



**THE EGYPTIAN FERTILITY CARE SOCIETY**

**Community-based Survey**

**of Maternal Morbidity in**

**Assiut, Sohag and Quena Governorates**

**Final Report**

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## PROJECT TEAM

<b>Prof. Ezzeldin Osman Hassan</b>	<b>Principal Investigator</b>
<b>Dr. Farag Rizk Hassan</b>	<b>Project Advisor</b>
<b>Mrs. Naglaa Elnahal</b>	<b>Program Officer and Project Coordinator</b>
<b>Mr. Ayman Gaafar Zohry</b>	<b>Research Trainer and Data Analyst</b>
<b>Mrs. Moushira Ibrahim</b>	<b>Data Manager</b>
<b>Mr. Ahmed Abdalla</b>	<b>Data Processing/Computer Support</b>
<b>Mrs. Manal Assaf</b>	<b>Project Secretary</b>

## **EXECUTIVE SUMMARY**

A community-based survey of maternal morbidity was carried out by the Egyptian Fertility Care Society (EFCS) in the three Upper Egypt Governorates Assiut, Sohag and Quena during the period from September 1, 1995 to 31st March 1996. The survey was carried out as part of a NEEDS ASSESSMENT PHASE of a larger program for Continued Education and Training of Primary Health Care Providers carried out by EFCS with support from the UNICEF.

The purpose of this initial assessment survey is to obtain information on the health profile of women in the three governorates covered by the program, the types of morbid conditions that occur during pregnancy, delivery and postpartum period and the health seeking behavior of women experiencing each type of morbidity. The survey was also designed to assess the reasons for the existing under-utilization of the health services and women's perceptions and attitudes towards the available primary health care provided to mothers and children. This information will be used both as baseline data prior to conduct of the project intervention (training and health education programs) and will serve the major outcome of assessing the needs as perceived by the consumers of health services in the study areas. The ultimate goal will be to achieve utmost cost effectiveness of the training and health education components planned under the project.

Preparations for the survey started early September 1995. A draft survey questionnaire was reviewed by the UNICEF technical staff, modified, tested and finalized by the EFCS project staff. Listing of 2500 addresses was obtained from the Central Agency for Public Mobilization and Statistics (CAPMAS). The sample drawn was proportionate to the population size. An adequate number of survey interview schedules were printed. As initially intended, coverage of a total of 2580 households was carried out in the three governorates covered by the survey. Training of three groups of social workers was carried out -by order of events - in Sohag, Assiut and Quena cities during the period from 7 to 31 December 1995. The survey was completed in the six districts located within the three governorates in successive periods during the period from 10th December 1995 to 10th January 1996.

The major results of the survey were found to conform with similar findings of other studies of maternal morbidity carried out in other regions. The main findings are:

1. A higher female illiteracy rate was detected (67.2%) compared with the figure established nationwide (62%);
2. A lower contraceptive prevalence was detected among women living in the three upper Egypt governorates (34.8%), which was coupled with higher fertility rates (mean number of pregnancies of 4.8 and mean number of children of 3.7) and fertility intentions showing greater desire for more children.
3. The vast majority of women studied prefer the services of the private doctor to those offered by governmental health services, the reasons being a perception of a better quality of care received from private services, the bad treatment by public sector clinic personnel, the lack of specialists at governmental services and the inconvenient working hours of these services. This preference is reflected in the fact that private-doctors treated 40-60% of morbid conditions occurring to the studied women in index pregnancy compared to only 25-40% treated at public sector health services, and the fact that private doctors are consulted in 59.2% of the cases of infant/child diseases compared to only 28.6% of the cases where public health services were sought;
4. The majority of women (90.6%) either did not receive antenatal care or were seen less than four times during their last pregnancy, and the majority of those who went for care (82.6%) had a perceived health problem at the time of the first visit, indicating a low perception of the importance of routine check-ups without presence of a specific health problem.
5. The majority of deliveries still take place at home. However, a decline in the role of the daya as the attendant at delivery was detected as she delivered only 57.6% of the cases, whereas physicians delivered 20% of the index deliveries, indicating a rise in their role in that regard.

6. The prevalence of maternal morbidity in the community studied was rather high: 37% of the women had at least one antenatal morbidity in the index pregnancy; 17% had at least one complication at delivery and over 50% had a post-partum morbidity. The health seeking behavior of women for treatment of all types of morbid conditions tended to show a preference of the services of the private doctor, followed by governmental hospitals.
7. Most obstetric emergencies reported to have taken place throughout the studied women's reproductive life were brought to the attention of private doctors, followed by governmental hospitals (55.9% and 36.2%, respectively).
8. A high prevalence of breast-feeding was detected in the studied population (97%), however, women were found to introduce additional foods in the first six months and to breast-feed for shorter durations.

Based on these findings, the main recommendations of the study are:

1. Given the high illiteracy level of the women in Upper Egypt Governorates, use should be made of the mass media, especially the radio and television, to air messages containing clear and easy to understand information on maternal and child morbidity, the danger signs and the appropriate level of care for treatment of each. This will ensure reaching women directly as they infrequently go for regular antenatal care.
2. Activities initiated by the Ministry of Health and those supported by the different donor agencies for improvement of the services provided at the primary, secondary and tertiary health care levels should pay close attention to improving the attitudes and communication skills of health providers as a major component of improved quality of care. This may improve the opinion of women on the quality of the service they receive from governmental health units and thereby improve the level of utilization of these services for maternity care.
3. Out-reach health education programmes are the most appropriate vehicle for reaching pregnant women who fail to go for antenatal care to inform them of the importance of regular antenatal care and to report to referral health centers on

identified cases of morbidity. Revival and promotion of the role of health visitors will complement these efforts and will play a major role in providing the necessary health care to a large segment of the population who - for various reasons - do not seek care at the different pregnancy intervals.

4. Given the existing preference of home deliveries and the growing role of physicians as the attendants at delivery, training of physicians in domiciliary obstetrics is necessary as this type of training is now missing from the undergraduate and post-graduate curricula of medical students. A practical training component may be added to the curricula of training developed to train primary health care level physicians.

5. A special training program in emergency obstetrics should be organized to train the obstetric team (physicians, nurses, nurse midwives) and to improve their abilities to manage emergency referrals received at the different service levels. Emphasis should be placed on the risk approach of obstetric care to improve the obstetric team's ability to identify high risk cases that should be referred to higher service levels.

6. Given the important role that private physicians play in providing obstetric care to women and children, some thought should be given to devise special training programs for this sector of health providers and to find ways to encourage them to join such training activities. These training programs should be geared to improving obstetric, neonatal and child care adopting the risk approach recommended by the WHO. Many of those physicians are already affiliated with governmental health services and therefore, may be easily recruited in training activities organized by the Ministry of Health. Otherwise, private physicians not affiliated with any governmental service may be awarded special certificates (credit hours) for their attendance of these training programs that may be considered a means for continued medical education in specialized obstetric and neonatal care.

7. Improvement of the obstetric services at the tertiary level of care should precede efforts now ongoing for establishing clear lines of referral from the primary to the tertiary health care level. Blood banks or easy access to blood banks should be a major component of such activities given the contribution of hemorrhage (especially

during delivery and in the post-partum period) to the existing high rates of maternal mortality in Upper Egypt.

8. Addition of afternoon or evening service hours at primary health care units may contribute greatly to improve the existing poor levels of service utilization, as the present working hours - mostly morning hours - were judged by women to be inconvenient as they coincide with the time that they normally perform their household chores.

9. Emphasis should be placed in all health messages directed to lactating women on the importance of relying solely on breast-feeding during the first six months of the infant's life; to breast-feed on demand and during night-time as a means to establish good breast-feeding patterns and to minimize gastrointestinal diseases which still contribute to the rather high rates of infant mortality and morbidity still present in Egypt today.

10. The only way to develop the skills of undergraduate and postgraduate medical students and nurses who acquire their degrees with minimal skills in obstetric care is to re-instate the domiciliary obstetric service affiliated to the medical schools. In the past, this service played a major role in training both doctors and nurses during their undergraduate and postgraduate education in the practical aspects of management of delivery and early neonatal care. This recommendation will have its longterm implications for improving obstetric and neonatal care provided to women throughout the country.

## I. BACKGROUND AND RATIONALE OF THE STUDY

Worldwide, more than 500,000 women die annually as a result of pregnancy and childbirth, and 99% of these deaths take place in developing countries. Several well-designed population-based studies were carried out in Egypt over the last decade and have documented high levels of maternal mortality, ranging from 150 per 100,000 live births in Giza Governorate (El Kady et al, 1989), to 205 per 100,000 in Quena Governorate (Saleh, 1987). Most recent information on maternal mortality in Egypt suggest a national maternal mortality ratio of 174/100,000 live births (MOH Child Survival Project, 1994). Results of this survey have also shown that the ratio for governorates in Upper Egypt are much higher than that figure, reaching 307, 386 and 544/100,000 live births in Sohag, Quena and Assiut, respectively

However, the burden that women in developing country must bear is not limited to maternal mortality; the impact of maternal morbidity is also great. Although it has been estimated that there are 16 serious morbidities for each maternal death (Datta et al. 1980), this estimate proved inaccurate in a recent study of maternal morbidity in Menoufeya Governorate, Egypt. The study has shown that as high as 69 life-threatening morbidities occur to women in relation to pregnancy for each maternal death. Some of the conditions suffered by these women have long lasting effects that limit their productivity and adversely affect the quality of their life for many years afterwards.

Several factors determine maternal health and morbidity, most important of which are the woman's reproductive pattern (the number and spacing of pregnancy episodes), and the quality of care that she receives during pregnancy, at delivery and in the postpartum period. A major factor in achieving successful pregnancy spacing is the adoption of contraception. Most recent data available from the Egyptian Demographic and Health Survey (EDHS, 1992) indicate a decline in the total fertility rate over the past decade, dropping from 5.28 in 1979-1980 to 3.92 in 1990-1992. The same survey has also documented a rise in contraceptive prevalence, reaching 47% among married couples in the reproductive age, with significantly higher use rates in urban areas and among married women aged 30 to 44 years. In order to reach the targeted prevalence rate of 53% by 1997 as set by the National FP



Program, the number of contraceptive users will have to increase by approximately 24 percent. To achieve this increase, access to both public and private sector services will need to be increased.

As for the utilization of maternal health services, which is the other side of the coin for achieving safe motherhood, a recent study carried out by EFCS for assessment of maternity care at the primary health care level in Dar El Salam District, Sohag Governorate (funded by UNICEF) has shown that the overwhelming majority of the available health services are not being utilized by women and that health service problems - particularly the poor training of the health team - contribute greatly to this under-utilization. The same study has demonstrated that the private sector physicians have a major role in the provision of health care to women despite the fact that there is no institutionalized program of continued education of this sector of providers, and the complete absence of a well defined system of referral of complicated cases to tertiary level health services. On the other hand, the results of the Demographic and Health Survey (1992) have demonstrated that the private sector plays a significant role as a source for contraceptive services and commodities: more than half of the contraceptive users rely on private physicians and pharmacies for services.

Therefore, an in-depth study of the reasons behind the under-utilization of governmental health services and the growing demand on private sector services needed to be studied from all aspects, particularly those related to how these services are perceived by the consumers, i.e. the women themselves. It was necessary, as well, to define the needs in terms of antenatal, natal and post-natal care and the needed referral levels for treatment of the identified health problems.

## **II. GOAL AND OBJECTIVES OF THE STUDY**

The main goal of this study is to determine the extent of health problems experienced by women in Upper Egyptian populations in relation to pregnancy and childbirth, the types of acute health problems suffered by these women, their health seeking behaviors in the treatment of such ailments and the level of their utilization of the available governmental health services.

### **Specific Objectives:**

1. To estimate the frequency with which specific conditions occur in association with pregnancy and childbirth in Upper Egypt and the source of care sought by women for their treatment;
2. To determine the perception of morbidity and seriousness of each condition, the perceived implications and the appropriate source of care for treatment of each;
3. To determine the social, cultural, economic and institutional reasons why women do not seek timely treatment of complications of pregnancy and childbirth;
4. To study mothers health seeking behavior for treatment of child morbidity; and
5. To propose intervention strategies for the improvement of women and children's health based on survey results and women's perceptions of the quality of the existing maternal health services.

### **III. METHODOLOGY**

#### **3.1 Study Design:**

A cross-sectional design was adopted in the conduct of this multi-stage population-based survey designed to estimate the prevalence of maternal morbidity in Upper Egypt. The study was carried out in the three governorates of Assiut, Sohag and Quena. Purposive selection of the governorates where the survey was conducted was based on their being the three governorates with the highest prevalence rates of maternal mortality as detected in the National Maternal Mortality Survey (Child Survival Project, MOH: 1994). With maternal mortality ratios of over 300/100,000 live births in all three governorates, these rates denote the poor health profile of resident women and all other health indicators.

#### **3.2 Sampling:**

A sample of 2500 household representative of urban and rural populations in a total of 6 administrative districts in the three governorates was drawn from the National sample updated in 1993 by the CAPMAS and used in similar health research.

A total of 250 households were included in each of the rural and urban areas covered by the sample. An over-representation of rural populations was purposively made in order to detect any problems that may be a result of poor service accessibility: six rural localities representing and four urban localities were included in the sample (i.e., the sample was 60% rural and 40% urban).

### **3.3 Eligibility Criteria:**

Using a multi-stage design for identification of eligible cases, all ever-married women in the reproductive age (15-49) permanently residing in the sampled households and having a pregnancy experience in the two years preceding the survey, regardless of the outcome of the pregnancy, and not currently pregnant were interviewed in the survey. The selection criteria was set as such in order to ensure good recall by women of the pregnancy experiences and to eliminate chances for adversely influencing currently pregnant women. Interviews were carried out by trained interviewers using a standardized questionnaire. When there were no eligible women in the household, only the screening form (Household Questionnaire) was completed. When more than two eligible women were present, only the youngest and oldest were interviewed. Due to the strict eligibility/selection criteria, a total of 1310 eligible women were identified and interviewed in the survey. Additional information was obtained on all visited households (total number of household occupants and the male:female ratio; total number of married women in the reproductive age in each household, breast-feeding experience of the last born child of interviewed women, health seeking behavior and service utilization for the care of child illnesses).

### **3.4 Field Work:**

Intensive training was given in three separate sessions given on-site by expert research trainers. The medical component of the questionnaire was addressed by a special training session given by an obstetrician/gynecologist. A training manual was handed-out to trained interviewers, as well as a questionnaire guide that indicates instructions for coding responses. Role playing, as well as field testing of the questionnaire were used to provide the necessary practical training to all trainees on how to handle problems during interviews and in use of probing in a number of the questions. All field activities were supervised by a group of trained supervisors headed by a field coordinator responsible for overall survey

implementation. Research teams were formed of one supervisor, data quality editor and four interviewers and were assigned the coverage areas on a daily bases by the field coordinator. Data quality checking through re-interviewing of at least 25% of the women was done to ensure highest quality of data and to ascertain adherence by the research team to the selection criteria. Retraining of interviewers was carried out as necessary by the supervisory team in order to ensure achieving highest data quality.

### **3.5 Office Editing, Coding and Data Management:**

Special manuals were developed for use in the scanning, review, office editing and coding of study forms carried out by trained coders. Four personal computers were used in processing of data using SPSS PC+ data entry and analysis systems. Data cleaning and verification functions were carried and a final cleaned tape was used in the analysis.

Coding and processing of data was carried out during the period from 15th January to March 10th, 1996. Data analysis, interpretation and report writing were completed March 31st.

## **IV. RESULTS**

As shown in (Table 1) a total of 2445 households were actually visited by researchers in the survey, of which, 1480 were situated in rural areas and 965 were in urban areas. The mean household size for the total survey sample was 7.66 occupants (6.99 in urban areas compared to 8.11 in rural areas). The mean number of male and female occupants in the total sample was 3.88 and 3.77, respectively. A total of 1309 eligible women were identified during the screening phase and they were all interviewed (a 100% response rate).

### **4.1 Characteristics of Surveyed Women:**

#### **4.1.1 Demographic Characteristics (Table 2)**

As regards the age of the women interviewed, most of them (88.5%) are concentrated in the age group 20-39 years, with a mean age of 28.18 years. Their mean age at marriage was 17.55 years. More than three-fourths of the women married

below age 20, with a mean duration of marriage of 10 years. More than 60% of the women interviewed had a history of 4 or more pregnancies, with a mean number of pregnancies of 4.85 for the total sample. Half of the women had 4 live births or more and a mean number 3.69 live births.

#### **4.1.2 Socioeconomic Characteristics (Table 3)**

A little over 65% of the surveyed women (67.2%) are illiterate. This rate, which is higher than the published national figure (62%) may be explained by the fact that the survey was carried out in areas in Upper Egypt where lower socioeconomic standards prevail compared to other parts of the country (Zohry, 1995).

With respect to women's employment status, only 6.4% work for cash, mostly doing clerical work (61.9%), whereas 25.0% did manual work, and only 13.1% were classified as skilled workers. Husband's level of education was found to be somewhat higher than women's education; only 44.4% were illiterate, and 8.9% attained secondary and university education. As regards to the household's economic standing, more than 50% of the surveyed women may be classified in the middle to higher income/expenditure brackets as they reported expenditure of LE 250 or more per month. Only 11.1% had monthly income levels below LE 150. However, classification of the interviewed women into the higher or lower social status takes other variables into consideration (e.g., husband's education and occupation).

## **4.2 Fertility Intentions and Family Planning**

### **4.2.1 Fertility Intentions (Table 4)**

The woman's fertility intentions refer to her desire for having more children, which is influenced to a great extent by the woman's age, current family size, and sex composition of children, which in turn is reflected in her contraceptive behavior (present use of contraceptives). As shown in the table, younger women in the study group still want more children (more than three-fourths of women less than 25 years compared to only 21.1% of those 35 years and older). As well, women having fewer number of children still desired to have more children (63.2% of those having three or less living children).

The effect of educational attainment on fertility intentions showed almost no positive impact on the woman's desire for more children, as very little intra-variations were found to exist between the three groups of women classified as "illiterate/no schooling", "literate, no certificate" and "attained any certificate": the desire for more children was reported by 45.7%, 51.6% and 59.9% of the women in each group, respectively. The same pattern was detected when the husband's education was considered: no positive effect was found with the higher educational attainment of the woman's husband. These findings do not differ greatly from those established in similar studies (EFCS, 1995). One explanation may be the effect that educational attainment may have on delaying the age at marriage, thereby reducing the total number of children and the need still to complete the desired family size.

#### **4.2.2 Contraceptive Use and Family Planning (Table 5)**

Contraceptive use and family planning have an indirect effect on the health of women as a result of the ensuing reduction in the absolute number of pregnancies and in turn, the complications related to pregnancy and delivery. The contraceptive prevalence among this group of women (38.8%) is lower than the that reported nationally (49%: CDC, 1995), however, it compares with the rates previously established for Upper Egypt Governorates (EDHS, 1992). As regards the women's current contraceptive use, 25.2% of all interviewed women were using a modern contraceptive method at the time of the study: 10.6% were using the IUD, 10.3% use the pill and 4.1% use a hormonal injection. Traditional methods (lactational amenorrhea, rhythm/safe period, douching) are used by 9.3% of the women.

#### **4.2.3 Source of Family Planning Methods (Table 6)**

The pharmacy was the primary source of oral contraceptive pills used by women in the study (67.9%), followed by the private doctor (17.2%) and governmental health units (8.2%). IUD services were predominantly provided by private doctors (42.0%), followed by family planning centers and public hospitals (25.4% and 16.7%, respectively). 34.0% of the women using hormonal injections receive them from the private doctor, whereas a total 55% of injectable users prefer governmental sources of care (health units, FP centers and public hospitals).

#### **4.2.4 Utilization of Governmental F.P. Services (Table 7)**

Women were asked about the reasons for seeking family planning services from sources other than governmental ones. Overall, service problems as perceived by the woman herself accounted for 54.4% of the reasons. A belief that contraceptive methods are lacking in governmental units accounted for 15.2% of the reasons. The service being too far away, the inconvenient working hours, the bad treatment by staff of governmental services and the continuous absence of the physician was stated by 13.2%, 12.3%, 10.8% and 2.9% of the women, respectively. It should be noted that in recent years, a period of transition from one system of social marketing to another has resulted in some shortages in the flow of supply of contraceptive commodities to the service delivery points. These shortages have affected the perception of clients who presume these shortages to be still ongoing.

### **4.3 Abortion Care**

#### **4.3.1 Outcome of the Index Pregnancy (Table 8)**

Out of the reported 1309 pregnancies, a total of 77 ended in a spontaneous abortion (5.9%). Stillbirth was reported by 2.0% of the interviewed women, whereas 92.1% of the pregnancies ended in a live birth.

#### **4.3.2 Health Care at time of Abortion (Table 9)**

Abortion complications (fever, pelvic pain and bleeding) were reported by 71.4% of the women reporting the index pregnancy to end in an abortion. 89.1% of those women sought care for these problems: 53.1% went to a private doctor or private hospital, whereas 38.7% used governmental health services. The main reasons for seeking hospital care were bleeding (87.2%), pelvic pain (46.2%), and fever (43.6%) or a combination of those symptoms (7.7%). Of the 15 women who were hospitalized for abortion-related morbidities, 17.6% stayed three nights or more, indicating that they experienced severe complications. Women who did not seek care for complications of abortion (8 women) were asked about the reasons for their decision not to seek care: 50% claimed that they did not feel very ill, the rest stated that they were too shy to go for help, their husbands refused to let them go to a hospital, or that the health service is too far away (each accounted for 12.5% of the responses).

#### **4.4 Health Service Utilization during the Index Pregnancy**

##### **4.4.1 Antenatal Care (Tables 10 and 10-A)**

Women were asked about antenatal care received during their last (index) pregnancy in terms of frequency of visits made to the health facility, the timing of the first visit during the pregnancy, the reason(s) for going the first time and the type of care they received during these visits. 45.4% of the women did not receive any medical care throughout the pregnancy, and 45.1% had fewer than four visits, indicating that the necessary regular check-up was not done in 90.5% of the cases. Only 4.8% of the women made seven or more visits during the pregnancy, which explains the low mean number of antenatal visits for women who received antenatal care (a mean of 1.25 visits). As regards the timing of the first visit during the index pregnancy, 51.5% of those receiving antenatal care went during the first trimester, whereas the rest went for the first time during the second and third trimesters (32.4% and 16.1%, respectively). Women who received no antenatal care were asked to state the main reasons why they did not go for any care throughout the pregnancy. 63.3% stated that they felt fine and 13.6% did not know that they needed to receive care for pregnancy. Personal reasons and family problems (husband's refusal, no one to watch the children among other personal reasons) caused 17.0% of failures to go for antenatal care. Service accessibility problems (did not know of a nearby health unit, the unit being too far, no transportation and inconvenient working hours) accounted for 3.1% of the reasons given by women for not going for antenatal care, whereas service acceptability problems (bad treatment by unit staff) accounted for only 0.7% of the reasons. 2.4% of the women had an abortion before they could go for antenatal care. Overall, women's perception of the importance of real antenatal care (regular check-ups) in the absence of severe health problems was very low, which subjects a number of these women and their babies to real danger in cases of asymptomatic morbidities, such as hypertension and some cases of rheumatic heart disease.

##### **4.4.2 Source of Antenatal Care (Tables 11 and 11-A)**

Private doctors provided 72.3% of antenatal care to women who went during the index pregnancy. Governmental health units provided 12.1% of the care. Grouped together, private sources of care -private doctors, hospitals and other private health care sources- provided three times the care provided by governmental



sources -health care units, F.P. centers, MCH units and governmental hospitals (74.0% versus 26.0%, respectively). The reasons given by women for not using governmental sources of care were mainly related to quality of care perceived to exist in these units: lack of a specialized doctor, bad treatment, inconvenient working hours and the unit being too far accounted for 35.8%, 14.7%, 4.1%, and 1.6% of the reasons, respectively. Husband's refusal was stated by 11.7% of the women, whereas 4.3% preferred a private doctor for their perception of receiving better quality services. Overall, women interviewed held a rather low opinion of the quality of maternity care services provided at governmental health care sources. This opinion may be the result of a real problem that appears to be present here. The quality of the services provided to women surveyed during antenatal care was found to be below the expectation. Judged by two simple questions asked to all women who have received antenatal care (Table 11-A) on whether anyone has checked their blood pressure during any antenatal visit, and whether she gave a urine sample for laboratory testing, it was found that as high as 43.8% of the women who went for antenatal care in public services never had their blood pressure measured, compared to only 12.9% of those who went to private services. In some cases, the women received the booster tetanus toxoid injection from the MOH clinic nurse and was never seen by a doctor. However, as regards to laboratory tests, similar proportions of women receiving antenatal care from public and private services alike were never tested for proteinuria (70.1% and 71.0%, respectively). The quality of care is therefore judged to be poor in both private and public sector services in this respect.

#### 4.4.3 Reason for first Antenatal Visit (Table 12)

When asked about the reason for the first antenatal visit made by those who went for antenatal care, four major reasons were stated by respondents: (1) having a perceived health problem, which accounted for (59.8%) of the reasons; (2) going for a routine check-up, stated by 17.4% of the women; (3) went for confirmation of the pregnancy, mentioned by 14.0% and (4) receiving the tetanus toxoid immunization shot, stated by 8.8% of the women. Health complaints reported by the surveyed women included bleeding (4.6%), severe vomiting (11.9%), 'felt weak' (15.1%), had diarrhea (0.4%), fever (3.3%), edema (2.3%), lack of foetal movement, vaginal infection, pelvic pain, heartburn, coughing and backache (reported by less than 2% of the women each). Again, the fact that women do not seek medical care

during pregnancy except when they perceive of a health problem poses an eminent risk to the health of mother and child in cases where the morbidity is asymptomatic.

#### 4.5 Antepartum Morbidities

##### 4.5.1 Prevalence and Health Service Utilization (Table 13)

The most frequently reported antepartum morbidity was vaginal itching, reported by 37% of the interviewed women. Fever lasting more than three days was reported by 25.8% of the women. Edema, urinary problems and severe vomiting were reported by 24%, 20.8% and 20.2% of the women, respectively. Fits/convulsions were the least reported problems, yet the prevalence of this morbidity is higher than expected (4.5%) suggesting either a possible over-reporting as a result of misunderstanding the question, or that pre-eclampsia is still prevalent in the three study communities.

Women were asked to state whether they considered each of the studied morbidities as serious; whether they require treatment, and if so, the most appropriate source of care to seek for treatment of the condition. Perception of seriousness was highest with respect to bleeding (95%), followed by fits/convulsions (89.7%) and hypertension (86.5%). Active health seeking behavior coincided with the woman's perception of the seriousness of the condition: 90.5% of those having hypertension and 85.2% of those reporting antepartum bleeding have actually gone for medical care. Other morbid conditions occurring during pregnancy were perceived as serious with varying degrees. However, it is worth noting that the conditions that normally occur during pregnancy (such as vomiting, edema and varicose veins) while they were perceived to be serious by over 60% of the women, yet, we find that this perception of danger does not translate itself into active health seeking behavior. Only 39.9% of those who had edema, 44.5% of those having complained of varicose veins and 68.9% of those reporting severe vomiting have actually sought medical care. Also, study data has shown that only 63.3% of those reporting fits/convulsions have actually sought medical care, suggesting again an over-reporting of the condition.

Of the conditions that may occur outside of pregnancy (non-obstetric conditions), anemia was the most frequently reported condition, occurring in 22% of

the interviewed women. The condition was perceived serious by 84.9% of the women, who also reported having gone for health care. Other chronic conditions aggravated by pregnancy - such as pulmonary TB, diabetes and rheumatic heart disease were reported by less than 1% of the interviewed women.

#### **4.5.2 Source of Care for Antepartum Morbidities (Table 14)**

Private doctors were reported to be the source of care most frequently used by women suffering from antepartum morbid conditions, providing more than 50% of the care for all of the less severe conditions (except for severe vomiting) and more than 60% of the care for the more severe conditions (bleeding, fits/convulsions hypertension, anemia and diabetes). As for governmental health services (specifically general/district hospitals) those were markedly under-utilized, as less than one fourth of the women used them for treatment of fits/convulsions, urinary tract infections, severe vomiting, varicose veins and edema. Here we must mention the fact that women are using an inappropriate health provider or health care level, namely the private doctor, as the care provider in cases of severe morbid conditions, such as bleeding or fits/convulsions, when in fact these conditions require either hospitalization or access to tertiary level hospital care.

Pharmacists were consulted and provided care for conditions requiring medications such as high fever (5.9%), vaginal itching (4.1%), and severe vomiting (1.8%). This finding supports the findings of similar studies of maternal morbidity which demonstrated the growing role of the pharmacist in providing care during pregnancy and after delivery (EFCS, 1995).

### **4.6 Intrapartum Morbidities: Delivery Care**

#### **4.6.1 Selected Characteristics of the Index Delivery (Table 15-17)**

As shown in (Table 15), most of the index deliveries (86.4%) have taken place at home, indicating a persistent preference of home deliveries over health institution deliveries in the three surveyed localities. Private clinics and governmental hospitals were reported as the place of delivery by 8.2% and 4.5% of the women, respectively. Compared to figures published in the past on the attendant at delivery, a marked drop in the role of the daya and the rise in the role of the private doctor may be seen from the fact that the former attended 57.6% of the deliveries and the latter attended

20%. This finding confirms a similar pattern documented in another study carried out in Lower Egypt (EFCS, 1995) where more home deliveries were found to be attended by the doctor, and not just the *daya*, pointing to the need to train medical students again in domiciliary obstetrics which differ to a great extent from institutional delivery.

The cost of delivery reported by women ranged between nil (in the case of home deliveries attended by relatives) to more than LE 150 inclusive of the delivery attendant's fee, transportation and medical supplies. However, in the majority of deliveries (65.7%) the total cost was reported to be less than LE 50, with a mean of LE 61.60 per delivery. It should be noted here that cost is a major determinant in the choice of both the place of delivery as well as the attendant at delivery.

(Table 16) describes the delivery attendant by the place of delivery. As expected, most of deliveries occurring in a health institution (governmental or private hospitals and clinics of private physicians) are attended by a physician (96.5%, 100% and 100%, respectively). As to home deliveries, 66.7% were attended by a *daya*, whereas the doctor, the nurse, the midwife and relatives attended the rest of home deliveries, distributed almost equally.

When asked about the reasons for not using governmental services at the time of delivery (Table 17), preference of home delivery ranked first among the reasons given (62.1%). Perception of service problems (fear of death in a hospital, no specialist at the health unit, bad treatment and the delivery occurring at night when the service is closed) accounted for 17% of the reasons.

#### **4.6.2 Interventions at the time of the Index Delivery (Table 18)**

Interventions at time of delivery included drugs given to accelerate delivery (used in 33.5% of all deliveries), Caesarean section (occurring in 2.2% of the cases) and instrumental delivery (use of forceps or suction, resorted to in 2.5% of the deliveries). Episiotomy was done in only 10.3% of the deliveries, restricted mainly to hospital deliveries. This finding substantiates reports that women prefer home deliveries because of their fear of either being delivered by C. section, or being cut from below by the attending physician.

#### **4.6.3 Intrapartum Morbidity and Health Service Utilization (Table 19)**

Women were asked about specific morbidities occurring during labor, their perception of the seriousness of the condition and the most appropriate place for treatment of each. Labor lasting for more than 18 hours was the most frequently reported condition, mentioned by 17.3% of the women. Yet despite the fact that a little over 90% of the women perceived prolonged labor to be serious, only 52.8% have actually sought health care. Perineal/vaginal tears ranked second in prevalence, reported by 10.3% of the women. Again, while 84.5% of the women recognized the seriousness of this condition, only 62.8% have actually sought care. Loss of consciousness occurred in 9.3% of the cases; however, it was the condition least perceived as serious by the interviewed women (74.4%) and only 47.3% of those who had the condition have actually sought care. The more serious conditions such as excessive bleeding, fits/convulsions and ruptured uterus occurred less frequently (6.5%, 1.7% and 0.8%, respectively); and while those were recognized to be serious by over 90% of the women, yet the seeking of health care for treatment of each was lower than expected (72.5%, 61.9% and 81.8%, respectively).

#### **4.6.4 Source of Care for Intrapartum Morbidities (Table 20)**

Generally speaking, the private doctor provided the majority of health care for treatment of morbid conditions occurring at delivery: 45%- 55% of cases of obstructed labor, fits/convulsions, excessive bleeding, loss of consciousness and ruptured uterus were seen by a private physician. Governmental hospitals treated 30-40% of the same conditions, whereas the primary health care level (health unit, FP unit, MCH units) and pharmacists had a negligible role to play in this regard. Again, the choice of the level of care or health provider reported to be used by women, mainly the private doctor, was inappropriate for treating conditions such as excessive bleeding and fits/convulsions which should be referred directly and without delay to the hospital.

### **4.7 Postpartum Morbidities**

#### **4.7.1 Prevalence and Health Service Utilization (Table 21)**

When asked about specific postpartum morbidities, 55.8% of the women reported having suffered pelvic pain; one fifth had postpartum fever or breast problems, and 11.9% had foul discharge (indicating possible puerperal sepsis).

Perception of the seriousness of morbid condition occurring during the postpartum period was generally low, and except for excessive bleeding (perceived serious by 95.7% of the women) women tolerated most postpartum conditions as a normal aspect of motherhood. It is worth noting, however, that postpartum depression lasting for more than two weeks was reported by 5.4% of the women, was perceived serious by 60.1% of the women interviewed, and 31.1% of those who had the condition stated that they have sought care, reflecting a growing trend of recognizing psychological illness with active health seeking behavior. More access to information on depression in recent years has certainly changed health behaviors and more women are coming forth for treatment of psychological problems.

#### **4.7.2 Source of Care for Postpartum Morbidities (Table 22)**

The health seeking behavior of women for postpartum conditions follows the same pattern seen earlier for ante- and intra-partum morbidities. The private doctor was the most frequently sought health provider for most conditions in almost 50% of the cases. Governmental hospitals ranked second in treating the more serious conditions such as excessive bleeding, high fever, loss of consciousness and fits/convulsions. The pharmacist was frequently consulted in conditions requiring medications, such as pelvic pain (20.3%) and breast problems (15.7%), and to a lesser extent, in conditions such as high fever (6.8%) and foul discharge (4.2%).

#### **4.8 Emergency Transfers/Referral of Maternal Morbidities (Table 23)**

Women were asked to give an account of any acute morbid conditions which required emergency transfer to a hospital or health center in the past during any pregnancy. All women's accounts were reviewed by an external reviewer (an obstetrician/gynecologist) to evaluate the appropriateness of actions taken during the emergency condition as regards the timeliness of the decision or need for seeking specialized medical care, the appropriateness of the choice of referral level and whether the woman was transferred promptly (type of transportation used, etc.) for the necessary action. Inappropriate action was determined in cases of:

- absence of antenatal care preceding the condition;
- delayed referral of the condition judging by the time from onset of the morbid condition to actual receipt of treatment;
- wrong destination/referral level for the type condition reported;
- very early discharge from referral point;
- inappropriate medical care, when reported;
- lack of the necessary equipment/facilities, when reported.

Allowance was made when private or rented cars, and not only ambulances were used in the transfer of the woman to the referral center. From the total number of reports reviewed it was found that women or their families rarely used ambulances, possibly due to the fact that calling an ambulance requires availability of telephone communications (most ambulatory services are attached to hospital facilities) or that they are almost non-existent in the communities studied. Therefore, rented/private cars were considered as appropriate means of transportation as they are the most readily available means of transportation in the communities studied.

Of all women interviewed in the study, 14.3% had in the past been transferred to a health care provider due to an emergency condition during pregnancy, at delivery or during the postpartum period. Again the private doctor received 55.9% of the cases, followed by governmental hospitals (36.2%). Judged by the accounts given by women and reviewed by the external evaluator, 61.6% of the cases were referred to the appropriate referral level, while 38.4% were inappropriately handled. Delayed transfer of the case was a major factor shared among those cases. As for the choice of the health provider, when asked about the reasons for their preference of non-governmental health care providers, 36.5% of the women stated that they receive better care from the private doctor, 33.3% think that governmental services have no specialists for treatment of such emergencies, and the rest attributed their reluctance to use public sector services to the inconvenient working hours (a sizeable proportion of these obstetric emergencies occurred at night) and the perception of poor treatment they would receive from staff of the public sector facilities.

As mentioned earlier, women or their families frequently seek the services of the private doctor when the morbid condition in fact requires immediate hospitalization (e.g., in cases of severe hemorrhage or eclamptic fits). Health messages that target women in the reproductive age and their families should contain information on both the types of maternal morbidities that should be immediately brought to tertiary levels of health care and the fact that most governmental hospitals normally have both the trained staff and necessary facilities to treat these conditions. The other side of the coin is to train the obstetric team on prompt response to emergency cases for timely case management which leads to improved outcomes.

## **4.9 Breastfeeding Patterns and Child Health Care**

### **4.9.1 Breastfeeding Patterns (Table 24)**

The vast majority of surveyed women (96.9%) breastfed their last born child. As for the timing of onset of breastfeeding, 76.9% started to breastfeed immediately after delivery. Delayed onset of breastfeeding (after the elapse of more than 24 hours) occurred in 14.9% of the cases. Unexpectedly, less than half the women (45.8%) breastfed their infants for six months or more, and the rest continued breastfeeding for shorter durations. Good breastfeeding patterns were assessed in terms of whether the woman breastfed her infant on demand as opposed to use of a time schedule, whether she breastfed during the night and whether she relied solely on her breast milk in feeding her child during the first six months after birth. Again, the vast majority of women (97.2%) breastfed on demand and 99.5% gave night feeds. Introduction of supplementary feeds in the first six months occurred, however, in 37.2% of the cases. Night feeds prepared from boiled caraway seeds and anise were reported by 19.2% of the women, whereas 9.0% and 1.4% introduced supplementary feeds of milk formula and cow milk, respectively; 4.4% introduced mashed foods and juices by the fourth month and 3.2% gave glucose feeds during the early months of the baby's life. The notion that breast milk can and should be given solely during the first six months of the infant's life needs to be incorporated in all health messages directed to pregnant women as unhealthful breastfeeding patterns emerge when lactating women introduce supplementary foods too early.

### **4.9.2 Experience of Child Disease (Table 25)**

The age of the youngest child in the majority of interviewed women (93.1%) was less than three years old. As a result of the criteria used for selection of women in the study, only 2.8% of the women had children 5 years and older. Experience of child disease varied by age of the child: Eye and chest diseases occurred more frequently in the first year of life (61.5% and 38.4%, respectively) whereas teeth problems, skin problems, abdominal diseases and fever were most frequent in those completing one year (occurring in 82.4%, 51.6%, 45.2% and 38.4%, respectively). Introducing age of the child as a covariate, it was found that risk for child disease is concentrated in the first three years of a child's life (0-2 years age group). In other words, the frequency with which the different groups of diseases occur in children decreases with age. By the end of the second year, the percentage of chest



diseases drops from 23.2% to 2.3%, and E.N.T. problems drop from 22.7% to 4.5%. The proportion of those suffering fever episodes drops from 31.6% at age two to 4.2% in the third year of life, and continues to drop thereafter. As well, the frequency with which abdominal diseases occur (those being a major cause of under age 5 mortality) drops from 15.9% at age two to 1.9% in the third year of the child's life. Reports of eye and teeth problems almost disappear as of the third year of life. Cumulatively, chest diseases are the most frequently reported child disease (41.9%), followed by abdominal diseases (30.5%) and fever (18.1%).

#### **4.9.3 Source of Care for Child Disease (Table 26)**

Patterns of health service utilization similar to those resorted to by women for pregnancy related morbidities were observed in their treatment of child diseases. The services of the private doctor were sought in 59.2% of the cases for treatment of the last episode of child disease, and was consulted in the majority of cases in all types of diseases. Governmental hospitals and health units were used in 16.5% and 12.1% of the cases, respectively. The pharmacist was consulted in 4.2% of the cases and provided almost 17% of the care in eye diseases. In as high as 7.0% of the cases of child disease, no treatment was given at all: 16.7% of eye diseases, 7.7% of chest diseases and 6.5% of abdominal diseases were left without care. This finding confirms that health education of mothers is indicated, especially on the need for prompt attention to treating eye, chest and abdominal diseases.

#### **4.9.4 Reason of Choice of the Source of Care (Table 27)**

Women were asked to name the major reason(s) for choice of the health provider for treatment of the last disease episode of their youngest child. Except for the case of choosing the private doctor, closeness of the service delivery point was a major determinant for its choice as the source of care in treating child diseases (cited as the major reason for choice in over 30% of the cases). It is interesting to note that proximity to place of residence accounted 60.6% of the reasons for choice of the governmental health unit, whereas good quality service was the main reason for choice of the private doctor. Conversely, when women who used private sector providers were asked why they did not use governmental health services, the vast majority (51.7%) stated that they preferred the private doctor, 16.8% thought that there were no pediatricians on staff in governmental health services and 14.3% believed that government services are to be used for routine vaccination services

only (preventive rather than curative care). Bad treatment, lack of medications and inconvenient working hours accounted for 4.0%, 3.7% and 3.4% of the reasons, respectively.

## V. CONCLUSIONS AND RECOMMENDATIONS

Findings presented in this report describe how women in Egypt perceive of morbid conditions occurring in relation to pregnancy and childbearing, their health seeking behavior and practices upon onset of morbid conditions during pregnancy, at delivery and during the postpartum period. A brief description was also given on their breastfeeding patterns, incidence of child disease and their health service utilization for treatment of the last disease episode suffered by the youngest child.

Major findings of the study reflect the effect of factors related to the socio-economic standards prevailing in the communities studied on the lives and health standard of women. These factors may be grouped into six major areas:

1. High illiteracy rate: 67.2% of the surveyed women are illiterate, a percentage which is higher than the National figure for females (62%). Moreover, only 20.6% of the women completed primary education or more; 93.6% do not work for cash and 86.9% of those employed do manual or clerical work. This may explain the low contraceptive prevalence among these women (34.8%) and the preference of large size families indicated by the high rates of desire for more children.
2. Socio-economic Status: Almost 50% of the studied population has an income below LE 250 per month. Grouped with the husband's lower educational attainment (over 60% of the husbands are either illiterate or have not completed primary education), more than half of the families studied are classified in the lower socio-economic stratum.
3. Perception of Quality of Care at Governmental Health Services: Poor opinion on governmental health services prevails among the studied women, the reasons being a perception of the poorer quality of care at these services in comparison with those received from private sector providers; the lack of specialists and medications at public services; the bad treatment by staff of health units; the inconvenient working hours of these units; the preference of home deliveries; and the general preference of the private doctor for treatment of pregnancy complications and child diseases. Women's preference of private sector health care poses a real problem in their active

seeking of treatment for morbid conditions experienced in relation to pregnancy, or even in seeking health care for their children's health problems given the low socio-economic standard of the majority of these women.

4. Perception of the need for Antenatal Care: Women studied had a very low perception of the importance and necessity of antenatal care. As high as 45.4% of the women were never checked during the last pregnancy and 45.1% of those who went for antenatal care made less than 4 visits throughout the pregnancy. The majority of women (82.6%) had a health problem when they went for the first time, i.e., these women would not have gone if they had not perceived of a health problem. This is problematic in the sense that many asymptomatic morbid conditions, such as pregnancy induced hypertension and diabetes, may be left unattended.

5. Preference of Home Delivery: More than 85% of the deliveries took place at home. The daya's role seem to be on the decline as she attended only 57.6% of the deliveries. As high as 20% of the deliveries were attended by a doctor, which indicates the need to train junior doctors in domiciliary obstetrics, including management of difficult labors, as well as establishing clear protocols for referrals to higher service levels.

6. Importance of Breastfeeding: Women still conform to the traditional value placed on breastfeeding (about 97% breastfed their last born child). However, introduction of supplementary feeds before the elapse of the six months may be the cause of the shorter durations of breastfeeding (only 45.8% continued breastfeeding for six months or more) and the high prevalence of infant and child morbidity in the community studied.

In light of these major findings, the following recommendations should be taken into consideration in future efforts carried out by National and International organizations concerned with the improvement of maternal and child health:

1. Given the high illiteracy level of the women in Upper Egypt Governorates, use should be made of the mass media, especially the radio and television, to air messages containing clear and easy to understand information on maternal and child morbidity, the danger signs and the appropriate level of care for treatment of each. This will ensure reaching women directly as they infrequently go for regular antenatal care.

2. Activities initiated by the Ministry of Health and those supported by the different donor agencies for improvement of the services provided at the primary, secondary and tertiary health care levels should pay close attention to improving the attitudes and communication skills of health providers as a major component of improved quality of care. This may improve the opinion of women on the quality of the service they receive from governmental health units and thereby improve the level of utilization of these services for maternity care.
3. Out-reach health education programmes are the most appropriate vehicle for reaching pregnant women who fail to go for antenatal care to inform them of the importance of regular antenatal care and to report to referral health centers on identified cases of morbidity. Revival and promotion of the role of health visitors will complement these efforts and will play a major role in providing the necessary health care to a large segment of the population who - for various reasons - do not seek care at the different pregnancy intervals.
4. Given the existing preference of home deliveries and the growing role of physicians as the attendants at delivery, training of physicians in domiciliary obstetrics is necessary as this type of training is now missing from the undergraduate and post-graduate curricula of medical students. A practical training component may be added to the curricula of training developed to train primary health care level physicians.
5. A special training program in emergency obstetrics should be organized to train the obstetric team (physicians, nurses, nurse midwives) and to improve their abilities to manage emergency referrals received at the different service levels. Emphasis should be placed on the risk approach of obstetric care to improve the obstetric team's ability to identify high risk cases that should be referred to higher service levels.
6. Given the important role that private physicians play in providing obstetric care to women and children, some thought should be given to devise special training programs for this sector of health providers and to find ways to encourage them to join such training activities. These training programs should be geared to improving obstetric, neonatal and child care adopting the

risk approach recommended by the WHO. Many of those physicians are already affiliated with governmental health services and therefore, may be easily recruited in training activities organized by the Ministry of Health. Otherwise, private physicians not affiliated with any governmental service may be awarded special certificates (credit hours) for their attendance of these training programs that may be considered a means for continued medical education in specialized obstetric and neonatal care.

7. Improvement of the obstetric services at the tertiary level of care should precede efforts now ongoing for establishing clear lines of referral from the primary to the tertiary health care level. Blood banks or easy access to blood banks should be a major component of such activities given the contribution of hemorrhage (especially during delivery and in the post-partum period) to the existing high rates of maternal mortality in Upper Egypt.
8. Addition of afternoon or evening service hours at primary health care units may contribute greatly to improve the existing poor levels of service utilization, as the present working hours - mostly morning hours - were judged by women to be inconvenient as they coincide with the time that they normally perform their household chores.
9. Emphasis should be placed in all health messages directed to lactating women on the importance of relying solely on breast-feeding during the first six months of the infant's life; to breast-feed on demand and during night-time as a means to establish good breast-feeding patterns and to minimize gastrointestinal diseases which still contribute to the rather high rates of infant mortality and morbidity still present in Egypt today.
10. The only way to develop the skills of undergraduate and postgraduate medical students and nurses who acquire their degrees with minimal skills in obstetric care is to re-instate the domiciliary obstetric service affiliated to the medical schools. In the past, this service played a major role in training both doctors and nurses during their undergraduate and postgraduate education in the practical aspects of management of delivery and early neonatal care. This recommendation will have its longterm implications for improving obstetric and neonatal care provided to women throughout the country.

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Table (1) Response Rates at the Household and Individual Woman Levels

A. Household Survey

	URBAN	RURAL	TOTAL
No. of Households Visited	965	1480	2445
Mean Household size	6.99	8.11	7.66
Mean No. of males	4.06	3.60	3.88
Mean No. of females	4.04	3.37	3.77

B. Individual Women's Survey

	URBAN	RURAL	TOTAL
No. of Eligible Women	394	915	1309
Completed Interviews	394	915	1309
Response Rate	100%	100%	100%
Field Work	November	1995 to	Jan. 1996

Table (2) Demographic Characteristics of Survey Respondents

CHARACTERISTIC	NUMBER	PERCENT
1. Age of woman:		
15 - 19	77	5.9
20 - 24	308	23.5
25 - 29	364	27.8
30 - 34	279	21.8
35 - 39	208	15.9
40 - 44	49	3.7
45 - 49	22	1.7
50 +	2	0.2
Mean / SD	28.18 ± 6.36	
No. of Women	1309	100.0
2. Age at marriage:		
Less than 20	985	76.1
20 - 24	262	20.2
25+	48	3.7
Mean/SD	17.55 ± 3.08	
No. of women	1295	100.0
3. Duration of Marriage:		
Less than 5 years	261	20.2
5 - 9 years	363	28.0
10 - 14 years	308	23.8
15+	363	28.0
Mean / SD	10.00 ± 6.56	
No. of Women	1295	100.0
4. Number of Pregnancies:		
1	138	10.5
2 - 3	370	28.3
4 - 5	340	26.0
6+	461	35.2
Mean / SD	4.85 ± 2.94	
No. of Women	1309	100.0
5. Number of Live Births:		
0	14	1.1
1	185	14.1
2 - 3	470	35.9
4 - 5	386	29.5
6+	254	19.4
Mean / SD	3.69 ± 2.05	
No. of Women	1309	100.0



Table (3) Socioeconomic Characteristics of Survey Respondents

CHARACTERISTIC	NUMBER	PERCENT
1. Woman's Education:		
Illiterate & No Schooling	880	67.2
Literate, no certificate	159	12.2
Completed Primary	80	6.1
Completed Preparatory	63	4.8
Completed Secondary	94	7.2
More than Secondary/Univ.	32	2.4
No. of Women	1308	100.0
2. Employment Status:		
Works for cash	84	6.4
Does not work for cash	1225	93.6
No. of women	1309	100.0
3. Type of Work:		
Manual Work	21	25.0
Skilled Work	11	13.1
Clerical Work	52	61.9
No. of Women	84	100.0
4. Place of Work:		
At home	27	32.1
Outside home	55	65.5
At home and outside	2	2.4
No. of Women	84	100.0
5. Husband's Education		
Illiterate & No Schooling	581	44.4
Literate, no certificate	236	18.0
Completed Primary	75	5.7
Completed Preparatory	56	4.3
Completed Secondary	245	18.7
More than Secondary/Univ.	116	8.9
No. of Women	1309	100.0
6. Family Income (LE):		
Less than 150	143	11.1
150 - 249	454	35.2
250 - 349	389	30.2
350 +	303	23.5
Mean Income / <u>SD</u>	289.64 ± 193.25	
No. of Women	1309	100.0

Table (4) Fertility Intentions by Selected Characteristics of the Woman

CHARACTERISTIC	DESIRE FOR PREGNANCY		NUMBER OF WOMEN
	YES %	NO %	
<b>1. Age:</b>			
Less than 25	76.8	23.2	384
25 - 34	45.1	54.9	641
35 +	21.1	78.9	279
<b>2. No. of Living Children:</b>			
0 - 1	94.9	5.1	198
2 - 3	63.2	36.8	470
4 - 5	29.9	70.1	386
6 +	17.1	82.9	255
<b>3. Women's Education:</b>			
Illiterate/no schooling	45.7	54.3	877
Literate, no certificate	51.6	48.4	159
Any certificate	59.9	40.1	267
<b>4. Husband's Education:</b>			
Illiterate/no schooling	44.0	56.0	579
Literate, no certificate	48.9	51.1	235
Any certificate	55.7	44.3	490
<b>Total</b>	<b>49.3</b>	<b>50.7</b>	<b>1304</b>

Table (5) Contraceptive Use Prevalence and Method Mix

CONTRACEPTIVE METHOD	NUMBER	PERCENT
No Method	852	65.2
Any Method	507	38.8
Any Modern Method	329	25.2
Pills	134	10.3
IUD	138	10.6
Injectables	53	4.1
Vaginal Methods	5	0.4
Traditional Methods	121	9.3
Other	4	0.3
Total	1307	100.0

Table (6) Place of F.P. Service by Type of Contraceptive

Place of Service	Pills n = 134	IUDs n = 138	Injections n = 53	Vaginal n = 3
Govt. Health Unit	8.2	11.6	20.8	-
F.P. Center	3.0	25.4	20.8	-
Public Hospital	1.5	16.7	15.1	-
Private Doctor	17.2	42.0	34.0	-
Private Hospital	1.5	1.4	1.9	-
Pharmacy	67.9	1.4	5.7	100.0
Other	0.7	1.4	1.9	-
Total	100.0	100.0	100.0	100.0

Table (7) Reasons for not using Governmental F.P. Services

MAIN REASON	NUMBER OF WOMEN	PERCENT
Unit lacks contraceptive methods	31	15.2
Location too far	27	13.2
Doctor Always Absent	6	2.9
Bad treatment by clinic staff	22	10.8
Inconvenient working hours	25	12.3
Did not know about service	3	1.5
Other personal reasons	90	44.1
Total	204	100.0

Table (8) Outcome of the Last (Index) Pregnancy

DELIVERY OUTCOME	NUMBER	PERCENT
Live Birth	1206	92.1
Still-birth	26	2.0
Miscarriage / Abortion	77	5.9
Total	1309	100.0

Table (9) Selected Signs/symptoms of Abortion Morbidity

SIGN / SYMPTOM	NUMBER	PERCENT
Post-abortion fever or bleeding?		
Yes	55	71.4
No	22	28.6
Total	77	100.0
Received any Medical Treatment for Fever or Bleeding?		
Yes	49	89.1
No	6	10.9
Total	55	100.0
Place of Treatment:		
Health Care Unit	4	8.2
Private Doctor/hospital	26	53.1
Public Hospital	19	38.7
Total	49	100.0
Reason for Hospitalization:		
Bleeding	34	87.2
Pain	18	46.2
Fever	17	43.6
Other medical problem	3	7.7
Number of hospital nights:		
Left the same day	19	55.9
One night	5	14.7
Two nights	4	11.8
Three or more nights	6	17.6
Total	34	100.0
Reason for not using/seeking medical care for abortion complications:		
Too far from home	1	12.5
Was too shy to go	1	12.5
Husband's refusal	1	12.5
Did not feel very ill	1	12.5
Other	4	50.0
Total	8	100.0

Table (10) Health Service Utilization During the Index Pregnancy

CHARACTERISTIC	NO. OF WOMEN	PERCENT
Went for Antenatal Care during Pregnancy?		
Yes	700	54.6
No	581	45.4
Number of women	1281	100.0
Number of Antenatal Visits		
0	581	45.4
1 - 3	578	45.1
4 - 6	60	4.7
7 +	62	4.8
Mean no. of visits/SD	1.25 ± 2.46	
Number of women	1281	100.0
Month of the first visit		
1 - 3	355	51.5
4 - 6	223	32.4
7 +	111	16.1
Number of women	689	100.0
Reason for not going for antenatal care:		
1. <u>Personal Reasons:</u>		
Felt fine	369	63.3
Did not know she had to go	79	13.6
Husband refused	10	1.7
No one to watch children	4	0.7
Aborted before could go	14	2.4
Other personal reasons	85	14.6
2. <u>Accessibility Problems:</u>		
Did not know about services	4	0.7
Service too far	10	1.7
No transportation	1	0.2
Inconvenient working hours	3	0.5
3. <u>Acceptability Problems:</u>		
Bad treatment	4	0.7



Table (11) Selected Characteristics of Antenatal Care Received

CHARACTERISTIC	NO.OF WOMEN	PERCENT
Location of the first antenatal visit:		
Health Care Unit	84	12.1
Family Planning Center	21	3.0
MCH Center	17	2.5
Governmental Hospital	58	8.4
Private Doctor	501	72.3
Private Hospital	10	1.4
other private sources	2	0.3
Total Public Facilities	180	26.0
Total Private Facilities	513	74.0
Total Number of Women	693	100.0
Reason for not utilizing Governmental Services:		
No specialist there	183	35.8
Bad treatment	75	14.7
Inconvenient working hours	21	4.1
Husband refused	60	11.7
Prefers private doctor	22	4.3
Location of service too far	8	1.6
Does not know	5	1.0
other personal reasons	137	26.8
Total Number of Women	511	100.0

Table (11-A) Selected Characteristics of Antenatal Care Received

QUALITY OF ANTENATAL CARE RECEIVED	PUBLIC SERVICES		PRIVATE SERVICES		TOTALS	
	No.	%	No.	%	No.	%
Blood Pressure Measured?						
yes	100	56.2	444	87.1	544	79.1
no	78	43.8	66	12.9	144	20.9
Total	178	100.0	510	100.0	688	100.0
Urine Test done?						
yes	53	29.9	147	29.0	200	29.2
no	124	70.1	360	71.0	484	70.8
Total	177	100.0	507	100.0	684	100.0

Table (12) Reason of the First Antenatal Visit

MAIN REASON	NO. OF WOMEN	PERCENT
Routine check-up	120	17.4
Bleeding	32	4.6
Severe vomiting	82	11.9
Felt weak	104	15.1
Had diarrhea	3	0.4
Fever	23	3.3
Headache	23	3.3
Swollen feet	16	2.3
No foetal movement	9	1.3
Tetanus Toxoid Vaccination	61	8.8
Confirmation of pregnancy	96	14.0
Infections (vaginal)	10	1.4
Pelvic pain	7	1.0
Heartburn	4	0.6
Coughing	7	1.0
Backache	10	1.4
other medical problems	83	12.0
Total Number of Women	690	100.0

Table (13) Specific Antepartum Morbidities in the Inex Pregnancy, Seriousness Perception and Seeking of Health Care

MORBIDITY	WOMEN WITH MORBIDITY		PERCEIVES IT AS SERIOUS *		SOUGHT HEALTH CARE	
	NO.	%	NO.	%	NO.	%
Vaginal itching	456	37.0	815	66.4	270	59.3
Edema	297	24.0	781	63.5	117	39.9
Bleeding	83	6.7	1166	95.0	69	85.2
Fits/Convulsions	55	4.5	1097	89.7	38	63.3
Fever > 3 days	327	25.8	968	73.9	218	66.9
Severe vomiting	255	20.2	903	71.8	173	68.9
Hypertension	119	9.7	1060	86.5	105	90.5
Urinary Problems	257	20.8	895	72.8	141	56.2
Morbidities Aggravated by Pregnancy:						
Varicose veins	119	9.6	882	72.1	53	44.5
Anemia	271	22.0	1044	84.9	227	84.1
Diabetes	8	0.6	1128	92.0	6	85.7
Pulmonary TB	3	0.2	-	-	-	-
Rheumatic Heart	7	0.6	-	-	-	-

\* Based on all women surveyed.

Table (14) Source of Health Care by Type of Antenatal Morbidity

SOURCE OF CARE	Vag. Itching	Edema	Bleeding	Fits Convulsions	Fever >3 days	Severe Vomiting	Hypertension	Urinary Problems	Vari-cose veins	Anemia	Diabetes
Health Care Unit	11.1	11.6	9.1	9.2	11.4	10.6	9.7	11.1	11.0	9.0	8.2
Family Planning Center	2.4	1.5	1.5	0.9	1.7	1.5	1.9	3.1	2.1	1.9	1.5
MCH Center	1.1	1.0	0.4	0.6	1.0	1.0	0.8	1.1	1.1	0.9	0.6
Governmental Hospital	22.5	23.3	24.5	24.6	22.1	27.7	21.1	24.6	24.3	20.7	19.1
Private Doctor	53.7	54.6	61.1	60.3	54.1	49.8	62.8	53.1	55.7	63.4	67.1
Private Hospital	0.6	0.9	1.3	0.6	0.3	0.6	1.0	0.5	0.4	0.6	1.1
Pharmacy	4.1	0.2	0.3	0.2	5.9	1.8	0.3	2.1	0.2	1.1	-
Other	2.1	2.6	1.5	2.5	2.2	2.8	2.1	2.4	2.9	2.3	2.1
Received no care	2.4	4.3	0.3	1.5	1.3	4.1	0.3	2.0	2.3	0.9	0.3
No. of Women	1234	1234	1234	1234	1267	1263	1232	1233	1233	1231	1231
Total	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.

Table (15) Selected Characteristics of the Index Delivery

CHARACTERISTIC	NUMBER	PERCENT
<b>Place of Delivery</b>		
MCH Center	1	0.1
Governmental Hospital	56	4.5
Private Doctor	101	8.2
Private Hospital	9	0.7
At home	1064	86.4
other	1	0.1
Number of Women	1232	100.0
<b>Attendant at delivery</b>		
Doctor	246	20.0
Nurse	66	5.4
Midwife	54	4.4
Daya	709	57.6
Female Relative	67	5.4
Other	88	7.2
Number of Women	1230	100.0
<b>Cost of Delivery in LE</b>		
Less than 50	801	65.7
50 - 99	187	15.3
100 - 149	108	8.9
150 +	123	10.1
Mean Cost / SD	61.56 ± 124.89	
Number of Women	1219	100.0

Table (16) Place of Delivery by Delivery Attendant

PLACE OF DELIVERY	ATTENDANT AT DELIVERY						TOTAL	
	DOCTOR %	NURSE %	MIDWIFE %	T B A %	RELATIVE %	OTHER %	NO.	%
Governmental Hospital	96.5	1.8	1.8	-	-	-	57	100.0
Private Doctor	100.0	-	-	-	-	-	101	100.0
Private Hospital	100.0	-	-	-	-	-	9	100.0
At Home	7.6	6.1	5.0	66.7	6.3	8.3	1063	100.0

Table (17) Reasons for not Utilizing Governmental Services at time of Delivery

Main Reason	No. of Women	Percent
Prefers delivery at home	669	62.1
Fear of death in hospital	12	1.1
No specialist in gov. service	34	3.2
Financial problems	63	5.8
Delivery happened at night	55	5.1
No need to go to hospital	82	7.6
Bad treatment	82	7.6
other personal reasons	80	7.4
Number of Women	1077	100.0



Table (18) Interventions at Time of Delivery

INTERVENTION	NUMBER	PERCENT
Given drugs to accelerate delivery:		
yes	412	33.5
no	818	66.5
Total	1230	100.0
Caeserean Section:		
done	27	2.2
not done	1203	97.8
Total	1230	100.0
Instrumental Delivery		
yes	31	2.5
no	1198	97.5
Total	1229	100.0
Episiotomy *		
done	126.	10.3
not done	1103	89.7
Total	1229	100.0

\* During any delivery

Table (19) Specific Intrapartum Morbidities in the Index Delivery, Perception of Seriousness and Health Seeking Behavior

MORBIDITY	WOMEN WITH MORBIDITY		PERCEIVES IT AS SERIOUS *		SOUGHT HEALTH CARE	
	NO.	%	NO.	%	NO.	%
Labor > 18 hours	213	17.3	1109	90.6	112	52.8
Fit/Convulsions	21	1.7	1105	90.4	13	61.9
Excessive Bleeding	80	6.5	1171	95.6	58	72.5
Loss of Consciousness	114	9.3	910	74.4	52	47.3
Ruptured Uterus	10	0.8	1189	97.4	9	81.8
Any Vaginal Tear	127	10.3	1034	84.5	76	62.8

\* Based on all women in the survey

Table (20) Source of Health Care for Intrapartum Morbidities by type of morbidity

Source of Care	Labor >18 hrs	Fits/Convulsions	Excessive Bleeding	Loss of Consciousness	Ruptured Uterus	Any Tears
Governmental Health Center	6.3	6.3	5.9	9.0	4.8	5.1
Family Planning Unit	0.2	0.4	1.1	1.1	0.3	0.6
MCH Unit	0.6	0.7	0.4	0.7	0.3	0.6
Governmental Hospital	39.6	34.4	33.8	31.6	34.7	31.3
Private Doctor	46.8	53.2	53.2	46.3	54.1	51.4
Private Hospital	1.9	1.5	2.4	0.8	3.5	2.8
Pharmacy	0.6	0.2	0.6	0.9	0.2	1.3
Other	2.0	2.3	1.9	2.8	1.9	2.8
Received No Care	1.8	1.2	0.6	6.8	0.2	4.1
Number of Women	1231	1231	1231	1228	1229	1229
% from Total	100.0	100.0	100.0	100.0	100.0	100.0

Table (21) Specific Post-partum Morbidities in the Index Pregnancy, Perception of Seriousness and Health Seeking Behavior

MORBIDITY	WOMEN WITH MORBIDITY		PERCEIVES IT AS SERIOUS *		SOUGHT HEALTH CARE	
	NO.	%	NO.	%	NO.	%
Excessive Bleeding	77	6.3	1170	95.7	59	76.6
High Fever	264	21.5	999	81.6	180	70.9
Loss of Consciousness	79	6.4	927	75.9	39	50.6
Fits/Convulsions	21	1.7	1086	89.1	14	70.0
Foul Discharge	146	11.9	842	69.0	67	48.6
Pelvic Pain	685	55.8	848	69.5	411	61.5
Breast Problem(s)	270	22.0	800	65.5	162	62.3
Painful Urination	148	12.0	878	72.0	63	44.7
Depression <2 weeks	190	15.5	631	52.2	1	0.6
Depression >2 weeks	64	5.4	701	60.1	19	31.1

\* Based on all women in the survey

Table (22) Source of Health Care by Type of Postpartum Morbidity

SOURCE OF CARE	Excess Bleeds	High Fever	Loss of Conscious	Fits Convulsions	Foul Discharge	Pelvic Pain	Breast Problem	Painful Urination	Depression < 2wks	Depression > 2wks
Health Care Unit	7.0	8.4	9.2	7.4	10.7	7.7	9.9	10.7	13.6	10.4
Family Planning Center	0.7	1.0	1.5	1.2	2.2	2.0	2.5	3.3	1.4	1.4
MCH Center	0.7	1.1	1.1	1.1	1.1	1.1	1.1	0.7	0.7	0.7
Governmental Hospital	31.4	26.6	28.1	28.8	25.3	18.6	21.8	29.1	20.1	21.1
Private Doctor	55.6	52.0	49.7	56.5	48.4	41.5	42.1	46.0	42.6	47.2
Private Hospital	2.1	0.9	1.0	1.1	0.7	0.8	0.5	0.7	0.6	0.7
Pharmacy	0.5	6.8	0.9	0.6	4.2	20.3	15.7	4.2	1.5	1.3
Other	1.6	1.6	2.5	2.1	3.1	4.4	2.6	2.4	5.3	5.0
Received no care	0.4	1.7	6.2	1.3	4.2	3.9	3.8	2.9	14.2	12.2
No. of Women	1228	1226	1226	1222	1225	1228	1226	1225	1217	1178
Total	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.

Table (23)

## Experience of Obstetric Emergencies and Health Seeking Behavior of Women

Item	Number	Percent
Experienced any obstetric emergency requiring care in any previous pregnancy?		
Yes	177	14.3
No	1054	85.7
Total	1231	100.0
Place of Care:		
Governmental Health Unit	6	3.4
Governmental Hospital	64	36.2
Private Doctor	99	55.9
Private Hospital	6	3.4
Other	2	1.1
Total	177	100.0
Assessment of referral and treatment/procedures:		
Appropriate	109	61.6
Inappropriate	68	38.4
Total	177	100.0

Table (24) Breastfeeding Experience of the last child

DESCRIPTION	NUMBER	PERCENT
Breastfed Last Born Child		
Yes	1169	96.9
No	37	3.1
Total	1206	100.0
Timing of onset of breastfeeding:		
Immediately after delivery	898	76.9
Within first 24 hours	96	8.2
After more than 24 hours	174	14.9
Total	1168	100.0
Duration of breastfeeding:		
0 - 1 month	147	12.5
2 - 3 months	183	15.6
4 - 5 months	307	26.1
6 +	537	45.8
Total	1174	100.0
Frequency of Breastfeeding:		
On a time schedule basis	33	2.8
On demand	1138	97.2
Total	1171	100.0
Breastfeeding at night		
Yes	1165	99.5
No	6	0.5
Total	1171	100.0
Use of supplementary foods in first six months:		
Breast milk only	736	62.8
Milk formula	106	9.0
Glucose	38	3.2
Anãis, caraway, teas	225	19.2
Milk	16	1.4
Mashed foods/juices	51	4.4
Total	1172	100.0

Table (25) Experience of Child Disease in Youngest Child by current age

TYPE OF DISEASE	CHILD'S AGE IN YEARS							NUMBER OF CHILDREN (%)	
	0 YR %	1 YR %	2 YRS %	3 YRS %	4 YRS %	5-12YRS %	NO.	%	
Chest diseases	38.4	31.8	23.2	2.3	1.6	2.7	440	41.9	
Abdominal diseases	34.6	45.2	15.6	1.9	1.9	0.9	321	30.5	
Skin diseases	22.6	51.6	12.9	-	3.2	9.7	31	2.9	
Eye diseases	61.5	15.4	23.1	-	-	-	13	1.2	
Teath problems	5.9	82.4	11.8	-	-	-	17	1.6	
E.N.T. problems	18.2	31.8	22.7	4.5	4.5	18.2	22	2.1	
Fever	20.5	38.4	31.6	4.2	1.6	3.7	190	18.1	
Other health problems	5.9	52.9	35.3	-	5.9	-	17	1.6	
Total	32.4	38.6	22.1	2.4	1.8	2.8	1051	100.0	



Table (26) Place of Treatment of Last Experienced Child Disease

TYPE OF DISEASE	Source of Care						NUMBER OF CHILDREN (%)	
	Health Unit %	Govt. Hospital %	Private Doctor %	Pharmacy %	Other Sources %	No Treatment %	NO.	%
Chest diseases	11.2	18.2	56.7	4.3	1.8	7.7	439	41.9
Abdominal diseases	13.4	15.0	60.7	4.0	0.3	6.5	321	30.6
Skin diseases	16.1	22.6	54.8	3.2	-	3.2	31	3.0
Eye diseases	8.3	8.3	41.7	16.7	8.3	16.7	12	1.1
Teath problems	11.8	11.8	47.1	-	23.5	5.9	17	1.6
E.N.T. problems	-	22.7	77.3	-	-	-	22	2.1
Fever	13.2	14.2	62.1	4.7	-	5.8	190	18.1
Other health problems	12.5	18.8	68.8	-	-	-	16	1.5
Total	12.1	16.5	59.2	4.2	1.0	7.0	1048	100.0

Table (27) Place of Treatment of Last Experienced Child Disease by Reason for Choice of Provider

TYPE OF HEALTH INSTITUTION	MAIN REASON FOR CHOICE OF HEALTH PROVIDER							Number of Children
	Near My House %	A good Place %	Used it before %	No special list at Health Unit %	Relative's Advice %	Prefer private doctor %	Other Reason %	
Govt. Health Unit	60.6	17.3	11.0	-	2.4	-	8.7	127
Govt. Hospital	32.6	43.0	7.7	1.4	7.7	-	4.9	142
Private Doctor	12.5	58.2	12.1	6.9	3.5	3.1	3.7	622
Pharmacy	33.3	14.3	14.3	-	7.1	-	31.0	42
Other Sources	33.3	16.7	-	16.7	16.7	-	16.7	6