



**AN EVALUATION OF THE GOVERNMENT TRAINING PROGRAMME OF
TRADITIONAL BIRTH ATTENDANTS**

Pierre Claquin
Benila Claquin
Siddiqur Rahman
M. A. Razzaque
Kashem Shaikh
T. R. Chowdhury
N. H. Kanawati



**INTERNATIONAL CENTRE FOR
DIARRHOEAL DISEASE RESEARCH, BANGLADESH**
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Pierre Claquin¹
Benila Claquin²
Siddiqur Rahman¹
M.A. Razzaque¹
Kashem Shaikh¹
T.R. Chowdhury³
N.H. Kanawati⁴

INTERNATIONAL CENTRE FOR
DIARRHOEAL DISEASE RESEARCH, BANGLADESH
G.P.O. Box 128, Dacca 2
Bangladesh

-
- 1 ICDDR,B
 - 2 German Technical Cooperation Agency
 - 3 Project Director, Ministry of Health and Population
Control, Government of the People's Republic of
Bangladesh
 - 4 UNICEF

PREFACE

The International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B) is an autonomous, international, philanthropic and non-profit centre for research, education and training as well as clinical service. The Centre is derived from the Cholera Research Laboratory (CRL). The activities of the institution are to undertake and promote study, research and dissemination of knowledge in diarrhoeal diseases and directly related subjects of nutrition and fertility with a view to develop improved methods of health care and for the prevention and control of diarrhoeal diseases and improvement of public health programmes with special relevance to developing countries. ICDDR,B issues annual report, working paper, scientific report, special publication, monograph, thesis and dissertation, and newsletter which demonstrate the type of research activity currently in progress at ICDDR,B. The views expressed in these papers are those of authors and do not necessarily represent views of International Centre for Diarrhoeal Disease Research, Bangladesh. They should not be quoted without the permission of the authors.

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ABSTRACT

In order to evaluate the quality of the training of traditional birth attendants (TBAs) under a national training scheme, 27 trainers (Family Welfare Visitors) and 155 trained TBAs were interviewed in depth in 25 randomly selected rural *thanas*¹ of Bangladesh. The training was found beneficial on the whole. However, significant improvements in the quality of the training of trainers and of the trainees were recommended.

1 A *thana* is one of the administrative divisions of Bangladesh and comprises an average population of 200,000.

BACKGROUND

In Bangladesh, as in most developing countries, almost all deliveries in rural areas take place at home assisted by female relatives or Traditional Birth Attendants (TBA). The World Health Organization (WHO) has defined the TBA as "a person (usually a woman) who assists the mother at childbirth and who initially acquired her skills delivering babies by herself or by working with other Traditional Birth Attendants". Descriptions of the TBAs' educational background and pattern of practices have been provided by Croley (1), Shushum Bhatia (2) and Islam (3). The TBAs generally have little knowledge of asepsis or safe delivery techniques and are often guided by misinformation. In addition, a study by Crowley (1) reports that only 30% of all delivery cases were found attended by a TBA, the remaining 70% delivering with the assistance of close female relatives only.

All these factors explain the high maternal mortality rate (7.1 per 1,000 pregnancy terminations), the high infant mortality rate (150 per 1,000 live births) and the high neonatal mortality rate of 78.3 per 1,000 live births, due essentially to *tetanus neonatorum*.

Several pilot projects to train women in carrying out safe deliveries have been conducted in the country by various agencies. Results were very encouraging. Based on these findings, a one-year UNICEF supported National Training Project, costing US \$1,311,328, started in June 1979, with a plan to train 21,000 TBAs in Safe Delivery, Mother and Child Care, and Family Planning. In this Project each woman receives a TBA kit and has training on two days per week, over a period of three months. Each TBA receives Tk.20.00 per day. The training period is followed by eight reporting visits to the Union Family Welfare Centres (UFWCs).

The TBA receives Tk.15.00 per visit as a reporting allowance. By June 1980, about 1,250 Family Welfare Visitors (FWV) had been trained and they in turn trained 18,000 TBAs.

Several criteria have been set for the selection of the TBA. A TBA should be:

- an active birth attendant
- well-accepted in the community
- willing to receive training and to work under the supervision of a FWV after the training
- in good health
- preferably below 50 years of age
- literate, preferably

Selection began in July 1979, and one TBA has now been selected from each of 68,000 villages, that is one TBA for every 1200-1500 population. The TBA is to be a member of the proposed Village Health Team, and is to be selected by a village committee. The Family Welfare Assistants (FWA) help in identifying a suitable TBA according to the selection criteria. Also, where co-operatives exist, they are asked to assist in the selection.

Because of the importance of the project and because, in a second phase, UNICEF will continue to provide financial support (500 Union Family Welfare Centres will be involved and 7,500 TBAs will be trained each year), the UNICEF and the Bangladesh Government, Ministry of Health and Population Control (BDG MOHPC) felt that an independent evaluation of the present status of the programme was timely.

OBJECTIVES

The objectives of the study were outline in the study proposal. They were:

1. To assess the present status of the ongoing TBA training programme:
 - a) By studying the selection and training of the trainers, the selection and training of the trainees, the sites selected for training, and the materials and methods used for training in the FWV Training Institutes and in the Mother and Child Health (MCH) facilities.
 - b) By evaluating the theoretical and practical knowledge of the trainers and of the trainees through in-depth interviews and direct observations.
 - c) By meeting the MOHPC personnel involved directly or indirectly in the TBA training programme at each level (from Dacca to union level).
2. To produce a report containing:
 - a) A description of the study undertaken, with its results.
 - b) A discussion of the results in the context of Bangladesh.
 - c) Recommendations for the future implementation of the programme.

In addition, UNICEF insisted that some topics should be given extensive coverage. The topics were:

1. Selection of the TBAs: Procedure and community involvement.

2. Knowledge gained by the TBAs:
 - data to be collected by informal discussions to discover changes in her attitude and knowledge
 - if possible, to observe the TBA while conducting a delivery at home
 - evaluation of learning objectives
3. Assessment of training materials for TBAs and FWVs.
4. Evaluation of teaching methods by observing training sessions held at Union Welfare Centres.
5. Evaluation of the trainers.
6. Trainers' views and reactions on the whole course.
7. Attitude of mothers and community towards the trained TBAs.
8. Payment of *per diem* to the TBAs.

METHODS AND INSTRUMENTS

A. Methods

By September 1980, more than 1,400 Family Welfare Visitors (FWVs) had been trained to teach the TBA course. Twelve thousand *da'is* (untrained traditional birth attendants) were reported to have been trained and training was supposed to be ongoing in most *thanas*.

It was decided to conduct the survey in 25 *thanas* randomly selected from a list of those having TBA training programmes. The list was obtained from the Deputy Director of the Training Office, Population Control and Family Planning Directorate. The list of *thanas* selected is shown in Appendix A. It was decided that:

1. In each *thana*, four TBA trainees and four trained TBAs would be interviewed by questionnaires; they would be randomly selected from the list of trainee and those already trained.
2. In each *thana*, depending upon their number and availability, one to four FWV trainers would be interviewed.
3. In each *thana*, at least one training session would be attended and the content and dynamics of the training session studied.

4. Five FWV Training Institutes would be visited. Discussion with the Principal and the trainees as well as direct observation of the training sessions would provide insights into the curriculum content and implementation, and illustrate the highlights and difficulties of the programme.
5. As many deliveries as possible would be attended and check lists would be filled.

The survey had two objectives: the first was to assess the status of knowledge and practice of the trainers and the trainees; the second objective was to document changes (hopefully improvements), in the practice of the trained TBA and try to relate these changes to the training. It was expected that the information gathered from the trainees could usefully be compared with that from those already trained.

B. Instruments

The field team consisted of three Bangladeshi midwives: a team leader and two field researchers. All three had experience in knowledge, Attitude and Practice (KAP) and health surveys during the Smallpox Eradication Programme. In addition, the team leader was a member of the *Palli Chikitsok* (Village Medics) study team in July-August 1980.

Three questionnaires were developed for use in the study: the first for trainers, the second for trained TBAs and the third for TBAs undertaking training at the time of the survey. The last two questionnaires were almost identical. A copy of each questionnaire is included in Appendix B. The trainer questionnaire was administered by the team leader and the other two by the field researchers, under the supervision of the team leader. The questionnaires were initially tested in two *thanas*. The testing phase led to some changes in the format of the questionnaires and to a second training session for the field researchers. In addition to the questionnaires, detailed observation reports and check lists were filled up. Out of the 15 deliveries witnessed, twelve case studies (the most detailed) have been included in Appendix C.

C. Field Experience

Two and a half months of extensive field work all over Bangladesh showed that the proposed methodology had indeed been optimistic, relying as it did on the official figures concerning the training programme. Although in each *thana* some TBAs had been trained, only one *thana* out of the 25 randomly selected had an ongoing training programme at the time of the visit. In other words, in almost all *thanas* visited, the training of TBAs had been a limited one-shot affair.

This finding had a definite impact on the methodology as obviously no trainee was available to provide the terms of comparison needed. As soon as this became apparent, it was decided to obtain the information by directly asking the already-trained TBAs about changes brought about in their practice by their training. As there are obvious limitations to this approach, it was also decided to achieve some balance by comparing the answers concerning changes in practice with answers given to other questions related to practice, and also by making comparisons through direct observation at actual deliveries.

A second observation relates to the FWV Training Institute. Although these institutions were found to be active in the training of FWVs, there were no TBA-oriented training or retraining activities taking place during the period from 15th November 1980 to 15th February 1981. Somehow, training activities were at a low ebb all over the country during this short period.

A third observation concerns the deliveries actually witnessed. Because of the time frame, the number of *thanas* involved in the study, and the distances to be covered, the average length of stay of the team in each *thana* was two to three days. During such a short time, it was difficult to identify the women who were delivering babies at home, if any. It is therefore to the credit of the team that they were able to attend 15 deliveries (12 of which are presented in Appendix C). Valuable information was collected, which could not have been retrieved from the questionnaires, particularly on the asepsis of procedures.

RESULTS

The detailed answers to the two questionnaires administered to the FWV trainers and to the trained TBAs are presented in Appendices D and E. The following pages are a summary of the main results.

A. Trainers

Twenty-seven Family Welfare Visitors were interviewed.

1. Socio-economic background

Sixty-three percent were less than 30 years old. Thirty-three percent were single (either unmarried or widowed). The level of education was found to be relatively high as 52% had passed the High School Certificate (HSC) Examination. Muslims were under-represented, a phenomenon already described in studied of professional females in health work in Bangladesh (4).

2. Training experience

More than half of the FWVs were relative newcomers (q.13) as 55% of them had been working as a FWV for less than five years. Seventy percent of them had been working in the *thana* where they were interviewed for less than five years.

Questions relating to the experience of FWVs in delivering babies show that, generally speaking, the FWVs have little practical experience. Forty-one percent of them had delivered less than 10 babies before the FWV Training Institute training and 85% have performed less than five deliveries since!

Because the curriculum of a FWV does not include obstetrics and intensive delivery training, all of the FWVs had to take a refresher course at a FWV Training Institute. Generally, the training lasted a week. It was found to be very good by 30% of the respondents and good by 48%. Eighty-nine percent were satisfied with their teachers but 60% felt that the training period was too short. When asked to describe the various methods used in teaching 78% of the respondents mentioned formal and theoretical methods excluding watching or performing deliveries, stressing again the absence of practical demonstrations.

3. Objectives of the training programme

Forty-four percent of the trainers mentioned the teaching of hygiene and asepsis as the main objectives of the programme. Another 30% thought that the technique of delivery was also an objective. When asked about the likely output of the training, 33% mentioned ante- and postnatal care as well as delivery. Interestingly, another 48% added family planning to the above mentioned activities.

Seventy-five percent of the respondents felt that poor people would benefit most from the services of the TBA; 85% felt that the rich or upper class would benefit least.

4. TBA training activities and methods

With two exceptions, all FWVs had trained at least 10 TBAs. During the training time, 77% of the FWVs claimed that they spent more than 10 hours a week in training activities. While 37% felt that the length of the training was adequate, the majority felt it was too short. Opinions were equally divided about difficulties encountered during training which the FWVs related to the low level of literacy of some TBAs.

The methods of teaching were explored: 85% of the FWVs used formal, theoretical method of teaching without the practical demonstration of a delivery during the training period.

5. Knowledge of antenatal care

Eighty-nine percent of the trainers felt that a pregnant woman should be examined before the sixth month of pregnancy. Most of the trainers were aware of the risk factors during pregnancy.

6. Knowledge of delivery

a) Preparation All respondents mentioned thread, razor blade or scissors and antiseptic solution although the answers were not 100% satisfactory. The need for a clean room and clean clothes for the mother were stressed by 77% of the respondents. For the TBA, the necessity of hand washing and nail cutting were stressed in 74% of the cases.

b) The delivery Inconclusive answers were obtained to the question "What is a complicated delivery?" These inconclusive answers do not stem from a lack of understanding of the question or of the technical terms, but specifically from a lack of knowledge. The FWVs were asked to describe their understanding of specific complications explained to them in lay terms by the interviewer. Answers were vague and imprecise. Fortunately, in cases of complicated delivery (i.e., the baby still undelivered after many hours), 96% of the FWVs would refer the mother to a hospital.

Answers to when, where and how the cord should be cut were satisfactory; so were the answers about handling and disposal of the placenta.

c) Post-delivery care Ninety percent of the trainers related neonatal tetanus to the use of a soiled blade to cut the umbilical cord and/or of dirty hands.

Sixty-three percent of the respondents felt that breastfeeding should start within the first 24 hours of life. Ninety-six percent knew that colostrum is good for the baby as it contains "vitamin or protein."

7. Knowledge of conception and contraception

Eighty percent of the FWVs could explain the mechanisms of conception in a satisfactory way. The general feeling was that TBAs should promote family planning, as people would listen to them either because they were from the community or because they had access to the mother at a time when she was likely to be highly motivated.

B. Trainees

One hundred and fifty-five trained TBAs were interviewed.

1. Socio-demographic background

Starting from the age of 20, the age distribution of the TBAs was almost even for each decade. Sixty-six and a half

percent were found to be married, 29% being widowed. Forty-eight percent had had no schooling at all, whereas 37% claimed they had gone to school for one to five years.

2. Experience and training prior to the present programme

Eighty-four percent of the TBAs were practising before the present training programme. However, 16% were new to the profession, a point which will be discussed later. Thirty-seven percent had been practising for less than five years. Of the 130 TBAs who had had a practice previous to this, 98 had inherited it from their mothers and 32 had adopted it. Only eleven TBAs (81%) held an official midwifery certificate, either from the East Pakistan or Bangladesh governments or from a mission school.

3. Pattern of practice

Thirty percent of TBAs claimed to have additional income-generating activities besides their TBA and household work (q.19). Out of 150 TBAs, only three were found not to be active. None of these three had had any training or practice before the present training programme. They were not working because of inexperience in making deliveries.

Generally TBAs attend deliveries in their own villages (85%). Ninety-one percent of the TBAs were found to cover only one village (q.20 and 21) each.

Although the precision of the answers is questionable, 52% of the TBAs said they had performed less than 10 deliveries during the past year. Even taking into account newcomers and relative inexperience, the figure is indeed very low, casting some doubts on the efficacy of the candidate selection.

4. Professional activity and knowledge

a) Antenatal When asked about the time of their first consultation with their pregnant clients, 85% of the TBAs answered "in the first six months of the pregnancy."

Informal questioning of the TBAs about the content of the antenatal examination revealed that the TBA asks questions about complaints possibly related to pregnancy (vertigo, oedema), makes a very superficial palpation of the abdomen and gives some general advice or suggests a visit to the doctor or hospital. The criteria of high risk pregnancy as identified by the TBAs are shown in q.29.

b) Delivery Eighty-seven percent of TBAs attend the delivery case from the onset of labour pains. The delivery generally takes place within the house (80%) or outside the main

house depending upon the religion of the woman. Sixty percent of the respondents estimated a normal time of delivery (between the rupture of the bag and the delivery of the baby) to be less than three hours; another 21%, less than five hours. For the delivery, TBAs claim to have a boiled new razor blade, boiled thread and anti-septic and cotton ready (q.30).

Eighty-one percent of TBAs favoured the "lying on the back" position for delivery. The second method mentioned was the kneeling position.

Only 77% of the TBAs guard the perineum during the last part of the delivery. Twelve percent of these use their bare foot, a highly unhygienic practice!

Almost all TBAs were found to cut the cord after delivery of the placenta. Eighty-one percent of the respondents estimated less than 30 minutes to be a normal time for the placenta to deliver. To help the placenta to delivery, the harmful practices of poking or pulling the cord were very seldom mentioned (6.5%). However, exerting pressure on the abdomen was mentioned in 30% of cases. After delivery, all respondents said they examined and then disposed of the placenta.

c) Postnatal care 54.7% of the TBAs were of the opinion that a baby should be breastfed within 24 hours of his/her birth. Eighty-three percent believed that colostrum was good for the baby (q.48). Seventeen percent felt that it was particularly harmful.

Seventy-five percent of the TBAs identified neonatal tetanus as being caused by contamination at the time of delivery. Although the information may be unreliable, two maternal deaths, 29 neonatal and 19 infant deaths were mentioned by the 155 TBAs as having occurred among their clients, during the past year.

5. TBA training programme

In recruiting, the union chairman, as well as the local FWV and FWA, was found to play a significant role (q.11,12 and 13).

94.3% of the TBAs followed the normal 24 day training session. Seventy-two percent were of the opinion that 24 days were the correct duration of training.

91.3% of the TBAs were taught with the help of formal and theoretical methods: lectures, individual instruction, studying manuals, pictures etc. Only nine TBAs (6%) also had

the opportunity of watching the FWV perform a delivery. Pictures were found to be the most useful learning aid, followed by individual instruction. The low rating of watching deliveries stems from its very seldom use as a teaching technique: only three TBAs had performed deliveries under supervision of the FWV during their training time. Most of the TBAs (95%) were satisfied with their teacher and the teaching (97%). The high rating of the practical part of the training is surprising. The question must have been misunderstood since, to our knowledge, the practical aspect of the training was almost non-existent.

What changes did the training bring to the TBAs? Prestige in their community, as mentioned by 99% of the respondents. Question 73 attempted to summarize some areas of possible changes in delivery practices.

An important area relates to the knowledge and promotion of contraception. All TBAs were found to be knowledgeable about the various methods of contraception and eager to promote it.

6. Honoraria for the course (*per diem*)

All TBAs knew in advance that they would receive Tk.20.00 per session, a total of Tk.480.00. Most of them (90%) would have attended the course even without a *per diem*. The amount of taka received by the TBAs is shown in q.69. The wide range represents the various "spontaneous" contributions for "*misti*" (sweet meat)¹ they had to make either to the Thana Family Planning Officer (TFPO) or to the FWV. Because this is current practice, 88% of the TBAs expressed their satisfaction at the amount received.

DISCUSSION

In the evaluation of a project, its objectives must always be kept in mind. As expressed in the "Project Proposal for UNICEF Assistance", the objectives were:

1. To provide TBAs with the knowledge and skills required to conduct safe deliveries.
2. To enable TBAs to recognize pregnant mothers in need of special referral to a medical facility.
3. To train TBAs in the basic principles of Maternal and Child Health.

¹ should be understood in a figurative as well as in a literal meaning.

4. To train TBAs in family planning so that they might motivate the mothers to accept a family planning method.
5. By achieving the above, to reduce the incidence of maternal and neonatal mortality in Bangladesh.

HOW SUCCESSFUL IS THE PRESENT PROGRAMME IN REACHING THESE GOALS?

Knowledge and Skills Required to Conduct Safe Deliveries

Most (84%) of the TBAs have been practising their craft for a long time (42% for more than 10 years). From the answers to the questionnaire, it appears that the trained TBAs theoretical knowledge of asepsis and normal progression of a delivery is in general satisfactory. TBAs know about the necessity of asepsis, the need for a new razor blade or a boiled blade or scissors, the use of boiled thread and antiseptic; about how, where and when to cut the cord, the causes of neonatal tetanus; how to examine a placenta and why.

In practice, however, it was found that the implementation of correct and safe practice was deficient. Observations of deliveries by trained TBAs are described in Appendix C. Among other things, it was noted that: no antiseptic was put on the cord (case 5); bare feet were used to guard the perineum (case 5 and q.75); the cord was cut too short (cases 5 and 6); hot compresses were applied on the cord (cases 7 and 9); repeated vaginal examinations with unwashed or once-washed hands were performed, etc. We relate these deficiencies to the absence of practical training during the training sessions. Since the FWV is not given an opportunity to watch the TBA perform and since the TBAs are not given an opportunity to watch somebody else conduct a delivery, there is no identification of the ongoing practices which are potentially harmful and therefore no correction of them. It is our conviction that most TBAs do not realize what they are doing wrong and why.

Referral of Pregnant Mothers in Need of Special Care

1. Antenatal care. Eighty-five percent of the trained TBAs see their clients for the first time before the 6th month of pregnancy. This is soon enough to detect early complications. During the interviews, trained TBAs were able to mention the symptoms of toxæmia, the risks of anaemia and the meaning of vaginal bleeding. Some other criteria like high parity, extreme age and short intervals between pregnancies were not mentioned. In the event of early complications, most TBAs would refer the patients to hospital. An important question is: how likely is a woman to comply with the advice to "go to the hospital" even if the hospital is a relatively nearby the Union Welfare Centre. TBAs and FWVs mentioned that

"some" pregnant women were referred. A stronger emphasis should be given to following up high risk pregnancies, the TBA being made responsible for her patient.

2. Delivery care A more serious area of concern with regard to referrals is where there are complicated deliveries. Some complications are relatively benign like the tearing of the perineum: in all cases observed, no stitches were inserted. Some complications are severe, like a placenta praevia or a hand prolapse. When questioned about what they would do when faced with these situations, most TBAs mentioned "referral to hospital." Although laudable in its intention, such a suggestion is highly impracticable. In addition, the TBAs could not explain when a woman should be referred, or the criteria used for her early referral. The result of this ignorance is death in the home or death upon arrival at the hospital due to prolonged delays in referral. Available data on maternal mortality in Bangladesh estimate its rate to be 7 per 1,000 live births. The WHO Country Health Programme estimates it to be 25 per 1,000 live births.

It is our feeling that not enough emphasis is given during training to what can go wrong during a delivery, about the early detection of abnormal signs and symptoms and the timing of referral for each type of complication. Simplified labour charts and check lists should be used.

Maternal and Child Care

Bangladesh is a country where breastfeeding is almost universal. All TBAs supported this practice and 54% of them recommended that it should be started within the first 24 hours of life. Colostrum was also thought to be beneficial to the child by 83% of the respondents.

Improvement in the handling of the baby immediately after delivery is much needed. It has been found by investigators that almost no attention is paid to the baby until the placenta has been delivered and the cord severed. The baby lies on the bare floor, naked, his mouth is not cleaned of mucous, etc.

TBAs were found to know very little about immunization, management of diarrhoeal diseases with Oral Rehydration Therapy, or curative care in general. Although TBAs could be agents of change, their efficacy would largely depend upon the availability of services nearby the place where their clients live.

Family Planning

All TBAs were found to be knowledgeable about conception and contraception, a fact which can be explained by the emphasis given by the FWV to population control in their meeting with the TBAs. Ninety-seven percent of TBAs were found to be active in promoting contraception and family planning. However, some practical problems are arising since most of the TBAs complained to the investigators that they (TBAs) were bringing in the clients but that the FWAs, Family Planning Assistants (FPAs) and FWVs were getting the credit and/or the incentives. It is our impression that until and unless TBAs are locally given proper credit and recognition for their contribution, their enthusiasm and interest is going to crumble, depriving the Family Planning Programme of much needed support.

Trainers and Training

Given the present organization of health manpower in rural areas, the FWVs, being female, educated, living in rural areas, having some medical training, are probably the best TBA trainers, and the only ones who could be identified as suitable. However, the FWVs lack of practical knowledge of obstetrics is a serious handicap which permeates the present programme in many obvious ways. The FWVs lack of practice in obstetrics is illustrated by the fact that 40% of them had no practice in delivery before the FWV Training Institute refresher course and that 85% have performed less than five deliveries since. The FWV Training Institute course did not improve on the situation since 78% of the FWVs interviewed did not watch or perform one delivery under supervision during their week of training.

FWVs have a good understanding of the objectives of the programme and of its social soundness. They were found knowledgeable in antenatal care, conduct of normal delivery and postnatal care. However, they know little about how to identify complications during the delivery and what to do about complications identified during pregnancy or during delivery. Because of the difficulties of communication in rural Bangladesh, the cultural reluctance to have pregnant women deliver outside their homes, the role of FWVs is essential in handling complicated deliveries either directly or by assisting effectively in a problematic "referral." At present, they do not seem to be able to fulfill this role in a satisfactory way.

The lack of first hand practical knowledge of obstetrics and delivery explain the pattern of teaching. Eighty-five percent of the trainers do not use watching or performing a delivery as a method of training, a paradoxical situation. Other methods were found very helpful by the trainees, particularly the charts and pictures. In our opinion, however, charts and pictures although useful cannot be substituted for practical training.

Selection of Trainees

Overall, the selection of trainees was found by the investigators to be acceptable in respect of marital status, number of children, previous experience. Fifty-two percent of the trainers, however, found the selection to be inadequate because of the poor level of literacy of the TBAs. It is our feeling that this situation can hardly be improved in the immediate future if one wants to keep a balance between previous experience and current practice on the one hand, and age and education level (young women being more educated) on the other hand.

In that respect, the fact that 16% of the TBAs interviewed had no previous experience of delivery before the present training will not give them a sufficient practical knowledge of the act of delivery. This point is illustrated by the fact that the three TBAs found not practising during the survey were all new comers. Selection of women without previous experience is therefore a waste of resources.

CONCLUSIONS

In each of the *thanas* where a training session for TBAs had taken place the investigators found that the sessions had been eagerly attended by the TBAs and that they seem to have benefited from the programme. The benefits seem to have accrued more in respect of the principles of asepsis, ante- and postnatal care and family planning than on the practical side of handling obstetrical complications. By comparison with current practice of untrained TBAs, there is no doubt about the beneficial impact of the present training.

The selection of candidates appeared on the whole to be adequate. It was felt that the present programme should contribute to an improvement of the safety of delivery practices and to a decrease in neonatal mortality. The impact of the programme on maternal mortality has still to be seen.

There is room for improvement of the programme however, particularly in regard to the important place which should be given to actual experience of deliveries during the training sessions. We are fully aware of the practical difficulties of organising groups of three or four TBAs to attend a delivery, but such supervision could be organised through long term, regular contact and cooperation between the FWV and the *dais* she happens to have trained.

RECOMMENDATIONS

We would like to make the following recommendations:

1. FWVs should attend and perform deliveries during their week of (re) training at the FWV Training Institute.
2. FWVs should familiarize themselves with the current delivery practices of untrained *daïs* in rural areas by attending deliveries as part of their own training. This will enable them to give detailed instructions to their trainees about what to do and what not to do by systematically reviewing the indigenous delivery practices during the TBA training sessions.
3. Watching and/or performing delivery under the supervision or assistance of the FWV should be normal practice during the TBA training programme. This should lead to group discussions and review of the practices.
4. Every TBA should bring a pregnant woman to the classroom some-time during her training period. This would allow the class to participate in antenatal examination.
5. TBAs should be given proper recognition of their participation in the Family Planning and Population Control Programme, should their continued collaboration be wanted.
6. Women without previous experience in delivery should not be considered eligible for TBA training.
7. Proper referral when needed should be considered a teaching priority with particular emphasis on two aspects: There should be early referral where there are complications during pregnancy and/or during delivery; and referral should be understood as "sending for assistance" either by sending the woman away from her house to a subcentre or the hospital, or by bringing to her house a competent person.

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APPENDIX - ASELECTED THANAS

- | | |
|-------------------------------|------------------------------|
| 1. <u>Comilla District</u> | 10. <u>Barisal District</u> |
| a) Muradnagar thana | Bakerganj thana |
| b) Daudkandi thana | |
| 2. <u>Noakhali District</u> | 11. <u>Faridpur District</u> |
| Feni thana | Goalandaghat thana |
| 3. <u>Chittagong District</u> | 12. <u>Khulna District</u> |
| a) Sitakunda thana | Daulatpur thana |
| b) Ukhiya thana | 13. <u>Jessore District</u> |
| 4. <u>Sylhet District</u> | a) Narail thana |
| a) Rajnagar thana | b) Abhoy Nagar thana |
| b) Sre Mongol thana | 14. <u>Kushtia District</u> |
| 5. <u>Dacca District</u> | Bheramara thana |
| a) Futulla thana | 15. <u>Rajshahi District</u> |
| b) Joydevpur thana | Bolahat thana |
| c) Narsingdi thana | 16. <u>Rangpur District</u> |
| 6. <u>Mymensingh District</u> | a) Lalmonirhat thana |
| a) Haluaghat thana | b) Mitha Pukur thana |
| b) Durgapur thana | 17. <u>Bogra District</u> |
| 7. <u>Tangail District</u> | Dupchanchia thana |
| Madhupur thana | 18. <u>Pabna District</u> |
| 8. <u>Jamalpur District</u> | Sahjadpur thana |
| Melandaha thana | |
| 9. <u>Dinajpur District</u> | |
| Birganj thana | |

APPENDIX - B

THREE SETS OF QUESTIONNAIRES

1948 1949 1950

APPENDIX - C

CASE STUDIES

Case No. 1: Muradnagar Thana

Patient was an 18 year old woman, *primi gravida*.

Upon our arrival we found the patient lying in the courtyard. The labour pains had started two days earlier. The patient had been attended by a local untrained *dai* who had given her *pani pora*¹ and had put mud on her abdomen. The rationale was that the mud would decrease the pain and hasten delivery. The patient had not been fed for the past two days, only water being given to her from time to time. The patient had not urinated nor defecated for the past two days. She was restless.

The local FWA (not trained under this programme) who was acting as the birth attendant had borrowed a delivery kit from the local FWV. She washed the catheter with boiled water and introduced it in the bladder. She gave an enema with lukewarm water mixed with soap. After washing the patient with warm water, she made a vaginal examination using gloves. She did not wash her hands nor did she boil the gloves. She found a cervix dilatation of 3½ fingers and the membranes intact. She wanted to give an injection of Pethidic (100 mg) but I objected.

At the same time the FWA sent a relative of the patient to the market to buy a razor blade. Meanwhile she prepared the thread to be used to tie the cord.

The FWA suggested having the delivery in the main living room inside the house instead of in the courtyard. On a bare *choki* (local bed) she put some jute bags and some torn saris on top of these. The patient was carried on the *choki*. The FWA gave the patient hot milk and massaged her abdomen with coconut oil.

Meanwhile the uterine contractions were becoming stronger. The FWA made another vaginal examination and ruptured the membranes with her fingers. She smeared the perineum with cococut oil. The FWA was sitting on a *piri* (low wooden stool).

A baby boy was born two hours after our arrival. The baby did not cry and was blue. We immediately cleaned his mouth of mucous and he started to cry and breathe. The baby was left naked on the bare floor without the cord being cut for 15 minutes until the placenta was expelled. The cord was cut another 10 minutes later with the new blade, purchased from the market, not boiled but washed with hot water. The cord was tightened in places, three fingers from the baby's umbilicus. The baby was then wrapped in a piece of torn *sari*. No particular attention had been given to the baby since his birth, all attention being paid to the mother.

1 "holy" water - water.

The FWA washed the placenta with water and looked for its integrity. The placenta was then buried on the right side of the front door. It is believed that the placenta must not be thrown away, because if any animal (fox, dog, crow) were to eat it, the baby would die.

Case No. 2: Melandaha Thana

The patient was a 30 year old woman, third pregnancy.

We attended the patient in the afternoon. The pains had begun at 8:00 a.m. The patient was lying on the floor, on top of torn *saris* and *chattai* (bamboo matt). The birth attendant was an old untrained *dai*. Neither medicine nor anything else had been given to the patient. Initially the *dai* had washed her hands with soap and water and was performing vaginal examinations from time to time. She used coconut oil for vaginal lubrication and mustard oil for abdominal massage.

At 5:30 p.m. a baby boy was born followed by another at 6:00 p.m. Neither the mother nor the *dai* was expecting twins. The first boy was smaller than the other. Both of them started to cry immediately after delivery. The mother had significant postpartum hemorrhage. Nothing was done. The two babies were lying naked on the *chattai*. The placenta was expelled at 6:30 p.m.; the *dai* cut both cords with a boiled razor blade. From other, trained *dais* she had learned about the risk of neonatal tetanus and about the need for a sterile blade.

The placenta was buried within the compound. The babies did not receive a bath but were anointed with mustard oil.

The family rejoiced to have been belessed with two boys.

Case No. 3: Melandaha Thana

The patient was a 30 year old Hindu woman, fourth pregnancy. The TBA was trained and Muslim. We arrived a few minutes before the delivery. No medicine had been given to the patient who had been attended since the morning. The patient was staying in a specially built house (*chapra ghor*), following the Hindu custom. She was lying on top of rice straw covered with *chattai* and torn *saries* and old *ketha* (quilt).

A baby girl was delivered and cried immediately. The placenta was delivered 15 minutes later. The cord was then severed with a boiled new razor blade after being tied in two places. No disinfectant was put on the baby's cord which was washed only.

The TBA washed the baby with warm water and anointed her with mustard oil.

Case No. 4: Narail Thana

The patient was a 25 year old woman, multipara, 6th gravida. The patient was lying on the floor of the verandah of her house on top of a *chattai* and torn *saris*.

Slight labour pain had started in the afternoon of the previous day. The pain had persisted during the night, with the same low intensity. The patient did not receive any medicine for the pain. At 4:00 a.m. strong pains started. The hospital *aya* (attendant) started to disinfect the scissors and the thread to be used for the delivery by soaking them in Dettol. The *dai* washed her hands with soap and water and smeared coconut oil on the perineum as a lubricant.

At 6:20 a.m. a baby girl was born and cried immediately. The placenta was expelled ten minutes later. The perineum was intact and the postpartum hemorrhage was normal. The cord was tied once only and cut with scissors, four fingers from the baby's umbilicus. The baby was bathed with warm water and anointed with mustard oil. The umbilicus was cleaned with Savlon.

The baby was then wrapped in an old clean *sari*. The placenta was buried outside the compound.

Case No. 5: Narail Thana

We arrived ten minutes before the delivery started. Labour pains had begun early that day and the head was already engaged. The *dai*, a trained TBA, had cleaned the room in preparation for the delivery. She had put *chattai*, a torn *sari* and banana leaves on the floor. She had massaged the patient's abdomen with mustard oil.

The *dai* cut the cord with a blade and tied it with thread. She had previously washed the blade and the thread with warm, not boiling water.

Delivery position

The patient first tried to kneel down. Then she tried to squat, using a small *piri*. She then lay down on the *chattai*. The TBA sat in front of the patient on the *piri* and supported her perineum with her left foot. She justified the use of her foot by saying that she would be needing both her hands to pull the baby out.

The delivery of the baby, a girl, was normal. Post-partum hemorrhage was normal. The perineum was torn but no sutures were inserted. The *dai* did not cut the cord until the placenta had been expelled. She tied the cord two fingers length away from the baby's abdomen. This was too short a length. She did not put on any antiseptic. She cleaned the mother with

1 local low stool.

water. She wrapped the placenta in a torn *sari* and put it in a *patil* (a clay pot). A member of the family went to bury it inside the compound.

Case No. 6: Narail Thana

Labour pains started two days before the birth. The place for the delivery was on the floor of the sleeping room. Rice straw, a *chattai* and *ketha* were on the floor. The thread was prepared and the blade washed in warm, not boiling water. The *dai* washed her hands with soap and water and made a vaginal examination. The cervix was fully dilated. The perineum was supported with a torn *sari*.

When she was carrying out the delivery, the TBA sat on a *piri*. She massaged the perineum with coconut oil. The delivery was normal and a living child was produced at 4:00 a.m. It was a baby boy and he cried immediately. The placenta came out intact. The *dai* examined it to see if there were any tear. The perineum was intact.

The *dai* cleaned the mother. The placenta was wrapped in a torn *sari* and put into a *patil*¹, which was buried in the compound. Postpartum haemorrhage was normal. No pad was given for lochia, but a torn *sari* was put inside the vagina. After the placenta was expelled, the TBA cut the cord near to the baby. Before cutting, she tied the cord with thread (not boiled). She cut the cord too near the umbilicus (two fingers length). She washed the baby with warm water and put mustard oil on him. She then cleaned the baby's cord with boiled water, wrapped the baby and put it by its mother's side.

Case No. 7: Birgonj Thana

The patient was a 25 year old multipara.

Slight pain began early in the morning. No medicine was given. The delivery was carried out on the kitchen floor, which had been covered with a *chattai* and torn *sari*. The patient was lying on her back. The blade and thread were washed with boiling water. The *dai*, a trained TBA, washed her hands with soap and water. The perineum was supported by the *dai*'s bare hand.

A normal baby girl was born at 3:00 p.m. The placenta was expelled at 3:15 p.m. The perineum was intact, postpartum haemorrhage was normal. The *dai* cleaned the mother with warm water and put a torn *sari* on the vagina for lochia. She cut the cord with the washed blade. She tied the cord before cutting it. She cut the cord three fingers away from the baby. The placenta was wrapped in a torn *sari*, put in a *patil* and buried in the compound by a member of the family.

¹ clay pot.

The *dai* washed the baby and put mustard oil on him. She cleaned the umbilical cord with boiled water. She wrapped the baby in a torn *sari*. A fire was made in the *chula* (earthen oven) by another member of the family. A warm compress was then put on the umbilical cord to dry it. I asked in the village if other people had been using hot compresses at the time of delivery, and was told that it was customary. However, two babies had died recently because their cords had burst and they had bled to death.

Case No. 8: Narail Thana

We arrived a few minutes before the delivery. The patient, a 25 year old woman, sixth gravida, multipara, was lying in the courtyard.

Labour pains had started early in the morning. The *dai*, a trained TBA, suggested the sleeping room for delivery. She put *chattai* on the floor and a torn *sari* and told the patient to lie on it. The *dai* washed her hands; the thread and blade were washed with boiled water.

The *dai* supported the perineum with a torn *sari*. A normal baby girl was delivered at 5:00 p.m.; the placenta was expelled at 5:15 p.m. The post-partum haemorrhage was normal. After the placenta had been expelled, the TBA tied the cord two fingers length away from the baby's abdomen. She cut the umbilical cord with the washed blade, cleaned the cord with Dettol. She cleaned the mother with warm water and wrapped the placenta in a torn *sari*, put it in a *patil*, and told a member of the family to bury it inside the compound. She washed the baby, put mustard oil on her, then wrapped her in a torn *sari* and put her near the mother.

Case No. 9: Bakarganj Thana

The patient was a 24 year old woman, third gravida.

Slight pain started in the morning. We arrived at 9:00 a.m. The *dai*, a FWA, had prepared the delivery bed: a *choki*, with a *chattai* and some old clean cloth. An oilskin cloth covered it. She boiled scissors, cord clamps and thread and prepared a infusion of litre of normal saline solution containing 1 ampoule of Syntocinon, "in case".

Uterine contractions which, until then, had been irregular and mild started to become strong at 4:00 p.m. A baby boy, who cried immediately, was delivered at 7:30 p.m. The placenta was expelled at 7:45 p.m. The *dai* cut the umbilical cord with the boiled scissors, and put antiseptic (Dettol) on the cord. The perineum was guarded with a clean towel. The perineum was intact. As the post-partum haemorrhage was slightly abnormal in quantity, the TBA gave an injection of Methergin (1 ampoule) intramuscularly (I M), and Pronapen (400.000 units) I M and added some Analpin for pain. The TBA used a vaginal pad for lochia and washed the baby. He was then wrapped in

a cloth. The placenta was wrapped in a torn *sari* and kept in a corner inside the house for some time.

Later the patient's mother-in-law made a smoky fire in the house and put hot dry compresses on the umbilical cord in an attempt to dry it. The baby was coughing because of the smoke.

Case No. 10: Madhupur Thana

This delivery took place in a tribal area (*Garo*). The mother was a 18 year old primipara. The birth attendant had been trained at the nearby mission hospital. She was a 45-year old woman who had been practising as a *dai* for the past 20 years.

The delivery took place in the kitchen, outside the main building. The kitchen had been emptied of all cooking utensils and the floor covered with rice straw, *chattai*, *ketha*, and an oilskin sheet. Clean towels and old clean *saris* were ready for the baby.

Labour pains had started two days before our arrival. A few minutes after our arrival (8:50 a.m.), a male baby, who cried immediately was delivered. His weight was 7 lbs. 12 ozs. (as was found later). The perineum showed a first degree tear. No stitches were inserted.

The cord was cut with boiled scissors (from a midwifery kit). The TBA cleaned the cord with Dettol, before the placenta was expelled. The placenta came out 15 minutes after delivery and was buried outside the compound.

Case No. 11: Goalandaghat Thana

We were unable actually to attend this delivery as we were not allowed by the family to step inside the delivery room (inside the house). The reason was that we had arrived after sunset and, being strangers, it was believed that if the door of the delivery room were opened, evil spirits (*petni*, *blurt*) would enter and the baby would die. We were standing outside the room. The following information was later collected from the untrained *dai*.

The mother was 35 years old, multipara; the birth attendant was an untrained *dai*. She had been attending the mother since morning. In the evening, a normal baby boy was delivered, who cried immediately. As, after half an hour, the placenta had not been expelled, the *dai* put the mother's hair in her mouth to provoke vomiting. The placenta was expelled 10 minutes later. The cord was then cut with an old unboiled razor blade. The TBA's initial

intention was to use a bamboo blade. On hearing that a sterile razor blade should be used, the *dai* replied that she had no time to sterilize a blade in boiling water. The cord had been tied with an unboiled thread and the umbilical cord cut too close to the baby's navel. When asked why she had cut it so short, she replied that she had always done it that way, without any harmful consequences.

Case No. 12: Narail Thana

The patient was a 20 year old woman, second gravida. Labour pains had started the evening before our arrival (a few minutes before the delivery took place). The *dai*, a 45 year old TBA trained under the present programme, had been attending the patient since.

The patient was lying on the floor of the sleeping room of her house on top of *chattai* and torn *saris*. During labour, no medicine had been given to the patient. Mustard oil had been used to massage her abdomen and coconut oil was smeared on her perineum. Before the beginning of the delivery itself, the TBA had prepared a new razor blade (not sterilized in boiled water) and some thread soaked in warm water.

The patient knelt down to deliver. A healthy baby, who cried immediately, was delivered at 3:15 p.m. The perineum had been slightly lacerated: during the delivery, support to the perineum was given with the hand and a torn *sari*. The postpartum haemorrhage was normal. Fifteen minutes later, following the expulsion of the placenta, the cord was tied about two fingers from the baby's umbilicus in two places and the cord severed with the razor blade. The placenta was wrapped in a torn *sari* and deposited in a new clay pot (*patil*). A member of the family went to bury the pot within the compound.

The baby was bathed with warm water and anointed with mustard oil. The umbilicus was cleaned with water. The baby was wrapped in an old, clean *sari* and kept by his mother's side. The *dai* gave the mother warm milk to drink.

APPENDIX - D

TBA TRAINERS' QUESTIONNAIRE RESULTS

q. ___ refers to the original question number in the questionnaire.

n = indicates the number of respondents to a specific question.

I. SOCIO-DEMOGRAPHIC BACKGROUND

Age (q.6)

<u>Age Group</u>	<u>Number</u>	<u>Percentage (n=27)</u>
20-29	17	63.0
30-39	10	37.0

Marital status (q.7)

<u>Status</u>		(n=27)
Unmarried	4	14.8
Married	18	66.6
Widowed	5	18.5
Divorced or separated	0	-

Live births (q.8)

<u>Number of live births</u>		(n=23)
0	2	8.3
1	6	25.0
2	8	33.3
3	3	12.5
4	2	8.3
5	1	4.2
6	1	4.2

Live children (q.9)

<u>Live children</u>	<u>Number</u>	<u>Percentage (n = 24)</u>
0	1	4.2
1	5	20.8
2	9	37.5
3	3	12.5
4	1	4.2
5	2	8.4

Education of FWVs (q.10)

<u>Level</u>		<u>(n = 27)</u>
S.S.C.	12	44.4
H.S.C.	14	51.8
Above H.S.C.	1	3.7

Education of the head of the FWV's family (q.11)

<u>Level</u>	<u>Number</u>	<u>Percentage (n = 25)</u>
Class IX	1	4.0
S.S.C.	6	24.0
H.S.C.	12	48.0
Above H.S.C.	6	24.0

Religion (q.12)

<u>Religion</u>	<u>Number</u>	<u>Percentage (n = 27)</u>
Muslim	21	77.7
Hindu	5	18.5
Other	1	3.7

II. TRAINING EXPERIENCE AND METHODSLength of experience as a FWV (q.13)

<u>Number of years</u>	<u>Number</u>	<u>Percentage (n = 27)</u>
Less than one year	0	-
1-4 years	15	55.5
5-9 years	5	18.5
10-14 years	6	22.2
More than 14 years	1	3.7

Length of stay in present place (q.14)

<u>Number of years</u>	<u>Number</u>	<u>Percentage (n = 26)</u>
Less than one year	1	4.0
1-4 years	17	65.0
5-9 years	5	19.0
10-14 years	3	12.0

Deliveries performed before the FWV training at the Training Institute (TI) (q.15)

<u>Number of deliveries</u>	<u>Number</u>	<u>Percentage (n = 27)</u>
0 - 9	11	40.8
10 - 19	3	11.1
20 - 29	5	18.5
30 - 49	5	18.5
50	3	11.1

Deliveries performed since the FWV TI training (q.16)

<u>Number of deliveries</u>	<u>Number</u>	<u>Percentage (n = 27)</u>
0	12	44.4
1 - 4	11	40.7
5 - 9	3	11.1
10	1	3.8

Length of FWV TI training (q.25)

<u>Number of days</u>	<u>Number</u>	<u>Percentage (n = 27)</u>
6 - 7	23	85.1
10	1	3.7
10	3	11.2

Length of training (q.28)

<u>Assessment</u>	<u>Number</u>	<u>Percentage (n = 27)</u>
Too short	16	60.0
Too long	1	3.0
About right	10	37.0

Rating of training (q.26)

<u>Rating</u>		<u>(n = 27)</u>
Very good	8	29.6
Good	13	48.2
Not good	6	22.2

Would you like the same teacher (q.27)

	<u>Number</u>	<u>Percentage (n = 27)</u>
Yes	24	88.8
No	3	11.2

Methods used in FWV training (q.29)

<u>Methods</u>	<u>Number</u>	<u>Percentage (n = 27)</u>
Various* <u>including</u>		
Watching a delivery	3	11.0
Performing a delivery	3	11.0
Various* <u>excluding</u>		
Watching and/or performing delivery	21	78.0

* Lectures, manuals, models, flip charts, pictures, etc.....

III. OBJECTIVES OF THE TRAINING OF TBAs

According to you, what are the purposes of training TBAs?

<u>Reasons</u>	<u>Number</u>	<u>Percentage (n = 27)</u>
To teach hygiene and asepsis	12	44.3
To teach hygiene and asepsis and the technique of delivery	6	22.2
To teach the technique of delivery	2	7.4
To prevent tetanus	4	14.8
To teach about hygiene, prevention of tetanus and family planning	2	7.4
Other	1	3.7

Output of the training (q.20)

Activities the dai should
be able to perform after
training

	<u>Number</u>	<u>Percentage (n = 27)</u>
Antenatal care	1	3.7
Antenatal care and delivery	2	7.4
Antenatal care, delivery and postnatal care	9	33.3
Antenatal care, delivery postnatal care and family planning	13	48.0
Delivery and postnatal care	2	7.4

Who will benefit most from the TBA? (q.22)

<u>Category</u>	<u>Number</u>	<u>Percentage (n = 27)</u>
Rich and middle class	4	14.8
Poor people	20	74.0
All classes	3	11.1

Who will benefit the least? (q.23)

<u>Category</u>	<u>Number</u>	<u>Percentage (n = 27)</u>
Rich/upper class	23	85.2
Poor	2	7.4
All classes	2	7.4

IV. TBA TRAINING ACTIVITIES AND METHODSNumber of dais trained (q.17)

<u>Number of dais</u>	<u>Number</u>	<u>Percentage (n = 27)</u>
1-9	2	7.4
10-19	17	63.0
20-29	5	18.5
30-39	1	3.7
40	2	7.4

Time spent on training (q.18)

<u>Hours per week</u>	<u>Number</u>	<u>Percentage (n = 26)</u>
1-9	6	23.0
10-19	11	42.0
20-29	6	23.0
30-39	3	12.0

Length of TBA training (q.31)

<u>Assessment</u>	<u>Number</u>	<u>Percentage (n = 27)</u>
Adequate	10	37.0
Too short	17	63.0
Too long	0	-

Difficulty of the training (q.32)

<u>Assessment</u>	<u>Number</u>	<u>Percentage (n = 27)</u>
Easy to follow	10	37.0
Difficult to follow	8	30.0
About right	9	33.0

Methods of teaching (q.34)

<u>Methods</u>	<u>Number</u>	<u>Percentage (n = 27)</u>
Lectures, manuals, charts and models	23	85.0
All above plus watching a delivery	2	7.5
All above plus performing a delivery	2	7.5

V. KNOWLEDGE OF ANTENATAL CARE

When should a TBA see a pregnant woman for the first time? (q.35)

<u>Time</u>	<u>Number</u>	<u>Percentage (n = 27)</u>
Before the 6th month	24	89.0
Before the 9th month	3	11.0

What is a high risk pregnancy? (q.36)

<u>Criteria (Code*)</u>	<u>Number</u>	<u>Percentage (n = 27)</u>
1, 2, 4, 8, 16	11	44.0
4, 8, 16	3	12.0
1, 4, 8, 16	2	8.0
1, 4, 8	2	8.0
8	2	8.0
Other combination	5	20.0

*Code:	Bleeding during delivery	=	1
	Bleeding during the last 3 months	=	2
	Severe anaemia	=	4
	Pre eclampsia	=	8
	First pregnancy	=	16
	High parity	=	32
	Short interval between pregnancies	=	64
	Extreme age at time of childbearing	=	128

VI. KNOWLEDGE OF DELIVERY

What should a TBA have ready at the time of delivery? (q.37)

a) To cut the cord

<u>Item</u>	<u>Number</u>	<u>Percentage (n = 27)</u>
Blade	4	25.0
Boiled blade	13	50.0
Scissors	4	25.0
Boiled scissors	1	-

b) To tighten the cord

Thread	4	25.0
Boiled thread	6	38.0
Boiled thread and gloves	1	6.0
Gloves	5	31.0

c) Other material

Antiseptic	4	17.0
Cotton/clean cloth	3	13.0
Antiseptic and clean cloth	10	42.0
Others	7	28.0

What hygiene measures should be undertaken by the mother at the time of delivery? (q.38)

<u>Measures</u>	<u>Number</u>	<u>Percentage (n = 26)</u>
To clean the room	1	3.8
To use clean cloth	7	27.0
Both	13	50.0
To take a bath	2	7.7
Other	3	11.5

What hygiene measures should be undertaken by the dai at the time of delivery? (q.39)

<u>Measures</u>	<u>Number</u>	<u>Percentage (n = 27)</u>
Hand washing with soap and cutting nails	17	63.0
Hand washing and clean clothes	4	15.0
Hand washing, cutting nails and clean clothes	3	11.0
Others	3	11.0

Best place for delivery (q.40)

<u>Place mentioned</u>	<u>Number</u>	<u>Percentage (n = 27)</u>
Common room in the house	15	56.0
Separate room in the house	9	33.0
Verandah	2	7.0
Outside the house	1	4.0

Expected length of delivery (between the rupture of the bag and the delivery of the placenta) (q.41)

<u>Time</u>	<u>Primipara (n = 23)</u>	<u>Multipara (n = 22)</u>
Up to 30 minutes	4	5
Between ½ hour and 1 hour	-	-
Between 1 and 2 hours	3	2
Between 2 and 3 hours	1	2
Between 3 and 5 hours	1	3
More than 5 hours	14	10

During delivery do you suggest applying any herbs or medicine? (q.42)

Yes 15

No 12

For Yes

Herbs 0

Medicine 13

Others 2

In what posture should the mother deliver? (q.43)

Lying on the back - 100%

What is a complicated delivery? (q.44)

Inconclusive answers. Out of the following list only one or two complications were mentioned by the respondent.

Expected answers were:

Breech, hand prolapse, transverse position, face presentation, eclampsia, placenta previa, cord prolapse, retained placenta.

What do you do in case of a complicated delivery? (q.45)

<u>Answers</u>	<u>Number</u>	<u>Percentage (n = 26)</u>
Sent the woman to doctor	0	-
Sent the woman to the hospital	23	88.0
Both	2	8.0
Handle it alone	1	4.0

When and where should the umbilical cord be cut? (q.46)a) Timing

<u>Time</u>	<u>Number</u>	<u>Percentage</u> (n = 24)
Just after birth	2	8.0
After the cord ceases to pulse	12	50.0
1-5 minutes after birth	5	21.0
6-30 minutes after birth	5	21.0

b) Where?

(n = 25)

3-4 fingers from cord	18	72.0
More than 4 fingers	4	16.0
Less than 3 fingers	3	12.0

What do you suggest using to cut the cord? (q.47)

<u>Items</u>	<u>Number</u>	<u>Percentage</u> (n = 26)
Blade	1	-
Boiled blade	12	46.0
Scissors	1	-
Boiled scissors	7	27.0
Boiled blade/scissors	2	-
Others	3	12.0

Do you recommend the use of disinfectant on the cord? (q.48)

Yes	25	93%
No	2	

Various products were mentioned, most frequently antiseptic solutions (40%). Among them gentian violet was the most often quoted.

Expected time of placenta expulsion after the birth of the baby (q.50)

<u>Time</u>	<u>Number</u>	<u>Percentage</u> (n = 28)
Less than 15 minutes	4	16.0
About 15 minutes	17	65.0
About half an hour	5	19.0

To facilitate delivery, do you suggest the following practices? (q.51)

- Poking the cord

Yes =

No = 100%

- Pulling on the cord

Yes =

No = 100%

- Inducing vomiting

Yes =

No = 100%

After delivery of the placenta, how should it be handled? (q.52)a) Examination (n = 23)

- Wash it and examine it carefully - 91%
- Examine it - 9%

b) Disposal

- Throw it away
- Burn it
- Bury it

c) Where? (n = 25)

- Inside the house compound - 32%
- Outside the house compound - 68%

In the past 6 months, how many deaths have you heard of (q.53)

- Among delivering mothers - 7
- Among neonates - 9

Causes of neonatal tetanus (q.54)

<u>Causes</u>	<u>Number</u>	<u>Percentage (n = 26)</u>
Soiled blade	17	65.0
Dirty hands	2	8.0
Both	5	19.0
Cord infection	2	8.0

How soon should breastfeeding start? (q.55)

<u>Time</u>	<u>Number</u>	<u>Percentage (n = 27)</u>
Immediately after birth	3	11.0
Within the first 12 hours	5	19.0
After one day	9	33.0
After two days	1	-
After three days	8	30.0
Longer	1	-

Value of colostrum (q.56)

Contains vitamins and proteins	-	14%
Good for health	-	14%
Has protein	-	18%
Has vitamins	-	50%
Has calcium	-	4%

VII. CONCEPTIONKnowledge about conception (q.58)

Self assessed	Yes	-	100%
Assessed	Yes	-	80%

Can conception be prevented? (q.59)

Yes - 100%

How can conception be prevented? (q.60)

All the methods available in Bangladesh were mentioned either alone or in different associations.

Do you think the dais should promote family planning? (q.61)

Yes 27

No 2

If yes, why?

<u>Reasons</u>	<u>Number</u>	<u>Percentage (n = 27)</u>
People listen to them	6	22.0
Easy motivation after birth	15	56.0
They have the necessary training	3	11.0
Others	3	11.0

VIII. SELECTION OF TBAs

What is your assessment of the selection process of the dais? (q.30)

<u>Assessment</u>	<u>Number</u>	<u>Percentage (n = 27)</u>
Adequate	13	48.0
Inadequate	14	52.0

If not adequate, why?

Poor level of literacy	79.0
Others	21.0

Improvement of the TBA selection (q.33)

<u>Suggestion</u>	<u>Number</u>	<u>Percentage (n = 27)</u>
None	7	26.0
To take more literate people	15	56.0
Others	5	18.0

Supervision of TBAs (q.21)

<u>Who should supervise the TBAs</u>	<u>Number</u>	<u>Percentage (n = 27)</u>
F.W.V.	20	74.0
F.W.V.	5	18.6
Others	2	7.4

IX. OTHERMain problems in your work (q.62)

<u>Answers</u>	<u>Number</u>	<u>Percentage</u>
None	11	41.0
FP related difficulties	13	48.0
"Villagers do not like trained <u>dais</u> "	3	11.0

TRAINED TBAs QUESTIONNAIRE RESULTS

q. refers to the original question number in the questionnaire.

n = indicates the number of respondents to a specific question.

I. SOCIO-DEMOGRAPHIC BACKGROUNDAge (q.1)

<u>Age group (years)</u>	<u>Number</u>	<u>Percentage (n = 155)</u>
20-29	43	27.7
30-39	37	23.9
40-49	42	27.1
50-59	27	17.4
>60	4	2.6
No response	2	1.3

Marital status (q.2)

<u>Marital status</u>		(n = 155)
Unmarried	3	1.9
Married	103	66.5
Widowed	45	19.0
Divorced/separated	4	2.6

Live births (q.3)

<u>Number of live births</u>	<u>Number</u>	<u>Percentage (n = 155)</u>
0	7	4.6
1	15	9.9
2	0	0.0
3	22	14.5
4	23	15.1
5	14	9.2
6	13	8.5
7	16	10.5
8	10	6.6
9	8	5.3
10	8	5.3
No response	3	-

Living children (q.4)

<u>Number of living children</u>	<u>Number</u>	<u>Percentage (n = 155)</u>
0	12	7.9
1	20	13.2
2	24	15.8
3	24	15.8
4	26	17.1
5	18	11.8
6	12	7.9
7	8	5.3
8	8	5.3
9	2	1.3
10	1	0.6
No response	3	

Education (q.5)

<u>Education level</u>	<u>Number</u>	<u>Percentage (n = 151)</u>
No schooling	73	48.3
Completed classes 1-5	56	37.1
Completed classes 6-10	22	14.6

Education of the head of the TBA family (q.6)

<u>Education of the head of the family</u>	<u>Number</u>	<u>Percentage (n = 151)</u>
No schooling	62	41.0
Completed classes 1-5	27	17.9
Completed classes 6-10	59	39.1
Completed class 10	3	2.0

Religion (q.7)

<u>Religious affiliation</u>	<u>Number</u>	<u>Percentage (n = 155)</u>
Muslim	124	80.0
Hindu	27	17.4
Other	4	2.6

II. EXPERIENCE AND TRAINING PRIOR TO THE PRESENT PROGRAMME

Previous delivery practice (q.8)

<u>Answer</u>	<u>Number</u>	<u>Percentage (n =155)</u>
Yes	130	83.9
No	25	16.1

Length of previous delivery practice (q.9 and q.15)

<u>Answer</u>	<u>Number</u>	<u>Percentage (n = 130)</u>
<1 year	1	0.7
1-5	48	36.7
6-10	27	10.7
>10	54	41.9

Mode of acquiring the profession (q.14)

<u>Mode</u>	<u>Number</u>	<u>Percentage (n = 155)</u>
Inherited	89	61.4
Adopted	32	20.6
By the present training	24	15.5
No response	10	6.5

III. PATTERN OF PRACTICEAdditional activities (q.19)

<u>Any other additional activity besides TBA</u>	<u>Number</u>	<u>Percentage (n = 155)</u>
Yes	56	20.1
No	107	69.9
No response	2	-

If yes

(n = 46)

Government service	20	43.5
Handicraft work	3	6.5
Tailoring/embroidering	9	19.6
Business	4	8.7
Others	10	21.7

Present activity (q.22)

<u>Are you still active as a TBA?</u>	<u>Number</u>	<u>Percentage (n = 155)</u>
Yes	151	98.0
No	3	1.9
No response	1	

People attended by TBA (q.20)

<u>Answer</u>	<u>Number</u>	<u>Percentage (n = 155)</u>
Only relatives	2	1.3
Relatives and own village dwellers	132	85.2
Own village and other village dwellers	15	9.7
Others	6	3.8

Coverage of villages (q.21)

<u>Number of villages covered by you</u>	<u>Number</u>	<u>Percentage (n = 154)</u>
1	141	91.0
2-5	10	6.5
>5	3	3.5

Number of deliveries attended during the past year (q.23)

<u>Yearly figure</u>	<u>Number</u>	<u>Percentage (n = 154)</u>
0	3	2.0
1-10	80	51.9
11-100	68	
>100	3	1.8

IV. PROFESSIONAL ACTIVITIES AND KNOWLEDGE

A. Antenatal Care

First consultation (q.27)

<u>First time a pregnant woman is seen</u>	<u>Number</u>	<u>Percentage (n = 150)</u>
6 months	127	84.7
6-9 months	22	14.7
A few days before delivery	1	0.6

Identification of high risk pregnancy (q.29)

<u>Criteria</u>	<u>Number</u>	<u>Percentage (n = 155)</u>
Bleeding during pregnancy	1	0.6
Severe anaemia	12	7.7
Vertigo, oedema	36	23.2
Anaemia, oedema, vertigo	50	32.2
Bleeding, anaemia, vertigo, oedema	10	6.4
Other combination	46	29.9

B. DeliveryTime of attending (q.28)

<u>Time a pregnant woman is attended for delivery</u>	<u>Number</u>	<u>Percentage</u>	(n = 154)
Beginning of labour	135	87.6	
After the rupture of the bag	17	11.0	
Later	-	1.4	

Location of the delivery (q.33)

<u>Place of delivery</u>	<u>Number</u>	<u>Percentage</u>	(n = 155)
Inside the house	124	80.0	
On the verandah	14	9.0	
Kitchen	5	3.2	
In the courtyard	1	0.7	
Elsewhere.	11	7.1	

Duration of normal delivery (between the rupture of the bag and the delivery of the baby) (q.34)

<u>Length of delivery</u>	<u>Number</u>	<u>Percentage</u>	(n = 154)
<3 hours	92	60.6	
3-5 hours	32	21.0	
6-10 hours	14	9.2	
>10 hours	14	9.2	

Material to be prepared for the delivery (q.30)a) To cut

<u>Material</u>	<u>Number</u>	<u>Percentage</u>	(n = 154)
Boiled new razor blade	143	92.9	
Boiled scissors	9	5.8	
Boiled bamboo blade	1	0.7	
Boiled bamboo blade or razor	1	0.7	

b) To tighten

Boiled thread	142	97.3	(n = 146)
Unboiled thread	2	2.0	
Gloves and boiled thread	1	0.7	

c) To assist

Antiseptic	32	26.2	(n = 122)
Cotton/clean cloth	36	29.5	
Antiseptic, cotton and others	8	6.6	
Antiseptic, cotton	37	30.3	
Others	9	7.4	

Position favoured for delivery (q.36)

<u>Type of position</u>	<u>Number</u>	<u>Percentage (n = 148)</u>
Lying on the back	120	81.0
Kneeling	25	16.9
Lying on the side	3	2.1

During delivery do you guard the perineum (q.74)

<u>Answer</u>	<u>Number</u>	<u>Percentage (n = 155)</u>
Yes	119	77.0
No	36	23.0

If yes, how? (q.75)

<u>Method</u>	<u>Number</u>	<u>Percentage (n = 119)</u>
By hand	16	13.4
By hand protected by cotton or cloth pad	87	73.2
By foot	14	11.7
Others	2	1.7

C. PlacentaNormal length of delivery of the placenta (q.41)

<u>How long after the birth of the baby is the placenta expelled?</u>	<u>Number</u>	<u>Percentage (n = 155)</u>
15 minutes	21	13.5
15 minutes	73	47.2
30 minutes	32	20.6
45 minutes	5	3.2
1 hour	19	12.3
1½ hours	3	1.9
More	2	1.3

Methods used to facilitate the delivery of the placenta (q.42)

<u>Methods</u>	<u>Number</u>	<u>Percentage (n = 155)</u>
a) <u>Poking the cord</u>		
Yes	7	4.5
No	147	94.8
No response	1	0.7
b) <u>Pulling on cord</u>		
Yes	10	6.4
No	144	92.9
No response	1	0.7
c) <u>Exerting pressure on abdomen</u>		
Yes	47	30.3
No	108	69.7

Handling of the placenta (q.43)

<u>Mode of handling</u>	<u>Number</u>	<u>Percentage (n = 155)</u>
Wash and examine carefully	80	54.4
Examine only	67	45.6
No response	8	-

Mode of disposal

Bury	53	98.7
Burn	0	-
Throw away	2	1.3

Place where disposed

Inside the compound	26	46.6
Outside the compound	45	63.4
No response	84	-

D. CordHandling of the umbilical cord (q.38 & q.39)

<u>Answer</u>	<u>Number</u>	<u>Percentage (n = 155)</u>
<u>Distance from umbilicus for cutting</u>		
3-4 fingers	111	71.6
More than 4 fingers	23	14.8
Less than 4 fingers	16	10.3
No response	5	3.3
<u>Time of cutting</u>		
After the cord ceases to pulse	8	5.2
After expulsion of the placenta	139	89.7
Within 10-20 minutes of the birth	2	1.2
Within 20-30 minutes of the birth	5	3.3
Within one hour of the birth	1	0.6
<u>Instrument used to cut</u>		
New blade	8	5.2
New boiled blade	139	89.7
Scissors	2	1.3
Boiled scissors	5	3.2
Boiled bamboo blade	1	0.6

.../...

.../...

Handling of the umbilical cord (q.38 & 39)

<u>Answer</u>	<u>Number</u>	<u>Percentage (n = 155)</u>
<u>Material use to tighten</u>		
Boiled new thread	123	79.3
New thread	9	5.9
No response	23	14.8
<u>Substance applied to the cord</u>		
Antiseptic	36	23.2
Soap	2	1.2
Either antiseptic or soap	4	2.5
Clean cloth	24	15.4
Antiseptic and clean cloth	17	10.9
Soap and clean cloth	3	1.9
Other	14	7.0
No response	58	37.4

Beginning of breastfeeding (q.47)

<u>Time</u>	<u>Number</u>	<u>Percentage (n = 155)</u>
Immediately after birth	43	27.7
Within 12 hours	18	11.6
After 1 day	24	15.4
After 2 days	21	13.5
After 3 days	48	31.0
After 4 days	1	6.5

Value of colostrum (q.48)

<u>Answer</u>	<u>Number</u>	<u>Percentage (n = 155)</u>
Good	129	83.2
Bad	26	16.8

If good

Because it is good for health	74	57.3
Because it contains vitamins	53	41.1
Others	2	1.6

-If bad

Because it causes illness	12	46.1
Because it contains poison	1	3.9
Because it contains pus	12	50.0

Cause of neonatal tetanus (q.46)

<u>Cause</u>	<u>Number</u>	<u>Percentage (n = 150)</u>
Contamination at the time of delivery	113	75.3
- of the instruments used to cut the cord	(62)	
- by overall lack of hygienic practices	(51)	
Other causes	37	24.7
No response	5	

Deaths during the past year (q.44)

<u>Maternal deaths</u>	<u>Number</u>	<u>Percentage (n = 150)</u>
0	148	
1	2	
<u>Neonatal deaths</u>		(n = 150)
0	131	
1	15	
2	1	
3	1	
4	1	
5	1	
<u>Infant deaths</u>		(n = 150)
0	139	
1	7	
2	3	
3	1	

V. TBA TRAINING PROGRAMMEKnowledge about the TBA training course (q.11)

<u>Source of information</u>	<u>Number</u>	<u>Percentage (n = 155)</u>
Union Chairman	54	34.8
Family member	3	1.9
Neighbours	7	4.5
<u>Thana</u> FPO	6	3.9
FWV	1	-
FWA	17	11.0
<u>Dai</u>	1	-
Myself	2	-
Others	16	10.3

Who motivated you? (q.12)

<u>Person</u>	<u>Number</u>	<u>Percentage (n = 154)</u>
Chairman	68	44.5
Family member	0	-
Neighbour	8	6.0
<u>Thana</u> Officer	1	0.6
FWV	46	29.8
FWA	15	9.7
Self	4	2.5
Others	12	7.7

Mode of selection (q.13)

<u>Mode</u>	<u>Number</u>	<u>Percentage (n = 141)</u>
Village committee	96	64.4
FWV	16	10.7
FWA	33	22.2
Myself	4	2.7

Length of training (q.17 & 62)

<u>Length of present training</u>	<u>Number</u>	<u>Percentage (n = 155)</u>
18 days	3	1.9
20	6	3.8
24	146	94.3

Was the training the right length of time?

(n = 155)

Too long	3	1.9
Too short	40	15.8
About right	112	72.3

Methods of teaching (q.63 & q.64)

<u>Methods used</u>	<u>Number</u>	<u>Percentage (n = 150)</u>
Lecture, individual instruction, manual, pictures	137	91.3
Lecture, individual instruction, manual, pictures and watching deliveries	9	6.0
Other combination	4	2.7

<u>Methods of teaching found the most useful</u>		<u>(N = 155)</u>
Pictures	50	32.3
Individual instruction	36	23.3
Manual	23	14.8
Lectures	12	7.7
Pictures, manual	8	5.2
Pictures, individual instruction	7	4.5
Watching deliveries	3	1.9
Other combination	10	6.6

Use of delivery as a teaching method (q.66)

<u>Number of deliveries watched during your training time</u>	<u>Number</u>	<u>Percentage (n = 155)</u>
0	152	98.0
1	2	1.3
3	1	0.7

Quality of the teacher (q.65)

<u>Would you like the same teacher again?</u>	<u>Number</u>	<u>Percentage (n = 155)</u>
Yes	147	95.0
No	7	4.5
No response	1	0.5

If yes, why?

She taught clearly	134	91.2
She was a nice person	5	3.4
Both	8	5.4

Quality of the training (q.61)

<u>Rating of the training (theoretical part)</u>	<u>Number</u>	<u>Percentage (n = 155)</u>
Very good	51	33.0
Good	99	63.9
Not good	4	2.6
No response	1	0.5

Rating of the training
(practical part)

Very good	41	26.0
Good	112	72.0
Not good	1	1.0
No response	1	1.0

VI. TRAINING PER DIEMKnowledge of the training honoraria (q. 68)

Yes 155

No 0

Without honoraria would you have attended the course? (q.72)

<u>Answer</u>	<u>Number</u>	<u>Percentage (n = 153)</u>
Yes	137	89.6
No	16	10.4

How much did you receive? (q.69)

<u>Amount (Taka)</u>	<u>Number</u>	<u>Percentage (n = 154)</u>
0	9	5.8
80	5	3.2
230	1	-
240	3	-
305	2	-
320	5	3.2
350	1	-
360	4	-
400	13	8.4
430	1	-
440	1	-
450	1	-
470	2	-
480	106	68.8

Were you paid (q.70)

<u>Answer</u>	<u>Number</u>	<u>Percentage (n = 155)</u>
Yes	136	87.7
No	8	5.2
No response	11	7.1

Changes brought about by the trainingWas prestige gained by training (q.45)

<u>Answer</u>	<u>Number</u>	<u>Percentage (n = 155)</u>
Yes	149	99.0
No	1	
No response	5	

Changes in delivery practice (q.73)

<u>Practice</u>	<u>Frequency before Training</u>	<u>Frequency after Training (n = 155)</u>
Poking the cord	5.1	1.9
Pulling the cord	1.9	1.3
Exerting pressure on the abdomen	5.8	1.3
Inducing vomiting	14.8	13.5
Rubbing oil on the patient	34.2	32.9
Use of <u>tabiz</u> (amulet)	7.1	8.4
Use of holy water	40.6	30.3
Use of homeopathic medicine	3.2	2.6
Use of indigenous plants	8.4	9.0
Other	27.7	22.6

Knowledge and promotion of contraceptionKnowledge of contraception (q.57)

<u>Answer</u>	<u>Number</u>	<u>Percentage (n = 155)</u>
Yes	155	100.0
No		

Promotion of contraception (q.59)

<u>Answer</u>	<u>Number</u>	<u>Percentage</u> (n = 155)
Yes	151	97.4
No	2	1.3
No response	2	1.3

If yes

<u>Reason</u>		(n = 151)
Better family life	119	78.0
Economic reasons	22	15.0
To reduce population	6	4.0
Others	4	3.0

ICDDR,B PUBLICATIONS*

A. Annual Report:

5. Annual Report 1980. 103 p.

B. Working Paper:

25. Becker S, Mahmud S, Sarder AM. Validation study of pregnancy histories and indirect techniques of fertility and mortality estimation in Matlab, Bangladesh. Volume 1. Methods and Study of Possible Contamination. Apr 1982. 59 p.

C. Scientific Report:

54. Khan MU, Shahidullah M, Ahmed WU, Barua DK, Begum T, Purification D, Rahman N. Intervention of shigellosis by hand washing. Dec 1981. 16 p.

D. Special Publication:

17. Rahaman MM, Aziz KMS, Rahman S eds. Proceedings of the 1st Asian Conference on Diarrhoeal Disease. Feb 1982. 262 p.

E. Monograph:

2. Maloney C, Aziz KMA, Sarker PC. Beliefs and fertility in Bangladesh. Dec 1981. 385 p. (Price: US \$ 30.00/£ 15.00).

F. Thesis and Dissertation:

3. Shahid NS. Complications of measles in rural Bangladesh (Long term complications in the under-two). June 1981. 38 p.

G. Newsletter:

Glimpse: ICDDR,B Newsletter. Vol. 1, No. 1, Jan 1979 -

* List of previous publications, such as, annual reports, working papers, scientific reports, special publications and thesis and dissertations, can be obtained on request. For further information, write to Head, Library and Publication Branch, International Centre for Diarrhoeal Disease Research, Bangladesh, G.P.O. Box 128, Dacca 2, Bangladesh.