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Literature Review on Maternal Health

• Anila Daulatzai
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MATERNAL HEALTH:

- Beliefs and Practices Surrounding Delivery
- Father's Perspectives on Newborn Care
- Breast-feeding Practices at Birth
- Antenatal Care
- Recognition of Danger Signs During Pregnancy
- Reproductive Health Services and Quality of Care
- Contraceptive Knowledge and Practices Related to Use of Contraceptives
- Knowledge Beliefs and Practices Related to Maternal Nutrition and Anemia

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The Pakistan NGO Initiative (PNI), launched in 1995, is a USAID-funded project implemented through The Asia Foundation (TAF). The project was designed to strengthen NGO (non-governmental organization) capacity to work with local communities to access and deliver improved social sector services, with emphasis on maternal health, child survival, female education and family planning. Technical assistance in health is provided by cooperating agencies: MotherCare/Manoff, BASICS and Wellstart International's Expanded Promotion of Breastfeeding Program (EPB).

The program was initially managed by Ms. Judith Standley, under the technical assistance provided by Wellstart International in collaboration with Mr. Mark McKenna, Program Director for PNI at TAF. This work for community-based promotion of breastfeeding was based on the communication strategy developed from the qualitative research work initiated by the national Breastfeeding Steering Committee in 1990.

This document is published to provide program managers and policy makers from NGOs, the government and donors with the information collected on behavioral/KAP studies done in Pakistan during the last 10-years. I am thankful to all the national organizations who sent us their literature (published or unpublished) for the review.

The MotherCare Program Coordinator and two local MotherCare/Manoff consultants conducted a thorough review of qualitative research studies on breastfeeding, and other child feeding practices. Their synthesis of published and un-published documents included an analysis of current behaviors related to child health and child feeding and, also, barriers to changing those practices.

The literature review collected information in the following areas:

- Beliefs and Practices Surrounding Delivery;
- Father's Perspectives on Newborn Care;
- Breast-feeding Practices at Birth;
- Antenatal Care;
- Recognition of Danger Signs During Pregnancy;
- Reproductive Health Services and Quality of Care;
- Contraceptive Knowledge and Practices Related to the Use of Contraceptives; and
- Knowledge, Beliefs, and Practices Related to Maternal Nutrition and Anemia.

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INTRODUCTION

Women's health in Pakistan is in dire straits. National and regional statistics both indicate that not much change has occurred to improve the overall health status of women. For the past three decades, economic growth has been relatively robust. However, what would seem to be a fertile environment for growth in the social sector's spending on factors such as health care, has not materialized. Investment in health has not been seriously considered, and thus Pakistan is left to accept largely preventable calamities like a maternal mortality rate of 500/100,000. The Government of Pakistan, coupled with the NGOs, both international and national, have lent their support in the attempt to alleviate the dismal conditions faced everyday by these women, and that ultimately have manifested in poor health indicators. These indicators reveal not only unsatisfactory numbers for women's health, but also that of their children.

It is unfathomable that so many resources and efforts are filtered into the cause of increasing the quality of life for the women of Pakistan, yet things are not changing. What is needed is an amalgamation of thoughts, approaches, and resources toward a concentration on primary health care. The following is an attempt to synthesize published and unpublished documents, as well as highlight past policies regarding maternal health. Some of the problems faced by women are rooted in social issues, and yet others are due to lack of knowledge and proper facilities. This report will attempt to highlight those beliefs and practices surrounding topics such as delivery, newborn care, breastfeeding at birth, and complications during pregnancy that have contributed to the poor health status of women, and that are possible targets for education and programmatic interventions. Other relevant topics such as antenatal care, danger signs and recognition during pregnancy, maternal nutrition, the use of iron supplementation, as well as the newer topic of reproductive health will also be reviewed. Since much that has to be changed is in fact behaviour related, and behaviours are laden with many cultural and social traditions, innovative and culturally sensitive approaches must be employed to ensure both acceptance and sustainability. This report hopes to serve as the beginning of an effort to synthesize what has already been done. It strives to reach some clarity on future and innovative approaches, and to create a strong constituency for primary health care to ameliorate the statistics on death and disease affecting people, particularly the women of Pakistan.

BELIEFS AND PRACTICES SURROUNDING DELIVERY

Pregnancy related morbidity and mortality represent a significant portion of the burden of disease faced by Pakistani women. Traditional Birth Attendants (TBAs) play a vital role in providing perinatal and postnatal services to women in Pakistan. For the most part, the TBAs are not properly trained, and so often prescribe to traditional, and oftentimes harmful, delivery practices. It is estimated that nearly 80% of all births in Pakistan are conducted by a TBA, with greater percentages in the rural areas of the country. TBAs provide a culturally appropriate, accessible, and affordable option to the poor. A study done in the Katchi Abadis

of Karachi attempted to describe the knowledge, attitudes, and practices of 52 TBAs¹. A questionnaire was used as the research instrument, but relevant personal anecdotes and experiences were extracted from the discussions as well.

A profile of some of the more salient features of the TBAs showed that 15% were in the 30-39 age group, 17% were 40-49 years of age, 23% were between 50-59 years, 26% were 60-69, and 17% were 70-80 years of age. Literacy questions revealed that 62% were illiterate, and a majority of the TBAs had been working as a TBA for more than 11 years. These characteristics will be of particular importance in the following section on policy recommendations.

When asked about practices related to the management of ante-partum hemorrhaging, it was found that a number of potentially harmful practices were employed. Only one out of the 52 TBAs found it necessary to immediately refer a case of ante-partum hemorrhage to the hospital. The remaining 51 TBAs said their top priority was to stop the bleeding, and to induce labor. The following methods were identified as those utilized by TBAs to stop bleeding: take bed rest, raise the foot of the bed by placing bricks under the bed, avoid exertion and lifting heavy loads, use sanitary pads, avoid eating hot foods such as beef, chilies, fish, chicken, mangoes, etc., and to eat and drink only cold things such as ice cream, and lassi, to drink vermicelli water, the preparation and consumption of various concoctions 3-5 times daily such as "nishasta" combined with "mawa"(form of starch), cold milk, anise seeds or "somf", dry coriander seeds, cumin seeds, sugar candy, and water.

Herbal medicine called "phaki" prescribed mostly by Balochi TBAs is used as well. It is prepared by the TBAs with unknown ingredients, then sold in the local stores, and taken orally. Religious practices such as "parha hoa dhaga", which is a piece of thread over which the holy verses have been recited is tied around the upper arm of the woman, are also common. The above practices are those viewed as having little or no benefit or harm to the woman.

There are a set of practices used by the TBAs, however, that do have the potential to be quite harmful. They include inserting various things into the vagina. Some TBAs insert homemade pessaries or even hot ghee into the vagina, (cooking fat). Other potentially dangerous practices include hot formentation over the abdomen to relax the uterus, and massaging the abdomen with ice. A large number of these TBAs also give tablets, injections, (such as Methargin) and I/V drips to stop the bleeding.

Methods used by TBAs to induce labor were also ascertained during the discussions. There were many practices that seemed to be of no or unknown benefit or harm to the women. These include drinking water in which "alam" or potato seeds had been boiled, drinking a tablespoon of castor oil 2-3 times a day as a laxative, giving soap water enema, eating a mixture of butter, saffron and raw sugar with milk, drinking hot tea, milk or ghee, walking continuously until labour is induced, and massaging the abdomen with clay mixed

¹ Knowledge, Attitude and Practices of Mothers about "Facts for Life". Prepared by Rehman Associates for UNICEF, Islamabad, 1993.

in water.

Regarding the TBAs, ages, and practices, it should be noted that 94% of the TBAs less than 50 years of age were the ones that used medicines instead of traditional practices to stop the bleeding or to induce labour. This demonstrates that the younger TBAs are more in tune with and adopting biomedical practices, as compared to the older TBAs who are using traditional methods. Unfortunately, the indiscriminate use of drips and various other injections by the younger TBAs is a big cause for concern. They essentially require training on when and how much is the appropriate dosage. Another area of concern is the fact that more than 90% of the TBAs did not feel that referring the patient to the hospital when she was bleeding was necessary.

The instructions given to women in labour seemed for the most part harmless. They ranged advising them to continue walking, to drink hot milk/ghee so that the birth canal would become slippery and the delivery would be easy, to not go out of the house, to not see sun light, to take deep breaths and bear down the pain, to stamp her feet on the ground periodically, to not eat anything unless it was ghee/ butter, and to not tell anybody about their labor pains for fear the evil eye being cast.

Cutting the cord and the sterilization procedures involved was also ascertained. Fifty six percent of the TBAs used scissors for cutting the cord, 25% used razor blades, 4% used ordinary blades, and 15% of the TBAs said they used whatever was available in the woman's house. On sterilization procedures, it was noted that 60% of the TBAs sterilized the instruments after the delivery had been conducted, then wrapped it a cloth and placed it in a box. Fifteen percent of the TBAs sterilized before and after use, and another 25% of them claimed that they used new razor blades in each delivery.

Obstructed labour was also discussed with the TBAs. They defined it as a condition in which the cervix has opened, labour pains have begun, however, the fetus has not yet descended. For obstructed labour, the TBAs adopted the following practices, often combining a few of them at a time. The practices that are harmless, or have unknown benefit, are drinking hot milk with ghee or butter, and a flower being placed in a bowl of water. It is called the flower of the Holy Prophet's (PBUH) daughter, Bibi Fatima. When the flower is in full bloom, it indicates that the delivery will now occur. So the flower serves to indicate the progress of the labour. It is interesting that even the Christian TBAs employ the use of this practice.

Then there are a series of practices for obstructed labor that have the potential to be harmful to the woman and her baby. They include placing "misri" or sugar candy in the vagina to increase the strength of the labour pains, placing "haldi" or tumeric mixed with "misri" or sugar candy in the vagina, wrapping "neem" leaves, "phitkari" or alum and "gur" or raw sugar in cotton, dipping it in water in which the holy verses have been recited, and then placing this in the vagina. Additional harmful practices include the application of lubricants like ghee, oil, vaseline, grease, glycerine in the vagina, and trying to bring the fetus out by using force, beating the perineum forcefully with a broomstick, asking the women to stand straight against a wall and to bite a piece of her hair and push down, while

the TBA simultaneously tries to bring the fetus out by applying lubricants and adopting other various P/V manouvers. The TBA has been known to put saliva in the vagina, since saliva is believed to counter the influence of the evil eye which is regarded as a cause of obstructed labour. Sometimes, the TBA stands on the woman and beats on her back with force, and finally some TBAs give injections to increase the labor pains. A good practice that was mentioned was the referral of women to nearest hospital when obstruction occurs. It is not known whether the TBAs first try a series of the other practices before they actually decide to refer the woman to the hospital.

In the postpartum period, practices that were conducted to deal with post-partum hemorrhaging and fever were ascertained. It is interesting to note that 35% of the TBAs noted that they leave the cases of postpartum hemorrhage as they are. They consider postpartum hemorrhage to be a good sign because it allows all the "gand" or dirt to leave the body of the woman. Sixty five percent of the TBAs adopted the same practices to deal with postpartum haemorrhage as anti partum, both harmless and potentially dangerous. Practices that are at least partially acceptable for the treatment of postpartum haemorrhaging include taking bed rest, raising the foot end of the bed, tightly tying sanitary napkins, stop eating "hot foods", etc. Often, the TBA will do a P/V examination and pushes the uterus upwards, or conducts a D&C to evacuate the uterus completely, or gives medicines in the form of tablets, injections, and drips.

Puerperal pyrexia is called "challey ka bukhar" or 40-day fever. Some 48.1% of the TBAs considered puerperal pyrexia to be a normal sequence of delivery. This, for the TBAs, probably falls under the same logic as postpartum haemorrhaging, and is a considered to be a good sign. The TBAs noted that they did not consider the delivery to be complete unless the woman develops a fever of sorts. Furthermore, they say that if the woman does not develop a fever for some reason, it means that the "products of conception" are still present within her uterus. Other TBAs believe that the fever is a sign of congratulations to the mother from Bibi Fatima (Holy Prophet's (PBUH) daughter). This belief is also common among the Christian TBAs as well. Other TBAs think that since the fetus stayed in the womb for nine months, it had an effect on the blood of the mother. Either cooling the woman's blood or warming it. If it cooled her blood, then the woman will suffer from shivers or will have fits, and if her blood was warmed, she will develop a fever which will cure by itself.

It was interesting to note the various treatment regimes for puerperal pyrexia. Some 26.9% of the TBAs gave medicine such as Novalgin, Aspirin, Paracetamol, Antibiotics, herbal medicines, and drips. Ten percent of the TBAs asked the woman to see a doctor, and 16% of the TBAs adopted a number of the following practices: ask the woman to wear something borrowed from a woman in the community whose husband has married again; ask the woman to bring 'roti' or baked bread from her mother's house or from a Hindu house, and then grind it and eat it for 3 days; inhale the fumes of "ajwain" or Ani seed, put "neem" leaves and "ajwain" in water and allow it to boil and then bathe with this water; apply a mixture of oil, or salt and water on the breast to relieve congestion, which is believed to be the cause of fever; and tie a piece of thread over which the Holy verses have been recited around the upper arm.

Looking at the characteristics of the TBAs interviewed in this study, it is noted that they do diverge a bit from the traditional stereotype of a TBA. For example, 38% of the TBAs were literate, and 10% of them were quite young- in their early thirties. It is interesting to note that 94% of the TBAs that were less than 50 years of age use medicines to stop the bleeding or to induce labour. Also, in the case of puerperal pyrexia, 93% of the TBAs who gave medicines were less than 50 years of age. This may indicate that the younger TBAs are adopting more biomedical solutions to problems, while the older TBAs continue to use their traditional practices. This can be a cause for concern, however. These younger TBAs are probably practising the more biomedical interventions without fully understanding the theoretical base, or the empirical reasoning behind the action. They probably have little knowledge about such things as asepsis, or required dosages for various medications that they prescribe. Consequently, women are also getting more dependent on the use of medicines, even when they are not necessary. Women often do not feel satisfied with the work of the TBA unless some sort of medicine or injection is given. It is a good sign to note that the use of medicines is occurring, however, random distribution and ad-hoc administration of medicines is extremely dangerous. In this one area, education can be given to the TBAs so they can learn and understand the use of medicines and more non-traditional practices, without the potential of harming the mothers.

The TBAs in Pakistan generally work as part of the informal sector of the health care system. There is no referral back-up at all for their services. However, with some basic training and surveillance, they can easily become useful and active participants in the promotion of the Primary Health Care model. They have the potential to become key components in the reduction of pregnancy related morbidities and mortalities. They are often in-tune with the cultural component and the social nuances relevant to the women, and thus have the potential to provide culturally appropriate as well as beneficial health services to poor women. TBAs can be trained and educated to recognize high risk pregnancies, and postnatal complications. Their services can also be linked to local hospitals or clinics, so that a referral system is made available.

Case studies that were presented in auto diagnosis group visits to Gujranawala revealed some of the problems faced by the women, and some of the decisions that arise and how they are dealt with in the family². The first case was Haneefa Bibi, around 32 years of age. Haneefa was married when she was 15 years old to her husband, who was 22 and a farmer. She got pregnant the first time ten years after their marriage. She did not have to face many of the problems that often women encounter when dealing with the in-laws, as they had died when her husband was a young boy. She had a second baby 2 years after the first. It was this pregnancy that she had problems with. She said that she did not take any special diet because she was pregnant, and did not consult a doctor early in the pregnancy. However, the tragic death of her father caused her enough tension and discomfort which she ignored. It was during her seventh month of pregnancy that she went to a doctor for a check-up. The doctor

² Autodiagnosis Groups from Gujranawala, Report on Case Studies about the Child and Mothers Health During Delivery, unpublished 1997.

told her that she was all right but advised her to come more often, and to rest and change her diet.

It is interesting in this case study that the husband was quite supportive and was pushing her to be regular in her ante-natal check-ups, but she didn't pay much attention to this, and she did not return to a doctor again. When her labour pains started the TBA was called, and her labour became prolonged. The TBA felt that a doctor should be called. The doctor arrived and gave her injections, and the baby was finally delivered. However, it was a still birth. The family blamed the TBA. Haneefa said that the TBA was inefficient, and that there was a lack of medical facilities, and the late acquisition of a trained doctor. The interesting thing that should be noted is that Haneefa did not perceive herself to be blamed or at fault. After asking her some questions she did say that she could have gone to the doctor sooner after her pain, and she could have consulted the doctor regularly for antenatal visits since she did have the support of her husband. This event did teach her where she went wrong, and subsequently she gave birth to three healthy children with require antenatal care. This should be taken as a lesson. It is not necessary for other women to have to experience the pain of the loss of a child to realize what practices they should be adhering to in order to make their pregnancies and deliveries as safe as possible.

A series of focus group discussions were conducted by a team of doctors working on the Maternal and Child Health Project in Pakistan that is sponsored by the Pakistan Institute of Medical Sciences (PIMS), and the Japan International Cooperation Agency (JICA) in 1997³. They conducted a series of focus groups with husbands, TBAs, LHVs, mother in laws, as well as with mothers in various villages surrounding Islamabad and Rawalpindi. The focus group discussions touched on various topics relating to both maternal and child health, and the points relevant to delivery and delivery practices were recorded. It is interesting to note that the same questions were asked of the husbands, the women, as well as the TBAs to ascertain various points of view. Although focus groups of this sort have the ability to be valuable sources of information, often they are not utilized as effectively as possible.

In the discussions with the TBAs, it was evident that the pregnant women do not seek prenatal care until the fifth or seventh month. They said that the main reason for the delay is that they are often embarrassed about their pregnancies, and so try to hide it. After the stomach becomes prominent, they usually seek care. The TBAs were asked what ought to be done if the woman starts to have labour pains. Is she taken to the hospital directly, or is the doctor called? The TBA responded that a TBA is called because there really is no need for a doctor at all. The TBA continued to say that if there is a problem that she does not think that she can handle, she will call the most senior TBA to help her. If this senior TBA is not available, then they will take the patient to the Rawalpindi Hospital. These TBAs reported that they have never had any problems that they could not handle, and that there have been no maternal deaths under their care either. They say that they do not give injections at all.

³ Niyyar Rehman, G., et al., Maternal and under Five Year Old childhood Mortality Survey, Maternal and Child Health Project in Pakistan: Preliminary Report, Japan International Cooperation Agency (JICA), Pakistan Institute of Medical Sciences (PIMS), Islamabad, 1997.

even though they do know what they are for. They also said that they do not have the proper instruments at all times that are essential for a proper delivery. Not very clear practices or beliefs were ascertained from this set of focus groups, except maybe that there is a delay in seeking any form of antenatal care due to embarrassment, and also that seeing a doctor is often not considered important. This can perhaps be interpreted as TBAs having full confidence in their traditional methods, and believing that a woman would not benefit any more if her delivery was attended by a trained medical doctor.

The focus group discussions with the husbands in this PIMS/JICA study revealed some interesting information. A group of five or so husbands was asked about their views on the place of delivery, and whose decision it is ultimately. The prominent view of these husbands was that it is the women who themselves decide their delivery option. They said that when a pregnant woman delivers in a clinic, she comes back and informs the other women in the village if it was a good experience or not, and whether she felt the doctor was competent. They then said that they feel that human psychology is important here because when a woman goes to a doctor or clinic of her choice, then she will get better. The husbands further clarified that if they themselves could not accompany their wives to the hospital, her relatives could. The decision was the wives', and there were no apparent restrictions on them to go for antenatal checkups.

Focus group discussions with Lady Health Visitors (LHVs) regarding their views on the choices women have concerning delivery showed that they seemed to think that it was the mother-in-laws' decision that indicated where the delivery would occur. Even if the pregnant woman wants to go to the Rawalpindi hospital, the mother-in-law often does not allow it because she may think that male doctors will attend the delivery. They also said that mother-in-laws are of the view that a home delivery is safer with a TBA, and cheaper than the unnecessary expenses of a hospital. The Lady Health Visitors said that the husband often simply agrees with what his mother decides, and often the mother-in-law absolutely insists that it will be a home delivery with a TBA.

The results of the focus group discussions with pregnant and lactating women echoed those of the LHV discussions. They all seem to say that their choice of delivery is the local TBA. Even one woman whose last baby was delivered by a TBA and then died said that it is not her decision where her current pregnancy and delivery will be conducted, she said that the mother-in-law would decide, but if money was available they would take her to the hospital for delivery. This woman was nine months pregnant, and still had not decided where she would deliver. When the focus group conductor told her that this was too late to not know, and then asked her what she would do if her pains began in the middle of the night, the woman replied that she would see Saghia, who is the TBA that delivered her last baby. This same lady was asked about her last delivery where the baby was delivered dead. She said that when the labour pains started, the TBA told her that the baby's position was breech. The TBA then gave her two injections during her labour pains which caused the pains to increase, but the baby died in-vitro.

The focus groups with the mother-in-laws gave some insight into how they view delivery choices for their daughter-in-laws. The survey conductor asked a mother-in-law whether she had any influence in the home, and her reply was "no, all the authorities are for the men." This is interesting in contrast to what the LHVs as well as what the pregnant women said. It would seem that the husbands believe that the decisions relevant to the pregnancy and delivery are up to their wives, while the wives believed that they have no say, and that the decision is made by the mother-in-law which the ** felt it was then men who decided. Field research reflects, and LHVs verify, that it is always the mother-in-laws that have the final decision. This is important in order to know who to focus education programs towards. Mother-in-laws should be the target groups for education programs on danger signs of the pregnancy, the importance of ante natal care and delivery by a trained person, as well as the importance of proper referral if necessary. Mother-in-laws were further asked whether they think it is necessary to take the daughter-in-law to a hospital for antenatal care, especially if there are problems such as high blood pressure. Some mother-in-laws replied that antenatal care was not necessary, nor was going to the hospital. One said the main reasons it was unnecessary was that it was expensive, and also because the wait is usually so long for out patients in the hospitals.

Another believed that there is ample time after the TBA's assessment to take the daughter in law to the hospital if the need arises, and have the delivery there. What this mother-in-law failed to realize was that often in referral cases to the hospital, it is done too late and the woman does die. Most of the mother in laws said that a TBA was good enough, and that antenatal care was not necessary either. They said that if there are no problems during the pregnancy, they see no need in going for antenatal care, and as a result, they took them to the TBA in the last month of their pregnancy. They then said that they call the mother of their daughter-in-law when her labour pains begin because sometimes the mother may get angry if she was not called, and mothers often bring many gifts for the new baby when they come. The mother-in-laws agreed that the mother of the girl in labour is not responsible for paying the TBA, and that the responsibility is that of the mother-in-laws'.

From this PIMS/JICA data, it was identified that perhaps the mother-in-laws and the husbands should both be the target of education programs that stress the importance of antenatal care, recognition of complications during pregnancy, referral procedures, etc. It is also essential to note that TBAs are chosen to deliver the babies mainly due to economic constraints faced by the pregnant woman and her family. It is recommended that the TBAs be fully trained and incorporated into some sort of referral system so they do become the safer, more culturally appropriate, as well as economically sensible alternative for the poorer women who have limited choices.

A training course for TBAs was conducted in Karachi by the Department of Community Health Sciences at the Aga Khan University in 1989⁴. The CHS Department wanted to assess

⁴ Salim, Laila, et al. "Dais in Karachi Katchi Abadi's: Tradition and Change". Department of Community Health Sciences, Aga Khan University, Karachi, December 1989. Paper presented in the "Third International Conference on Traditional Asian medicine (4-7 January 1990)" at Bombay, India.

the knowledge, attitudes, and practices (KPAs) of TBAs working in a squatter settlement in Karachi. Following the KAP, a training program was organized. The monitoring component focused on delivery, postnatal care, sterile delivery techniques, abuse of drugs, promotion of breast feeding, and tetanus immunization, and pre training practices were compared to post training practices. A total of 15 TBAs were monitored closely, and then trained by the CHS department. The majority of the TBAs were illiterate. Eight of the 15 learned the skill of conducting deliveries from their relatives, while five learned while working as a cleaning woman in a hospital or maternity ward. The ages varied considerably from 35-80 years of age.

In this study, a change was noted post and pre training that demonstrates that education programs aimed at TBAs can have a positive effect on their performance and knowledge. Prior to the training, only three of the TBAs would refer women to get TT immunization, but post training all of the fifteen TBAs stressed the importance of TT immunizations. A change was also noted in the use of instruments to cut the cord, and none of the TBAs used razors or knives anymore. A change was also implemented in the sterilization of the instruments. Prior to the training, washing the instruments with plain water was the common practice, however, this quickly changed so that the TBAs would now wash all the instruments with solution, or use a new blade. The TBAs were then assessed regarding the prescription of drugs. Although not as dramatic a change occurred in this category, there was a change in the use of intravenous oxytocin. Considerable change was noted in the dosage, and route of administration of Oxytocin. It is evident that the behaviours of the 15 TBAs were altered as a result of the training that they received. The fact that the knowledge acquired was translated into a change in behaviour shows that great hope lies in giving education to the TBAs in order to effect a change in the overall health status of Pakistani women, particularly in regards to delivery practices.

A review of the training projects aimed at improving the skills of TBAs was done by Talat Rizvi recently⁵. A brief summary of these projects will further show the expansive potential for integrating TBAs into the delivery of services to the hard-to-reach rural areas. Since 1960, Lady Health Visitors (LHVs) working in Basic Health Units (BHUs) were responsible for training 2 TBAs per year⁶.

In 1982, the Government of Pakistan began a concerted effort to try to tackle the major contributors to maternal and infant mortalities and morbidities. It was called the Accelerated Health Programme (AHP) and it had four components: EPI, CDD, and TBA training and health education. By including TBA training as part of the AHP, the government of Pakistan was acknowledging the fact that TBAs were an integral part of the health care delivery system of Pakistan.

⁵ Rizvi, Talat. "TBA Training Project". Maternal and Infant Mortality Policy and Interventions. Report of an International Workshop at The Aga Khan University, pp. 121, 1994.

⁶ Ibid.

The social and cultural context present in Pakistan that embraces things like purdah manifests into women having low mobility, and thus no or very little access to available health services. The TBA was identified as the culturally appropriate health worker who has limited access to women in rural communities in Pakistan. A TBA is thus responsible for 80% of all deliveries in Pakistan, and up to a staggering 95% of the deliveries in the rural villages of Pakistan⁷. The Government of Pakistan used a mobile approach to reach the TBAs in the more remote areas, as well as a static centre approach that was based in the main health facilities in the Punjab. UNICEF as well as CIDA were responsible for the training manuals for the courses. The curriculum content included basic concepts related to pre- and post-natal care, safe delivery practices, and interpersonal skills. There was also a component for refresher training courses to ensure the maintenance of their skills and knowledge. Two projects, one in the Sindh and one in the NWFP, were implemented to experiment in expanding the roles of the TBAs in these areas. These projects are attempting to establish and improve the referral and support systems, so as to provide mechanisms for quick and easy referrals to health facilities when necessary.

These various TBA programmes were also put under a series of monitoring and evaluation schemes to review the impact they were actually having. A variety of KAP studies, as well as other methods of monitoring were implemented⁸. Most of the evaluations showed improvements in the knowledge and practices as a result of the training, but many flaws were noted in establishing links with health facilities for the referral cases. These national and provincial programmes have showed that there is a dire need for the proper utilization and incorporation of TBAs as a component in the peripheral health care system. The monitoring of these programmes has further showed us that there have been problems in mobilizing these women to the remote areas, as well as providing proper referral for high risk cases. In essence, what is needed is a continuation of such programmes that have much emphasis in strengthening the mobilization, as well as referral components. These are essential to truly allow the TBAs to effect the startling rates of maternal morbidity and mortality that are caused as a result of the lack of proper delivery facilities that occur in the more remote areas in Pakistan.

Although more substantial qualitative research is needed to ascertain how women make their choices regarding the place of delivery, some reasons are already rather apparent. A survey in Sindh examined the reasons for not using formal delivery care. The study suggests that access, cost, and the women's lack of autonomy were the major deterrents to going to a hospital for delivery in the rural areas. Women in the urban areas said that they preferred home care because they received poor treatment from the hospital staff, and the cost and convenience made home care a more desirable option. Opinions about the perceived safety of home versus hospital delivery showed that 64% of urban women felt that hospital delivery:

⁷ Rizvi, Talat(1994) "TBA Training Project". Maternal and Infant Mortality Policy and Interventions. Report of an International Workshop at The Aga Khan University.

⁸ Fikree, F., et.al. Interviews on 09/9/96-10/30/96, KAP on Danger Signs of Pregnancy, Delivery, Postpartum, unpublished, 1996.

was safer, whereas only 30% of women in the rural areas felt this to be true. Many women seemed to have a fatalistic approach in that they do not recognize that their behaviours can actually have an impact on their and their baby's health. Almost 70% of the women surveyed saw a maternal death as 'God's wish,' and only 3% placed the blame on the lack of proper health facilities.

The other reasons noted in the Sindh study for delivery at home are broken down into rural and urban areas. In the rural areas, it was found that 84% of the respondents claimed there was no hospital near the home, 70% noted that their income was too low to afford hospital delivery, 65% claimed that their husband or family forbids out of home delivery, and 39% said that if they delivered in the home they could continue to provide child care to other children. In the urban areas, 92% of the women noted that the dai/midwife provided cheaper and good quality of care, 91% said that the hospital staff was rude and careless, 77% said that they simply did not have time to go to the hospital, and 61% reported that delivering at home would allow them to continue caring for the other children at home.

Another study tried to ascertain the reasons for a delay in reaching the hospital when complications arose during delivery⁹. Of 118 mother who arrived dead between 1981-90, it was found that lack of transport and socio-cultural constraints were quite significant. Thirty three percent reported family hesitance to go to the hospital, or the husband not being at home, as the main reason, 25% reported that transport was not available, 21% reported delayed referral, and 11% reported a lack of finances¹⁰.

A series of focus groups were conducted in Korangi, a suburb area of Karachi, that targeted maternal complications¹¹. The number of pregnant women with significant maternal complications per year was estimated at 30/40 in this region. From a series of in depth interviews with women, men, doctors, LHVs, and TBAs, and from case studies and webbing exercises, the practices and attitudes concerning maternal complications during pregnancy were ascertained. The region has 28 private clinics, five maternity homes, and one government dispensary. Referrals are made to one clinic, one government hospital, and one private hospital.

In general, the provider system operates well, however, there is quite a lot of evidence of poor referral management in complicated cases. It was found that referrals were made to the doctor, although the processes of agreeing to such referrals vis-a-vis the mother-in-laws and husbands were complex. The case studies unearthed quite a lot of valuable information relating to significant delays in referring emergency cases to hospitals. Family decision-making, when calling for a TBA and/or doctor, leaving the home if the husband was not available for permission, transfer to a clinic which refused the patient on the grounds of being beyond their capacity to handle, and refusal to enter into the hospital by security were

⁹ Jafarey, Sadiqua, et al., "Maternal Mortality", Maternal and Infant Mortality Policy and Interventions. Report of an International Workshop at The Aga Khan University, pp. 6-12, 1994. Ibid.

¹⁰ Ibid.

¹¹ Fikree, F., et.al. Interviews on 09/9/96-10/30/96, KAP on Danger Signs of Pregnancy, Delivery, Postpartum, unpublished, 1996.

all sources of delay. The webbing exercise unearthed the interesting issue that men generally blamed maternal complications on the lack of health facilities and the incompetence of the health providers, while the women tended to really understand the multi-faceted mix of social constraints, as well as the lack of proper nutrition and care during pregnancy that manifested in maternal complications. This research should have investigated further how mother-in-laws and husbands conceptualize maternal complications, and their role in contributing to the reduction in maternal complications.

There should be further research as to how the family around the mother could better 'enfranchise' her to insist on an action, and how they can facilitate the process of being sent immediately to the government hospital, rather than enduring unnecessary and potentially harmful delays in calling a TBA and/or a doctor. The solution goes beyond educating the women, their families, and the TBAs about possible complications that can arise, and simply requires familiarity with the clinical signs that require emergency action. It involves a complex psychological angle that provides insight into familial relationships, social norms, and decision making processes.

An essential part of any country's approach to reducing maternal mortality should be appropriate services for emergency obstetric services. An innovative approach began in Faisalabad in 1988¹². It introduced an obstetric flying squad equipped with medicines and trained staff, which can be utilized when complications arise during pregnancy, labour, and puerperum. This service acknowledges that even with the best antenatal care, there are still unexpected complications that can arise that cannot be dealt with properly. Part of the obstetric flying squad is the speedy arrival of skilled help with necessary facilities to deal with the emergency. Maternal Mortality rates for the Faisalabad area decreased from .94/1000 in 1990 to .73/1000 in 1991, and from .68/1000 in 1992 to .64/1000 in 1993. The main reasons that they received calls very closely mirrored the causes of maternal mortality. They included abortions, ectopic pregnancies, eclampsia, ante-partum haemorrhaging, obstructed labour, ruptured uterus, post-partum haemorrhaging, and puerperal sepsis among others.

As part of this program, there were refresher courses offered to TBAs on the principles of septic delivery, to recognize the high risk pregnancies, and early referral of complicated cases to health centres or hospitals. This is an example of a useful approach to closing the gap between the informal, and formal health care sector. Both the TBAs as well as the Flying Squad recognize the importance of the other, and are aware of the roles they play in reducing maternal mortalities.

NEWBORN CARE

Thomas Malthus postulated more than 200 years ago that economic restraints would pose to be a major determinant of health, particularly in the less developed, over-populated

¹² Bashir, Altaf. "Faisalabad Obstetric Flying Squad: A Four Year Study". Maternal and Infant Mortality: Policy and Interventions. Report of an International Workshop at The Aga Khan University. pp.116. 1994.

regions. Many other theories have come along since Malthus that have both negated and added to the notion that economic stability in itself meant a higher health status. Income, as well as education, have both shown independently that they have an effect on mortality and morbidity rates. However, by looking at the Indian state of Cariole, Sri Lanka, and other less developed countries, it can be ascertained that better levels of health can exist despite lower incomes due to a host of contributing factors that are mainly rooted in the autonomy of women and female employment, both which are themselves rooted in higher levels of education for women.

A cross-sectional case-control study was conducted that compared working women with housewives in an attempt to understand how these two groups of women differ, and how these differences then manifest in differences in issues such as their health, and that of their families. The study was conducted in Korangi in Karachi in 1987¹³. Questionnaires were administered, and the two different populations were matched based on age, education, number of children, ethnic background, etc.

The process of matching revealed that those women that were in the working group were more highly educated than those in the non-working group. The mother's perceptions of illness of their children in the two weeks preceding the interview process was ascertained. The following results were reported: those children less than fifteen years of age of the non-working women were ill for longer periods of time. The working women's children had higher immunization rates. Furthermore, working women were more in support of contraception. However, these differences were strictly limited to attitudes towards contraception, while the differences in knowledge and practices were negligible. The working women considered an ideal family to have fewer children than what the non-working women envisioned. The working women made decisions alone related to the illness of a child, especially of illnesses of a moderate or severe degree. It was interesting to note that there were no significant differences in the expenditure on food and health between the two groups.

The most important conclusion that can be made from this small study was that the working women has a set of beliefs, as well as practices, that are quite different from those of the non-working women that ultimately manifest in the differences in the health status of their children. The working women clearly had a more prominent role in the health of her family, and thus their children had a better health status. When such a differential does exist, it becomes necessary to further investigate those beliefs and practices that create this chasm. They include a firm belief in the notion that women and men should be equally educated, support contraception and family planning, and a belief in the smaller family size norm. Some of the practices include higher immunization rates, a comparable expenditure on nutrition despite a lower income, and a higher expenditure on health. These are all attributes of a higher socio-economic group prevalent in a lower socioeconomic area, and it was

¹³ Mubarak, K., et.al, Health, Attitudes and Beliefs of Working Women, Social Science and Medicine, Volume 31, no.9, pp.1029-1033, 1990.

hypothesized by Mubarak that the beliefs and practices, coupled with the decision-making power of the women, are important determinants of the health of their children.

It was also interesting to note in this study that the percentage of ill children was the same in the two groups two weeks prior to the interview. This may be due to the common environment they shared. The duration of the illness for the children of the non-working mothers was significantly longer, however. In a few cases, the children of the non-working women had illnesses that were 10 days longer than the other group. It was concluded that since medication was not even acquired, that the working mothers tended to be more decisive, and would seek appropriate care earlier than their non-working counterparts, therefore resulting in a shorter duration of illness for their children.

Although many questions cannot be answered from the study in Korangi, it does note the positive effect that working mothers have had on their children's health. These working women displayed a level of emancipation and decision-making capability that their non-working counterparts did not possess. It was recommended that this be looked at, so that the promotion of economic emancipation be the goal to promote a similar phenomena to implement change in the society. What happened in this Korangi study may be viewed as a microcosm for what change can occur in the rest of Pakistan, if women are given skills and an education as void of cultural constraints. The much longer term benefits cannot be known as of yet, however this study did show the immediate positive effect on the health status of the children.

In a country such as Pakistan that prescribes to the constraints of a patriarchy society, the roles of women in the country are often relegated to duties of the home. This includes health care for the children and the family. The role Maternal and Child Health programs have shown the importance that mothers play in this duo in promoting the health of their children. The aim of the health programs, and primary health care, is to improve the health status of the more vulnerable members of society, namely, the women and children. Innovative approaches are needed to improve the situation in Pakistan.

A study was conducted in a squatter settlement in Karachi to look at the health of the child from a father's perspective. The authors Salaam and John postulate that the plethora of MT programs implemented in Pakistan are really not accepted due to cultural and societal constraints such as purdah. They claim programs have been inappropriately designed with the mothers as the targets and facilitators of change. A set of qualitative methods were utilized that included key informant interviews, focus groups with fathers, group interviews with women and community health workers, and observations of father-child interactions. Information was collected from 61 respondents.

Fathers accepted the role of the mother as the primary role in the home, but took responsibility as the 'breadwinner' in providing essentials such as medical care and nutrition.

¹⁴ Ibid.

¹⁵ Jahn, Albrecht, et al., "Fathers' perception of child health: a case study in a squatter settlement of Karachi, Pakistan". *Health Transition Review* 5, pp.191-206, 1995.

Fathers repeatedly stated that the health of their children was of prime importance to them. One said that "when our children suffer from any health problems, we feel that we suffer." The major concerns of the fathers on child health centered around the physical environment, such as cleanliness, water, sanitation, food and nutrition, poverty, and diseases. Focus group discussions with the father revealed that diarrhea, malaria, typhoid, and skin disease were perhaps too prevalent because of a filthy physical environment. They further agreed that proper nutrition and cleanliness are responsible for good health.

It was interesting to note that it was not the nutritional value of the food, but it's cleanliness that was a key issue to the fathers. They related all problems related to the health of a child to poverty, stating that a poor man could not afford the luxuries of a clean environment and good food. The most common illnesses perceived as dangerous for children were diarrhea, pneumonia, fever, polio, typhoid, and measles. Ethno medical models of disease were also prevalent among the fathers. The focus groups ascertained that the concept of 'nazar,' or evil eye caused by a jealous person, as well as black magic, were responsible for causing illness in their newborn and young children. Treatment included rotating red chillies around the head of the child seven times, and then burning the chillies, thereby removing the evil eye, which is called 'nazar utarna'. Protection as well as cures were also achieved throughout the use of amulets containing verses of the Holy Quran. Others in the groups were of the view that simply praying daily would keep their children safe from evil influences.

The study tried to ascertain the role of the father's in child care. It was found that half and hour to two and a half hours were spent with the children daily. Observations in the bazaar revealed that 75% of the fathers carried their children, even in the presence of the mother. In the case of illness, health care providers estimated that at least 30% of the children were brought to the clinic by their fathers themselves. The father's are the ultimate decision makers in the family, but it was agreed upon that the females are the experts on the health of the child. The fathers seemed to get involved when the health problem was severe, or when the cost of treatment became an issue that needed discussion, because in the absence of the fathers, the mothers were allowed to take the children in for treatment. The study clearly revealed the delineated sex roles in society, and also showed that fathers do and can get involved beyond the provision of resources to specific needs, such as those of his children's health.

The authors of the Korangi study conclude that fathers are under utilised players in the health care of their children. The low status of women, and low literacy rates have been connected with the high infant mortality rates. It is suggested that fathers should thus be included in MCH programs to increase the acceptance and participation in PHC programs. The authors noted a high degree of correlation between the father's perceived needs for the health of their children, with that of the health care providers. Nutrition, vaccination, and sanitation were all mentioned. The authors feel that the past investments in MCH programs have not been fruitful in improving the health of either the mother or the child, and the father should be incorporated as a key player in future child care programs in Pakistan.

BREASTFEEDING AT BIRTH

Breastfeeding and its promotion has been heralded as the key to child survival, especially in the less developed parts of the world where access to a clean water supply, as well as poverty, make it risky as well as economically not feasible to opt for bottle feeding. A 1985 nutrition survey done in Pakistan indicated that 99.3% of mothers breastfeed their babies at birth. However, this number has declined to 90.8% in more recent studies. There are a variety of reasons for this decline, including influence from the West, inappropriate hospital practices, lack of cultural support, emotional stress, and advertising pressure from infant food companies. The anti-infective and immunological properties of breast milk provides protection from infection and disease, and thus should be the mainstay of all health care programmes. In addition to providing protective functions to the child, it also positively affects the health of the woman as well as serves as a natural contraceptive and as such, has the potential of improving the health of a woman. Too many close births are often the cause of illnesses such as maternal depletion syndrome, which visibly weakens the health of a woman.

A 1984 study of the attitudes towards breastfeeding and weaning of 50 young mothers attending a private clinic in Karachi, found that 62% of those mothers initiated breastfeeding without any bottle supplements. Of the 31 who initiated breastfeeding from birth, 22 did so because they thought breast milk was best for the child, while two mothers had been advised by the physician. Of the women who did not breastfeed, four simply said it did not appeal to them, and three gave illness as the reason. Twenty one mothers noted that breastfeeding should be initiated within 12 hours of delivery, of which nine stated that it was the best time for stimulating milk production, and eight reported that it fostered a bond between the mother and the baby. Disadvantages to breastfeeding cited were a negative impact on the women's figure (14 women), restriction on the freedom of the mother (11 women), and deterioration of the mother's health due to breast feeding (7 women). It is felt that perhaps these disadvantages should be investigated more because although they do not have much biological basis, it did effect the decision of women regarding breastfeeding.

Recent studies have revealed that breastfeeding is not only optimal for the health of the child, but it is more effective and reliable than any other contraceptive method available. However, in order for breastfeeding to be effective, it has to be exclusive. Supplementation in any manner reduces the effectiveness to prevent pregnancy. From an economical as well as an ethical point of view, the promotion of breastfeeding is in fact a means to not only directly affect the population growth rate, but indirectly maternal health as well, by allowing women to recuperate from one pregnancy before beginning another. This will inevitably have a positive effect on her health. Maternal depletion syndrome, which is quite common in Pakistan, is less likely to occur because the mothers will have more time between each

¹⁶ The National Nutrition Survey 1985-1987 Report, Nutrition Division of the National Institute of Health, Government of Pakistan, 1988.

¹⁷ Mueenuddin, Lauren L. Women's Reproductive Health in Pakistan, Family Care International, March 1995.

pregnancy to gain strength and energy before the next child is born.

In a study done by Shirkat Gah in Sunnakhi in rural Punjab in 1996, it was found that the majority of the women breastfeed. There is a widespread belief that has been backed with experiences that breastfeeding is the natural way to space births. It was wonderful to note that in this rural area, over half of the women reported a gap of up to two years between their children without using any other family planning methodology. Because no other family planning measures were being used, we can be certain that the cessation in pregnancy was due to breastfeeding.

COMPLICATIONS DURING PREGNANCY

Each year, about 30,000 women die from complications related to pregnancy, childbirth or unsafe abortion. Another 375,000 women suffer annually from complications due to the lack of appropriate care during pregnancy and the puerperium. In Pakistan, it is estimated that the maternal death risk factor for a pregnant woman over a lifetime is 1:40, while in industrialized countries it is 1:3,600. For women in less developed countries such as Pakistan, the road to maternal death begins with their first pregnancy. Mild complications such as haemorrhaging, obstructed/prolonged labour, hypertensive disorders of pregnancy, puerperal sepsis, and septic abortions are estimated to afflict more than 40% of the pregnancies. These are simply mild complications, but an unknown number of these go on to become severe cases, with 9-15% of the total pregnancies requiring referral services to survive. The availability of adequate and speedy referral to appropriate health facilities is sparse, thus what often starts out as a mild complication during pregnancy often results in the death of the mother. Koblinsky further notes that identification of those pregnancies that go on to suffer mild or severe complications has not been useful. Demographic factors such as age, parity, or a combination, may not be sensitive nor specific enough to predict complications that may arise during pregnancy. Beginning at the point where a complication occurs, there are a series of steps that need immediate attention to prevent the death of either the mother, the baby, or both. Failure to recognize a complication, failure to seek adequate care, and then to reach the place of adequate care, and once there to actually obtain the adequate care desired or expected from that facility, are all factors that can spell death for the woman and her fetus.

It is clear that education is needed to inform women and their families of the complications that arise during pregnancy, and the proper series of preventative steps that should be performed. Often, it is economic considerations that take over. The TBA provides the cheapest option for such families, thus the TBA should also be incorporated into the training programs so that she can also recognize and address these complications. If she is

¹⁸ Mumtaz, Khawar, et. al, *Woman to Woman: Transfer of Health and Reproductive Knowledge*. Shirktgah Women's Resource Centre, 1996.

¹⁹ Koblinsky, Marjorie, "Reducing Maternal and Perinatal Deaths: Lessons From the Mothercare Experience", *Maternal and Infant Mortality Policy and Interventions*. Report of an International Workshop at The Aga Khan University, pp. 52-78, 1994.

unable to treat the condition, and arrest the developing complications, there absolutely must be a proper referral system in place so that the women can be taken somewhere where help is available. Prenatal care is also a requirement, because often the complications that do arise can be predicted and planned for in advance.

In the Report of the International Workshop at the Aga Khan University, Sidrath Nirupam of India discussed the key essential strategies that WHO outlined in their mother-baby package. It included a continuum of obstetric care from the community to the first referral that not only included community-based routine care for pregnant women, but also delivery, postpartum, and most importantly, the availability of emergency obstetric care. It is proposed that at the minimum level, there should be one hospital providing all essential obstetric functions, and four health centres providing certain obstetric functions per 500,000 of the population.

At the level of the health centre, there should be facilities available for vacuum extraction of low forceps delivery, manual removal of the placenta, emergency management of eclampsia, haemorrhage, sepsis by IV/Im sedatives, oxytocics and antibiotics requirement, evacuation of the uterus for an incomplete abortion, and neonatal resuscitation. At the hospital level, all the above should be available, plus facilities for blood transfusion, anaesthesia, cesarean section, repair of a ruptured uterus, as well as sterilization operations. In order for a system such as this to function and serve its purpose, close monitoring should be implemented. A reduction in the barriers to seeking care, and laying the foundation for this system would mean identifying as well as addressing those factors that often delay the decision to seek care. Such factors include the lack of knowledge relating to complications of pregnancy, long distance, lack of transport, etc.

A series of interviews by Dr. Fariyal Fikree and Ms. Nazo Kureshi in 1996 gave insight into the knowledge men and women had surrounding complications during pregnancy, delivery, postpartum, and the actions that should be taken as a result. Thirty men and 30 women were interviewed. The questionnaire contained questions focusing on the knowledge of signs that indicate something is wrong during the pregnancy, if they were aware of other women suffering from complications or problems during pregnancy, and whether they know when a labour/birth is going wrong, or what can go wrong. Then a grid was constructed of the three periods of interest- pregnancy, delivery and postpartum, and questions were asked about knowledge relating to complications during these periods. In the part of the questionnaire that investigated knowledge about the type of complications that can arise during pregnancy, five women identified bleeding, and one woman identified each of the following complications: swelling of face, hands and feet, decreased movement of the fetus, irregular periodic cycle, conceiving at an older age, vomiting, weakness, severe pain in the legs and back, and watery discharge. Ten men identified bleeding, five loss of appetite, three

²⁰ Nirupam, Sidrath. "Pragmatic Strategies for Safe Motherhood in Developing Countries". Maternal and Infant Mortality Policy and Interventions, Report of an International Workshop at The Aga Khan University. pp. 77, 1994.

²¹ Fikree, F., et.al. Interviews on 09/9/96-10/30/96. KAP on Danger Signs of Pregnancy. Delivery, Postpartum, unpublished, 1996.

blood pressure, two jaundice, one depression, and one fever.

From looking at the grids of the three periods of interest, it is interesting to note the gender differences in the knowledge surrounding the complications that can arise. Spontaneous knowledge regarding complications during pregnancy revealed that 12 women identified vaginal bleeding, 10 abortion, 3 baby in wrong position, 5 swollen limbs, 6 tiredness, and 6 identified difficulty in working. In the men, spontaneous knowledge pertaining to complications relating to pregnancy revealed that 10 were aware of bleeding as a complication, 24 abortion, 14 the baby in the wrong position, 23 identified swollen limbs, 6 identified tiredness, 6 difficulty in working, and one identified a previous c/section.

The labour and delivery stage revealed that 18 women identified the waters breaking too early, 3 identified the baby dying before coming out, 11 identified bleeding after the baby is born, and 3 identified taking too long to push out the baby as complications that arise during that stage. Only 2 men identified waters breaking too early, while 20 identified the baby dying before coming out, 12 identified bleeding after the baby is born, and 10 identified taking too long for the baby to come out as complications during labour and delivery. In the postpartum period, 16 women identified excess bleeding, 16 identified fever, 2 identified painful urination, and 4 identified fainting as complications during this period. Fourteen men identified excess bleeding, 13 men fever, 10 painful urination, 4 fainting, and 12 identified illness due to sore breasts. This study was beneficial because it did reveal that men are also aware of many of the complications that can afflict women during the various stages of their pregnancy. As decision makers, this information is vital to men to ensure the safety of both mother and child during labour.

A study carried out in 1992 by UNICEF tried to ascertain the existing knowledge, attitudes, and practices about health care of mothers of child-bearing age from the low SES in the rural and urban areas of the NWFP and Punjab. The respondents of the study were mothers aged 18-35 years, most of whom had at least one child under the age of five. In total, 600 mothers were selected. Four hundred and twenty of these were from the rural areas, and the remaining 180 were from urban slums.

A nexus of questions was developed to explore the extent to which these women were aware of the dangers inherent in early and late marriages, child rearing, etc. Since young age and old age are both risk factors that can lead to complications during pregnancy, it is worth looking at what these women thought were the minimum and maximum ages for child-bearing. Fifty five percent of the respondents in the Punjab thought that a pregnancy below the age of fifteen should be avoided, while only 26% of the women in NWFP were of the same view. It was startling to note that overall, only 14% of the respondents were aware of the potential harm that could result from pregnancies below the age of 18. Another point worth noting was that in the Mardan district, which was the remotest region included in the study, 33% of the women were not cognizant at all of the minimum age for bearing children.

²² Knowledge, Attitude and Practices of Mothers about "Facts for Life", Prepared by Rehman Associates for UNICEF, Islamabad, 1993.

The maximum age for pregnancy was given at 35 for 49% of the respondents in the NWFP, while 23% thought it to be 40 years, and another 11% favoured the age of 41. In the Punjab, 36% estimated it was 40 years, while 19% were in favour of 45 years. It is clear that the age of 35 years was generally not identified as the maximum age for pregnancy by a majority of the respondents.

It is obvious from such data that the young female population needs to be given specific health education regarding the potential harms of having children too young. The results reflect an obvious lack of knowledge regarding the complications that can arise in the pregnancies of very young mothers. It is no surprise then that these women start having children early, and then continue putting themselves at risk by having a quick succession of pregnancies too close together. Maternal depletion results, often leading to a series of morbidities that plague the women throughout their lives.

ANTENATAL CARE

In the Maternal and Infant Mortality Survey by Aga Khan, it was found that less than 6% of pregnant women in Pakistan seek antenatal care from a qualified doctor. What this figure tells us is that most women do not know the importance of antenatal check-ups, while the Demographic Health Survey reported that 70% of women do not receive any antenatal care. A report prepared by the College of Physician and Surgeons also noted that 70% of the women in Pakistan do not receive antenatal care, 83% of the women in the rural areas, and 40% in the urban areas. They also found that only 23% of the women were immunized against Tetanus. These numbers of maternal mortalities during labour are unfortunate, as in most cases, they are largely preventable. The leading causes of maternal deaths, as previously mentioned, are haemorrhage, puerperal sepsis, hypertensive disorders, and obstructed labour. Among the "avoidable" causes of maternal death reported in various hospital-based studies is the delay in reaching a hospital, and a lack of prenatal care. Early prevention of complications or conditions such as high blood pressure, anaemia, and the position of the fetus can be detected in the antenatal check-ups, and proper precautions could be made in advance. It is suggested that at least three antenatal check-ups be provided for each pregnant woman to recognize complications, and refer her to an appropriate health facility.

The first examination is recommended as soon as the woman is aware that she is pregnant, in order to recognize conditions such as anaemia, diabetes, heart disease, tuberculosis, etc. The second visit is recommended at 32 weeks, and the last visit at 36-38 weeks for recognition of conditions like pregnancy-induced hypertension, and the position

²³ Midhet, Farid, et.al., " Situation of Women and Children's Health in Rural Areas of NWFP and FATA". Results of the Maternal and Infant Mortality Survey (MIMS 1992-1993), The Aga Khan University and National Institute of Child Health and Development, May 1997.

²⁴ Fikree, F., et.al. Interviews on 09/9/96-10/30/96, KAP on Danger Signs of Pregnancy, Delivery, Postpartum, unpublished, 1996.

of the fetus. Before this can be hoped for, culturally sensitive and socially acceptable health education programs must be targeted at every level to inform women of the importance of antenatal care, so they become aware of its benefits to them and to their baby. The reality to be kept in mind is that women in countries like Pakistan do not view pregnancy as a debilitating condition, or one that requires special treatment or alteration of their daily lifestyle. They need to be educated about the changes that take place, and the possible conditions that can arise as a result of a pregnancy. Antenatal care should be an essential component of any program whose aim is the promotion of primary health care.

A report by UNICEF on the Knowledge, Attitude and Practices of Mothers about the "Facts for Life" gave numbers for antenatal care use. The aim of this particular study was to assess the existing knowledge, attitudes and practices of mothers of low income levels in rural and urban areas of the NWFP and the Punjab about health care. A significant number of the respondents reported that they did not get regular check-ups during their pregnancy, with 71% in the Punjab and 47% in the NWFP. This shows that more women in the NWFP went to antenatal check-ups than in the Punjab. Of the 53% of the NWFP respondents who went to antenatal care, 65% of women from urban areas, and 48% from the rural areas. Of those in the Punjab who did have check-ups, 30% went to 'dais', 14% to midwives, 8% to LHVs, and 48% to doctors. In the NWFP, 87% of those that sought antenatal care visited doctors, 8% consulted 'dais', 1% midwives, and 6% visited LHVs.

The reasons were ascertained from those who did not seek care. In the Punjab, 26% said it was due to financial reasons, while 31% complained about the non-availability of facilities. In the NWFP, 17% attributed their reasons for not seeking care to financial constraints, and only 7% mentioned the non-availability of services. It was interesting to note also that 42% of the women from the Punjab, and 76% of the women from the NWFP reported that they simply did not like to go for regular check-ups. The reasons for not seeking antenatal care, be it the quality of care they receive, or perhaps the attitude of the health care provider, needs to be explored further. Non-accessibility of services should also be investigated to see the closest facility that provides antenatal care. In the MIMS results for the NWFP and FATA regions, it was noted that prenatal care is routinely provided only at the maternal and child health centres (MCH), although pregnant women visiting basic health facilities for medical problems may be screened for risk factors if they are seen by a female provider. This same study also noted that many of the roads are poorly developed, thus making accessibility to the only health facilities quite difficult.

Tetanus Toxoid immunizations are a big component of ante-natal care. In the UNICEF study on "Facts for Life", it was found that a majority of the respondents did not get

²⁵ Koblinsky, Marjorie. "Reducing Maternal and Perinatal Deaths: Lessons From the Mothercare Experience". Maternal and Infant Mortality Policy and Interventions, Report of an International Workshop at The Aga Khan University, pp. 52-78, 1994.

²⁶ Knowledge, Attitude and Practices of Mothers about "Facts for Life", Prepared by Rehman Associates for UNICEF, Islamabad, 1993.

themselves immunized against TT, with fifty five percent in the NWFP, and 64% in the Punjab. Looking at the differences between urban and rural, it was noted that the numbers in the rural areas that did not get immunized was much greater than in the urban are in both provinces. Of the ones who did not get immunized, 61% in the Punjab cited the lack of knowledge as the main reason, while 39% replied that they did not have access to facilities. Similarly, in the NWFP 71% of the respondents mentioned the lack of knowledge and awareness about the importance of TT immunization, while 28% said that it was not readily accessible. The study further noted that a fair number of women could be motivated to seek antenatal care services the TT immunization, once they are provided with the information about it's importance, and services are made more accessible to them.

A KAP study was conducted in two different villages in the district of Rawalpindi. The purpose of the study was to ascertain the views of this community in regards to their health, and the health of their children. The data from this study reveals that 71% of mothers did not receive any antenatal care. This number is quite similar to the 70% that was noted in other studies. In rural areas, the women do not prefer to get examined by doctors, especially if the doctors are male. This study also found that understanding the importance of getting a TT immunization did not change their behaviours either. The majority of the mothers in this study were uneducated, and were living in poverty. Sixty eight percent of them had knowledge about the importance of TT, however, only 56% of them made use of it. The reasons were attributed to the norms of society. Vaccinators were usually male, thus the women did not find it appropriate to get vaccinated. This is a prime example of the importance of incorporating cultural norms when developing health care programs. Female vaccinators should be the ones to administer the TT to pregnant women. Fifty eight percent of the mothers did not think that vaccination is so important. These women simply did not know the benefits of TT to them and to their child. Another 17% of the women said that the reason they did not go to antenatal care to get the TT vaccine was due to laziness, and another 25% said the hospital was too far away. It is important to note the reasons of non-participation. Home-visits could enable those in the farther rural areas to facilitate the use of antenatal services to this population.

27 Knowledge, Attitude and Practices of Mothers about "Facts for Life" (1993), Prepared by Rehman Associates for UNICEF, Islamabad. Knowledge, aptitude and practice

28 Knowledge, Attitude and Practices of Rural Mothers in Bringing up their Children, UNICEF. (In Rawalpindi? Date?)

A report by the Family Care International in 1995 found that women were more likely to receive ante-natal care from a doctor as their educational level is increased. Four-fifths of births to mothers with no education were without ante-natal care, whereas four-fifths of births to women with secondary education were with ante-natal care by doctors. Ann Tinker's report on 'Improving Reproductive Health in Pakistan and Saving Women's Lives' also found that education was a predictive factor for seeking prenatal care. Antenatal care ranges from 22% for mothers with no education, to 85% for mothers with at least some secondary education. These figures clearly point to the benefits that improving the educational opportunities for women in Pakistan can have on their health and that of their families.

RECOGNITION OF DANGER SIGNS DURING PREGNANCY

In Pakistan, it is found that of the 25,000 women who die each year from causes of pregnancy, almost 75% are the direct result of obstetric complications. It is also important to note that at least 400,000 women suffer from temporary or permanent disability as a result of pregnancy. This is troubling since it reduces the quality of life, and increases the burden of disease for these women. Since such a large percentage of maternal mortalities and morbidities are attributed to the period of pregnancy, it becomes necessary to thoroughly investigate those factors that contribute to such figures. A combination of educating women, their families, and TBAs to recognize danger signs during pregnancy as well as providing adequate facilities for referral is the only sustainable solution for decreasing the mortality and morbidity statistics.

A study of the factors that caused the deaths of mothers who were brought dead to Jinnah Postgraduate Medical Centre over a 12 year period (1982-1992), gives some insight into some danger signs of pregnancy and delivery. Reflecting the results of previous studies, the main causes of death of these women were haemorrhaging, eclampsia, ruptured uterus, and sepsis. The authors of this study conclude that from a medical perspective, most of these deaths were preventable. Most of the reasons were lack of finances, unavailability of transport, and inefficient material services. The most devastating reasons for the delay in arrival to the hospital was the socio-cultural environment that prevails that prevents a woman from seeking care, when she herself and the TBA know that her life is in danger. Often the husband is not home to accompany the woman, so they do not go the hospital, or permission is not granted prior to delivery in case of emergency, and they must look for the husband to get permission prior to going to the hospital. It was even more disturbing to know that a majority of the patients did not live far, mostly within a 5-10 km radius from JPMC.

²⁹ Mueenuddin, Lauren I., Women's Reproductive Health in Pakistan, Family Care International, pp. 14, March 1995.

³⁰ Tinker, Ann "Improving Reproductive Health in Pakistan and Saving Women's Lives", World Bank, 1996.

³¹ Jafarey, Sadiqua, et al., "Maternal Mortality", Maternal and Infant Mortality Policy and Interventions, Report of an International Workshop at The Aga Khan University, pp. 6-12, 1994.

It is clear that what is needed are extensive training of TBAs to the danger signs, a strengthening of existing services in the area for secondary referrals, development of a strong system of referral to the hospital and extensive and expansive information, and education and communication(IEC) programs to increase community awareness.

REPRODUCTIVE HEALTH, SERVICES, AND QUALITY CARE

Reproductive Health has broadly been defined in the international arena as the state of being in complete physical, mental and social well-being, and not merely in the absence of disease or infirmity in all matters relating to the reproductive system, its functions, and processes. It is a new subject in the scope of women's health that attempts to encapsulate the complexity of the social, cultural, economic, and behavioural variables that determine a woman's well being. Using the phrase "reproductive health" conjures up images of a more holistic approach that covers the full range of influences, both physical and psychological, that collectively determine the health status of a woman. In a developing country such as Pakistan, such a field is particularly useful since it gives credence to, and allows for a more multi-disciplinary view of, the health of a woman. Reproductive Health is not simply family planning. It includes prenatal care, safe delivery, postnatal care, prevention of reproductive tract infections including STD's and AIDS, as well as the early detection of cancers of the breast and reproductive tract. Central to reproductive health is safe motherhood, which in itself is rooted in the principles of autonomy for the woman, and respect and appreciation of her human rights. Family planning is an integral part of reproductive health, and as such, family planning programs will always be mentioned in the background, or often times in the foreground, of strategies to improve the reproductive health of women, especially in a country that is unable to control the growth of its population. Reproductive Health that includes all the dimensions listed above, with an emphasis on the rights of the woman, availability and accessibility of high quality of services, full involvement and participation of males, and safe motherhood is the comprehensive approach needed in Pakistan.

FAMILY PLANNING USE AND SERVICES

The total fertility rate for Pakistani women is close to 5.4 . Some experts say that this figure is conservative and a more realistic rate is 6.3. The contraceptive prevalence rate is approximated in the Pakistan Demographic and Health Survey as 10.7%. The Government of Pakistan recognized in the 1960's the importance of family planning to reduce the unchecked growth in population, and allocated many millions of dollars to the cause. It was

³² Brough, Susan, "An Annotated Bibliography on References to Women and Nutrition available in AKHS and AKRSI". Agha Khan Rural Support Programme, Gilgit, Pakistan, 1993. Tinker, Ann, "Improving Reproductive Health in Pakistan and Saving Women's Lives". World Bank, 1996.

³³ Access and Quality of Reproductive Health/Family Planning Services: Expanding Contraceptive Choices. National Report of Pakistan for GOP/UNFPA Conference, Government of Pakistan, Ministry of Population Welfare, Islamabad, April 1996.

the first country to make such a commitment to abate the rapid population increase. However, it has not been successful, and has not reached the intended audience. Few countries have devoted so many resources to family planning for so long with such little success. Only 12% of married women reported that they were using some method to prevent or postpone pregnancy. The family planning services offered by the various government and non-government organizations are only covering 25% of the population.

A wide gap between awareness of contraceptives, and contraceptive-use still prevails. Campaigns promoting a two-child family norm had egregiously low acceptability, especially in the context of the ideal family norm of 4 children. The Pakistan Contraceptive Prevalence Survey in 1986 revealed that 58% of respondents said that they did not want any more children, or wanted to space their next pregnancies. This figure indicates the need/desire for family planning among the people. According to a 1996 report by Abdul Hakim of the National Institute of Population Studies, the demand for children has always remained quite high in Pakistan. National surveys for the periods of 1975, 1984-1985, and 1990-1991 show a mean ideal size of more than four children. In each of the three surveys, women that had more than 3 children indicated that they wanted no more children. Economic and cultural rates, high mortality and morbidity rates for children, as well as the education level of the mother are all determinants of the demand for children, or the demand for family planning.

QUALITY OF SERVICES

In various surveys and reports, it is quite evident that a majority of the population is not happy with the quality of public health facilities. This often manifests in lower utilization rates for maternal services, thus resulting in a greater proportion of women desiring home deliveries. Some reasons for the non-utilization of government services are distance, lack of provision of free medicines, lack of female doctors, and a rude attitude from the staff. One respondent in a survey done in Swat remarked "I just feel like an animal before the government Doctor." Staff at the BHUs were frequently described as rude, dismissive, and indifferent about patients' health and their problems. In focus groups in the Swat Valley, it was found that rural women did not seek family planning services from the BHU mainly because tablets and injections were not available for free. The medicines cost Rs. 60 per injection from the BHU. Some commented that pills can be obtained from lady health workers, but that LHVs were not available in their village.

The report by NIPS shows that the management of public sector family planning programs is quite weak, and has resulted in limitations in coverage, and overall poor quality of care. NGO's, social marketers, and the private sector have contributed significantly to family planning, yet there needs to be collaboration between all those interested in the cause to effectively offer quality fertility control services to the population. However, the Population Council found in a survey in 1996 that even where services were available.

³⁴ Access and usage of basic health services in Pakistan: findings from a training exercise in qualitative techniques. Draft final report. PHIS Section, Federal Bureau of Statistics, Islamabad, Pakistan.

knowledge of methods was low and distrust of the staff was high. The government's current emphasis is on increasing the efficiency, coverage, and quality of contraceptive services. The Eighth Five-Year Plan from 1993-1998 intends to increase the coverage of family planning services from 50 to 100% in the urban areas, and from 5 to 70% in the rural areas. The government has realized that their population welfare departments and clinic often lacked infrastructure. The new strategy is to incorporate family planning with the larger network of public sector health facilities, and to expand services to the rural areas by offering intensive outreach programs to reach the previously unreachable rural communities.

Since 1965, the family planning programs in Pakistan have been trapped in a vicious cycle. Programs without vision and sustainability, coupled with weak demand, led to the low utilization of family planning services, which were implemented with minimal results. Reproductive Health Services should be integrated with family planning. In addition, quality should be ensured, and the services should be accessible and affordable to all women.

CONTRACEPTIVE USE

Surveys by NIPS and the Population Council both found that the contraceptive prevalence rate in Pakistan is increasing. Although these two surveys had differing rates (NIPS was 24.4% in 1994, and 17.4% for the Population Council in 1994-95), the trend is the same. Both show major gains in contraceptive use in all the provinces, and in all residence categories. A substantial part of the growth in the prevalence of contraceptive use is an increase in the use of the withdrawal method. The report by Hakim for NIPS found that an increase in the withdrawal method indicates an increase in demand, which is not being met with quality services for modern methods. The study also noted that although there was an increase in contraceptive prevalence, there does not seem to be a reduction in the unmet need for family planning. There still remain many married women of reproductive age who want to know more about family planning, and would consider other methods if they were more easily accessible to them.

A study in rural Punjab by the Pakistan Institute of Development Economics (PIDE) found that although there was a mild association between education and contraceptive use, a much stronger association was that women in nuclear households are distinctly more likely to use contraception than those living in extended households. The strongest association they found was between the number of living children and contraceptive use, since 31% of women with 4 children are currently using contraceptives. However, it was interesting to note that 16-17% of the women are using contraception even though they have one or two children. The number of sons also had a positive effect on the contraceptive use. Contraceptive prevalence was approximately 32% when there are two living sons, and 42% when women have four or more living sons.

In the same study by PIDE, they found that women reported that men were the decision-makers on family planning, while the men reported that the women were the decision-makers. However, a majority of the respondents reported that the husband and wife make the decision jointly. The study looked at which methods were used by the different locations, as well as by parity. A substantial proportion of women in the peri-urban area and Central Punjab are using natural methods of birth control. The highest use of sterilization was found in Central and Southern Punjab. The highest use of other modern temporary methods is in the peri-urban area. Older women were found to be more likely to use sterilization than the temporary methods. The study found that across age groups there is no variation in the proportion using modern methods. However, they found that the proportion using traditional methods and sterilization increases with age. There were also differences in the types of methods used with the parity, or number of children. Lower numbers are almost entirely associated with the use of modern, temporary, and traditional methods, while with increasing numbers of children, particularly with more than four, sterilization is by far the most used method.

A study by The Population Council in 1996 found that 31% of the respondents in rural and urban Punjab are using some form of contraceptive. Twelve percent of the women reported using "azal" or withdrawal, 5% more are using condoms, and 1% reported that they used withdrawal as well as condoms. This means that 16% are using either withdrawal or condoms, which is half of the 31% that reported any contraceptive use. The authors of this study felt that the fact that these two methods are male methods was interesting. Furthermore, the authors noted that of the couples that decided to use contraception, the husbands were often involved.

The likelihood of adopting a contraception method is strongly influenced by the women's fertility preferences. The Population Council study found that far less than half of the women respondents, who had good reason to use contraception based on their fertility preference, were not using any method.

CONTRACEPTIVE KNOWLEDGE

Contraceptive use reflects that the knowledge exists about avenues to control fertility, as well as a motivation to control fertility, and it also denotes that methods are available. In the rural population, the PIDE study found that awareness of female methods among women was definitely higher than among men. Men were more aware of male methods, particularly condoms and withdrawal. However, it is interesting to note that their knowledge of the pill, periodic abstinence, and abortion is as high as that of the women. It is also worth noting that the women's knowledge of modern methods is much higher than their knowledge of traditional methods.

A 1994 report supported by UNICEF in the District of Sheikhpura found that family planning knowledge was common among 91% of the women respondents. This is higher than the national rural average of 71% reported by the Pakistan Demographic Health Survey

of 1990-91. This study also found that the knowledge/practice gap was quite large. The current practice rate was 6.7%, as the rural average. This is compared to the rural average of 5.8%, found in the Pakistan Demographic Health Survey. When looking at the sources of family planning knowledge, 73% of the respondents reported that their source of knowledge was their husband, while 13% had acquired their information from the media, and 12% attributed their knowledge to a TBA.

The same UNICEF study looked at the reasons women stated for not using contraceptives, despite the fact that they were knowledgeable about family planning. More than half of the respondents were not practising out of choice. Reasons for not practising included wanting another son (36%), the belief that family planning was against their religion (21%), lack of information about where to obtain services (11%), and objection from family (15%).

A report by Pathfinder International in 1992 compared awareness with actual use, and the urban/rural differential. Seventy five percent awareness in the urban areas, and 56% in the rural areas is compared to the actual use of contraceptives in the urban areas at 21%, and 6% in the rural areas. The family planning activities are coordinated through the Ministry of Population Welfare, which has Family Welfare Centres that are the only official outlets for contraceptive services. These centres are reported to be quite effective, and offer a wide array of services, but they are few in number. Only 1250 centres exist in Pakistan. Their intended coverage is 50,000 people, but their actual coverage is approximately 5,000 in the rural areas, and 15,000 in the urban areas. It was reported in a paper prepared by Qureshi and Samad for a conference on Reproductive Health in Pakistan that clients had to walk more than 9 kilometers in the Punjab province, and more than 47 kilometers in the more remote areas of Baluchistan to receive family planning services. This is an obstacle for the poor in remote areas, and provides little motivation to actively engage in family planning.

CONTRACEPTIVE NEED

It is necessary to look at the desire to have more children when trying to ascertain whether a need for contraceptives exists. The motivation to use family planning methods stems from a desire to have no more children. In the PIDE study in rural Punjab, it is found that 45.2% of the women do not wish for more children. They found that the proportion wanting no more children was almost double in nuclear households. The proportion wanting no more children logically rises dramatically with an increase in the number of living children. After having 4 children, 77% of the women wanted no more children. The value placed on sons in Pakistani society is reflected in the study results that show that 68% of the women did not want to have any more children after 2 sons, and 95% after four or more living sons. The study noted that the need to have at least two living sons is a strong determinant that influences fertility behaviour. In the Netherlands Population Mission 1997 Final Report by the Population Council, they found that increasing numbers of couples are expressing the desire to reduce fertility. They based this statement on the 1994-1995 PCPS, which found that 52% of all married women want no more children than they have now. This

figure did not seem to vary greatly between education, residence, or province (except in Baluchistan where only 28% want no more children).

From the PIDE study in rural Punjab, it is quite evident that these women do want to control their fertility. The dilemma is how many of these women who actually do want to control their fertility actually are successful in motivating themselves and their spouse to begin family planning. The need is obviously there, however, translating this need to action is thwarted. The barriers are numerous, and more often than not, result in the failure to implement any fertility control. One major obstacle that the authors of the rural Punjab study found was that the women may have difficulty having their husbands cooperate with them in family planning. As perceived by the wives, there is convergence between the desires of the husband, and that of the wives about wanting more children. In 90.5% of the cases, if the husbands want more children, the wife also does. In cases where the husband wants no more children, 96% of the wives also want no more children. It is when the husband is undecided that about half of the women want more children, 43% want no more, and only 8% are undecided.

The low contraceptive use in Pakistan has been blamed on this unmet need for family planning. The gap between the desire, intention to use, and the actual practice of contraceptive use in Pakistan has been noted as one of the largest in the world. As discussed above, the proportion who desire to limit their family size is high, however, actual contraceptive use does not match these numbers. The reasons for a lack of translation of need into action are complicated, and encompass a range of reasons from a lack of cooperation from the husband, to a fear of the side effects of various contraceptives, to religious reasons, to a lack of availability of contraceptives. These are the areas that should be addressed.

A study done by The Population Council in 1996 investigated the costs of contraception. The costs are not only monetary but time, health side effects, social disapproval, and a violation of religious and social norms. The data from this study found that the largest costs associated with contraception were not so much monetary, or the related direct costs of obtaining the contraceptives, but rather the social costs which include disapproval of family planning by the women themselves, and perceptions that their husbands and in-laws disapprove. In summary, data from this study indicated that the major obstacles to family planning are the women's perceptions that their husbands disapprove of contraception, fear of detrimental health, side effects of contracepting, and concerns about the social, cultural, and religious acceptability of contracepting. Another interesting obstacle to family planning that was noted in The Population Council study was the fear that God would be annoyed, or the fear that their children would die as a punishment from God. This fear of divine disapproval was found in roughly three-quarters of the respondents.

A change in behaviour needs to take place, but can only do so when the barriers, whether it be the husband's lack of cooperation, or lack of access to contraceptives, are

³⁵ The Gap Between Reproductive Intentions and Behaviour: A Study of Punjabi Men and Women. The Population Council, June 1997.

obliterated. Unwanted pregnancies result and are particularly dangerous, especially in the context of a developing country where many of the families live in situations of poverty. This unmet need for family planning services results in a high number of unwanted pregnancies, which often leads many women to resort to unsafe abortions.

A study was conducted by Shirkat Gah in 1996 that tried to elicit qualitative information related to the women's perceptions on different aspects of their lives, with particular focus on the three life stages: puberty/pre-marriage (girls ranging from 11 to 18 years), active reproductive married, divorced and widowed between 20 to 40 years, and menopausal women between 45 to 60 years of age. Not many research projects such as this one by Shirkat Gah are attempted because of the sensitive nature of the topics. Reproductive Health, and more specifically sexuality, are quite difficult to discuss openly and without hesitation. Despite this obstacle, the team was able to get rather informative insights in the lives of the women they interviewed. The study was conducted in the village of Sunnakhi in the Punjab. Similar to the pervasive thought throughout Pakistan, which values women for their reproductive function, women's lives in Sunnakhi are governed by such custom and traditions. The chastity of the woman is closely linked to such grand establishments as 'family honour,' thus daughters are kept secluded and their mobility restricted so they resist outside temptations. The pattern of life is rather typical of what is in the rest of Pakistan-early marriage, child-bearing soon after, and child care. This study looked at the various life stages, and tried to ascertain whether the women were prepared for their roles in each of the stages they entered.

The life stage one includes the ages of 11 to 18 years old. It is highlighted by the beginning of menstruation. Ninety five percent of the women, when asked what menstruation meant to them, said it represented womanhood and more specifically the donning of the burqah and the adherence to purdah. A majority of the woman agreed that it began between the ages of 12 and 14 years. Anything later is a great cause of tension for the family. The girls maintain a silence and cannot openly discuss their cramps associated with menstruation. Practical information about how to manage menstruation is passed most often by the elder sister, sister-in-law, or mother.

Practices related to the management of menstruation were ascertained. Home made sanitary towels, usually made out of used cloth, are used for the blood. These are never discarded because men may see them, and are often reused after washing. If the napkins are to be disposed, they are buried so that they are not found. It was interesting to note that they should not be burned for any reason, because that would surely affect the menstrual flow. During menstruation, the women are considered unclean. Women are also not to bathe during their periods. The belief is that they will get a fever or pain. These beliefs are further reinforced by stories that illustrate the death of a woman after a one day illness, because she had bathed during menstruation. Women are also advised to refrain from eating yogurt, pulses and meat, since they may cause cramps or upset stomachs. Cramps are common.

³⁶ Mumtaz, Khawar, et. al. "Woman to Woman: Transfer of Health and Reproductive Knowledge". Shirktgah Women's Resource Centre, 1996.

since more than half the women reported experiencing them. They usually employ the use of home brews, often a combination of 'saunf' (aniseed), sugar and honey, or 'saunf' mixed with 'desi ghee' (clarified butter), and 'gur' (jaggery). A growing number of women are now using aspirin, which in their opinion works faster. Only when the pain is severe will a woman go to a hakim or a lady doctor for treatment.

Life stage two is highlighted by marriage and child birth. It is this life stage that defines a woman's roles within her family, and further in the macrocosm of society. The women were not open and comfortable discussing sexual relations with her husband. The interviewers did not question unmarried girls and younger married women about sexual behaviour. Virginity was also something they were not willing to discuss. All the women reported that they knew very little about sex before they got married. They usually learned about it from their married relatives the day of the marriage. They are equally clueless about pregnancy, and often guess from a missed menstrual cycle, or sickness. Once the woman is pregnant, she receives advice from the elder women on what to eat, how to sit, and what not to do. If there is any serious problem, she is taken to the TBA or a female doctor. However, regular check-ups are not very common. Problems that are reported during pregnancy include weakness, premature birth, pain, and bleeding. Deliveries usually are conducted at home with the help of a TBA. The hospital is used only in extreme emergencies. The distance to the nearest health facility is quite far, and is an excuse the women use for having their births attended at home. Other reasons mentioned were lack of privacy in the hospital, as well as the cost.

The third life stage that was looked at was the one that begins with menopause, thus marking the end of the active reproduction period. Most of the women believed that menopause occurred at age fifty. The study was unclear as to whether women assumed they were fifty because menopause occurred, or whether they actually were fifty and then menopause occurred. The belief is that menopause brings bad eyesight, and overall weakness. A positive in the menopause experience was that all agreed that it represents a greater authority in their households. They manage more of the important household duties such as finances, they no longer need an escort when going out of the home, and they no longer need to wear a burqa.

The authors of the study concluded that women's choices, and control over their lives, range from non-existent to limited. When in the context of family planning and control of their body it was found that they have virtually no control. It was found that they had to be available to their husbands whenever he pleased and this was a duty. Furthermore, having children is not a choice for them either. The study found that almost all married women were aware of family planning methods, either from various media campaigns or a local community development organization. The authors of the study further noted that simply because the women had knowledge of family planning methods did not mean that they were being widely used. The basic problem that was noted was inaccessibility of services, as well as appropriate follow-up services. The knowledge that the women have is rather cursory, and is thus often incomplete or inadequate. It was found that the most comfortable and convenient methods of choice were the injectable contraceptives and the pill, because these

two posed the least discomfort in terms of side effects.

This study did show that the health, and particularly reproductive health information among women was fragmented, and largely depended on the experiences of their peers and elders. The transmission of knowledge was found to be both intra- as well as inter-generational. Mothers and grandmothers were not transmitters of knowledge pertaining to menstruation and sex, but were quite active as sources of knowledge of the rich indigenous traditions pertaining to dealing with problems of reproductive health. This study provides quite a lot of information towards developing sustainable strategies to enhance the decision-making power, especially as it pertains to something as significant as women's reproductive health. The authors suggest a multi-pronged approach that calls for an expansion of their education choices, the incorporation of men into the process to effect a change in their attitudes, and education for the women so they are aware of their rights as they relate to their reproductive health, and to their overall lives.

MATERNAL NUTRITION

For centuries, the Unani, or traditional Hippocratic medical system has ruled in the Sub-continent. From the beginning, the people of Pakistan have more or less allowed this system to dictate how they conceptualize health. Food and diet were an important part of contributing to the health of an individual. Foods were defined under this system as being hot or cold, moist or dry, wind-producing, heavy or light, and constipative or laxative. The hot or cold category depended on whether the food had a heating or cooling effect on the body, and dry or moist was defined by the food's ability to produce mucus. Different foods also had different effects on organ-systems in terms of their ability to strengthen the organs' functioning ability, and even others having the ability to produce fresh blood. Many rules were developed that were based on this system, and followed generation after generation. Pregnant women were advised to cut down on foods that were believed to cause bleeding or too much heat. These included eggs, meat, fish, and some pulses, vegetables and fruits. They were advised to increase their consumption of milk, cooling vegetables and fruits. Lactating women were similarly advised to cut down on wind-producing foods such as chickpeas, cabbage, and other foods thought to disturb the digestive system of the baby. These are only a few of the rules that were devised based on this traditional system. It has been found to still permeate the houses of both rural and urban Pakistani's at all levels of society.

Maternal Nutrition is a topic of monumental importance. The malnutrition that exists both among the women and the children has had devastating results. Poverty is the main determinant of malnutrition that occurs in Pakistan. Maternal malnutrition is particularly harmful because it has such lasting ramifications on the health of not only the mother, but the infant as well. The impact of women's nutrition during pregnancy on fetal loss, birth weight, and child survival have been extensively documented. In an article titled 'Perinatal Nutritional Influences on Infancy and Childhood', Shereen Zakauddin states that maternal nutrition and general health are related to fetal weight accretion, and skeletal growth. She points to several observations from animal studies that maternal malnutrition at different

stages of gestation can result in poor cell division, and hence smaller infants. She also mentions that malnutrition also leads to hormonal imbalance, particularly a decrease in progesterone which sustains pregnancy. Maternal malnutrition is most prevalent in women of poor education and lower socio-economic status. Poverty is not the only cause, ignorance plays a great part as well. Women are ignorant of the low-cost adjustments they can make to their diets that suit their budgets, and also give them the nutritive elements they need during these critical times. Education on nutrition, and the importance of allowing themselves more nutritious foods to get through the pregnancy and lactation phases, without depleting their bodies' of energy to the point that their overall health status is negatively effected, is the key element for women to prevent malnutrition during pregnancy.

The Federal Bureau of Statistics found in 1995 that, with respect to deficiencies in caloric intake, pregnant and lactating women receive 87 and 74 percent, respectively, of the recommended calories. The recommended levels for protein intake were around 85%. Birth records from Pakistan indicate that 25% of all infants born are low birth weight. The causes of such numbers of low-birth weight babies in Pakistan is mainly maternal malnutrition and anaemia.

Nutrition beliefs and practices in 100 pregnant and lactating women were ascertained in urban and rural areas of Lahore by Mahmood, et. al in 1997. The population in the study was diverse, however it was found that the age of the mothers, type of family, literacy, family income, parity, and gravity had not significantly influenced their nutritional beliefs and practices. The only statistically significant differences found were between the rural and the urban women. It was noted that 84% of mothers had knowledge about the special diet necessary during pregnancy. It was discerning, however, to note that only 65.5% practised the knowledge that they had. The answers are mainly centered around a lack of the true importance of a special diet, as well as poverty.

When asked whether the diet should be changed during pregnancy, in the rural population 5% of the pregnant women did not know, and 6% of the urban pregnant did not know. Six percent of the urban pregnant felt that diet during pregnancy should not change, while 38% of the urban pregnant women thought that the diet should change, and 45% of the rural pregnant women thought that diet should not change during pregnancy. Similar figures were present for lactating women as well. Translating this knowledge into practice was not seen as often as is necessary. In pregnant urban women, 25% did not change their diet, 5% of those in the rural areas did not change, 37% of the urban lactating mothers did not change, and 2% of the rural lactating did not change their diets. It was interesting to note that 25% of the urban pregnant women changed their diet, 45% of the rural pregnant women did as well, while 13% of the lactating urban changed their diets, and 48% of the rural. Consequently, more change occurred among both lactating and pregnant rural women.

³⁷ Mahmood, S., et.al, Assessment of Nutritional Beliefs and Practices in Pregnant and Lactating Mothers in an Urban and a Rural Area of Pakistan. The Journal of Pakistan Medical Association, Volume 47, February 1997. pp.60-63.

The women who agreed that a change in diet was important during pregnancy and lactation suggested an increase in the quantity of food, with the addition of fruits, meat and milk. Juices and yogurt were desired from the lactating women. Ninety four women expressed the avoidance of hot food such as eggs, beef, Karela (hot gourd), and fish during lactation. Citrus fruits and brinjal were other hot foods that should be avoided because they are believed to have ill effects on the baby. They believed that gram, raw vegetables, fruits, and cold and sour food should not be consumed. Fifty percent of the women who changed their diets did so by increasing the quantity of milk, lassi, and fruits. Often, the instructions were based on advice from the family members, lady health visitors, dais, or neighbors. Sixty nine percent were unable to change their diets during pregnancy, and eat special foods due to poverty. Overall, 90% of the women did feel that more expensive foods generally meant that they were of better nutritious value. A health education program should be targeted at dispelling the myth that nutritious foods are expensive. There are low cost alternatives available, but education, perhaps even one to one consultations, should be offered to quell this myth.

The Lahore study revealed that although 84% of pregnant/lactating women had the knowledge that pregnancy and lactation both require better, and more nutritious diets, only 65% of them put this knowledge to practice. It was interesting to note that the discrepancy was higher in the urban than in the rural population. This is somewhat perplexing, because the urban population would seem to have more resources available to make a change in their diet, although they did not. This shows that factors other than poverty are also at play.

A study done in Karachi by students at AKU found that certain foods were avoided during pregnancy. They found that 50% of the women were not asked to avoid any food at all. However, out of those that were asked, 58% were told to avoid meat and poultry because they are 'hot foods'. The major reasons that meat and poultry were being avoided was for fear of abortion. This advice was given by the elders of the community, and passed down to the younger pregnant women.

A study done by FVDB Women's Program, that reviewed the nutritional status of women by looking at the National Nutrition Survey conducted from 1985-1987 by the GOP, found that, generally, food consumption during pregnancy and lactation does not change. Only during the first 40 days of lactation is a change seen, where the traditional practice of eating special foods is practised. This study further noted practices related to meat, egg, milk, and dairy consumption. It was found that ownership of livestock and home production were determinants of animal protein consumption, especially in the rural areas. Low income groups had very low consumption of meat, with an average of only once or twice a month. The consumption of eggs was also found to positively correlate with the income. In the urban and semi urban areas, egg consumption was usually daily, and depended on whether they could afford them, but in the rural areas egg consumption was present only when home production of eggs was possible. In the sample group that was surveyed, eggs were not considered an essential part of a normal diet. Eggs were given preferentially to children, and other vulnerable groups like pregnant women and sick people when available. It was also interesting to note that egg and meat consumption was higher in the winter months, as

compared to the summer months. This practice agrees with the "hot" and "cold" food classification based on the traditional unani system of medicine. Income levels were largely responsible for the increase in the quantity of food consumed.

For pregnant women, it was found that when income went up, so did the quantity of food consumed. It was disheartening to note that in the low income households, 70% of the women did not increase their food consumption during pregnancy. This is probably the same group that already has a diet lacking many of the essential components, and is clearly the population that should be increasing their consumption. However, it is this population that is suffering the most. Fruits, cereals, dairy products, and meat were found to be the most common types of food in which consumption rose in direct proportion to a rise in income. From a small sample of women, it was found that their food consumption actually decreased in quantity when pregnancy began. The study was not able to assess whether this decrease was in the initial months of their pregnancy when they experience bouts of nausea, or whether this decrease in quantity of food consumed persisted throughout the entire nine months of pregnancy. The data suggest that the special types of food that were consumed during pregnancy indicate dairy products and fruit as the most popular additions to the diet. This was particularly found in the rural and semi-urban areas. The most commonly avoided foods during pregnancy were spices. This was found to be true straight across all incomes and household types. It was also found that certain vegetable types that are hard to digest were avoided as well.

For lactating women the change in the quantity of food consumed was divided in two periods: the first forty day period, and the remaining lactation period. Similar to what is seen in pregnant women, an increase in food quantity occurred with an increase in income. Conforming to tradition, there was an increase in quantity, mainly during the 40 day period after the birth of the child. The mother is seen to be "vulnerable," and thus the quantity increases here, however, when this period is over then her diet returns to normal. The increase in food quantity is lowest among the high income group. This can perhaps be explained by the notion that their diets are already 'normal' or close to 'normal', and their quantity of intake is already relatively high. The foods that increased in consumption during lactation were primarily dairy products, meat, fruit, and eggs. This was found across all households. The special foods that were most frequently consumed were fats and meat. Examples of these foods are 'desi ghee' and 'halwa'- both which are quite high in fat. Dairy products, fruits and eggs were other special foods that were consumed during lactation. The belief is that a lactating woman needs high calorie, and high protein foods immediately following the delivery of a child. The foods that were avoided were found to be the same as those avoided during pregnancy.

A study done by AKRSP in the Northern Areas of Pakistan in 1993 looked at the nutrition information given to mothers from LHV's, CHW's, and TBAs. They found that LHV's give nutritional advice to all women, whether they are pregnant or lactating. The

³⁸ Brough, Susan. "An Annotated Bibliography on References to Women and Nutrition available in AKHS and AKRSP". Agha Khan Rural Support Programme, Gilgit, Pakistan, 1993.

importance of eating a well-balanced diet from local foods is stressed to all women of child-bearing age. Important foods include: green vegetables, lassi, yogurt, meat, pulses, milk, rice, eggs, butter, potato, roti, and chicken. It is recommended that milk, butter and vegetables be eaten on a daily basis, while meat and pulses be eaten on alternate days. Most of the women try to follow this advice, however, it generally depends upon their individual means and resources. Pregnant and lactating women are advised to eat an increased quantity of what they usually eat. Some LHV's suggested that they double their intake of chapatti and milk, as well as increase their consumption of foods such as fruits, eggs, dahl, vegetables, potato, lassi, liver, rice, and spinach. Anaemic women are told to eat more dark, leafy vegetables, liver, meat, fruits, and eggs if they can afford to. Iron tablets are given to pregnant women, as well as calcium and multi-vitamin supplements.

Certain foods during pregnancy, and for one month after delivery, are found to be restricted, based on religious taboos and traditional customs. It is refreshing to note that, instead of perpetuating these beliefs, the LHV's and TBAs try to dispel some of them. However, often they face difficulty in having women abandon these customs, particularly the older ones. It is equally refreshing to note that the younger women are changing their practices. For one month following delivery, women are encouraged to eat 'desi ghee', because it is quite easy to digest. A porridge made from wheat flour and boiled water, and served with melted ghee called sherbat is customarily consumed following the birth of a child.

In the AKRSP study, they described the classification system that is used by TBAs and CHW's. They are not familiar with terms like carbohydrate, vitamins, and proteins. They use a different set of words that classify the various types of foods. They employ the use of the following: growth foods, health foods, and anti-disease foods. They consider growth foods to be milk, eggs, vegetables, cereals, potato, ghee, nuts, and butter. Health foods are apples, grapes, nuts, pomegranates, fruits, green vegetables, and all other vegetables. Anti-disease foods are fruits, green peppers, and root vegetables. Good sources of iron are liver, milk, eggs, fish, meat, vegetables (particularly spinach), carrots, and salad. They further went over a series of restricted foods for the pregnancy and lactation periods, and the reasons that they feel these foods should be withheld: Sheep meat because the child may develop tetanus; water for one month after delivery because it causes abdominal bloating; eating rice after delivery because it gives the baby constipation; meat after delivery because it gives the baby constipation; pulses after delivery because they cause abdominal pain; eggs since they cause appendicitis during pregnancy, children become deaf and dumb, after delivery it causes constipation and gives the child diarrhea, cow meat: stops the flow of breast milk, gives the child constipation and tetanus, walnut after pregnancy: causes oedema, meat during pregnancy: the fetus will be too big and have greasy skin, ghee: causes nausea, heartburn and vomiting, hot foods after delivery: causes uterus pain, citrus fruits during pregnancy: causes oedema.

In the AKRSP study it was found that the extent of the LHV's nutritional knowledge was quite impressive. Most of the advice that they did give the mothers was based on local foods, and was quite practical. There did seem to be a confusion between what a

carbohydrate is, and how it differs from fat. They are both classified as energy foods. They also had some rather doubtful answers to what they considered to be good sources of iron. Some replied apples, bananas, grapes, and cherries. There was also some question as to how often these important messages are relayed to the women, and how effective and clear the messages are. Further, it is not known if the women follow the advise that is given. but the information on the nutritional status of these women indicates that they are not following the advise. One reason was that during the winter it is very difficult to eat all the recommended foods, especially the fruits and fresh vegetables. According to the LHV's, some women, primarily the older ones, are quite traditional in their eating habits, and are not ready to change their habits. The LHV's concluded that the behaviors of the younger women were much easier to change and have an effect on. Some of the LHV's also thought that the nutritional messages they were giving were simply not understood by the women.

ANAEMIA

Anaemia is a common ailment, particularly in developing countries. Anaemia reduces work capacity, and inhibits the body from fighting off infections. Pregnant women are especially at risk from iron deficiency anaemia, because of the increased demand for iron that occurs during pregnancy. According to the National Nutrition Survey of 1985-87, the prevalence of anaemia (Hb<11 gm) among pregnant and lactating women was found to be 45%. Severe anaemia (Hb<9gm) was present in an alarming 9.6% of the sample population. Rural/urban, educated/uneducated did not seem to make too much of a difference. There did seem to be an increased prevalence with increase in age. A recent report by Hesmag reported that 80% of pregnant and lactating women, and 50% of other adult females have an iron intake below 70% of the Recommended Dietary Allowances. The causes of iron deficiency anaemia in Pakistan are primarily related to poverty, and the quick succession of pregnancies in short time periods. Inequitable household food distribution was also a causative factor for iron deficiency anaemia.

Women in Pakistan consume quite a limited amount of food that contains the important heme group. Meat is rarely consumed, and is usually replaced by vegetables that are not high in iron. The high consumption of tea in the region further contributes to poor absorption of iron. Studies done in Pakistan found that dietary factors were limiting the absorption of iron, and that fortification would not be an effective intervention to control iron deficiency in Pakistan.

Ultimately, there is no way forward towards achieving better health for women in South Asia until and unless their status in these societies improves- in particular when their work load is reduced, when they are freed from the continuous and self perpetuating cycle of poor nutrition, multiple pregnancies in rapid succession, and when they have greater access to income and education.

SUMMARIZE FINDINGS BASED ON MATERNAL HEALTH LITERATURE REVIEW

DIET DURING PREGNANCY

- Some traditional practices like the consumption of clay, coal and chalk in early pregnancy are done to take away side effects of pregnancy (bad taste in mouth).
- LHV's & TBAs try to dispel some of the bluffs but feel difficulty of older women need to see where overlap is and make recommendation based on time.
- Many food taboos during pregnancy
- Intra family food-distribution does not favour mothers
- Pregnant women usually do not change their diets during pregnancy, primarily because of poverty.
- Eating too much will cause a big baby; difficult delivery
- Mothers think that pregnancy is normal, natural and thus no need for special attention or change in lifestyle/ diet.
- Pregnant women advised to cut down on foods that were believed to cause bleeding or too much heat. These include : eggs, meat, fish, some pulses, vegetables and fruits.
- 90% of women feels more expensive foods generally means more or better nutritious values.
- Meat and poultry are also avoided for fear of abortion.
- Maternal malnutrition most prevalent in women of poor education & SES. Women are ignorant of low cost adjustments they can make to their diets that sent their budgets & give them nutritive elements they need.
- Advised to increase their consumption of milk, cooling vegetables and fruits.

MATERNAL ANEMIA

- Mothers do not even obtain iron tablets from health facilities or LHV's.
- Tea is taken with meals or soon after thus affecting absorption of iron. (phytates also interfere with absorption).
- Juices are not readily available in many areas.
- Women stop taking tablets because of side effects.

POSTPARTUM CARE

- Workload is not reduced and they do not try to rest.
- No balanced diet
- Many TBAs ignore postpartum fever, they considered it a normal sequence of delivery, and not something to be concerned about, only 10 % ask women to see a doctor.
- Mothers often do not exclusively breast-feed and start supplementing the child's diet early on.
- Birth Hygiene
- Often TBAs cut the cord with unsterilized instruments.
- Often use any sharp object available in the house without properly sterilizing it.
- Go over & clean
- Mothers not instructed on proper cleansing of the stump and thus often use traditional harmful practices like the use of cow dung as a dressing.

OBSTETRICAL EMERGENCIES

- Families and TBAs do not recognize and understand severity of the complication during delivery.
- Often when TBA does inform the family to refer the patient to a hospital, the family does not, sometimes for economic reasons and sometimes for social reasons.
- Often when the woman does arrive at the hospital, it is not properly equipped for emergency obstetrical care.

DANGERS RISK CONDITIONS

- Most women delay seeking care and when they do it is from an untrained dai or hakim
- Most women and family members do not know nor understand the danger signs during pregnancy and thus ignore them when they do come
- TBAs do not know or understand danger signs and most do not think it is necessary to refer
- Even when symptoms are recognized as potentially dangerous, barriers such as cost, distance and refusals by husbands to allow their wives to go prevent women from going to a health facility
- 70% do not go for prenatal care and thus complications are not detected

Appendix D: Pakistan NGO Initiative (MotherCare) Draft Behavior Change Grids (to be revised after formative research)

Topic: Infant feeding (0-5 month olds)

| <i>Feasible Desired Practices by Mothers</i> | <i>Mothers' Current Practices</i> | <i>Main Barriers</i> (service barriers, poverty/lack of certain foods, attitudes/ actions of mothers, husbands, dais, etc.) |
|--|---|--|
| Breastfeed fully, ideally giving infant breast milk only: at worst, give only breast milk with minimal other liquid supplements until at least the 4th month | Almost all mothers breastfeed but also give water and other liquids (diluted buffalo milk, commercial formula, etc.), commonly in a bottle. | <p>Lack of social support</p> <p>Belief that breast milk alone does not provide sufficient drink for baby or make baby "plump"</p> <p>Perception of insufficient milk due to beliefs concerning mothers' own diet and lack of understanding of sucking/milk production</p> <p>Beliefs that breastfeeding weakens mother, harms her figure</p> <p>Incomplete knowledge and negative attitudes and advice of HWs and MILs</p> <p>Universal use of prelacteals/strong belief in need for ghutti</p> <p>Lack of support for lactation management and therefore for solving breastfeeding problems (sore nipples, infections, etc.)</p> |
| Increase frequency of breastfeeding during and following illness (diarrhea) | Most mothers continue breastfeeding but some reduce or stop breastfeeding | <p>Beliefs that breast milk causes babies' illness</p> <p>No understanding of need to prevent dehydration</p> |
| Feed frequently, 12 times in a 24-hour period. | No information | Mothers, MILs, dais, and even HWs do not understand that the more a baby sucks, the more milk the mother will produce. |

TOPIC: INFANT FEEDING (6-11 MONTH OLDS)

| <i>Feasible Desired Practices by Mothers</i> | <i>Mothers' Current Practices</i> | <i>Main Barriers</i> (service barriers, poverty/lack of certain foods, attitudes and actions of mothers, husbands, dais, etc.) |
|---|--|---|
| <p>Continue frequent breast-feeding but introduce soft foods by 6th month. Start with soft, mashed foods such as banana, carrot, or potato. Introduce soft foods taken from the family's food (khichri with yogurt, choori, kheer, yogurt, mashed potato, banana). Begin with a small spoonful, until the child is eating 2 spoonfuls per serving for each month of age, 3 times at day.</p> <p>For babies 10-11 months old, gradually introduce various solid foods. Feed the child everything the family eats, including ½ roti with each meal, and fruit. Give snacks. Continue breastfeeding.</p> | <p>Most mothers continue to give liquid diet, with perhaps a little roti or rice. Result is that many babies are deficient in both calories and nutrients.</p> <p>Few mothers give fruits or vegetables.</p> <p>Although many mothers believe they should give fresh food at eruption of teeth, don't give enough.</p> | <p>Lack of knowledge of importance of introducing non-liquid foods by 6th month.</p> <p>Ease of feeding liquids, particularly in bottles.</p> <p>Lack of knowledge concerning babies' needs in terms of calories, protein, vitamins.</p> <p>Lack of appreciation of role of nutrition for child growth and development.</p> <p>Lack of knowledge on how to gauge nutritional value of food fed.</p> <p>Many food beliefs, e.g. that certain foods cause diarrhea, but these may not be consistently held across communities and families.</p> |
| <p>If your baby is sick or malnourished, breastfeed more than usual and continue feeding soft foods like khichri with yogurt, yogurt, mashed potato, and banana. Add oil and vitamin foods such as carrots, mango, or spinach. Feed in smaller quantities but more times than usual (6 times a day). Give your child's favorite foods. Be extra patient and persistent in feeding the baby.</p> | <p>Many mothers are feeding only liquids to these babies.</p> <p>Some decrease breast-feeding and other feeding to sick babies, depending on what they decide is cause of illness.</p> | <p>Beliefs that breast milk causes some illnesses.</p> <p>Attitude that if baby shows little appetite, one should not insist on feeding.</p> <p>Traditional beliefs against feeding certain food to babies or during illness.</p> <p>Seasonal or general unavailability of some desirable foods.</p> |
| <p>If your baby has diarrhea, besides breastmilk and regular food, give soup, juices, rice water. Look for signs of dehydration (...) And if any seen, bring the child to a trained HW.</p> | <p>Most mothers follow this practice but some do not. Mothers are unlikely to become concerned about dehydration until it is severe.</p> <p>Knowledge of ORS is high (90%) but not use (63% ever used).</p> <p>Mothers do give many good home fluids (qava, water, rice, egg white, lime water in summer) and some ORS but not in sufficient quantities. Soft food given in at least some regions.</p> | <p>Beliefs that breast milk causes babies' illness.</p> <p>Belief that food will worsen or increase diarrhea.</p> <p>Lack of appreciation of need to rehydrate.</p> <p>Lack of knowledge of danger signs.</p> <p>Geographical, cultural, and practical (e.g., service hours) barriers to use of health facility.</p> <p>Food beliefs may limit some liquids.</p> |

| <i>Feasible Desired Practices by Mothers</i> | <i>Mothers' Current Practices</i> | <i>Main Barriers (service barriers, poverty/lack of certain foods, attitudes and actions of mothers, husbands, dais, etc.)</i> |
|--|---|---|
| <p>If your baby is not growing well or is recovering from illness (has been sick in the past two weeks), breastfeed more frequently and give soft foods more times than usual (4 or 5 times a day). Add a teaspoon of oil and a vitamin food such as carrots, mango, and spinach or other dark green vegetables to the child's food.</p> | <p>Mothers do not feed more food or more often.</p> | <p>It appears that mothers are not concerned with child growth.</p> <p>It appears that mothers do not know the concept of recuperative feeding, although they may well recognize that recuperating child has a good appetite.</p> <p>Mothers may feel they do not have time to feed more often.</p> <p>Mothers may not consider oil to be easily digestible.</p> <p>Many families may lack recommended foods.</p> |

TOPIC: INFANT FEEDING (12-23 MONTH OLDS)

| <i>Feasible Desired Practices by Mothers</i> | <i>Mothers' Current Practices</i> | <i>Main Barriers</i> service barriers, poverty/lack of certain foods, attitudes and actions of mothers, husbands, dais, etc.) |
|--|--|--|
| <p>Feed the child all family foods plus fruit. Feed 4 or more meals plus snacks plus breast milk. Give at least ½ roti plus a full cup of food every time the child eats.</p> | <p>Some mothers are not yet feeding family foods.</p> <p>Mothers are not feeding as frequently as needed.</p> <p>Many mothers are still breastfeeding are stopping sooner.</p> | <p>Mothers (and MILs) don't realize child's substantial nutritional needs for calories, vitamins, proteins, for good growth and development.</p> <p>Mothers too busy to prepare extra meals for child only.</p> <p>Mothers don't believe 12-month olds can eat all foods.</p> <p>Mothers think these children can choose what to eat for themselves. (?)</p> |
| <p>Even after a child is eating adult foods, he should still get breastmilk a few times per day until at least 2 years old.</p> | <p>This is the general practice now, but especially urban mothers are stopping breastfeeding earlier. Decline in % 18-23 month olds breastfeeding from 98% in 1970s to 53% in 1994.</p> | <p>Breastfeeding is inconvenient for mothers who work outside the home (urban).</p> <p>Bottle feeding and less frequent breastfeeding may decrease milk supply.</p> <p>Many urban mothers who are breastfeeding also leave at least one bottle in the evening to be fed to the baby to allow them to go out.</p> |
| <p>If your baby is sick or malnourished, feed at least 6 times a day plus continue breastfeeding. If the child is unable to eat family foods, give soft foods. Foods should include oil and yogurt, carrots, spinach or mango. Give the child's favourite foods. Be extra patient and persistent in feeding the child.</p> | <p>Some mothers try to feed normal amount, adding or stopping certain foods.</p> <p>Most mothers decrease breastfeeding or other feeding.</p> | <p>Lack of understanding that these babies need more food.</p> <p>Attitude that if baby shows little appetite, one should not insist on feeding.</p> <p>Traditional beliefs against feeding certain food to babies or during illness.</p> <p>Seasonal or general unavailability of some desirable foods.</p> |
| <p>If the child has diarrhoea: give soup, juices, rice water. Look for danger signs of dehydration (...) And if any seen, bring the child to a trained health person.</p> | <p>Some mothers follow this practice but many do not. Mothers concerned about the number of stools, not dehydration; only note it when severe.</p> <p>Knowledge of ORS is high (90%) but not use (63% ever used).</p> <p>Mothers do give many good home fluids (qava, water, rice, egg white, lime water in summer) and some ORS but not in sufficient quantities. Soft food given in at least some regions.</p> | <p>Lack of appreciation of need to rehydrate.</p> <p>Belief that food will worsen or increase diarrhea.</p> <p>Lack of knowledge of danger signs.</p> <p>Geographical, cultural, and practical (e.g., service hours) barriers to use of health facility.</p> <p>Food beliefs may limit some liquids.</p> |

| <i>Feasible Desired Practices by Mothers</i> | <i>Mothers' Current Practices</i> | <i>Main Barriers</i> service barriers, poverty/lack of certain foods, attitudes and actions of mothers, husbands, dais, etc.) |
|--|---|--|
| <p>Feed a child who is not growing adequately or who is recovering from illness one more time than usual (5 times a day) plus fruits plus breastfeeding. Add oil, yogurt and a food rich in vitamin A, such as carrots, mango, or green leafy vegetables to the child's food. After illness, baby should have good appetite. Continue breastfeeding.</p> | <p>Mothers do not feed more food or more often.</p> | <p>It appears that mothers are not very concerned with child growth.</p> <p>It appears that mothers do not have the concept of recuperative feeding, although they may well recognize that recuperating child has a good appetite.</p> <p>Mothers may feel they do not have time to feed more often.</p> <p>Mothers may not consider oil to be easily digestible.</p> <p>Many families may lack recommended foods.</p> |

TOPIC: MATERNAL ANEMIA/IRON SUPPLEMENTATION

| <i>Feasible Desired Practices by Mothers</i> | <i>Mothers' Current Practices</i> | <i>Main Barriers (service barriers, poverty/lack of certain foods, attitudes and actions of mothers, husbands, dais, etc.).</i> |
|---|---|--|
| Attend prenatal care beginning around the 4th month; ask for tetanus immunization and iron sulfate tablets. | Few mothers attend prenatal care (70% have none), but probably more where offered by NGO. Few mothers understand purpose and need for tetanus immunization and iron sulfate tablets. | Mothers see pregnancy as normal, natural, no reason to seek care (unless problem arises). Women embarrassed by pregnancy, hide it as long as possible. Some rural mothers have difficulty getting husbands' permission or MIL's approval. Barriers to access: distance, time, cost, male providers. Lack of information on why prenatal care is important. |
| Obtain iron sulfate tablets | Few mothers obtain tablets in health facilities, either because do not go or facility has none; however, some mothers do get treatments for anemia symptoms in stores or chemists. | Low number of mothers who get prenatal care. Unreliable supply of tablets. Common attitude that if anemia symptoms appear, they can be cured by iron injections or medicine from the chemist. LHVs are supposed to have tablets. Do they? |
| Consume the tablets as directed (daily, in the correct dose, at the recommended time, with clean water or juice, not tea or coffee) | Compliance is probably low and correct compliance even lower. | Lack of (any or good) counseling. Lack of motivation/good understanding of purpose of tablets, especially if given for prevention. Side effects and lack of knowledge of strategies for handling them. Fear of a large baby/difficult delivery. Difficulty in remembering to take tablets daily. Difficult accessibility to clean water or fruits. |
| Continue to take the tablets despite side effects | Probably most women who suffer from side effects stop taking the tablets. | Lack of (any or good) counseling. Lack of knowledge that worst side effects pass after a few days. Lack of knowledge of strategies for handling side effects. |
| Keep the tablets protected from humidity and from children. | No information | Lack of (any or good) counseling/lack of knowledge of importance. Lack of plastic bags or containers. |
| Return for resupplies when needed. | Probably many women do not. | Lack of motivation, especially if they feel well. Barriers to access: distance, time, cost, male providers. Lack of knowledge of importance of continuing to take tablets. |

TOPIC: MATERNAL NUTRITION/DANGER SIGNS DURING PREGNANCY

| <i>Feasible Desired Practices by Mothers</i> | <i>Mothers' Current Practices</i> | <i>Main Barriers (service barriers, poverty/lack of certain foods, attitudes and actions of mothers, husbands, dais, etc.)</i> |
|--|--|--|
| <p>Seek care from a health facility for major danger signs during pregnancy (bleeding, swelling of hands and feet,...)</p> | <p>Most mothers delay in seeking care, then seek it from dai, hakim or other local source.</p> | <p>Many mothers do not recognize these signs or do not interpret them as a trigger for immediate action.</p> <p>Many mothers are most comfortable with local, untrained providers.</p> <p>Some rural mothers have difficulty getting husbands' permission to seek outside care.</p> <p>Barriers to access: distance, time, cost, male providers.</p> |
| <p>Mothers should drink an extra glass of liquid for every breastfeed and eat more food than normal, such as chapati for energy and vegetables for vitamins.</p> | <p>Breastfeeding mothers often get more and special foods (esp. fat and meat), in the first 40 days. Probably need more food later.</p> <p>No information on whether drink extra liquid.</p> | <p>Harmful food taboos among older women, including some dais.</p> |
| <p>During pregnancy, mothers should eat many meals and snacks and a good variety of foods, including fruits and vegetables. Each meal or snack can be small, but the total the mother eats and drinks in a day should surpass her normal diet.</p> | <p>Many mothers basically eat their normal amount and may even eat less.</p> <p>Some mothers do increase fruits, meat, milk products.</p> <p>Some mothers stop eating certain foods (e.g., "hot" meat can cause abortion).</p> | <p>Fear that eating too much will cause a big baby/difficult delivery</p> <p>Many food taboos during pregnancy.</p> <p>Mothers' low status in the family makes it more difficult for them to get special consideration when pregnant.</p> <p>Intrafamily food distribution does not favor mothers.</p> <p>Difficult for poor mothers to obtain much variety in diet.</p> |

TOPIC: CHILDBIRTH HYGIENE, OBSTETRICAL EMERGENCIES, BASIC CARE OF NEWBORN

| <i>Feasible Desired Practices by Mothers</i> | <i>Mothers' Current Practices</i> | <i>Main Barriers</i> (service barriers, poverty/lack of certain foods, attitudes and actions of mothers, husbands, dais, etc.) |
|---|---|--|
| Seek delivery assistance from a trained dai or health professional. | 85% of mothers give birth at home, most with untrained attendants. | <p>Strong tradition of giving birth at home.</p> <p>Shortage of trained providers, although better in some NGO areas.</p> <p>People not sufficiently motivated to seek trained person.</p> <p>Untrained dais have many dangerous practices: most think they can treat hemorrhage and some think it is a good sign.</p> |
| Make certain that whoever attends a birth practices the three cleans: clean surface/cloth, clean hands, clean instrument to cut the cord. | Mothers have little knowledge of this recommendation or the reasons for it. | <p>Lack of mothers' and MILs' knowledge.</p> <p>Lack of well trained and equipped dais.</p> <p>Many people consider maternal death as God's wish.</p> |
| Make certain that the newborn stays warm right after the birth, both by putting him/her to the mothers' breast and by wrapping him in soft cloth. | <p>Mothers commonly delay initiation of breastfeeding by 1-3 days. 9% start in 1st hour, mostly in hospitals.</p> <p>Belief that colostrum is dirty, may upset baby's stomach.</p> <p>[need more information on infant warming]</p> | <p>Lack of awareness of importance of infant warming [?]</p> <p>Belief that milk has not come in. so give ghutti and other prelacteals.</p> |

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