAC Data.

Table 16. Mean mid upper arm circumferences in French, Malian, Indian and the study population.

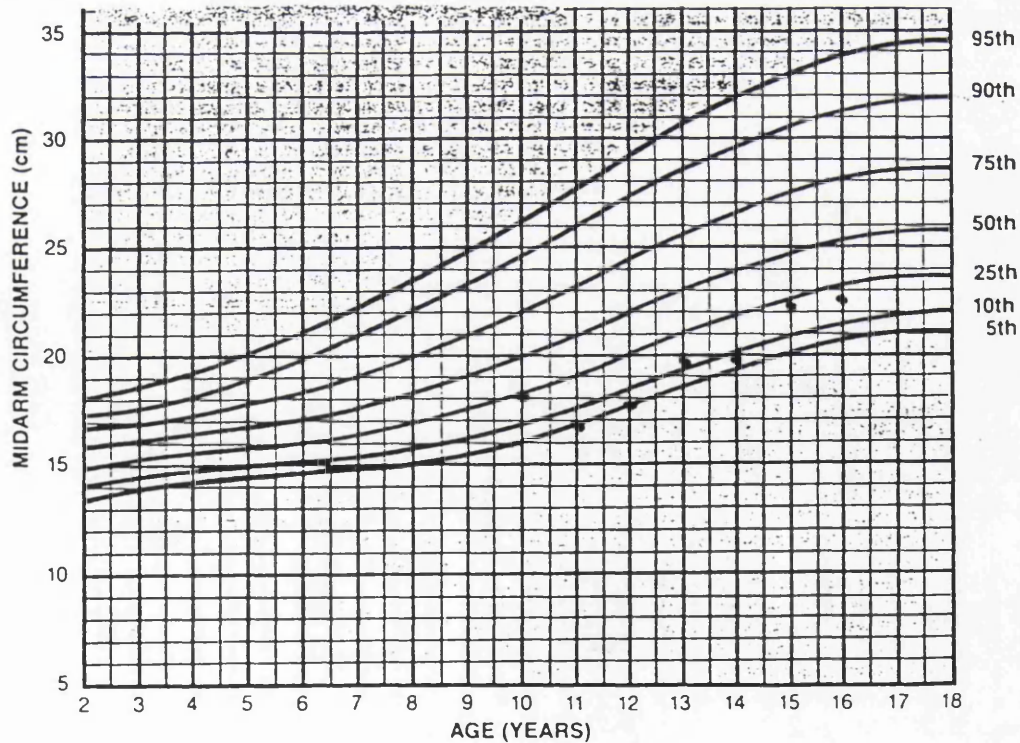
AGE	STANDARD ***	FRANCE *	MALI *	**INDIA low ses	STUDY	
					no.	mean sd
10	19.9				03	18.00 0.00
11	20.7				03	16.75 0.35
12	21.5			18.23	47	17.73 3.01
13	22.4			19.07	44	19.75 2.0
14	23.2			20.34	33	19.86 5.71
15	24.4	24.0	22.7	20.62	09	22.11 1.78
16	24.7	24.5	24.0	21.12	05	22.60 2.07

\* Prazuck et al<sup>14</sup>.

\*\* Vijayaraghavan K, Singh D, Swaminathan<sup>17</sup>.

\*\*\*from O'Brien, Girshik, Hunt (1941) in WHO Monograph 1966 No. 53<sup>18</sup>.

Figure 8. Standard female mid upper arm circumferences compared with the study population<sup>19</sup>.



Female: Midarm circumference. (Reproduced with permission from Ross Laboratories, Columbus, Ohio 43216, © Ross Laboratories.)

### 5.11 Discussion.

Compared with other studies and the NCHS standards the study population has low means for height, weight and MUAC. Throughout, the age ranges the means for height and MUAC, are consistently below the 25th centile and for weight below the 10th centile (apart from the 10 year olds with a sample size of 2).

Figures 2, 3 and 4 relate these means and their ranges to the pregnancy "at risk" line on the charts.

According to Enkin<sup>20</sup>,

"Maternal height is of limited value for predicting fetopelvic disproportion, although short women tend to have a higher rate of caesarian section."

The means for height suggest that the majority of girls are likely to attain a height above 145cms by the time they are 16 years old. This needs further investigation and comparing with growth data on fully grown women in Bangladesh to know how many are below 145cms and what proportion of them experience obstetrical problems.

Those girls aged between 16 and 19 years and are below 145cms are definitely at risk and should delay pregnancy especially if they are still growing (but they are outside the present scope of the SBMSS programme).

The 15 and 16 year old girls who are above the "at risk" line but below the 5th centile are still short for their age but the card does not detect them. They may have potential for more growth and in not detecting them an opportunity is being missed to help them achieve a greater height. Harrison K.<sup>21</sup> showed that by supplementing women during pregnancy they continued to grow; so it would be possible to intervene and achieve results.

For weight only 9 girls are above the at risk line. The means for weight suggest that at 18 years of age 50% of the girls will still be below 46kgs. What is not clear from this study is whether or not they have the potential to grow more or not. At the Kasa Project, India, the women are considered "at risk" with a pre pregnancy weight of 38kgs.<sup>22</sup>

The card should alert the 150 girls below the line and the health workers to the possibility of problems during pregnancy, if they do not grow more. This data could be used to promote better nutrition for adolescent girls.

Care should be taken not to marginalise or stigmatise short, thin girls and make it difficult for them to marry. The card states the risk factors in pregnancy and this should not be interpreted as "they will have problems", which may deter a potential spouse.

If the girls have stopped growing, it will not make any difference when they marry and have children because they have reached their full potential.

If the girls are still growing there may be some advantage in delaying marriage or more specifically pregnancy, and making sure they receive adequate nutrition in the intervening period.

An appropriate message may be to delay marriage when still growing, rather than simply being above the "at risk" line.

In this cultural setting girls are discriminated against in the amount of food they receive.

There is a Bangladeshi saying:-

"to nurture a daughter is like watering another man's tree"

This implies that there is no point in feeding a girl well as another family will reap the benefit.

Also daughter in laws are supposed to be modest and only eat a small amount of food,<sup>10</sup> regardless of their needs. An appropriate promotional message for mother in laws could be "feed your daughter in law well in order to ensure a healthy grandchild."

In Bangladeshi culture, getting married is seen as synonymous with having children. This attitude was also expressed by the girls during their FLE questionnaires. During the health education talks that were observed, the following statement was made:-

"... you will be mothers one day. If you get clots you will not be a mother and if you are not a mother there will be unhappiness in the family."

Maybe, through FLE it could be suggested that there are other alternatives in life for women, apart from child bearing. Also there are many reasons why couples do not have children and the emphasis and potential blame must not be put on women alone.

Having detected that this is a short, thin population some significant intervention is need to enable the girls to grow to their full potential.

It does not relate growth to puberty. This is particularly limiting when giving girls advice about their height and weight. The "at risk" line is reasonably well understood by the health workers but not related to the age of the girls.

#### 5.11.1 Valid reference data for adolescents.

Although internationally accepted reference data exists for children under 10 years of age, reference data for adolescents is much more difficult to establish.

Most of the available data for adolescents is based on populations in developed countries. It should be noted that it may be increasingly misleading to use this data to study developing countries- particularly as the population approaches adulthood. The growth curve constructed from a developed country population assumes an adult stature equal to the mean of that country. In many developing countries, the mean adult height and weight are only the third centile of the developed countries. How much this is due to environmental adjustments and how much is due to true genetic factors is difficult to know.<sup>23</sup>

## CHAPTER 6. HEALTH KNOWLEDGE QUESTIONNAIRES ON SECTIONS

### A AND B OF THE HEALTH CARD.

#### 6.1 Background.

Each girl who came to be interviewed for the first time was randomly given the questionnaire on either section A or B.

Originally it was intended to ask the girls both questionnaires, but for the following practical reasons it was not possible:-

1. In the community setting it was difficult to manage a private place to interview the girls. This was partly because the researcher was a foreigner in an area where not many foreigners are seen, they were curious to see me. Also in the village areas it appears there is very little privacy and people tend to visit each others homes and listen to conversations, so when we requested privacy it was not really understood why. Some people became very suspicious of what we were doing and saying. As a result of this on several occasions we had to allow a relative, often a grandmother sit in on the interview. This the researcher feels affected the responses given by these girls. There were a few more no replies and a reluctance to answer some questions.

The field worker with me kept the girls at a distance from where the interviews were being carried out, but there was still a chance of them overhearing. Dividing the questionnaire was a ruse to confuse them slightly, so they would not know which questions they were going to be asked. With hindsight this has imposed a limitation on the study.

2. The time available was short and some mornings as many as 14 girls came to be interviewed, it would not have been possible to ask a long questionnaire to them all.

3. A high proportion of the girls attended school and therefore the interviews had to be done before they went to school, again making a long questionnaire prohibitive. The programme encouraged the girls to go to school regularly and it would not have been correct to ask them to miss a whole day at school to be interviewed.

#### 6.2 Results of questionnaire on section A of the card.

1. DATE.

2. NAME.

3. AGE.

4. SCHOOL. WHICH CLASS?

5. VILLAGE.

6. CARD. (THE GIRLS CARD HAD TO BE ACTUALLY WITH HER.)

YES	NO
82	1

7. DO YOU CUT YOUR NAILS?

YES	NO
82	1

8. IF YES, WHAT DO YOU USE TO CUT YOUR NAILS? (n=83)

	RESPONSES
Blade	69
Nail Cutters	6
Others: Both	6
Knife	1
Nothing	1



9. DID YOU WEAR SHOES TO COME TO HERE TODAY? (n=83)

YES	NO
63 (76%)	20 (24%)

(OBSERVATION: WERE THE GIRL'S SHOES OUTSIDE?)

YES	NO
63	20

10. WHEN SHOULD YOU WASH YOUR HANDS? (n=83)

	RESPONSES
Before Eating	61
After Eating	5
After coming from the toilet	54
Others	15
At different times of the day (ie morning, evening, after sleeping.)	6
total	141

(Average number of responses 1.69)

11. DOES YOUR FAMILY HAVE A TOILET/ LATRINE? (n=72)

YES	NO
58 (80%)	14 (20%)

12. WHAT KIND OF TOILET IS IT? (n=58)

	RESPONSES	%
Sanitary	28	48.2
Bamboo	30	51.7

13. DID YOU BRUSH YOUR TEETH THIS MORNING? (n=83)

YES	NO DATA
80	3

14. IF YES, WHAT DID YOU USE TO CLEAN YOUR TEETH? (n=80)

	RESPONSES	%
Brush alone	1	1.25
Brush and Paste	17	21.2
Tooth Powder	23	28.7
Coal/Ash	32	40.0
"Neem"	7	8.7

15. WHAT IS YOUR FAMILY'S SOURCE OF DRINKING WATER? (n=72)

	RESPONSES
Own tube well	6
Outside tube well	55
Other	1

16. WHERE DO YOU BATHE? (n=72)

	RESPONSES	%
In the river/pond	56	77.0
At the tube well	13	18.0
Other	3	4.1

17. WHY SHOULD WE EAT GREEN LEAVES? (n=83)

	RESPONSES
To keep from flies & mosquitoes	72
To prevent disease	38
Prevent dirty things	18
Other	2
To prevent diarrhoea	1
total	131
Do not know	2

(Average number of responses 1.55)

18. WHY SHOULD WE KEEP FOOD COVERED? (n=83)

	RESPONSES
Prevents night blindness	32
Prevents illness	29
Prevents anaemia or cleans blood	21
Vitamins	13
Keeps health	9
Other	6
total	110
Do not know	5

(Average number of responses 1.32)

19. HAVE YOU STARTED MENSTRUATING? YES NO

20. WHAT IS RECORDED ON THE CARD\_ FOR AGE AT COMMENCEMENT OF  
MENSES.

\_ FOR STARTED OR NOT.

21. MUAC\_ ON THE CARD.

\_ MY MEASUREMENT.

## Discussion.

The results indicate that the majority of the girls have an awareness about the messages on the card. And the stated source of this knowledge is the clinic and FHWs.

### 6.3.1 Water and Latrines.

Fourteen (9.4%) girls said they did not have a latrine, so they did not have the opportunity to put the health message into practise.

Similarly, those girls without shoes may not have the ability to buy any and therefore cannot protect themselves even if they are aware of the message. The fact that the girls cannot put the messages into practise does not mean the girls should not be aware of them, but it does mean that emphasis should be put on the things that the girls can control or influence. The message must be seen to be relevant to them.

All the girls were aware of the importance of drinking clean water, and from observation it seemed common practise to drink tubewell water.

Some girls were asked why they bathed at the tube well (as it was becoming apparent that the majority of the girls and other local people bathed in the ponds or river). One girl said that a doctor had advised her to wash at the tube well because she had recurrent urinary tract infections, other said that their fathers forbade them to go to the pond to wash.

During a discussion with someone (not involved in the programme) about why people do not wash with tube well water it was suggested that there were not enough tube wells for every one to wash at a tube well. People do not have private sources of water and even if they did, often the water pressure is so low that the water does not flow. To overcome that problem it is necessary to have a water tank on the roof of the house, and a pump. This is an expensive option.

It also emerged that people like to swim, and for this it is necessary to bathe in the pond or river.

(photograph 4)



Bathing in the pond: usually done fully clothed and in groups

### 6.3.2 Personal Hygiene.

The fact that all the girls did not mention washing their hands before eating is really surprising; it is so ingrained in the society to wash ones hands before eating, especially since everyone eats with their hand. Maybe this fact is so obvious that nobody thought to mention it.

The responses, hand washing before eating and after going to the latrine are the most common ones. Only 5 girls gave no clear indication that they knew when to wash their hands.

Coal and tooth powder are the two most frequent responses and are the cheapest options, so this would be an appropriate practise to reinforce as the coal and ash are available free in the home (they are collected from the fire).

### 6.3.3 Nutrition.

Only 5 out of 83 girls did not know why it was important to eat green leaves. The topic needs to be included and perhaps extended to include cooking the vegetables in such a way as to preserve the vitamins.

### 6.4 Results of questionnaire on section B of the card.

1. DATE.
2. NAME.
3. AGE.
4. SCHOOL WHICH CLASS?
5. VILLAGE.

6. HOW DO YOU MAKE ORS? (n=75)

(THE GIRL WAS THEN ASKED TO DESCRIBE HOW SHE WOULD MAKE IT, SHOWING HOW MANY FINGERS FOR THE SALT AND THE HANDFUL FOR THE SUGAR.)

	RESPONSES	%
Knows	55	73.3
Partly knows	13	17.3
Does not know	7	9.3

7. WHERE DID YOU LEARN HOW TO MAKE ORS? (n=65)

	RESPONSES
Clinic	50
Mother	13
Television	1
Not asked	1

(AFTER WHAT EVER ANSWER THAT WAS GIVEN THE FOLLOWING QUESTION WAS ASKED.)

8. DID YOU KNOW BEFORE THIS?

	RESPONSES
No other source of information	45
Mother	7
Relative	6
School	3
Books	2
Radio	1

9. WHEN WOULD YOU GIVE SOMEONE ORS? (n=74)

	RESPONSES
When there is diarrhoea	62
When there is illness	4
Do not know	8

10. CAN YOU NAME ANY OF THE IMMUNISATIONS? (n=75)

	RESPONSES
Knows all of them	4
Knows none of them	26
Knows some names	45

11. WHERE DID YOU LEARN THE NAMES OF THE IMMUNISATIONS? (n=49)  
 (WHAT EVER THE RESPONSE GIVEN TO THIS QUESTION THE GIRLS WERE  
 ASKED IF THEY KNEW ABOUT THIS BEFORE.)

	RESPONSES
Clinic	42
Mother	3
Television	1
Books	1
School	1
Not asked	1

	SECONDRESPONSES
No second responses	37
Mother	2
Books	3
Television	1
School	1
Clinic	1
Do not know	1

12. PLEASE NAME THE FOLLOWING ILLUSTRATIONS ( AT THIS POINT  
 THEY WERE SHOWN 18 ILLUSTRATIONS OF THE HEALTH CARD). n = 75  
 See Figure 9. Food Illustrations.

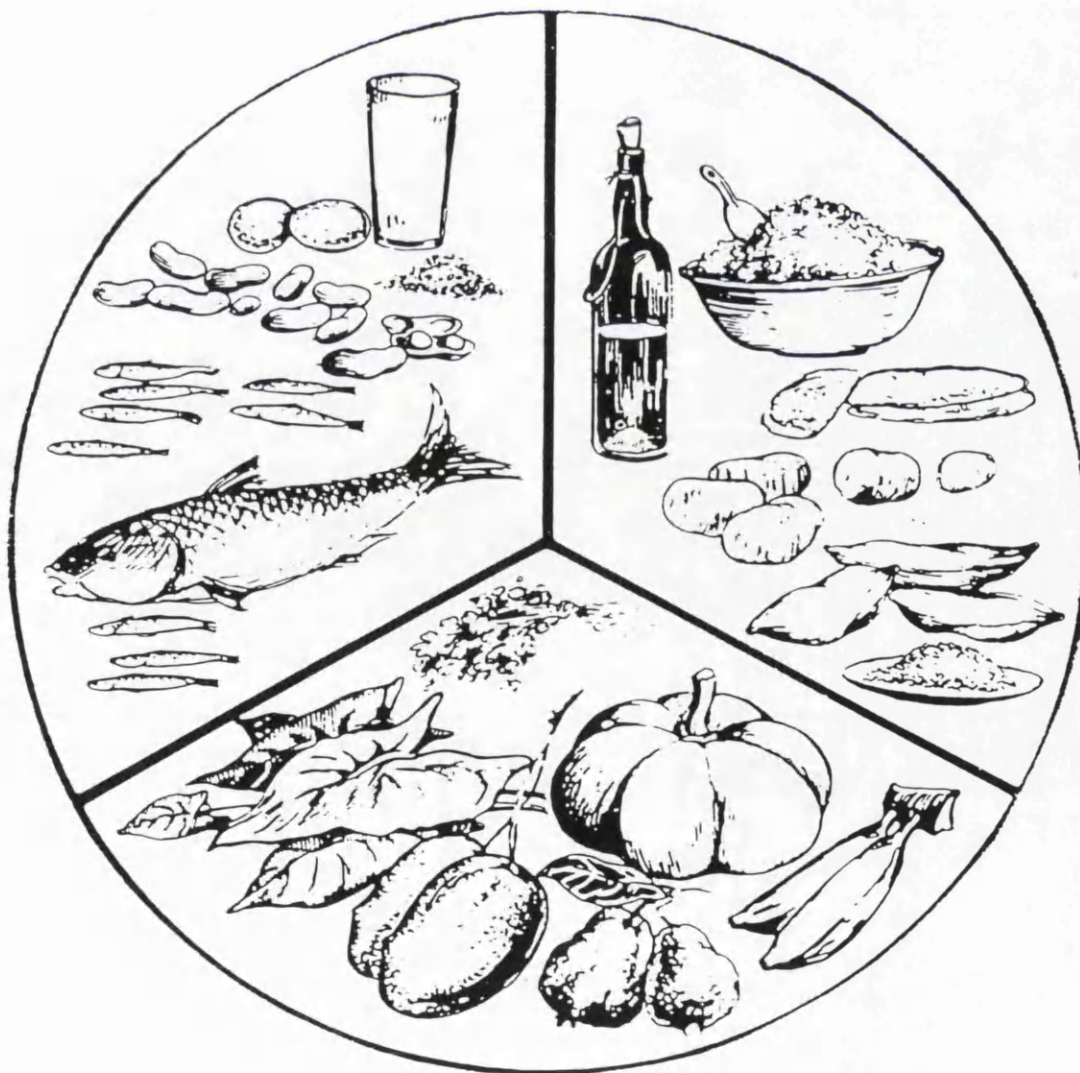


Table 17. Correct, incorrect and do not know responses give for the food illustrations.

	CORRECT RESPONSE	INCORRECT RESPONSE	DO NOT KNOW.
BANANA	75	00	00
BIG FISH	75	00	00
LITTLE FISH	73	02	00
RICE	67	05	03
EGG	66	05	04
GUAVA	64	10	01
"ARUM"	61	09	05
PUMPKIN	56	15	04
POTATO	48	19	08
OIL	44	27	04
MANGO	41	19	15
MILK	37	36	02
"ROTI"	36	16	23
"LAL"	35	22	18
PEANUT	22	32	21
SUGAR	18	43	14
SWEET POTATO	09	56	10
"DAL"	02	42	31

13. WHEN YOU WENT TO CLINIC TO BE WEIGHED WHAT WERE YOU TOLD ABOUT YOUR WEIGHT? (AT THIS POINT WE SHOWED THE GIRLS THEIR WEIGHT ON THE CARD AND ASKED THE QUESTION.)

	AWARE	NOT
AWARE		
(56%)	27 (42%)	34

Those that were aware said:-

the weight (at that time.)	19 (31%)
weight is less, eat more	3 (4.9%)
good for age	1 (1.6%)
other	5 ( 8.2%)

Those that were not aware said:-

forgotten or do not know	20 (32.8%)
nothing	14 (23%)



14. WHEN YOU WENT TO CLINIC TO BE MEASURED WHAT DID THEY TELL YOU ABOUT YOUR HEIGHT? (AT THIS POINT WE SHOWED THEM THEIR HEIGHT ON THE CARD AND ASKED THE QUESTION.)

AWARE	NOT AWARE
8 (13%)	52 (87%)

Those that were aware said:-

the height (at that time.)	2 (3.3%)
height is less, eat more	2 (3.3%)
skipping	1 (1.7%)
other	3 (5.0%)

Those that were not aware said:-

forgotten or do not know	28 (46.7%)
nothing	24 (40%)

15. WHAT ADVICE OR INFORMATION WERE YOU GIVEN AT THE CLINIC? (FOR SOME GIRLS ADVICE RECEIVED AT THE GROUP MEETINGS WAS ALSO INCLUDED.)

ADVICE RECEIVED	ADVICE NOT RECEIVED
-----------------	---------------------

36 (57.1%)	29 (43%)
------------	----------

Those that said they had not received advice gave the following responses:-

had not been given advice	22 (34.9%)
no reply	4 (6.3%)
do not know	1 (1.6%)
forgotten	2 (3.2%)

Those that said they had received advice reported receiving it on the following topics.

Personal Hygiene	47
Eating or storing food	12
Wearing sandals	8
Cleaning teeth	3
School	2
Others	12

(average number of responses 2.33)

16. HAVE YOU STARTED MENSTRUATING? YES NO

17. WHAT IS RECORDED ON THE CARD\_ FOR AGE AT STARTING MENSES.  
\_ FOR STARTED OR NOT STARTED.

18. MUAC\_ ON CARD.  
\_ MY MEASUREMENT.

## 6.5 Discussion.

### 6.5.1 ORS.

The commonest response was that 50 girls (76.9%) learnt about ORS at the clinic. This could be a biased response because they knew that we were connected with the programme. If it was a true response it would be very encouraging for the programme, and the effectiveness of the health programme.

When asked about other sources of knowledge of ORS, forty five girls said that there was no other source.

The majority of the girls knew ORS should be given to someone when they had diarrhoea. Only eight girl said they did not know when it should be used.

### 6.5.2 Immunisations.

Only 4 girls knew the names of all the immunisations.

Forty two out of 49 girls, who knew some or all the names, said that the clinic was their source of information about immunisations. Thirty seven girls when asked a second time said there was no other source. Twenty six of the girls (34.6%) did not know the names of any immunisations.

### 6.5.3 Food Illustrations.

Of the eighteen illustrations only two of them were recognised by all 75 girls asked - namely the banana and the big fish. The girls were more likely to recognise the animal sources of protein than the vegetable sources. The illustrations of the peanuts (22 correct responses) and the "dal" or lentils (2 correct responses) were poorly recognised.

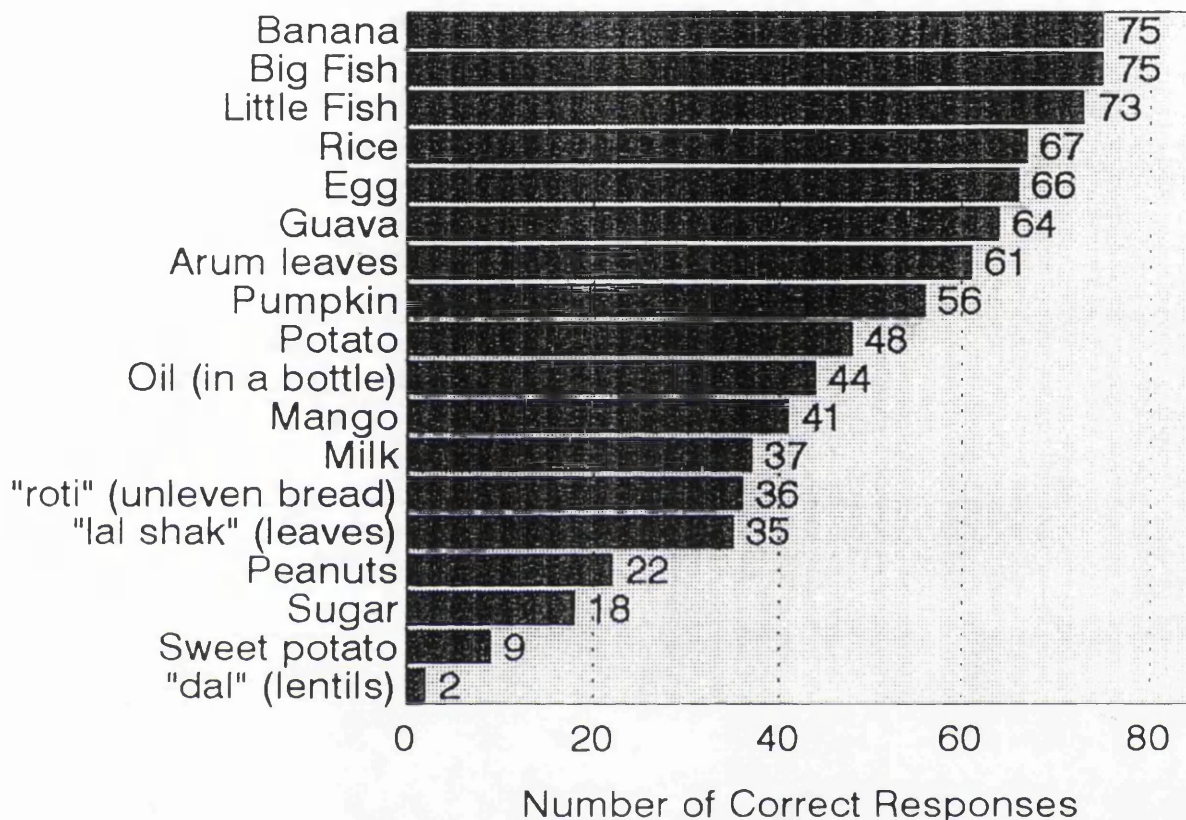
In Bangladesh, people generally do not drink milk and especially not glassfuls of it. When ever food is eaten, people however do drink a glass of water, for this reason the glass was poorly recognised as containing milk; the commonest incorrect response was water.

Sugar is generally not put on a plate so this was felt to be inappropriate way to represent the sugar.

The bottle containing oil was recognised correctly by 44 girls, the commonest incorrect response was medicine. This relates to the practise observed in the area of people taking empty bottle with them when they go to the doctor's and medicines being dispensed in to them.

Less than 30% of the girls recognised the illustrations of the peanuts, sugar sweet potato and the lentils. This would suggest that the illustrations are not clear enough for them.

## Correct Responses to the Food Illustrations on the adolescent girl's health card.



Less than 60% of the girls recognised the potato, the oil, mango, milk, "roti" and "lal shak."

The problem of recognising the illustrations could be related to picture literacy. If someone cannot read, they will also have difficulty recognising illustrations. During the data collection there were several girls, who even though they were in school said that they could not read. The important lesson from this is not to assume that because the girls are in school they are picture literate.

Another example to illustrate this point is that one group of girls all thought the "lal shak" was roe (fish eggs), it transpired that this is what the TBA had been telling them. This emphasises the importance of training and giving information to all the programme personnel.

Availability of all the foods illustrated was not generally thought to be a problem, by the FHWs. Certain foodstuffs had recently become more expensive, for example lentils. People still buy it some how but it is becoming increasingly difficult.

#### 6.5.4 Growth Awareness.

One of the aims of the programme was to make the girls more aware about their height and weight, and the importance of growth monitoring both for themselves and their children, but very few of them had any awareness about height or weight. There was more awareness about weight than about height; the commonest piece of advice remembered was to "eat more".

#### 6.5.5 Health Education Topics.

The topics that the girls reported that they had been told about, were grouped into personal hygiene, eating and storing food, wearing sandals, attending school, cleaning teeth and others.

The health workers may have talked about more topics and the girls may not recall them. The SBMSS health education objectives are only partially being met.

## 6.6 Menstruation.

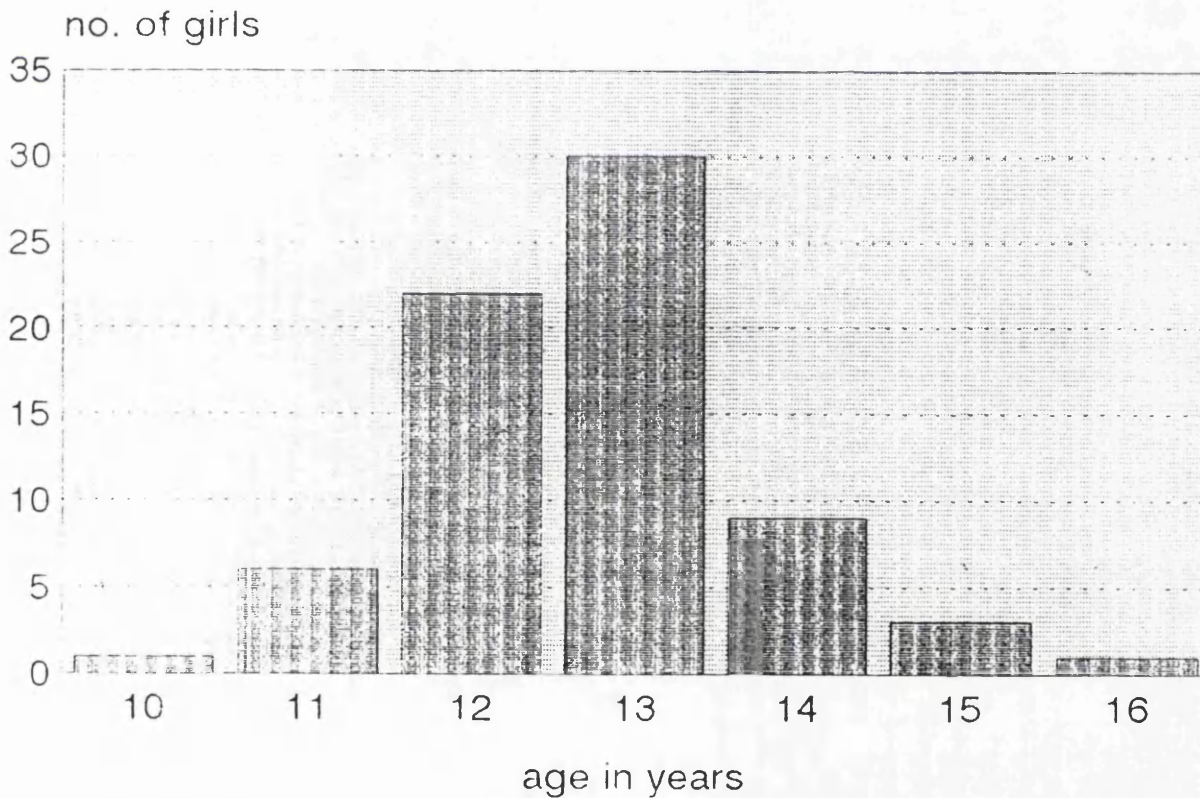
This data was collected on both the questionnaires.

Out of the sample of 159, 72 girls reported having started their menstruation. Eight seven girls had not started (this figure includes the 11 girls who were not interviewed).

Those girls who had started were asked their age at the time of their first menstruation.

Figure 11. Age at first menstruation of the study population.

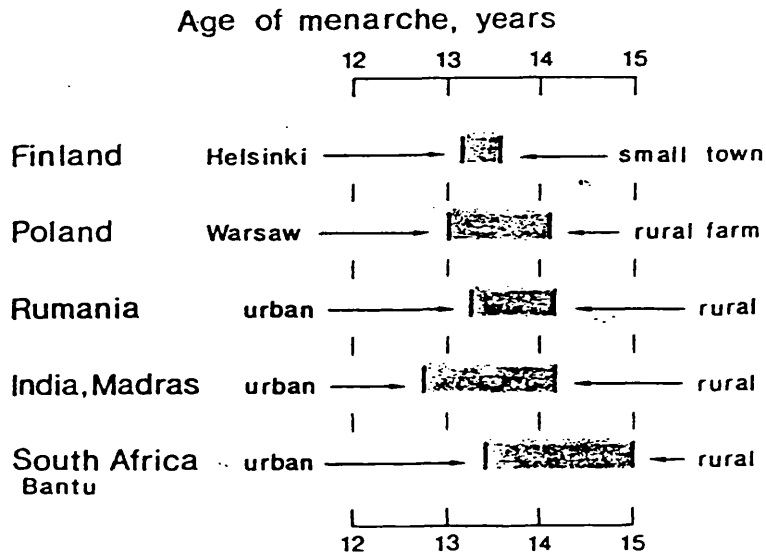
# Age at First Menstruation.



The mean age of starting menstruation was 12.74 (sd.  $\pm$  1.06)

The mode was 13 years.

Figure 12. Mean age at Menarche in urban and rural areas throughout the world. Ref Tanner<sup>16</sup>



Mean ages of menarche in urban and rural areas throughout the world. Shaded areas show difference between median ages in each geographic area

The cards of the eighty seven girls who had not started their menstruation, were further analyzed and it was found that 20 (22.9%) of them had an age recorded on them for the beginning of menstruation. The most likely explanation of this is that the age at enrolment was recorded in this space, rather than leaving the section blank. This however leads to some confusion when talking to the girls at field level and may lead to some girls missing out on pre menstrual counselling.

## CHAPTER 7. FAMILY LIFE QUESTIONNAIRE.

### 7.1 Background.

All the 14, 15 and 16 year olds were selected to be interviewed a second time with a different questionnaire on family life topics.

Fifty two interviews, using questionnaire C were completed. Initially this questionnaire was asked on a second contact with the girls concerned. This had the advantage of them being familiar with myself and the interviewer (although the interviewer did change in the middle of the study). Hopefully they were more relaxed about answering the questions.

The general impression was that people do not usually ask the girls their opinions, so it was perhaps a very new situation for them.

Towards the end of September 1991, we however did the first and second interviews at the same time. This was done for logistical purposes, as it was increasingly difficult to contact the girls and interview them.

Another question about the removal of body hair was added later. Originally it was planned to do a puberty rating on the girls; this was not pursued as the general consensus was that the girl all removed their body hair, making a puberty rating impossible. On arriving at the programme area in Rajshahi, enquiries were made about doing a puberty rating and the staff were adamant that the girls would not co-operate.



## 7.2 Results of Family life Questionnaire.

1. HAVE YOU EVER MADE ORAL REHYDRATION SOLUTION ? (locally called saline)

YES	NO
27	25

2. WHO DID YOU MAKE IT FOR ?

	RESPONSES
sister	6
mother	5
self	4
brother/ father	6
other family member or relative	8
not made	25
total (2 girls gave a multiple answer)	54

3. IS SALT ALWAYS AVAILABLE IN YOUR HOUSE?

YES	NO
52 (100%)	00

4. IS SUGAR (both the locally available sources were mentioned ie. "gur" or molasses and "chini") ALWAYS AVAILABLE IN YOUR HOME ?

YES	NO
29(55.8%)	15(28.8%)

8 girls said it was available some times and they could buy it when it is needed.

5. IMAGINE SOME ONE HAS DIARRHOEA, HOW MUCH ORS WOULD YOU GIVE THEM ?

	RESPONSES
do not know	12 (23.1%)
until diarrhoea stops	6 (11.5%)
others	34 (64.9%)

6. HOW OFTEN WOULD YOU GIVE IT ?

	RESPONSES
do not know	7 (13.5%)
until diarrhoea stops	17 (32.7%)
2-5 times a day	17 (32.7%)
others	11 (21.1%)

7. ANAEMIA : DO YOU KNOW WHAT ANAEMIA IS ?

	RESPONSES
do not know	37 (71.2%)
know	4 (7.7%)
wrong answer	4 (7.7%)
not asked	6 (11.5%)
total	52

8. WHAT CAUSES ANAEMIA?

	RESPONSES
know	36 (69.2%)
do not know	15 (28.8%)
not asked	1 (1.9%)
total	52

Those 36 girls that said they knew the causes,

lack of vegetables	20
pregnancy or menses	3
worms	3
lack of vitamins	3
trauma	2

Those that gave wrong answers said:-

lack of water	2
tetanus	1
no reply	2

9. WHAT FOODS SHOULD BE EATEN TO PREVENT ANAEMIA ? (n=52)

50 girls knew what to eat to prevent anaemia, and their answers were grouped as follows:-

	RESPONSES
vegetable sources	30
animal sources	18
both animal and vegetables sources	2
not asked/ not applicable	2
total	52

10. ANAEMIA IS COMMON IN WOMEN, WHY?

(IF THE GIRLS KNEW NOTHING OR VERY LITTLE ABOUT ANAEMIA WE ASKED THEM TO READ THE RELEVANT SECTION ON THEIR HEALTH CARD AND WE ALSO GAVE THEM SOME ADDITIONAL INFORMATION.)

	RESPONSES
delivery and menses	14
lack of vegetables	2
illness	1
other	1
do not know/not applicable	34

11. HAVE YOU STARTED MENSTRUATING ? (n=52)

YES	NO
46	6

(the questions on menstruation were not asked to the girls that said they were not menstruating )

12. WHEN YOU STARTED WERE YOU WELL PREPARED OR WAS IT A SURPRISE?

UNPREPARED	PREPARED
43	3

13. WHO DID YOU GO TO FOR HELP OF INFORMATION ?

	RESPONSES
sister	10
sister in law	16
mother	9
other female relative (ie. aunt, cousin and grandmother)	6
other	5
not started therefore not asked	6
total	52

14. WHAT DID THEY TELL YOU ?

	RESPONSES
nothing	4
cannot remember	1
preparation of pads	37
menses is common in women	4
not asked	6
total	52

15. HOW MANY PIECES OF CLOTH DO YOU HAVE ?

	RESPONSES
two pieces	18
three pieces	20
4 to 6 pieces	8

16. HOW DO YOU CLEAN YOUR PIECES OF CLOTH ?

	RESPONSES
soap and water	36 (69.2%)
soda	2
soap and soda	5
water	2*

\* It was suggested that they used soap since it was available in their homes.

17. WHERE DO YOU DRY THE CLOTH ?

	RESPONSES
inside	
in the bed room	15
cloths rack in bed room	8
total	23
outside	
in the sun	11
on the roof	4
on the fence	3
total	18
others	2
in a shed	2

18. WHEN YOU HAVE FINISHED YOU MONTHLY MENSES , DO YOU REMOVE YOUR BODY HAIR? (this question usually needed more explanation and usually we referred to the "special cleaning " in the Qur'an) (n=16)

YES	NO
12	4

19. WHEN YOU ARE MENSTRUATING DO YOU STILL GO TO SCHOOL AS NORMAL?

( this question was changed slightly for those girls that did not go to school )

YES	NO
22 (47.8%)	23(50%)

(ONE GIRL GAVE VERY CONFUSING DATA.)

20. IF NO, HOW MANY DAYS DO YOU STAY AT HOME?

	RESPONSES
stays at home for 1 days	6
stays at home for 2-3 days	10
stays at home for more than 3 days	7
total	23

21. WHY DO YOU NOT GO TO SCHOOL ? (n=23)

	RESPONSES
does not feel well	5
heavy blood loss	5
worried that she will mark clothes	7
pain	2
other	4

(elders forbid her, Qur'an lessons at school)

22. DO YOU EAT THE SAME FOOD WHEN YOU ARE MENSTRUATING THAT YOU NORMALLY EAT?

YES	NO
36 (69.2%)	10 (19.2%)

The reasons for eating differently were:-

	RESPONSES
loss of appetite	4
does not eat fish at this time	2
mother cooks special food	2
other	2
total	10

23. DO YOU HAVE ANY BROTHERS ?

YES	NO
46	6

24. HOW MANY ?

The number of brothers ranged from 1 to 7.

25. DO YOU EAT THE SAME FOOD AS YOUR BROTHERS ? (n=46)

YES	NO
46(100%)	00

26. IMAGINE IN YOUR HOUSE THERE WAS ONLY ONE EGG, WHO WOULD EAT IT?

(this question was asked to the girls that did have brothers.)

	RESPONSES	%
brother	28	60.8
share	15	32.6
girl	3	6.5

When asked why their brothers would be given the egg, the

When asked why their brothers would be given the egg, the following responses were given:-

	RESPONSES
brother is younger	9
men need good food, so that they can work well for their families	7
brother will demand it	3
other	9
total	28

27. DO YOU THINK OR HAVE YOU HEARD IF IT IS POSSIBLE FOR A WOMAN TO PREVENT HERSELF FROM BECOMING PREGNANT IF SHE WANTS TO?

POSSIBLE	NOT POSSIBLE
41	3

(8 girls said they did not know if it was possible.)

41 girls know it is possible to prevent pregnancy.  
 29 girls said that they knew when first asked.  
 12 girls had to be asked a second time later in the interview to find out this information.

If she thinks it is possible, how do you think it is possible to prevent pregnancy ?

28. WHAT IS A GOOD AGE TO MARRY ? (n=52)

	RESPONSES
below 20 years	14
20 years	23
20-25 years	10
over 25 years	2
do not know	3
total	52

29. WHY DO YOU THINK THIS IS A GOOD AGE ?

30. WHO WILL CHOOSE WHEN YOU MARRY?

	RESPONSES
parents	49
father	1
other relative	2

If when you parents start to make arrangements for you marriage you do not want to marry, will you be able to say "no"?

	YES	NO
	12	40(76.9%)

31. (If they think they can say "no" another questioned was then asked.) WILL YOU PARENTS LISTEN TO YOU WHEN YOU SAY YOU DO NOT WANT TO MARRY ?

YES	NO
3	9

32. IMAGINE YOUR PARENTS ARE GOING TO ARRANGE THE MARRIAGE OF YOUR SISTER ,WHAT QUALITIES WOULD THEY LOOK FOR IN A MAN?

	RESPONSES
good man	20
wealthy	4
same level	
(not very rich or very poor)	15
good service	27
educated	12
healthy	3
has a house	9
good appearance	4
good family	6
other	2

The average number of responses was 1.96

33. IMAGINE YOUR PARENTS ARE GOING TO ARRANGE THE MARRIAGE OF YOUR BROTHER, WHAT QUALITIES WOULD THEY LOOK FOR IN THE WOMAN?

	RESPONSES
good character	2
good manner	11
educated	13
know how to control a family	10
good family	7
good appearance	26
able to do all works	8
other	3

The average number of responses was 1.52

34. WHAT DO YOU THINK IS A GOOD NUMBER OF CHILDREN TO HAVE ?

	RESPONSES
two children	36 (70.6%)
three children	8
four children	6
no reply	1

35. HOW MANY BOYS ?

36. HOW MANY GIRLS ?

47 girls said that they would like an equal number of girls and boys.

37. IF ALL THE CHILDREN (UP TO THE NUMBER GIVEN AS A GOOD NUMBER TO HAVE ) WERE ALL GIRLS WOULD YOU HAVE ANY MORE?

YES	NO
10	42

38. IS IT DESIRABLE OR UNDESIRABLE FOR A WOMAN TO HAVE CHILDREN WHEN SHE IS 15 OR 16 YEARS OLD?

DESIRABLE	UNDESIRABLE
47 (90.4%)	5 (9.6%)

39. IF A WOMAN HAS ONE BABY AND THEN ONE YEAR LATER HAS ANOTHER BABY, WILL THIS AFFECT HER HEALTH?

YES	NO
48	4

If yes, how will it affect her health ?

	RESPONSES
will be weak	32
face anaemia	17
not able to care	15
will be thin	5
will face problems	3

(see figure 15.)

All the girls gave at least one response and the average number of responses was 1.29.

40. IF A WOMAN HAS TWO CHILDREN BORN CLOSE TOGETHER, WILL THIS AFFECT THE HEALTH OF THE CHILDREN ?

YES	NO
44	8

If yes, how will it affect them ?

	RESPONSES
not get good food	5
lose health	7
face problems	14
mother will not give care	15
swollen belly	4
will be ill	20
will not get enough milk	8
other	2

(see figure 16.)

The average number of responses was 1.70.



### 7.3 Discussion.

#### 7.3.1 Oral Rehydration Solution.

All the girls interviewed said that salt was available in their homes. When they were asked about sugar, 29 girls (55.8%) said it was available in their homes, 15 (28.8%) said it was not available and the rest (8) said it was sometimes available and if it was needed they could buy it from the local shop.

Twenty seven (51.9%) girls said that they had made "saline", 25 (48.1%) girls said that they had not made "saline."

Those that had made "saline" had done so for a family member.

The answers given when asked how much and how often, were rather vague. From the data collected by this question, it is apparent that very few girls have a clear idea about how much ORS to give or how often to give it. This is a short coming and has practical implications.

Only 17 girls said that it was necessary to carry on giving ORS until the diarrhoea stopped. This represents 34% of the girls.

None of the responses given suggested that the amount of fluid lost needs to be replaced and a corresponding amount of fluids given. Generally there was no clear idea about how much or how frequently ORS should be given.

### 7.3.2 Anaemia and Menstruation.

The results suggests that the girls have very little knowledge about anaemia and its causes, and what would be important in helping to prevent it. Of the girls that do know the sources of iron in the diet, 18 girls named only animal sources which tend to be expensive and therefore not readily available to everyone.

Iron folate deficiency is common in Bangladesh. 82% of under 5's and 74% of adult women have anaemia<sup>3</sup> and 10 million women of child bearing age are suffering from nutritional anaemia<sup>3</sup>.

The girls are taught about cleanliness during menstruation by the health workers, and their answers reflected what had been taught.

The girls reported going to either their sister or sister-in-law, for help when they first started their menstruation and were simply told about how to prepare pads. Nobody was reported to have discussed the emotional aspects with them.

Of the 46 girls who had started their menses, 18 of them said they had only two pieces of cloth and 20 of the girls said they had three pieces of cloth, this is 72% of the girls.

Only two girls said that they used only water for washing, and we suggested that if soap was available in their homes that they should use that as well.

The girls all reported drying their cloths in clean places; 23 inside (usually their bedroom) and 18 outside in the sun. Two girls said that they dried it in a shed but emphasised it was a clean place.

Twenty two girls said that they did not change their activities when their menses starts, twenty three girls said that they did change their activities. The girls who did change their activities were asked how they were different. These changes related to not going outside.

During a discussion with a group of mothers, these mothers placed no restrictions on the girls when they were menstruating. They said the girls can go out if they want to. One girl did however mention that she was restricted.

Also no food restrictions were mentioned. When asked if the girls needed special foods to make more blood, the women said that they did, but that they could not afford them. Green leaves were then discussed as being a readily available source of vitamins and iron.

The problem with anaemia is not only the availability of green leaves but the method of cooking them, so that the vitamins and minerals are not destroyed.

These attitudes are liberal in comparison to the taboos described by Islam<sup>24</sup> and Blanchet<sup>25</sup>. They described the following taboos:-

"Menstruating girls must not eat egg."

"Menstruating girls should not eat beef and big fish."

"Menstruating girls should not move alone at midday or at twilight."

### 7.3.3 Body Hair.

Twelve of the girls said that they did remove their body hair, they often did not understand the question and it had to be very carefully explained. Four girls said they did not remove their hair. Nobody else was asked.

There are instructions in the Qur'an about women removing their pubic and axillary hair after menstruation, each month. One girl that was interviewed said that she only removed her hair because of the Qur'anic instructions.

Of those that did remove their body hair none appeared to do so monthly, mainly because it was not feel it is necessary and that there was not much to remove (see appendix 5 for the girls comments).

#### 7.3.4 Preventing Pregnancy and Family size.

When asked if it was possible to prevent pregnancy they named the various contraceptive methods. Some of the girls did not know the actual names but called them "medicine" and knew they were available from the clinic.

The ideal family size was reported to be 2 children. Forty seven girls expressed no preference for either a girl or a boy child.

#### 7.3.5 Age of Marriage.

One of the objectives of the course is to postpone the age of marriage in the area until at least 20 years of age. The girls were aware that 20 was a "good" age for marriage.

The overwhelming impression is that the girls feel that they have no control over when they marry and that their views will not be listened to by their parents.

"This marriage was the will of Allah and the girl should be grateful. She was damaging the honour of their lineage (by fainting and delaying things). All women must marry and leave their home. She could not avoid it." (Garner)<sup>26</sup>

RDRS<sup>27</sup> in their research also discovered that decision making regarding marriage is made by male relatives, (father, uncle, elder brother,) and sometimes the mother. In 15% of the cases the opinion of the daughter was asked.

If it is the men who make the decisions about when and who a girl marries, then the health education about demerits of early marriage has to be targeted at the men. They are often an absent member of the house hold when the FHWS are visiting. Also the FHWS are women and not seen as an equal to discuss these matters with men.

#### 7.3.6 Qualities of a spouse.

The expectation seemed to be for the husband to be able to provide financially for his wife. The relationship is not seen as equal partners both contributing to the family income. The men tend to marry later when they are established.

UNICEF<sup>4</sup> quote the mean age of marriage of men to be 25 years as opposed to 17.9 for girls.

The girls gave the greatest number of response for the girl being of good appearance. They obviously feel that a girl is selected because of her appearance and not because of her skills. This is supported by Kotalova<sup>28</sup> in her study,

"Hair together with skin colour are the only aesthetic criteria considered in marriage negotiations."

The next most popular response was that the girl should be educated, this is an interesting observation since they are predominately a school going sample. This observation also ties in with the parent's comments that an educated girl will be listened to more by her parents. Maybe through education the girls will gain a voice and also more status.

The girls were also asked if being ready to marry was the same as being ready to have children. Twenty nine (55.8%) replied that it was the same thing, seventeen girls said it was different, five did not know and one did not reply to the question.

The girls are prepared during adolescence for the role of house wife and expected to become a mother very shortly after marriage. There is considerable pressure on them to produce children, especially sons soon after marriage<sup>10</sup>.

(see figures 13 and 14).

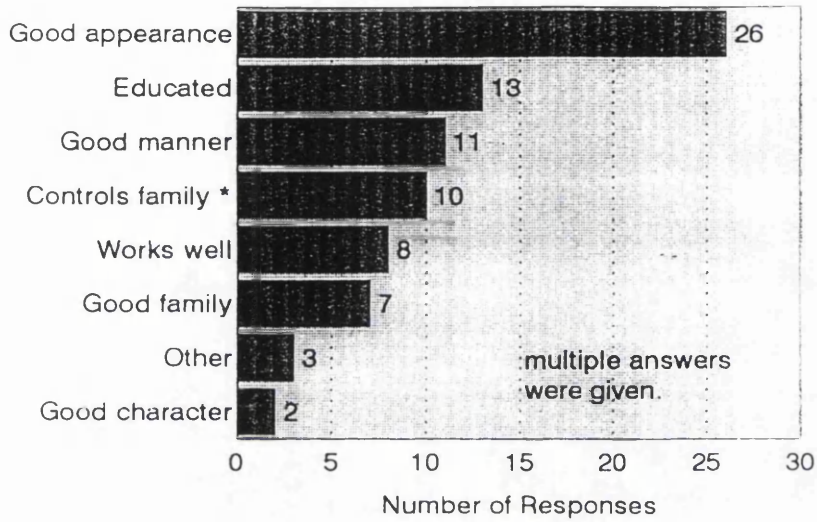
#### 7.3.7 Birth Interval.

The girls had a good understanding of the problems associated with having children too close together and gave good reasons how it affects both the health of the women and the children.

(see figures 15 and 16).

Figure 13

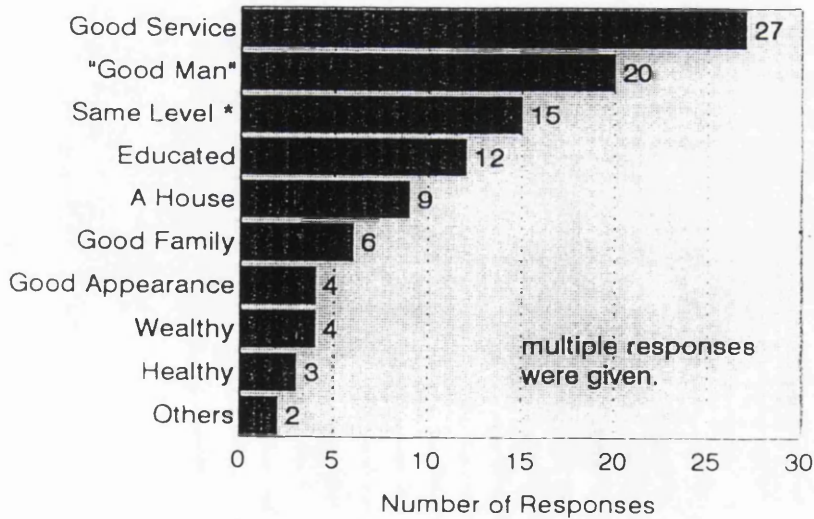
Qualities of a good wife.  
(n=52)



\* knows how to control a family

Figure 14

Qualities of a Good Husband.  
(n=52)



\* not very rich, not very poor.



Figure 15

### Effect of Short Birth Interval on Children's Health. (n=44)

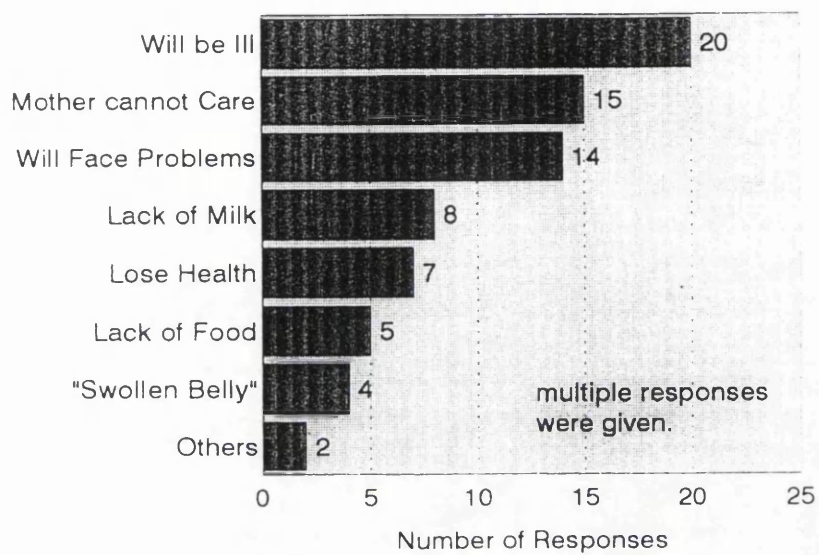
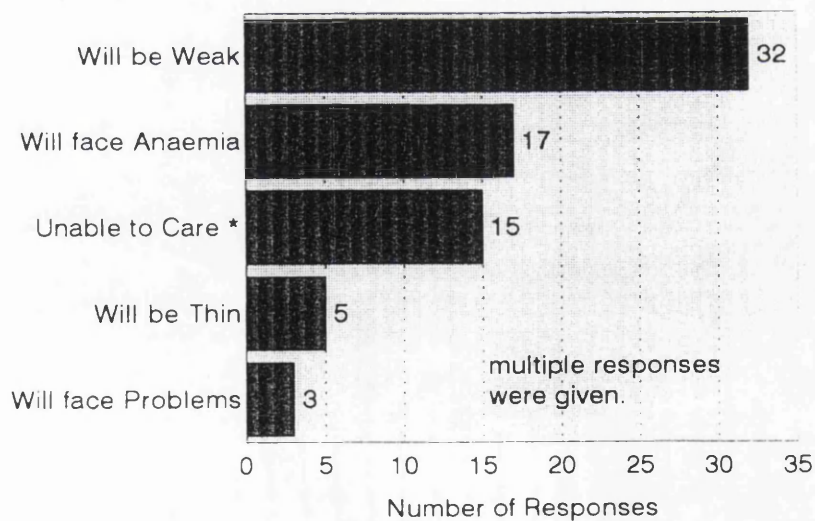


Figure 16

### Effect of a Short Birth Interval on Women's Health. (n=48)



\* Will be unable to care for the children.

#### 7.4 Conclusions.

To achieve the objectives stated by SBMSS it requires more contact hours and for those involved to have more knowledge and better counselling skills. The objectives on sex education are not taught, as far as the researcher was able to observe. During the course of the data collection it was obvious that at least 6 girls who had started their menstruation in the last few months, while enrolled in the programme, had still been unprepared. Several of them were traumatised by these unexpected events, a situation which could be avoided.

The topics need to be broadened to include those issues that the girls want to discuss. This would require a different approach and skills from the staff.

The girls have an awareness about the family life topics, but they need to be empowered in order to be able to put them into practise.

## CHAPTER 8. THE FAMILY HEALTH WORKERS.

### 8.1 Background information.

The ages of the 8 female FHWs ranged from 38 to 20 years. The average age was 24 years 6 months. Three of the FHWs had passed HSC, three had passed SSC and one was educated up to class 9. Seven had been born in Rajshahi and one came from outside the area. Only one of the FHWs actually lived in the programme area.

They had been FHWs for varying lengths of time, ranging from 2 years to 3 months. The two older FHWs had been working there the longest ie. 2 years.

For 5 FHWs this was their first employment, the main reason for joining was that that they needed a job. The other 3 FHWs had different backgrounds; one had worked in family planning and felt this was very limited so changed to this programme, one had a grown up family and now wanted to work outside the home and the third one "wanted to serve the community."

Four FHWs had recently been lost from the programme due to the prospect of earning more money else where.

## 8.2 Results of the interviews.

How much time do you spend in one week working with the adolescents?

2FHWS spent between 2-4 hours per week.

6FHWS spent about one day per week.

The two FHWS who spent 2-4 hours per week were two of the newest ones, who had been in the programme 2 and 6 months.

### 8.2.1 Do you think the adolescent programme is important or not?

All eight of them thought that the adolescent programme was important.

When asked why it was important the following answers were received:-

"to see if they have any illnesses or diseases."

"to check if they are taking nutritious foods or not and maintaining the health rules."

"some girls are not healthy and they need to be made aware."

"if growth is according (to a standard) will be well and avoid health problems."

"to check if they are growing properly according to age, (4 FHWS gave this response) or if they are malnourished."

### 8.2.2 How are the girls selected?

4 - those that go to school. It is easier to talk to those who are in school.

2- those from poorer families.

2- give priority to those who are interested and (and easily motivated.)

1- choose the more talented ones.

1- no reply.

10 answers as multiple answers were given.

### 8.2.3 Understanding the charts.

The FHWS were asked if they felt the girls were above or below the "at risk" line at various ages.

(see appendix 5 for full details.)

The FHWS tended to over estimate the height and weight of the girls at 16 years.

### 8.2.4 Measuring MUAC.

Officially the FHWS do not measure MUACs, but during the interviews all of them said they did, either when asked to or when people showed an interest.

They were asked how they interpreted their findings or what they told the girls. They all knew that red was not healthy and that the girls should eat more if they had a red measurement. The FHWS said they told the girls the measurement in centimetres or the colour.

The problem with this is that the tapes being used are for adult women, and not suitable for advising the younger girls, especially regarding the colour, see appendix 5 for details.

#### 8.2.5 Age of marriage in the programme area.

Three of the FHWs felt that the age of marriage had changed in the last five years. This question was only really appropriate for those FHWs who had been in the area a while.

They said that previously marriage was common for girls aged 12 to 16, and sometimes for those as young as 8 or 9.

The age had increased in some parts of the programme area to 18, 19 and 20 years, but in other areas the girls still marry very young.

The reasons for the increase in the age of marriage were:-

- i. More information is available from radio, television and FHWs.
- ii. People have experienced problems with early marriage and now have a new consciousness.
- iii. They are more aware of the demerits of early marriage.

These beliefs are supported by the work done by Rangpur, Dinajpur Rural Service<sup>27</sup> on why marriages break up. In their study on divorce in rural Bangladesh they made the following findings,

"marriage of under aged girls with mature men resulted in sexual disharmony and other maladjustments in their conjugal life. 65% of divorces took place when the girl was only 8-13 years old. 25% of those had not started menstruating."

"In 60% of the cases the husbands were unhappy and frustrated with their wives due to sexual disharmony. As a result 20% of the husbands were establishing illicit sexual relations with other women. This caused family brawling resulting in divorce."

"Although there was ample legal scope to take measures against those 15% of divorces initiated by the husbands, the guardians of the divorced women in all cases were found to be reluctant to take any action for fear of jeopardising their social position by creating obstacles to future marriages in the family, and especially due to financial insolvency."

"In making decisions about marriage, emotion, personal interest and poverty of the guardians played a vital role resulting in early marriage and inequality in age (between the husband and wife.)"

All the FHWS agreed that it was either the father (in 5 responses) or both parents (in 3 responses) who decides when the girl marries.

What influences when a girl marries or how is it decided?

- i. Parents know. As a girl grows she must marry. The parents consider when they think the girl is grown up enough, especially they will arrange her marriage if she is tall. Parents will worry if the girl is mature and not married.
- ii. Early marriage occurs more in poor families. A girl is seen as a burden.
- iii. In a village area they think 12-14 years is proper. (social pressure.)
- iv. If the girl is studying they will wait longer for marriage.

During one discussion with the local women the reasons for early marriage in that area were mentioned.

P "Social prestige, if the girls remain unmarried people will think the family cannot afford to marry her.

P "The family is poor so marry the girl to someone to ease the economic burden."

R " Would you also delay the marriage of your son, as a way of keeping the family size small?"

P " It would depend on the son's wish. It would be alright for the son to marry if he was earning."



R " If the girls does not want to marry would you persuade her?"

P " In a poor family the girl will marry once she is "grown up" ie. 12-13 years, even though the exact age is unknown the parents have a rough idea so know when to marry her."  
"If the girl is educated will delay a little, if the girl wants to."

Can you as an FHW alter the age of marriage?

All of the FHWS felt that they could delay the age of marriage in their work area. They gave the following ways for achieving this:-

- i. Tell them about the demerits of early marriage.
- ii. Discuss age of marriage and give more knowledge especially related to health problems.
- iii. Educate the girls.
- iv. Tell the parents that the girls are not mentally mature, even if they look grown up.

Do the girls have any choice when they marry?

Five of the FHWS said "no".

Those aged 12-14 years especially have no choice, "they will have to follow their parents choice."

One said the girls did have some choice.

Those girls who are in school have some influence, especially those who have passed SSC.

Two FHWS said they felt some girls could say "no" and that their parents may listen to them.

8.2.6. Why do you think there is a section on the card to record menstruation?

- i. It is important to know this information, especially when it started and if it is regular.
- ii. To know when it started.
- iii. Usually starts between 12 and 16 years, therefore included in this programme. So can talk to the girls about cleanliness and pads. Three of the FHWS gave this response.
- iv. To advise the girls about menstruation and the menstrual cycle.
- v. To know if there are any problems occurring, so as to advise the girls.
- vi. Do not know.

8.2.7 Menstrual cycle and anatomy.

What are the names of the two hormones that control the menstrual cycle?

named both oestrogen and progesterone. 5

do not know. 3

(The three FHWS who had been in the programme for 2 to 1.5 years all knew and connected them with the contraceptive pill).

When asked to briefly describe the monthly cycle, in the same way they would to an adolescent girl:-

do not know 1  
 clear explanation 3  
 unclear explanation 3  
 other 1\*

(see appendix 5 for more details.)

What is this logo?

Figure 17. Logo from the front of FCDI magazine.

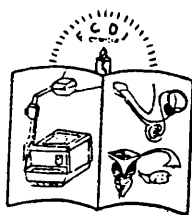


Table 18. FHWS responses to the FCDI logo.

	recognised.	not rec.	not sure.
female anatomy.	6	1	1
male anatomy.	3	3	2
over head projector.	0	8	0

This logo was on the front of the magazine produced by another NGO, and was commented on as being very bold. The responses given by the FHWS would indicate that the logo is not recognised.

8.2.8 Source of information and keeping up to date.

Table 19. Sources of information and up dating for the FHWS.

	Source of information	Means of Updating
Office	3	3
Field Supervisors	5	4
Training	1	1
TV/Radio.	-	1
total	9*	9*

(\* one FHW gave two responses.)

8.2.9 Views on the adolescent programme.

What do you like most about you job?

- 4 - family planning
- 1 - group meetings.
- 2 - adolescents.
- 1 - family planning and adolescents.

total 8

What do you find most difficult?

- 3 -nothing.
- 4 -adolescents.
- 1 -working out the estimated date of delivery (EDD) of the mothers. They do not know their last menstrual period (LMP).

total 8

Reasons why working with the adolescents was difficult:-

- i. They do not respond to advise, have to keep on repeating, they do not come regularly to the meetings.
- ii. They do not respond positively.
- iii. Adolescent girls do not come to the meetings and do not go to other programmes. Not easy to motivate them, usually they say "we know".
- iv. Do not go to meetings regularly.

How do you think the adolescent programme can be improved?

- i. The girls want to get something, ie. a stipend or other facilities. the girls ask, "what can we get?", want something concrete.
- ii. Need more information on cleanliness. They have a general idea that some girls get a stipend, so all want it. Seeing some girls get a stipend, (think) the office staff keep the money that should be given to the others.
- iii. If they get something they will be encouraged, do not feel that the health check up is needed by them.
- iv. Medicines given by the clinic can be free, and more stipends.
- v. Give more time to them, and motivate them more. How? If they are motivated and follow (our health) instructions will get some good and be motivated.
- vi. Increase number of stipends.
- vii. Provide some savings, always expect something materially. Think the programme involves a lot of money.

viii. Can be improved through the meetings, by increasing the number of stipends, providing some income generation, especially for those who are not in school.

### 8.3 Discussion.

The programme has selected 25 girls to receive stipends to enable them to continue with their education, which is highly commendable. It has at the same time caused some grievances, one woman said she would not let her daughter be interviewed because she had not received a stipend. The FHWs during their interviews commented that people in the community felt only some stipends were given to the girls and that the staff kept the rest of the money. The researcher wonders if it has given rise to the expectation that the staff are "going to give them something" and distrust between the community and the staff.

Some FHWs suggested that the number of stipends should be increased, to encourage the girls to stay in the programme.

The biggest draw back with the stipends is that those girls who have not completed their primary schooling are not eligible, thus widening the gap between those in education and those not receiving any at all. Arguably more resources should be given to helping those girls who have not received a basic education and are more limited in their access to information. There is however no doubt that continuing education is important for the girls. Education usually stops with marriage and so limits their access to employment. The parents are more

likely to delay the marriage of a daughter who is in school, so this is one way of meeting that objective and improving the girls prospects, and those of any children she may bear in the future.

The FHWS rely heavily on the office and FSSs for information and keeping up to date, this is definitely one area of the programme that needs developing and more in service training needs to be provided.

If the emphasis of the Family Life Education was on giving information and enabling the girls to discuss issues, rather than trying to change behaviour, it would appear less problematic trying "to motivate" the girls and the girls would feel they were gaining something new. The emphasis in the teaching is heavily on cleanliness and very little on relationships and emotions (see appendix 6 for details).

One meeting a month is insufficient time to cover all the topics outlined in the SBMSS objectives. If it were possible when enrolling the girls to give them daily meetings for 2-3 weeks, with regular follow up meetings, this would be better. More staff time needs to be devoted to the girls, but this should not be at the expense of the other programme activities. At present there are not sufficient resources to give adequate input for the 340 girls enrolled in the programme.

The impression received was that the girls attended reasonably regularly and in fact receive very little in return for their efforts. There did not appear to be much advantage to the girls in attending the clinic. They said that they wanted to go to clinic to meet the other girls and learn something.

#### 8.4 FHWs identification of the food pictures.

Twelve of the illustrations were correctly identified by all the FHWs but they did not all recognise the following six illustrations.

ie. for guava      7 said guava  
                      1 said papaya

for peanut        2 said sweet potato  
                      5 said peanut  
                      1 no reply

for "dal"         3 said "dal"  
                      4 said uncooked rice  
                      1 no reply  
                      Compared with the girls this illustration was  
                      well recognised by the FHWs.

for egg            7 said egg  
                      1 no reply

for "lal shak"    4 said "lal shak"  
                      4 said "sajna shak"  
                      This is probably not to important as they  
                      are both green leaves, and contain iron.

for sweet potato 3 said sweet potato  
                      4 said peanut  
                      1 no reply

It appears to be the illustration of the sweet potato, the peanuts and the lentils that are less easily recognised. These findings correspond with the results of the girl's questionnaires.



## CHAPTER 9. RECOMMENDATIONS.

### 9.1 Acceptability of the Information agent.

It is necessary to establish who are the most appropriate and acceptable people to teach and support the girls. The girls reported going to their sisters or sister in law when they started menstruation, this suggests that they feel most comfortable talking to someone of their own age. At the moment they have no one to turn to who has adequate knowledge.

### 9.2 Staff Training.

In the event that the field workers continue working with the adolescents, their training needs to be developed in the following ways:-

9.2.1 More training is needed for the field workers so they have adequate knowledge eg. about normal menstruation, especially when it first begins and can be irregular. The trainers have to be able to give good accurate information.

9.2.2 More training is need on how to teach subjects that the trainers will find difficult and potentially embarrassing. The trainers need the opportunity to confront their own feelings and embarrassment first.

During a conversation, an example was given of a woman who taught family planning, it transpired that she had not told her own daughter about the beginning of menstruation, when she was asked why she had not explained things to her daughter she replied,

"I simply was not able to find the right words."

Every one needs help to find the right words.

9.2.3 There is a recognised need for more teaching materials. There is a group in Dhaka working to produce a curriculum and materials for the various organisations in Bangladesh who are involved with adolescents; this is being encouraged by the ODA office in Dhaka, and it is very necessary that it continues.

9.2.4 The girls do not get the time allocated to them that they need. There is a need for someone, with the correct training and resources to specialisation in adolescent health to carry out this role. This person would then be able to act as a resource person for the other field workers as well.

### 9.3 Record Keeping.

9.3.1 Record the date on the card when the immunisation is given, not just ticking the box.

9.3.2 Record the date of enrolling in the programme on the card when it is given to the girl. Also recording the year will be important and whether it is the girls first or second card when the programme has been running more than one year.

9.3.3 Recording if the girl is in school and when she goes to school, so that clinic sessions and group meetings can be arranged when they are not in school.

9.3.4 Rather than having a serial number it may be more appropriate to use the family code number or household number so that the girl can be easily identified.

9.3.5 Filling in the month on the top of the height and weight chart. This would then make it clearer if girls were missing some measuring sessions and the reasons for this discovered and possibly dealt with sooner. Also for calculating growth over a specific period of time it would be helpful.

9.3.6 Little use is made of the section on the card for recording past illnesses and treatment. During the study period several girls reported illnesses that were not recorded; so better use could be made of this space.

9.3.7 A schedule or time table would be useful especially for those enrolled in the programme and for what health education they have received.

9.3.8 When the card is introduced into a new programme or a new field worker joins a programme, the way to use the card should be clearly explained. For example, on some cards the girls had not started menstruation but an age for starting had been recorded.

#### 9.4 Programme Logistics.

9.4.1 Increase the number of hours available to work with the adolescent girls. At the moment the meetings appear to be about 30 minutes each once a month, giving only 6 hours in a year. This is not adequate to cover all the issues that the programme aims to cover.

The clinic sessions that were observed were busy, crowded affairs that were not really conducive to health education and a more appropriate setting should be found. Ideally this would be somewhere in the community near the girls homes.

9.4.2 Weighing near to the girls homes. This would reduce the distance they had to travel to the clinic, which was felt by the FHWs to be one reason why some girls did not attend clinic regularly. If the measuring and the health education were done at the same session it would also mean one contact for the girls making them easier to motivate.

9.4.3 Tetanus toxoid coverage is not 100%, one possible way to increase coverage especially if the girls were not attending the clinic for weighing, would be to have a mass immunisation day when they all had them together.

## 9.5 Policy.

9.5.1 The policy of the FHWs seems to be to enrol those girls who are in school and who appear most interested in the programme. Arguably they are not the girls with greatest need for health education. Special attention needs to be given to those girls not in school. Those in school are receiving some information and have contact with other girls; those girls at home or working have less access to information. The girls in their own homes are isolated for new ideas and changing norms and are thus being marginalised. They need to be brought into the mainstream of development by the FHWs or specialist trainer having groups for them as well.

9.5.2 There needs to be a shift in managerial style, away from the "top down" approach to one that is more participatory for the girls and their families. This would reduce the conflict and suspicion between staff and the community. It would also empower the community to take charge of their own lives and help provide the necessary skills to enter the work place.

9.5.3 There needs to be more explanation given to the girls as to why they are being measured. Currently things are "done to" the girls without them learning anything from what is done. One aim of having the card is to increase the girls awareness about growth but they seem to have little awareness even though they have been to clinic and been measured. Teaching them about their bodies, growth and puberty could be part of a process of empowerment.

Giving more of an explanation as to why certain things are being done could lead to a better rapport between the girls and the staff and a lessening of the impression that the girls are hard to motivate and do not co-operate.

#### 9.6 Design of the card.

9.6.1. When the card is being printed it would reduce the chances of confusion if the symbols for height (\*) and weight (0) were printed on the card.

If the present design of card is maintained and the programme only aims to create awareness about height and weight, in relation to the "at risk" line, a space to record the values either above or below the line is all that is necessary to improve the card. If however the aim is growth monitoring, the chart needs to be more sensitive to small increases in height and weight and needs to relate these values to the age and stage in puberty of the girls. This can be improved by altering the scale.

9.6.2. Making some of the food illustrations on the card clearer so that they are recognised by the girls. Several people suggested having colour illustrations but this would increase the cost of producing the card. (At present the cards cost 3 taka each.)

### 9.7 Further research.

Further research is required in three areas:-

- a. Little is known about practises relating to menstruation and ritual cleansing in this area.
  
- b. There is little data available on monitoring longitudinal growth to see;
  - i. when the girls have their growth spurt,
  - ii. when they stop growing,
  - iii. if the nutritional status of the young female population is improving or declining.
  
- c. Information is needed about how to assist the development of networks and support groups for the adolescent girls, as the society changes and their roles expand. Women are increasingly having to support themselves and their families and need opportunities for employment.

Some economic opportunities for low income families are being created through the production of silk. This is an area for further development to establish the possible employment opportunities for the women and forming women's co-operatives.

The structure exists in this programme to contact all the adolescent girls but this opportunity is not used to its full potential. This is because the skills and resources are not available and the way forward unclear.

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APPENDIX 1

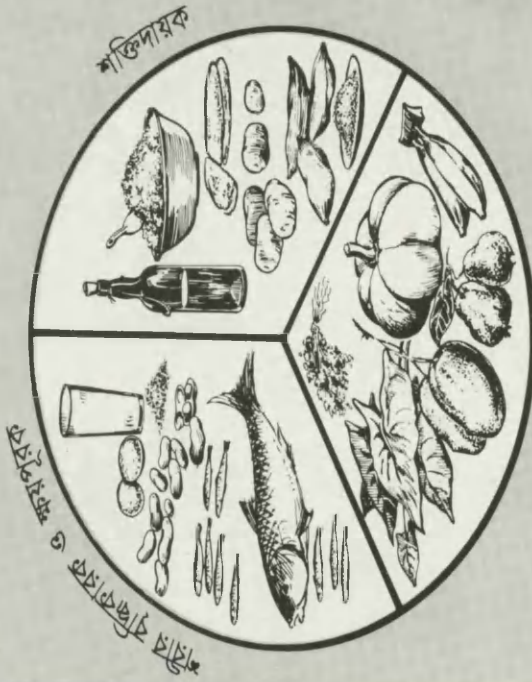
The Adolescent Health Card (OAD/NGO).

ভাল  
খাদ্য

মানাই

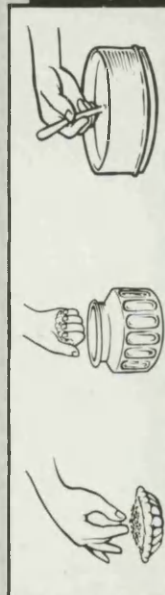
ভাল  
স্বাস্থ্য

প্রতিদিন তিন ধরণের খাদ্য  
তালিকা থেকে খাবার খাবে



ডায়েরিয়া হলে...

১ তিন আঙ্গুলের এক চিমটি লবণ  
২ এবং এক মুঠ শুড়  
৩ আধসের খাবার পানিতে মিশিয়ে খাও



SECTION B.

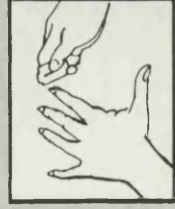
মনে  
রেখো



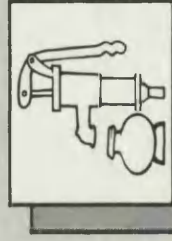
পায়খানা থেকে  
এসে এবং খাওয়ার আগে  
হাত ভালো ভাবে ধুয়ে নিবে



প্রতিদিন দাঁত মাজবে



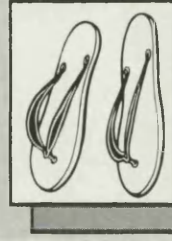
নখ ছোট ও  
পরিষ্কার  
রাখবে



জীবানুমুক্ত  
পানি  
পান করবে



খাবার  
তেকে  
রাখবে



বক্ত কুমি  
থেকে রেহাই  
পেতে জুতা পরবে



রক্ত শূন্যতা  
ও রাতকানা  
থেকে রেহাই পেতে প্রচুর  
সবুজ শাক-সব্জী খাবে

Produced by ODAVHSS

SECTION A.



৭০

নিজের  
স্বাস্থ্য  
নিজে  
দেখো

নাম

জন্ম তারিখ/আনুমানিক বয়স

গ্রাম

ইউনিয়ন

সংস্থা









## APPENDIX 2

### The Government EPI Card.



নিজেকে এবং  
আপনার শিশুকে  
ধনুষ্টংকার থেকে  
রক্ষা করুন



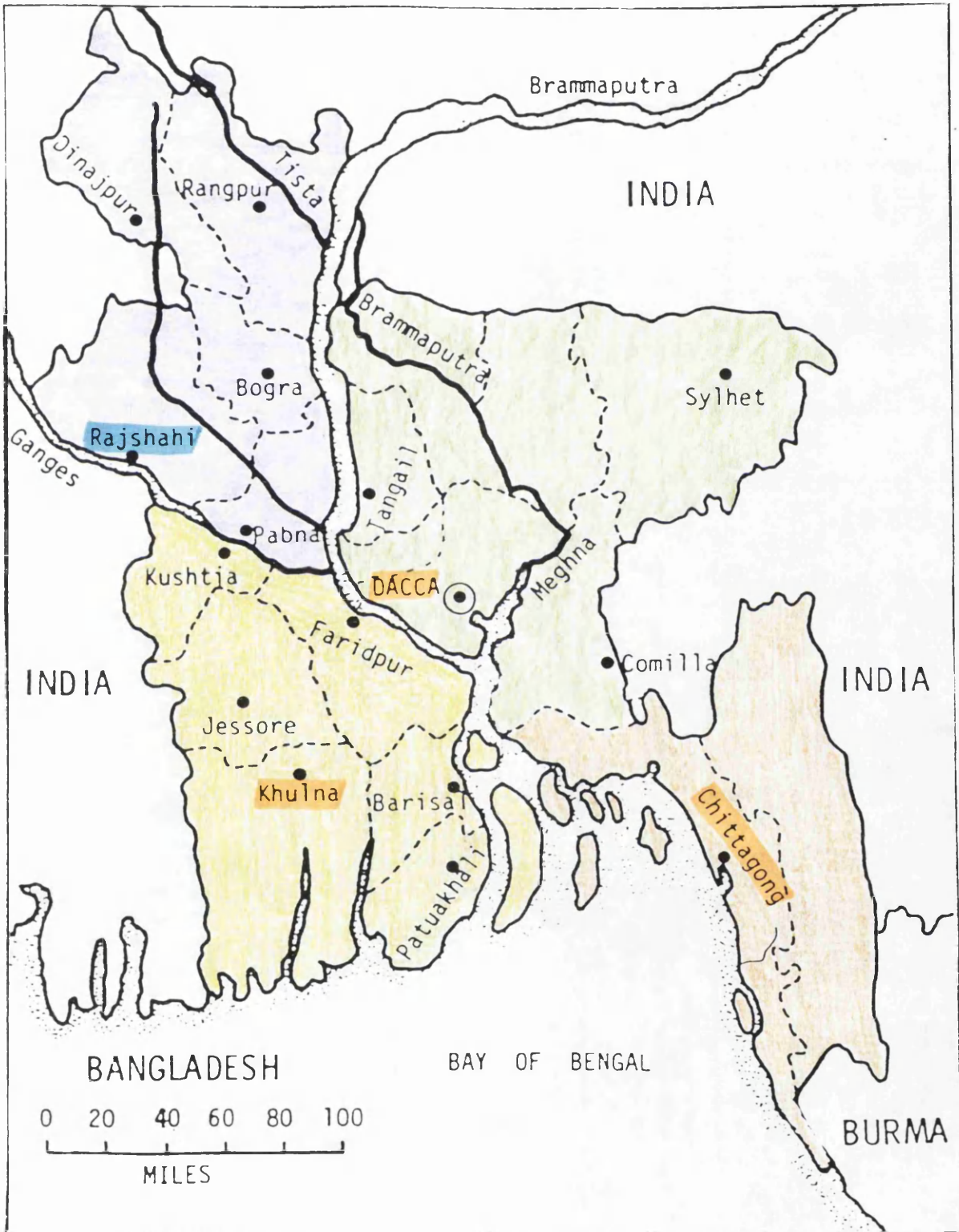
১৫-৪৫ বছরের সকল মহিলারই ধনুষ্টংকারের টিকা নেয়া উচিত

ধনুষ্টংকারের হাত থেকে নিজেকে এবং আপনার শিশুকে বাঁচাতে হলে শিশুর জন্মের আগেই টিকা নিন। আপনি যদি এখনই গর্ভবতী হন তবে পেটে বাচ্চা নড়াচড়া শুরু করলে এক মাস পর পর ২টি টিকা নবেন। আবার গর্ভবতী হলে অথবা ৫ বছর পর পর ১টি করে টিকা নিতে হবে।



APPENDIX 3

Map 1 Showing Bangladesh's four divisions namely Dhaka (DACCA), Kulna, Chittagong and Rajshahi; and the location of the municipality of Rajshahi.







APPENDIX 5.

CLARIFICATION OF QUESTIONS ASKED.

Numbers who responded to the different questionnaires:-

questionnaire a-72 (one girl had no card, one girl had never been to clinic.)

questionnaire b-65 (one girl had no card, one girl had never been to clinic, four girls had blank cards.)

questionnaire c-52

11 cards only, no first interviews done.

11 newly enrolled girls, with modified questionnaire.

6.3.1 Nail cutting,(n=83). Originally there had also been a question about cleaning the nails, but this question was really inappropriate because the girls were often doing house hold tasks, for example cleaning cooking pot with soil and grass and their hands were ingrained with the black soot. By asking the question we would have caused unnecessary embarrassment.

6.3.1 Wearing shoes,(n=83). The card suggests that the girls wear sandals (the local name for the type of plastic slip on shoe illustrated on the card,) to protect themselves from worms.

For the purpose of the study the girls were asked if they had worn shoes to come to be interviewed.

6.3.3 Keep food covered,(n=83). Only one girl specifically mentioned keeping food covered to prevent diarrhoea, all the others gave good reasons for keeping food covered, apart from two who said they did not know.

From observation in Rajshahi, plastic or split cane covers are available from shops and travelling salesmen with which to cover food.

6.3.3 Green leaves,(n=83). The original question was "why should we eat green leaves?", however in the translation the question changed to "why should we eat leaves and vegetables?" This error arose because of a frequently used phrase in Bangladesh that links the two together. This could explain the large number responses for vitamins, giving less emphasis on preventing anaemia and night blindness which may be associated only with green leaves.

There is a television advert about the reasons for eating green leaves, probably very few girls see television though, so this source of information is not available to them.

There are estimated to be 600,000 televisions in Bangladesh (UNICEF <sup>3</sup>).

6.5.1 The girls were asked if they knew how to make oral rehydration solution, (ORS). Some of them did not understand this term, but when asked if they knew how to make "saline" they often gave the correct answer. "Saline" is the locally used term for ORS.

In Bangladesh there are messages on the radio and on television about ORS but 50% rural women and 25% rural men have no access to radio at all. Two out of 3 rural women never listen to the radio UNICEF/SAARC <sup>3</sup>.

The girls were asked where they learnt about "saline". The girl's first answer was recorded and then they were asked if they knew before this person that they had just mentioned had told them. This was done to see if there was a source that they were not telling us about because they were trying to anticipate that we wanted to hear about the clinic.

6.5.2 The girls were then asked about immunisations and asked to name the immunisations; if they needed a prompt we asked them which immunisations were given to babies, or which ones were on their cards and which ones they had received.

There are messages on the radio that name the target diseases and tell people where to go to receive the immunisations. One of the field workers felt that it was unlikely that the girls would have heard the radio messages. Her opinion is supported by the lack of responses giving the radio as a source of information.

6.5.3. There were eighteen food illustrations on the health card, these were cut out and enlarged, these enlarged illustrations were then shown to the girls and they were asked to name each one. They were also told that if they did not know what it was they should just say they did not know, because of this three responses were possible, as shown in the table.

Oil would be bought in a small bottle, because it is expensive and only small amounts could be bought at any one time.

The fact that not everyone is picture literate should also be borne in mind when using flash cards to teach the girls; they may not recognise the picture so it should always be made clear what the picture is.

Availability of foods.

One day while visiting a Bangladeshi family, they said that they had been unable to buy fish that day. This they felt was a situation that is gradually becoming more common; even if one had the money it was not possible to buy what one wanted.

Clinic and Group meetings.

When asking about the advice given to them at clinic we also included the monthly meetings as the girls did not

differentiate between the two.

7.3.1 The girls were asked if they had ever made ORS or "saline."

When asking the girls about the sugar it was translated as both refined sugar ("chini") and molasses ("gur"), as both are available locally and both are used to make "saline."

7.3.3 Body Hair.

Those girls that removed the hair made the following comments:-

- a. Only removed her hair once, did not realise that it was necessary to remove it more often.
- b. Do not need to remove it. The hair only grows very slowly, so she had only removed it twice.
- c. Have removed it twice.
- d. Does not remove her hair (but does have hair.) Will remove it afterwards if it becomes a problem (she had menstruated twice).
- e. No, does not remove her body hair. Why not? Nobody had told her to, but she had heard that others did.
- f. No, does not remove hair; why should she? she did not realise that it was necessary.
- g. One girl made the following comment:- that her menses came first and only after wards did she get breast changes and body hair.

8.The FHW interviews.

Here there may have been some bias, since they all knew I had come to the programme specifically to study the adolescent programme, and therefore may have wanted to give the impression that they spent a lot of time working with the girls.

8.2.3 FHWS understanding of the number of girls above and below the "at risk" line at 12 and 16 years.

weight at 12 years. 7 replies- almost all the weights below the line.

1 reply - half above and half below.

weight at 16 years. 8 replies - almost all above.

height at 12 years. 6 replies - almost all below the line.

2 replies - above the line.\*

height at 16 years. 7 replies- above the line.

1 reply- half above and half below.\*\*

\* been in the programme for 3 and 9 months.

\*\* been in the programme for 4 months.

8.2.4 The FHWS were asked what colour they felt most of the girls mid upper arm circumferences were.

white	4
yellow	1
red	1
no reply	2
green	1 *

\* uses paediatric tape.

None of them on closer questioning knew what a normal MUAC was for a 14 year old.

8.2.7 Briefly describe the monthly cycle, in the same way you would explain it to an adolescent girl.

- i. Each woman has an ovary and an egg comes out each month and if it is not fertilised comes through the uterus as bleeding.
- ii. An egg is released and if not fertilised then menses occurs. If they bleed for more than 10 days this is not normal.
- iii. When ovaries mature, the egg is released, comes through the uterus if not fertilised, comes out as menses.
- iv. Pain in waist, in legs, stomach, happens usually before the menses starts (describing pre menstrual symptoms).
- v. When the ovaries (are) matured they come out through the uterus.
- vi. There is 3-7 days bleeding, again starts after 28 days (commented that she cannot tell it easily).
- vii. Start menses between 12 and 16 years. The ovaries discharge something, egg (commented that she understands it but unable to explain it. Said she can explain it in the houses).
- viii. Do not know.

The first three responses were given by FHWS that had passed HSC.

## APPENDIX 6.

### SUMMARY OF HEALTH EDUCATION TALKS.

#### FIRST GROUP MEETING.

This session took place in Kajla on Sunday 4th. August 1991.

First the fact that this was an adolescent girls group was discussed and what this meant.

We are try to teach you something. Some girls have already started menstruation, we should take care. Women do not know about it, we can get many diseases. Menses is common to all women, some start earlier, some start later.

The use of pads was discussed.

Used to use dirty things (material) and keep it in a dirty place. If we use dirty things will get diseases, eg. some girls use pads that insects have been on this will lead to allergy. Use cloth and wash it with soap or soda and dry it in the sun.

Next she spoke about blood clots.

Menses is impure blood, so you should maintain cleanliness. Menses is not to be ashamed of, you will be mothers one day. If you get clots you will not be a mother and if you are not a mother there will be unhappiness in the family.

Next topic was tetanus toxoid.

If you are dirty it will cause tetanus. Not to avoid injection because of a little pain, you may get tetanus.

A woman interrupted the discussion to complain about the 7 taka charge for attending the clinic. Another field worker joined in the discussion to say that the service is given because of foreign aid, but eventually want to be self financing, so this is why they charge. The clinic is for your benefit.

Even when there is no salary we still open the clinic.

Criteria for the stipend.

Two girls have been selected from this area, the stipend is given with help from abroad.

Then the talk went back to tetanus.

Two injections are needed, and a booster after 5 years. One injection is needed when pregnant. You must not lose your EPI card, it is your record.

Then she spoke about immunisations for babies.

General advise.

If you want to ask anything more, ask.

Then she talked about the "at risk" line.

If height and weight is below this line, somewhat unwell: weak and unwell. Girls above the line are OK. Under the line should try to get above it.

Next foods were mentioned.

There are three groups of food,

i. for growth of the body.

ii. for energy, and the third one was not mentioned.

Alternative foods can be eaten ie. small fish instead of large ones. Arum leaves are free, they grow in this area. It is unwise to throw (cooking) water away, vitamins are in the water.

Preparation of ORS.

The preparation was described using tube well water. The girls were told about the instructions on the card. And about hand washing.

Then brushing teeth regularly with coal or tooth powder was discussed. Also cutting nails with a blade, once or twice a week.

After eating food to rinse the mouth.

Keeping food covered to prevent diseases. Cholera comes from uncovered food and also diarrhoea.

Worms come from not wearing shoes, especially going bare foot to the latrine.

Green leaves clear the blood and prevents anaemia.

#### SECOND GROUP MEETING

Monday 5th. August.1991. At Kajla clinic (20 girls were present.)

The name of the card was explained.

This card is given to girls of your age group. There are 10 girls in each group. Previously there were not fixed facilities for mothers but now there are more facilities.

Then she talked about the red line.

Those girls whose height is below the line is bad. Must try to be taller. Have to eat better food, not necessarily richer foods. Also must exercise- playing, skipping. If you are shorter will face problems in the future, (what problems were not mentioned). Every girl will be a mother, will be easier if the girl is above this line.

Do not be ashamed this is a normal conversation to talk about motherhood.

Going to the toilet was discussed.

After going to the toilet must wash ones hands with soap.

Brushing teeth.

We cannot all afford tooth paste, therefore use coal or tooth powder. Teeth need to be cared for.

Nails.

Do not bit your nails, but use a blade.

Drink tube well water.

Cover food.

Sandals.

Always use, especially when going to the toilet, to avoid the eggs of the worms. Not every one can afford sandals but they are not that expensive and it is for your own good.

Vegetables.

Food circle.

"Lost " energy and protein foods are needed. Vegetables are needed for eyes and a healthy body. They remove skin problems and keep blood clean.

ORS.

Seen on television how to make it. It is the easiest and cheapest from of treatment for diarrhoea. Replaces fluids.