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The Pakistan NGO Initiative Health Network *105111*

**Improving the Health of Pakistan's Women:  
Analysis of In-depth Interviews and Trials of Improved Practices  
(TIPs)**

MotherCare/The Manoff Group  
The Asia Foundation and Collaborating NGOs

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This document is published to provide program managers and policymakers from NGOs, the government, and donors with the findings of a nationwide formative research study conducted in Pakistan under the Pakistan NGO Initiative (PNI). PNI is a grant to support nongovernmental organizations (NGOs) given by the U.S. Agency for International Development (USAID) and being implemented by The Asia Foundation (TAF), with technical assistance available from three USAID projects -- Wellstart Expanded Promotion of Breastfeeding, MotherCare, and BASICS.

In 1996, MotherCare Country Representative Judith Standley, with technical assistance from Wellstart/The Manoff Group, and in collaboration with Mark McKenna, TAF's Program Director for PNI, initiated activities to strengthen NGOs' community-based promotion of improved breastfeeding practices. These activities built on the communication strategy that had been developed as a result of qualitative research carried out by the national Breastfeeding Steering Committee in 1990. Supported by TAF, Wellstart, and The Manoff Group, Standley coordinated the work of a group of NGOs who developed and tested guidelines for breastfeeding support groups and a set of counseling cards and cassette tapes on breastfeeding with individuals and groups. Many of the NGOs established mothers' support groups. The collaborating NGOs included HANDS, BRSP, Pak-CDP, MCWAP (Sindh and Punjab), APPNA-Sehat (Punjab and NWFP), AKU, AKHS, OPD, and MDM (see NGO profiles, Annex-A).

In 1997/98, these same NGOs collaborated in formative research on infant feeding, maternal nutrition, and pregnancy-related care with the intention of informing program activities in areas beyond breastfeeding. Ms. Naveeda Khawaja, Program Coordinator for MotherCare and Resident Health Adviser to PNI, led this second phase of formative research and IEC materials and curriculum development. The first step was a literature search on maternal and child health issues undertaken by MotherCare/Manoff consultants, Dr. Fehmida Jalil and Ms. Anila Daulatzai. Dr. Jalil (a senior researcher and leading Pakistani pediatrician), Ms. Abida Aziz (an anthropologist with vast experience in qualitative research), and Ms. Khawaja formed the core team that oversaw the research activities. They were responsible for development of the research plan, pretesting and revision of question guides, training of the NGO partners, coordination of data collection, data tabulation, data analysis, and initial report writing.

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## GLOSSARY

Aarq	Essence of flowers diluted in water
Amaltaas	Herbal remedy of flower petals ground with water
Baqarkhani	Bakery product
Cerelac	Local brand, ready-made, semi-solid diet including wheat, barley, oats
Chella	Ritual period of 40 days after childbirth
Choolay	Grams
Choori	Roti mashed with sugar and ghee
Daal	Cooked dried legumes, usually lentils
Dai	Traditional Birth Attendant (TBA)
Dalya	Wheat porridge
Farex	Cereal
Firni	Sweet dish made of rice, milk and sugar
Gajreela	Sweet dish made of carrots, sugar, milk and dry nuts
Ghee	Clarified butter
Ghutti	Mixture given as ritual first food to newborns, and later to soothe infants
Gound	Tree sap (used to make panjeeri)
Gravy	Broth
Halwa	Sweet dish made of semolina, ghee and dry nuts
Imlok	Type of dried fruit
Jaleebi	Sweetmeat made from flour, sugar, food coloring and fried in ghee
Kalakand	Sweetmeat made from milk and sugar
Kheer	Sweet dish of rice, sugar and milk
Khichri	Rice and daal
Khun ki Kami	Deficiency of blood (anemia)
Lassi	Yogurt mixed with water to make a drink
Nimko	Snack made up of fried grams, lentils, potato chips, peanuts, etc.
Pakoray	Deep-fried salty snack (graham flour and vegetables)
Palak	Spinach
Panjeeri	Sweet dish made of semolina, dried nuts, sugar, gound and ghee/oil
Pao	A portion, a standard measure
Paratha	Roti fried in oil/ghee
Qaawa	Green tea
Roti	Flat bread made of flour
Rusk	Dried-up bread
Saag	Spinach/mustard leaves
Salan	Curry
Saunf	Aniseed
Sheera	Thick mixture of water and sugar
Sherbat	Drink made of water with some fruity artificial flavoring
Suji	Semolina
Tandoor	Big oven where flat bread is baked
Taqat	Energy
Urq-shirin	Poppy flower extract
Yakhni	Soup

## ABBREVIATIONS

<b>AKU</b>	Aga Khan University
<b>APPNA-Sehat</b>	Association of Pakistani Physicians in North America
<b>ARI</b>	Acute Respiratory Infection
<b>BHU</b>	Basic Health Unit
<b>BRSP</b>	Balochistan Rural Support Program
<b>DIL</b>	Daughter-in-law
<b>FIL</b>	Father-in-law
<b>HANDS</b>	Health and Nutrition Development Society
<b>IDI</b>	In-depth Interview
<b>LBW</b>	Low birth weight
<b>LHV</b>	Lady Health Visitor
<b>LHW</b>	Lady Health Worker
<b>MC</b>	MotherCare
<b>MCH</b>	Maternal and Child Health
<b>MCWAP</b>	Maternity and Child Welfare Association of Pakistan
<b>MDM</b>	Medicine du Monde
<b>MIL</b>	Mother-in-law
<b>NGO</b>	Nongovernmental Organization
<b>NWFP</b>	North West Frontier Province
<b>OPD</b>	Organization for Participatory Development
<b>ORS</b>	Oral Rehydration Salts
<b>Pak-CDP</b>	Pakistan Community Development Program
<b>PNI</b>	Pakistan NGO Initiative
<b>SIL</b>	Sister-in-law
<b>SSS</b>	Sugar-salt solution
<b>TAF</b>	The Asia Foundation
<b>TBA</b>	Traditional Birth Attendant
<b>TIPs</b>	Trials of Improved Practices
<b>USAID</b>	United States Agency for International Development

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Organization for Participatory Development (OPD)  
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## I. EXECUTIVE SUMMARY

Maternal health and nutrition are important to the well being of the current and future generation in Pakistan. With maternal mortality at 270 per 100,000 birth in 1998 (Pakistan Demographic and Health Survey) and 105 infant deaths per 1000 live births in 1996 (Pakistan Integrated Household Survey, 1996-97), many preventable, the main goal of this research was to find ways to improve the health-related behavior of pregnant women, lactating women, and their families.

A total of 188 interviews were conducted between November and December, 1997. All provinces in Pakistan were represented. Samples were drawn from urban and rural areas, although the sample was predominately rural. Two interview techniques were implemented: in-depth interviews with mothers-in-law, husbands, LHVs, doctors, LHWs, and dais (traditional birth attendants), supplemented with Trials in Improved Practices (TIPS) conducted with pregnant and lactating women. The sample of women, husbands, and MILs were low income and have the same level of literacy as the low income population of Pakistan.

All those interviewed considered pregnancy a vulnerable time in which pregnant women need special care. The prenatal care that women get does not fully meet their needs. As concerned family members dutifully fulfill their responsibilities, they are missing an opportunity to make a significant improvement in women's health. Many women believe they are healthy and consider it normal to be weak, tired, and have other negative symptoms during pregnancy and lactation. Family members reinforce these views. Doctors are only seen when pregnant women believe that they are truly ill.

The pregnant women interviewed all felt that a good diet is important during pregnancy, a belief shared by their families. They add foods like milk and fruits to their diets but do not eat larger quantities of food. They are unaware that women need more food during pregnancy. While health care providers know about these increased needs, this information is not reaching the women or their families. Rather than food taboos, it appears that women's inability to control food purchasing and the intra-household distribution of food is what prevents women from eating well. Many women are concerned about gaining too much weight, as it might result in a big baby and a dangerous delivery.

Again, there is a gap between what health care providers know about prenatal care and what women actually know and practice. Most pregnant women do not get tetanus immunizations and iron pills even though they are available and families seem willing to get them. There is confusion about the correct dosage of iron pills, and inaccurate information is disseminated by all levels of care providers as to when and how to take them.

Pregnant woman and their families recognize danger signs but don't understand the causes, levels of seriousness, or treatments for their problems. As a result of this ignorance, women delay treatment and often suffer unnecessarily. The preference to deliver at home compounds some problems, as the dais are providing care that contributes to sepsis. The unsanitary practices of health care providers seem to go unnoticed by family members who attend the birth.

Lactating women interviewed universally breastfeed and continue to do so for two years. Despite these impressive statistics, the majority of these women do not follow optimum practices. They don't initiate breastfeeding during the first hour or even the first day, they all give prelacteal feeds, and most supplement breast milk with water. Sometimes they give other milks and semi-solid foods before six months. Mothers' concern about having insufficient milk is addressed by doctors prescribing other milks. Lactating women also don't know about the increased caloric and fluid demands of lactation. They may eat milk, lassi, eggs, or meat, but do not increase their intake and consume on average a little more than half of their caloric needs.

The trials offered pregnant women recommended behaviors that addressed their need for more calories, a greater variety of foods, and iron pills. Once the women learned that they needed to eat more, they were able to increase the amount of food they ate. They received the support of MILs and husbands who purchase the foods. Families, despite their low income, were able to purchase more food, fruits in season and meat or eggs on an occasional basis. Many women had skipped meals and did not eat snacks. They were able to increase the number of meals to three and the average number of snacks to three. Within the week that they followed the advice, their symptoms of weakness, dizziness, and breathlessness were abated. Most women did not want to try to increase their caloric intake by eating every two hours, adding ghee to foods or eating while cooking.

Almost all of the women in the sample had heard of anemia but most did not treat it properly, relying on foods to relieve the symptoms, rather than taking iron tablets to solve the problem. Iron tablets are available from a number of sources, many of them free. The majority of women weren't taking them even though they had symptoms of anemia that they recognized. Once clearly directed during the trials to take iron tablets, the number of women that took them increased four-fold. Families seem to prefer to purchase tablets at the bazaar with a prescription. However, a minority made the effort to get them free from government health workers or facilities. Complaints of side effects from iron tablets were rare.

Addressing the main problem that lactating women were not eating or drinking enough, the 46 women were given alternative behaviors to improve their diets. Women were able to increase their food intake by increasing the amount, the variety of foods, and the number of meals and snacks they ate. The women frequently increased the number of roti they ate. After following these alternatives, the women immediately felt better and reported their milk supply increased. All liked the recommendation to increase their fluid intake as well. Water was a popular addition, as it was available and free. They drank before each breastfeeding and felt this also contributed to an increased milk supply. Despite all the positive improvements, most lactating women still did not reach their caloric requirements.

Many of the problems identified for pregnant and lactating women resulted from lack of understanding about these problem. Once empowered with information, the women found many of the suggested behavior changes acceptable and easy to implement. They had the support of

their families, who were concerned about the health of both the woman and the child. Although they were all low income families, almost all recommendations seemed to be within the means of the families. While health care providers tended to know more about the ideal behaviors, they often were not effective educators or promoted action without clear understanding from the families.

Based on the in-depth interviews and the trials of improved practices (TIPs), the following final recommendations were made.

1. All pregnant women need to increase their food intake.

This includes increasing the amount of food, the variety of foods, and the frequency of meals and snacks. (The overall caloric value of the foods also needs to be increased by eating more calorically-dense foods, but this concept has yet to be tested.)

Pregnant women need to eat three meals and have at least three snacks each day.

2. Pregnant women need to take iron tablets.

Multiple sources of iron tablets should be recommended since many prefer the convenience of buying them in the bazaar with a prescription and others can find government workers or facilities to get them free of charge.

Iron tablets relieve the weakness of pregnancy and must be taken from the 4<sup>th</sup> month through lactation.

Women need to understand that tablets are a form of preventive care and need to be taken even when they don't have symptoms of anemia or when symptoms disappear.

Medical providers/pharmacists must provide correct information about how many tablets to take, when to take tablets and how to increase absorption.

Pregnant women and their families need to know which foods are the best sources of iron so they can include them in their diet.

If women experience side effects, they need to know how to limit them.

3. Lactating women need to increase their food intake.

This includes increasing the amount of food, the variety of foods, and the frequency of meals and snacks. (The overall caloric value of the foods also needs to be increased by eating more calorically-dense foods, but this concept has yet to be tested.)

Lactating women need to eat three meals and have at least three snacks each day.

Women should have an additional roti with each meal, add some vegetables and fruits to each meal, and eat foods like meat every other day.

4. Lactating women need to increase their fluid intake.

Lactating women should drink a pao of water before each breastfeed.

They should also drink more liquids such as milk, juice, water, and lassi to help produce more milk.

5. Lactating women need iron tablets throughout lactation.

Multiple sources of iron tablets should be recommended since many prefer the convenience of buying them in the bazaar with a prescription, and others can find government workers or facilities to get them free.

Iron tablets help relieve the weakness many women feel during lactation and help build the blood supply. The tablets should be taken even if the symptoms disappear.

They should eat a small amount of meat every other day as it will help build healthy blood.

Other factors that need to be considered are:

1. Families are concerned for the well-being of the woman, but are often ill-informed about their needs, the dangers involved, and cures for any of the problems that might arise. Once information is provided, families tend to support actions that are required.
2. Families rely on health providers for guidance when ill and follow their advice. However, health providers rarely take a preventive approach and don't clearly explain problems, treatment or desired behaviors in a manner that is understandable to families. Additional training and resources for all levels of health workers seems imperative.
3. Families appear to have resources to buy more expensive food items periodically, purchase medicines, and pay for medical treatment in emergencies or when ill. However, some of these expenses could be redirected by following preventive advice and encouraging families to first eat more of their traditional foods like roti, milk, yogurt, and vegetables and then add some higher cost foods periodically in small amounts.

## II. PROJECT BACKGROUND

It is well known that Pakistan has a high rate of maternal mortality varying from figures of 250/1000,000 live births to 500/100,000 live births in the Balochistan province. 30% of babies born in Pakistan are low birth weight babies, and nearly 65% of mothers are anemic. The statistics, starting from national to regional, indicate that not much change has occurred to improve the overall health status of women in Pakistan.

For the past three decades, economic growth has been relatively robust and what would seem to be a fertile environment for growth in social sector spending on such things as health care has not materialized. Because investment in health has not been seriously considered in Pakistan, largely preventable calamities still occur, such as a maternal mortality at a rate of 500/100,000.

Some of the problems faced by women are rooted in social problems, while others are rooted in lack of knowledge and proper facilities. This report attempts to highlight the beliefs and practices surrounding such topics as delivery, newborn care, breastfeeding, and complications during pregnancy. Other relevant topics such as antenatal care, danger signs and recognition during pregnancy, maternal nutrition, and the use of iron supplementation, are possible targets for education and programmatic interventions.

Through this formative research, a case is being made for including behavioral concerns along with epidemiological, economic, and clinical considerations in nutrition programming. Regarding maternal health, the responsibility of behavior change is not restricted to the pregnant woman herself but must be shared with her family community, as well as health care providers, both traditional and formal. This report includes an overview of the research plan, highlights key findings linked with applications to the program design, and a summary of the program strategy (decided upon at a national workshop). Detailed reports of the trials for improved practices (TIPs) and the in-depth interviews with pregnant and lactating women, the in-depth interviews with fathers and mothers-in-laws, and the in-depth interviews with health care providers are available at the MotherCare/TAF Office in Islamabad.

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 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/The Manoff Group, the BASICS project, and Wellstart International's Expanded Promotion of Breastfeeding Program (EPB).

In December 1995, an initial dialogue with a select group of NGO partners representing all provinces revealed a demand for low-literacy health education material to promote breastfeeding. With technical assistance from Wellstart and The Manoff Group, the NGO workers developed, pretested, and revised educational and counseling cards and cassette tapes, as well as a

community-based health and nutrition curriculum. Women's support groups were established at the community level to accommodate the needs of breastfeeding women, pregnant women, and mothers of babies over six months, engaging local women in dialogue and action to strengthen their knowledge and ability to promote and practice positive health and nutrition behaviors.

At a PNI planning meeting held in December 1996, the need was expressed for more formative research in the areas of infant nutrition and feeding during illness and recovery, maternal nutrition, and prenatal care in order to develop more educational and counseling materials. Partner NGOs have been integral to conducting this formative research in preparation for the development of a second series of counseling cards and revision of several chapters of the curriculum.

## **A. RESEARCH METHODOLOGY**

### **Objectives**

#### Long Term Objectives:

- Gather information to guide the development of design interventions, as well as the development of a communication strategy.
- Improve our understanding of women's, husbands', and mothers-in-law's beliefs about maternal nutrition, anemia, and danger signs during and post pregnancy; current practices related to these issues; and the constraints to changing behavior.
- Investigate the current beliefs on pregnancy-related care by various community and facility-based health workers, and assess their motivations and constraints to providing counseling.
- Build capacity of NGOs to do qualitative/formative research.
- Build capacity of NGOs to design community-based nutrition interventions.

#### Short Term Objectives:

- Test at the household level, the acceptability and feasibility of potential recommendations for improving pregnancy-related care.
- Revise behavioral grids based on new research.
- Revise and develop new counseling cards.
- Revise three chapters of curriculum and counseling cards and support group chapters on child health and nutrition, maternal health and nutrition, and child spacing.

MotherCare/Manoff, through two local consultants, conducted a thorough review of qualitative research studies on maternal care during pregnancy. The purpose of this was to develop a comprehensive synthesis of current information available on the issues of maternal and child health in Pakistan. This synthesis, based on published and unpublished documents, included analysis of current behavioral practices related to maternal child health and also barriers to changes in those practices. The literature review collected information in the following areas:

Beliefs and practices surrounding:

- Delivery
- Newborn care
- Breastfeeding at birth
- Complications during pregnancy

Understanding of:

- Antenatal care
- Recognition of danger signs during pregnancy
- Reproductive health services, i.e., quality of care
- Importance of maternal nutrition
- The use of iron supplementation for the control of anemia

After the review was complete, the NGOs involved in community-based counseling were asked to nominate master trainers trained in counseling skills to participate as researchers. In a national training workshop, the research team was oriented as to the purpose of the research and trained in skills for conducting qualitative research. In addition, the team helped modify the research instruments. Tools were modified based on the field experience. Prior to the workshop, the two local consultants, the Manoff consultant, and the MotherCare Program Coordinator developed the protocols for all categories. Annexes 3 to 7 contain samples of the research tools.

Following the national training workshop, a training of trainers (TOT) workshop was held for five days at the training site in Murree. Participants learned to conduct 24-hour recalls, apply the TIPs techniques, and conduct in-depth interviews. The NGOs that participated in the TOT training were APPNA-Sehat, HANDS, Pak-CDP, OPD, and MCWAP-Punjab. Annex 12 contains the agenda for the TOT workshop.

Five-day training sessions were then held in each province to improve the research and supervisory skills of the NGO master trainers, to train the NGO research teams to conduct the formative research on MCH, and to finalize detailed strategies for conducting the research. The training included the following: a review of infant and child nutrition, discussions on ideal feeding practices versus actual practices and barriers, issues in qualitative research, role playing on TIPs, community field work/observation, interview techniques, and discussions on note-taking.

The research targeted pregnant women and lactating mothers with a child currently under five months of age. Critical to understanding these groups were the **Trials of Improved Practices (TIPs)** conducted with 46 lactating women and 32 pregnant women. This participatory research technique invites program participants to pretest potential program “products” or practices prior to their inclusion in the program. Besides helping to define practices, TIPs also indicate the relative ease or difficulty of people adopting the practices, the nature and strength of barriers to carrying them out, and benefits and other motivations to help overcome these resistances.

Researchers conducted three interviews with pregnant and lactating women. In the first interview, each woman’s 24-hour recalls were recorded. Teams then analyzed the 24-hour recall using the calorie charts and went back to the same woman to give her feedback on the dietary analysis and any problems identified. In this second interview, researchers offered recommendations of improved practices along with motivations for the identified problem, and the researchers and the woman agreed on two recommendations for the woman to try over the next five days. The interviewers returned on the sixth day, did another 24-hour recall, and discussed the mother’s experience of trying the recommended practices.

Due to the fact that decisions related to health care and nutrition are not made in isolation from other members of the society, three main categories of persons who could influence decision-making were identified. In-depth interviews were conducted with mothers-in-law, fathers, and health care providers including LHVs, doctors, LHWs, and dais.

### **Selection of study sample**

The research sample was decided after intensive discussions. The previous research has shown that the decisions relating to health care and nutrition are not made in isolation from other members of the society. In light of the previous research studies, three main categories of persons who could influence decision were identified. These were mothers-in-law (MILs), husbands, and health care providers. In the category of health care providers, doctors, LHVs, LHWs, and dais (traditional birth attendants) were considered important enough to investigate.

For health care providers, the selection criteria included that they should be working in a community or a health facility. Teams were asked to recruit doctors/LHVs from both the private sector and the government sector. Basic criteria for LHVs was that they should be trained in public health schools. For the dais, 30% were to be trained, and 70% untrained.

The sampling was done by using the purposive method of sampling. The sample included rural and urban communities in all of the four provinces. There was no urban sample from Balochistan. The NGO supervisors were asked to choose communities and villages where they were not working.

A separate observation sheet was developed to ascertain the hygiene and other practices that the interviewers observed during the visit. A separate one page questionnaire was used to ascertain

## B. DESCRIPTION OF THE POPULATION

The research targeted pregnant women and lactating women with a child currently under 5 months of age. Central to understanding these groups were the TIPS surveys conducted with 46 lactating women and 32 pregnant women. In order to further understand health issues for these groups, in-depth interviews were also conducted with mothers-in-law and husbands. In addition, LHVs, doctors, LHWs, and dais were also interviewed. The chart below (Table 1) breaks down the sample by participant type, method, province, and urban versus rural. More than half of the sample was drawn from rural areas. All provinces were represented. The 188 interviews broke down as follows: 33 participants in Balochistan, 47 in NWFP, 51 in Punjab, and 57 in Sindh. In general, the sample was low-income, illiterate (except for some husbands and some health workers), and rural.

The **pregnant women** were generally 20-30 years old, rural, and unemployed outside of the home. They were low-income and fewer than a quarter were literate. More than three-quarters of the pregnant women were from rural areas.

Pregnant women in this sample had mixed reactions about having a baby. Women were happy if they are pregnant with their first or second child or if they are expecting a boy. Others expressed ambivalence because they are concerned about the pregnancy's impact on their health or the impact on the youngest child because of poor child spacing, or because they feel they already have too many children. Some claimed failure of family planning methods. "I am worried how I will take care of six children. That is why I was using pills for the last nine months. Still I got pregnant; I also tried to abort it."

A total of 21 **husbands** were interviewed. They were either low-paid public or private sector employees or low-income and self-employed. In contrast to the women, most of the husbands have 10 years of formal education and about half can read well. Only a few husbands can not read at all. Half the sample was under 30 years of age and only a few were over 40. Family size ranged from 1-11 with over half having three or fewer children. Many reported the death of at least one child.

Husbands were asked about their view of their wives' current or most recent pregnancy and the need for prenatal care. More than half of the husbands reported that their wives are healthy when pregnant. They believe their wives are healthy because they accomplish their normal household work and don't complain of any "pain or illness." Urban husbands are much more likely to know their wives are healthy because "they were seeing a doctor for regular checkups." Husbands who reported their wives are not healthy mentioned the following problems: anemia, backache, pale complexions, weakness, stomach ache, and high blood pressure.

The majority of the husbands believe pregnant women need prenatal care either to have a healthy baby or to keep the mother healthy. Prenatal care is defined by the husbands as: eating well, not carrying heavy things, and consulting a doctor if the woman doesn't feel well. None of the

husbands mentioned taking extra rest or seeing a health care provider, except for treatment of symptoms. Husbands and mothers/mothers-in-law are the key care-givers mentioned. They buy food and help carry heavy things. Husbands suggested that only other women can understand pregnant women.

Twenty-one **mothers-in-law (MILs)** were interviewed. They were mostly 46-65 years old, illiterate, and living in an extended family situation. All had pregnant daughters-in-law at the time of the interviews. Almost all the MILs believe a pregnant woman needs prenatal care. They define prenatal care as husbands do, but elaborate on a good diet by specifying the inclusion of fruits and ghee. MILs believe they are the best providers of that care. They also don't mention reduced work load or resting. Because doctors are expensive, they are only seen for serious problems, usually after consulting first with a dai. Husbands usually take their wives to the doctor or hospital. Urban women are more likely to consult doctors for check-ups, tetanus injections, and for registration in hospitals.

**Lactating women** interviewed lived chiefly in rural areas, all had a child under five months of age, and almost all were 20-35 years old. Almost all are housewives, but a few are involved in income-generating activities. The majority are illiterate, but some (mostly urban) women can read well, having completed 10 years of formal schooling. More than half the sample live in extended families, including all urban women. Women from Punjab and Sindh are more likely to live in nuclear families.

Lactating women were asked about self-care, support, recreation, and time with their children. Despite the demands of normal family work and breastfeeding, more than half of the sample women find time to rest and relax. However, almost all of those spend less than an hour each day relaxing. Most women also take time to talk with relatives and neighbors, but these are casual encounters rather than regular, planned activities. A demanding work load is the reason given most often by those who do not have time to rest. Playing with children is a concept that lactating mothers had trouble articulating. Half said they do have time to play with their children, usually their youngest, but couldn't specify what they do with them.

A total of 28 **dais** were interviewed, 18 rural and 10 urban. They were between 35-70 years old, but the majority were younger than 50. The majority of the dais are illiterate, but some have 6-8 years of formal education and can read well. Only six of the 28 dais were attached to an organization; all the rest worked independently. Dais in this sample were experienced (averaging over 11 years of experience), and the majority had received some training. Urban dais reported delivering more babies than rural dais, two stating that they deliver 300 babies a year. Most dais deliver fewer than 30 babies a year.

A total of 15 **LHWs**, six urban and nine rural, were interviewed. The majority have completed 10 years of formal education, but are much less experienced than the dais and see fewer women in a year. Almost all work for the government and have received their training from the district health office or hospital. They describe their main responsibilities as "giving advice related to

mother and child health.” This includes family planning, immunization, water and sanitation, information on infantile diarrhea, and ARI. Some said they also give advice on antenatal care, growth monitoring, breastfeeding, and maternal nutrition.

There were 12 **LHVs** interviewed, eight from rural areas. Of the 13 **doctors** in the sample, eight were urban. Most LHVs have less than four years work experience and the doctors have slightly more experience. Most of the LHVs have 10-12 years of formal education and 1-2 years of LHV training. The majority of the LHVs and the doctors work for the government.

## Formative Research Sample Maternal Health

Participants	Method	Population Covered								Totals
		Balochistan		NWFP		Punjab		Sindh		
		Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rrl & Urb
Lactating women (0-5 months)	TIPS	8	0	11	3	8	2	8	6	46
Pregnant women	TIPS	8	0	6	2	7	2	4	3	32
<i>Sub-Total</i>		16	0	17	5	15	4	12	9	78
IDI of Mothers-in-law regarding maternal health	In-depth Interview	5	0	3	1	4	1	4	3	21
IDI of husbands regarding maternal health	In-depth Interview	4	0	3	2	4	1	3	4	21
<i>Sub-Total</i>		9	0	6	3	8	2	7	7	42
IDIs of LHV/Doctors regarding Maternal Health	In-depth Interview	4	0	1	4	5	3	3	5	25
IDIs of LHWs regarding Maternal Health	In-depth Interview	1	0	3	1	3	1	2	4	15
IDIs of Dais regarding Maternal Health	In-depth Interview	3	0	4	3	7	3	4	4	28
<i>Sub-Total</i>		8	0	8	8	15	7	9	13	68

*Table 1*

### **III. CURRENT HEALTH AND NUTRITION SITUATION OF PREGNANT AND LACTATING WOMEN**

#### **A. PREGNANT WOMEN**

##### **Care for Women: Social Perceptions and Care Practices**

###### *How women feel about being pregnant/feeling of happiness*

A little over half (18/32) of the women expressed happiness on being pregnant and the feeling of wanting a child was very much there. Out of these 18, four were happy because it was their first or second child. Six of them were happy with an expectation that they would have a boy as result of this pregnancy.

A significant number of women expressed the feeling of unhappiness about the pregnancy. Reasons given by women for being unhappy included poor health of the woman and the youngest child too young so woman was not ready for another pregnancy. A few of them expressed that they were unhappy because they were using contraceptives but they did not work.

*“ Did not feel happy at all, I felt remorse that why am I having kids without any spacing; also tried to abort it.”*

*“I was using family planning injections when the Family Welfare Center Baji told me that I was pregnant, how could I be happy when I already have so many children. Now I pray that if I get one more son I will get myself operated.”*

Another pregnant woman said:

*“I am worried how will I take care of six children. That is why I was using pills for the last 9 months. Still I got pregnant, also tried to abort it.”*

Still another one said

*“I did not want to get pregnant so that I can remain healthy. I was using injections for family planning, however I missed one injection and got pregnant”*

Many of the women (20/32) said that the family members were happy about the pregnancy, however, a few suggested that the family members were indifferent, two said because pregnancy affects us and our work, not the family. A few women said that family members were happy because their family will expand. Very few mentioned the particular response of their husbands. However two mentioned that they were happy with the expectation that they will have a son. One family who already had six boys mentioned that they were happy because they may get a girl this time.

A significant number of women expressed that their families were not happy with this pregnancy especially (7/32) mentioned husband's negative reactions. The husbands major reason for unhappiness was the unwanted child and the youngest child being very young. Two women mentioned that the family and woman were not happy because they thought that the woman was already very weak.

A few women gave the following statements regarding the husbands/families views on spacing:

*"It is good if it gets aborted, it will help you be healthy and if there are too many children it increases expenditure also."*

*"My husband is not happy; he had mentioned using family planing, but I did not use it so its my fault."*

*"I had suggested to my husband that we go for sterilization, but my mother-in-law voted against it and said children are god's gift to us."*

Many husbands expected their wives to take or use contraceptives, and see it as women's responsibility to delay/stop next birth.

#### **Recommendations:**

- Men consider family planning, but men are not are not viewed as responsible for those actions. At the same time, women have restrictions on their mobility and hence it is more difficult for women to obtain contraceptives.
- Men should be addressed in family planning campaign as partners

#### **Nutrition During Pregnancy**

**Ideal Practice:** During pregnancy woman should eat 3 meals and 2 to 3 snacks and as much variety of foods including fruits and vegetables as possible - each meal and snack can be of a modest size - but the total a woman eats and drink in a day should be more than her normal diet.

*What should a women do to remain healthy during pregnancy?  
self-care / self esteem*

A large majority of women think self-care during pregnancy is synonymous with improved dietary practices. That is why most of the women mentioned improved diet as the predominant way for pregnant women to take care of themselves. Other things mentioned by a few included prenatal check-ups and tetanus injections, and taking supplements & vitamins. Some women also mentioned the need to remain at home and not carry heavy loads as part of self-care during pregnancy. The main reason for recommending good diet during pregnancy was to keep the mother and fetus healthy.

## **Foods Considered Good for Pregnant Women**

Good diet was defined by women as inclusion of more than the usual amount of fruits, meat and milk in the diet. In the urban areas most of the women mentioned meat and eggs as good diet, while rural women mentioned fruit and milk as the most recommended part of a good diet during pregnancy, across the board.

Very few of the women mentioned an increase in the amount of food taken as something significant for improved nutrition during pregnancy.

There was a perception that only a certain kind of diet which includes milk, fruits and meat is right for pregnant women, but that this can also be a barrier in improving the nutrition during pregnancy, especially when the women are not consuming enough calories. Hence there is a need to stress an increase in the amount of food taken to improve the diet for pregnant women.

When asked what they were actually doing to take care of themselves, the majority of the women (25/32) stated that they are eating well. Eating well was defined as having more than usual fruit milk and meat during pregnancy.

In the urban area, a combination of eating well and reported check-ups by doctors (some mentioned ultra-sound) or dais were practices reported by women. Only one women mentioned that she is eating more than usual. Very few mentioned eating vegetables as part of their diet in pregnancy -- only one urban and a few (3) rural women from Punjab said that they are eating vegetables.

A significant number of women (9/32) said that they see the doctor or dai in order to take care of themselves. As a part of self-care, 3 rural women mentioned tetanus injections. A few rural women told about the supplement such as Ibural-F, Globinit, Mucaïn syrup injections they are taking. It is also apparent from several statements that self-care during pregnancy is also linked with taking medicines or going to doctors. Around one-third of the women said that they drink more milk than usual. The women taking supplements said that they were doing so because they were feeling weaknesses and that doctors had suggested those supplements.

## **Food Taboos/Foods Avoided**

When asked if there was anything that the family had during last 24 hours but you did not, slightly less than one third of the women mentioned at least one food item which was available but which they didn't eat. A majority of the women mentioned vegetables including cauliflower, green french beans, lady fingers, spinach, potato and pumpkins. There were two main reasons to avoid these foods: 1) women didn't like the taste, and 2) these foods are gas-forming and cause stomach pain. Lentil was another food a few women avoided because it is gas-forming and causes stomach ache. Eggs and meat were mentioned by only one woman, who said that she didn't like the taste.

Widespread strong resistance was not found against any particular food. It seems that pregnancy is seen as a "hot" vulnerable state of body, and therefore foods having "hot" properties are not encouraged for pregnant women. The foods items mentioned as having hot properties included egg, meat, fish, peanuts and other nuts, and bitter gourd. The reasons given for not having hot foods in larger quantity is that they may cause abortion or vaginal bleeding in a pregnant woman.

Another category of foods considered not very good for pregnant women are the ones that are hard to digest or gas-forming such as cauliflower, potato, lady finger, and channa lentils. Hot and spicy food is not generally considered harmful for the pregnant woman.

### **Decisions on Food Purchase and Intra-Household Food Distribution**

Overall, about one third of the women said that they cook the food themselves. Although a majority of the urban women were living in the extended families, all the urban women reported to cook the food themselves. A significant number of rural women said that they cook it together with their sisters-in-law (SIL) or mothers-in-law (MIL). Only one woman said that her MIL cooks the food. The fact that the majority of women cook themselves does not really reflect how independent they are in decision making regarding what to cook and how much to cook.

When asked who distributes the food in the family there was a variation in the urban and rural areas. All the urban woman reportedly distribute the food in the family, while in the rural areas, only one third of the women distribute the food in the family. Most of the rural women said that they distribute the food in collaboration with their mothers-in-law and sisters-in-law.

Another aspect of food distribution was captured by asking them the order of eating in the family. About one third of the woman reported that the whole family eats together at one time. Urban women are more likely to eat with the family. A majority of rural women said that they eat at the end after feeding the male family members and children. All women from Sindh eat after their family has finished. This has implications if women want to increase their diet.

When asked who purchases the food for the family, the majority (28/32) of women reported that their husband, father in law, or other male members of the family (brother, brother in law) buy the food. Rural Punjabi women are more likely to buy the family food.

All women said that their husbands or other male members of the family are paying for the food. It seems that even if women are buying food they say their husbands are paying for it.

### **Benefits:**

- Although women mention foods that they avoid during pregnancy, there is not a strong and widespread resistance against any one food. Reportedly, women were eating foods considered not good, either because they did not like it or alternatives were not available to them. For example, one woman said:

*“Food is cooked for the whole family so I can’t cook a separate dish for myself. I have to eat what others are eating.”*

- Fruits, milk, meat, and eggs are considered good foods for pregnant women (mainly urban).
- Women are distributing foods in most cases so they have some control if they want to increase food intake.

**Barriers:**

- Some women said that medicine is not good during pregnancy because all non-traditional (allopathic) medicines are hot and hot things may cause abortion or bleeding. This belief may interfere with iron supplementation, which is considered a medicine.
- Daal and vegetables, although good sources of energy and readily available, are not mentioned and valued.
- Most women eat after the family has eaten. This has implications if women want to increase their diet.

**Recommendations:**

- There may be a need to promote iron tablets as a nutrient. Other interventions, such as flour fortification at the national level, will need to be promoted also.
- It is very important that lentils, vegetables and roti should be promoted as valuable foods.
- The money is seen as belonging to husband or other male members of the family. This fact makes it absolutely critical to target husbands in the communication campaign.

**Pregnancy Related Care**

**Ideal Practice: Seek care from a health facility for major danger signs during pregnancy such as bleeding/swelling, headache/dizziness, or excess vomiting**

*Health Seeking Behaviors During Pregnancy*

All of the urban women and a majority (17/25) of rural women contacted a health care provider during pregnancy. However only a few woman consulted the health professional for pure antenatal purposes. Majority reported physical ailments such as pains, weakness, bleeding or fever during pregnancy as reasons to consult a health practitioner.

A significant number of rural women from Balochistan and Punjab did not contact a health professional. The reasons for not contacting a professional were: there was no need because she

felt healthy; husband did not allow because the pregnant woman didn't have any illness; the health facility was far away.

Of the women who consulted a health care provider, half of them went to a government health facility while the remainder went to private doctors and a few consulted private LHVs or nurses. Two women consulted dai. The reasons given for contacting health care providers were stomach ache, vaginal discharge, backache, weakness.

Regarding frequency of the visits, a majority of the women consult the health care providers one or two times during a pregnancy. The urban women are more likely to visit the health professional on a regular basis, i.e., every month or every second month.

Reported time to reach the health facility ranged from 5 minutes to 2 hours. However, for a majority of the women, it takes half an hour or less to reach the health facility. The time reported by the urban women was much less, about ten minutes in most cases.

Most women both in rural and urban areas use public transport to reach the health facility. A significant number of women use private transport and a few reported that they could walk to get to the health facility.

Although most women see pregnancy as a normal, natural state with no reason to seek care unless a major problem arises, there is a new trend emerging to have "check ups" with health care professionals to see if both the mother and child are healthy. It is currently primarily happening in urban areas.

**Benefits:**

- Even though pregnancy is seen a normal state it is clear that it is also considered a vulnerable and weak state for women, therefore health professionals are consulted for ailments which would be considered not so important if the woman was not pregnant.
- In the section where women were asked what should they do to take care of themselves during pregnancy a significant number said that they should see a health professional, a doctor in most cases.

*“I had stomach ache and I thought it could be because the position of child is not right so I should check with the doctor.”*

- The benefit is that pregnant women do contact health professionals and the opportunities exist to immunize against tetanus and give iron folate tablets also.

**Barriers:**

- None of the women mentioned getting tetanus injection or iron folate as reason for consulting a health professional.

- The barrier at the moment is that the available opportunities are not used for immunization or to dispense iron folate.
- The barrier in most cases is that danger signs, i.e., weakness, swelling of hands and feet, severe and repeated headache and vaginal bleeding, are not seen as signs of alarm, and women do not interpret them as signs to trigger immediate action. Rather, these are seen as a normal part of pregnancy.
- Another strong barrier is lack of knowledge about the seriousness of danger signs. Information on these problems should be given to the women and other family members.

**Recommendation:**

- It is very important that pregnant women, their families and health care professionals are aware that every contact is seen as an opportunity to immunize and to receive/give iron folate.

*Danger Signs During Pregnancy*

The problems reportedly experienced during pregnancy include edema (swelling of feet and face), breathlessness, severe and repeated headaches, weakness, dizziness, and vaginal bleeding. The most commonly reported problems were breathlessness, weakness, and swelling of face and feet.

Headaches were associated with blood pressure, weakness and vomiting. Breathlessness is perceived as caused by weakness and increased physical activity. A few linked weakness with insufficient diet.

When asked what they thought were the causes of these problems, more than half of the women said that they did not know. The cause of edema was least known by the women. The ones who commented on the causes, a significant number of them perceived edema, weakness, dizziness to be seen as a normal condition of pregnancy. Regarding actions taken to cure the problems, none of the women had taken any action to cure edema. The reason stated was that it goes away after the delivery.

Less than half consulted a health professional for breathlessness, and most of them were from urban areas. In some cases the health professional recommended supplements (taqat ki davai), while several women could not tell what type of medicine was recommended.

For headaches less than half consulted a health professional. Urban woman are more likely to consult a doctor for headaches and weakness.

## **Anemia**

**Ideal Practice:**       **Attend prenatal care beginning around the 4th month; ask if you need a tetanus immunization and iron sulfate tablets. Obtain iron folate tablets. Consume the tablets as directed (daily in the correct dose, at the recommended time, with clean water or juice, not tea or coffee. Continue to take the tablets despite the side effects, return for supply when needed.**

### *Perceptions about Anemia with Relation to the Health of Mother and Child*

All the urban and majority (21/25) of the rural women had heard about anemia which is called *Khun ki Kami* in Urdu. Women who had never heard this term were mostly from rural NWFP and Balochistan.

Most commonly recognized signs and symptoms of anemia by women were: dizziness, weakness, pale complexion, fatigue, breathlessness, pain in the entire body. Other signs of anemia mentioned by the women included; dark marks on the face (Chayan), laziness (Susti) low blood pressure, swelling of hands and feet, weight loss, white nails and irritability (Khichri).

When asked what they thought could be the cause of anemia, more than half the women said (20/32) that they didn't know. A significant number of woman linked anemia with lack of good nutritious food. Nutritious food was defined as a diet containing lots of apples and other fruits, egg, milk and meat.. Other perceived causes of anemia included; general worries, asthma, TB, malfunctioning of liver. Only one urban woman said multiple pregnancies could lead to anemia.

### *Current Practices/actions (Influence/decision Making)*

Concerning treatment for anemia, a significant number of women (9) mentioned iron tablets as the primary cure although most of them combined it with good diet . A few (5) women suggested good diet as the cure for anemia. A good and blood-forming diet as seen by some women is fruits, egg, meat and milk. A few said a doctor should be consulted to treat anemia.

Some (7) women said they do not have an idea what could be done to treat anemia. One rural woman suggested a traditional cure which was having milk with Desi Ghee and almonds on a daily basis.

At the time of interview about two thirds (19/32) of the women felt that they were anemic. Only 30 percent (6/32) of these women were taking iron. A significant number of women are using Singboean or other B-complex preparations to treat anemia.

Some (3) reported to increase or alter their diet by adding more fruit and eggs to it as a singular treatment for anemia. Only one woman said that she was eating liver every day.

Alteration (addition of fruit, eggs and milk) was reported by many women as part of the medical treatment they were taking. Iron supplementation was recommended by the doctor in most cases and by Hakeem in one case. B-complex preparations (tablets, injections) were suggested by doctors, nurses, health visitors and husbands. Only urban women have reported to receive this information from their husbands.

Of the women taking iron, some of them reported to have one to two capsules of Fefol vit.

About half of the women said that they will have no problems if they want to make any changes in their diet, because they were independent to make such decisions or their families will support those decisions.

The ones who said they would have problems the main problem identified by the majority was the fear of indigestion if the amount is increased. A few said they will need permission of the family which could be difficult because the norm is every one in the family eats what is cooked for the whole family and preparing different/separate foods for the one family member would not be appreciated. One women said that she will not increase the amount she is eating for fear of having a bigger baby which could result in a difficult delivery. Financial constraints were mentioned only by one woman.

The concept that increase in the diet may cause indigestion seems to be the major barrier across the board.

#### *Perceived Link of Diet with Size of Fetus and Difficult Delivery*

When asked how much weight woman should gain during pregnancy, a majority of the woman said that they did not know how much weight a woman should gain. The women who had some idea said 2 to 4 kg. A widespread perception is that the weight gain should be equal to the child's weight at birth (which is considered to be around 2 to 4 kg).

The fear that weight gain will result in a bigger child and difficult delivery is very strong and widespread across the sample. The main concerns are if the child grows bigger it will be difficult for the woman to deliver and she might need an operation to deliver the baby. The hospitals and operations are seen as something expensive and inconvenient. A large child, if delivered at home, is seen as a life threatening situation both for the mother and the child.

In order to avoid having a bigger child, a practice reported by majority is to eat less food. A few women said they go for checkups. Some women said that they eat less but have injections for energy (Taqat ki Teke); this way mother stays healthy and child also does not grow bigger.

***“If child grows big I will have trouble in delivery, that is why I do not eat much and only eat enough to satisfy my hunger pangs, I do not eat additional foods.”***

### **Current Practices – Use of Iron Tablets**

About one third (12/32) women recognize iron tablets. The women who recognized the iron tablets most (9) of them said that these are to improve energy level and to give strength (Taqat ki Goolian). Some women said that the tablets are to cure iron deficiency and blood deficiency (Khun ki kami). Others described iron tablets as a cure for back pain, weakness and numbness of extremities.

One woman could recognize the tablet but she did not know what it was for. She had taken the tablets for some time but the doctor never explained what the tablets were.

About one third (11) women reported to have taken iron during present or previous pregnancies. Three women were taking iron preparations at the time they were interviewed. Others had taken them in previous pregnancies or some time in the beginning of pregnancy.

Benefits of iron preparation reported by a majority are: reduced breathlessness, less fatigued, less weakness.

***“I used to feel weak; now after taking these capsules (of iron) I feel better, and I can go about my daily routine well and I feel that due to the medicine I am able to do my household chores as usual”***

Others reported benefits including feeling more active, no dizziness, and reduced backache.

Regarding side effects of iron folate only two women commented, one said they induced vomiting and the other one said she had a premature birth (at seventh month) that worried her.

#### **Benefits:**

- One positive aspect is that about two thirds of the women are aware that they had anemia. Also the signs and symptoms of anemia were fairly well recognized.
- Most of the women have heard about anemia.
- All the women taking iron preparation realized its benefits and attributed the improvement in health and well being to the iron folate.

#### **Barriers:**

- The link between multiple pregnancies and anemia is not perceived at all.

- The perceived link between the diet of a pregnant woman and a bigger child and difficult delivery will be a barrier to promote increased diet during pregnancy. It partially explains the current practice inferred from 24 hr dietary recall that most pregnant women are consuming less than 1500 calories, one thousand less than the requirement.
- The barrier is that anemia is not linked with multiple pregnancies at all. There is recognition of the link between anemia and poor nutrition, although it is not very clear and is mostly seen as due to the lack of milk, eggs and fruits in the diet.
- Lack of red meat is seen as the cause of anemia to a lesser extent, and green leafy vegetables do not figure in the scenario of anemia at all.
- None interviewed mentioned prevention of anemia. More than half of the women didn't know the cause of anemia.
- Women don't like to take medicine during pregnancy on a long term basis. This belief may hinder regular intake of iron supplements.

**Recommendations:**

- A campaign should focus on preventing anemia through changes in diet and iron supplements rather than waiting for the symptoms.
- It is very important that in any communication campaign, the messages encouraging the increased diet for pregnant women should address the fear of having a big child.
- Another barrier is that even after realizing that they have anemia only a few (6) were taking iron. Consumption of iron as cure for anemia needs to be emphasized -- it seems that women do not have confidence in the iron folate as many had reported to combine it with the improved diet.
- There is a strong need to build women's confidence in iron folate as a cure for anemia.
- It seems that to be able to do daily household chores without feeling fatigued and weak is very important for women. Therefore a communication strategy should strongly emphasize this benefit of iron folate.

**Childbirth Hygiene, Obstetrical Emergencies, and Basic Care of the Newborn**

**Ideal Practice:**      **Seek delivery assistance from a trained dai/health professional**

*Knowledge /Perceptions Related to Emergencies During Delivery (PPH/prolonged labor/eclampsia)*

The most common perceived problems during delivery as stated by women were prolonged labor (7), excessive bleeding (6), and the placenta comes out late or does not come out at all (6). Other problems mentioned included slow labor (3), and fat and breach babies because they are difficult to deliver.

A significant number of women (8) said that they had no idea about the possible problems women may face during delivery. Many of these women were primiparas and it seems that they were not prepared for possible emergencies that may arise; such problems are not discussed with young women.

***“I do not know, this is my first time, no one has told me anything, all I know is that it is very difficult to deliver and I am so afraid.”***

The conditions under which women should be taken to the hospital, the majority mentioned prolonged labor (5) and if placenta does not come out (6). Other conditions mentioned are if labor pains stop (3), if dai cannot handle the case (3), breech baby (2), if child does not come out, and high fever. Some women said they did not know what the conditions might be. It seems that young women especially primiparas (which are a high risk group) are purposely kept ignorant of the potential problems related to delivery.

***“No one has told me, I got married and came to my in-laws, but neither my mother nor my mother-in-law has told me anything”***

Communication strategy messages should emphasize discussions on danger signs related to pregnancy and delivery with newly married women. Being prepared for any complications, rather than avoiding the topic, should be promoted.

When the women were asked who they would consult if an emergency situation arises during delivery, many women said they would consult their husbands. The reasons for consulting the husbands are that he makes the arrangements. A significant number of women said that they would consult their MIL. Other family members mentioned were parents, brother, and sister-in-law.

Concerning the time it takes to reach a health facility, about two thirds (21) of the women reported half an hour or less time. Most of the women said it was possible if they use private transport. Some (7) women said it takes one hour to get to the health facility in case of emergency. One woman from rural Sindh said it would take her one and half hour to reach the nearest health facility. Mode of transport suggested by the majority is car or Suzuki pickup; other modes mentioned include donkey cart (2), tractor, motorcycle, on foot (4) and rickshaw.

The perceived usual normal length of labor varies in the urban and rural areas. Almost all urban woman and less than half rural said that it should be six hours or less (18). A significant number (5) of rural women suggested 24 hours or more as the usual length of labor pains.

***“In our Goth (village), women take about two to three days to deliver.”***

A few (2) said 12 hours is the normal period that takes to deliver. Several (7) women had no idea about the normal length of labor pains.

It seems that labor pains are seen as individual experience that is why the variation in the length of labor pains is acceptable.

***“Each woman is different and therefore may take her own time”***

It is critical to provide knowledge that more than 6 to 8 hours of labor pains for second gravida should be seen as danger signs.

Concerning action that should be taken if labor pains prolong a predominant majority (26) said they would go to a hospital or doctor. A few (4) women said that they would consult a dai and if she suggests only then they would go to a hospital.

***“We will ask dai if she suggests, then I will go to a hospital.”***

Some (2) said they would call a doctor and have an injection there is a perception that injection is the solution to prolonged labor pains.

The dai seems to play an important role as advisor for referral.

When asked what should be done in case of PPH, more than half (17) women said they would go to a doctor/hospital. However the statement doesn't reflect a sense of urgency about excessive bleeding after delivery.

***“We can go to a hospital; another alternative is I can also get an injection from a doctor in the village.”***

Regarding treatment of excessive bleeding, some (5) women said they would consult a dai and do whatever she suggests. A few women said they would tell their parents or husband and would follow their advice.

**Barrier:**

- Women are expected to bleed after delivery and how much is excessive bleeding is difficult to determine.
- PPH is not seen as a sign of alarm by a large number of women and this lack of knowledge could be a major contributor to the high maternal death rate.

**Ideal practice:**        **Make certain that whoever attends a birth, practices the three cleans: clean surface/clean cloth to put under the women delivering a baby, clean hands, and a clean instrument to cut the cord**

Majority (23) of women prefer to deliver babies at home. Some women said that they would prefer to deliver at hospitals.

Various reasons were given to prefer delivery at home these included:

- support and presence of family members
- custom and tradition
- more economical
- Dais are more experienced
- hospitals do not provide good quality of care
- difficult to reach the hospital
- fear of hospital

***“At home everything is done under Parada and Ijat”***

***“In the hospital one needs more money”***

***“In the hospital they keep the baby and the mother in separate rooms”***

The majority of women who wanted to deliver at the hospital knew they would have a caesarian section. One woman said she does not trust the dai or other people at home, that is why she would prefer to go to the hospital.

When asked about preparations made to ensure a safe delivery at home, a range of things were mentioned including special foods such as egg, chicken, ghee, and panjeeri (a mixture of nuts with semolina, sugar, and desi ghee) for mother to be given after delivery (11); preparing cloths for the newborn(12); and preparing sanitary pads for the woman. A few said (5) they would make arrangements for the money in case of emergency.

When specifically asked what is put under women during delivery, the majority of the women said that they put an old “sheet” or “mat”. Some woman said that a plastic sheet is spread over the bed where the woman delivers. It seems that usually the sheets are not cleaned because there is perception that the sheet will get dirty any way with the blood so what is the point of washing it before use.

One woman mentioned use of ashes on the sheet so that the blood does not show on the surface because it gets absorbed in the ashes.

Only one women mentioned that the sheet put under woman for delivery is specially washed and cleaned.

Delivery takes place in a room in almost all cases. Some women mentioned that care is taken that the doors are closed and in winter the room is heated.

When asked how a dai cleans her hands before delivery about half (15) of the women replied that they do not know. Reportedly dais who do wash, use soap. Some urban women knew the importance of hand washing and stated clearly that hands have germs which can cause illness.

More than half of the women reported that dai do not clean her instruments, i.e., blade or scissors used to cut the cord. The ones who clean mostly boil it. The situation is vague in many cases because several (4) women reported that the dai cleans the instruments at her own place. Some women mentioned that dai carries injection that increases the labor pains (dard tez kerne walla teeka) in her box and uses it if need arises.

There is a need to create a demand for cleaning the hands and instruments for dais. By making women and families aware of the link between infections and the dirty hands of person awaiting delivery.

About one third of women said that the dai cleans her instruments, and many of them mentioned that the dai was trained which is why she boils the instruments. Dai training programs are having some impact.

**Benefits:**

- Most women are already putting some material where the woman delivers, but the task is to teach them to wash it specially for delivery.

**Barriers:**

- Most woman do not understand the link between infections and dirty hands of the person who is delivering.
- Families are not aware of proper hygiene requirements and focus their attention on such things as special foods for the woman after delivery and clothes for the newborn.
- While postpartum hemorrhage was considered a problem, it wasn't considered urgent. Bleeding was considered normal and excessive amounts difficult to determine.

**Recommendations:**

- These responses explain partially why 86% of women in Pakistan prefer to deliver at home. Given such a strong preference for home deliveries, it becomes even more important that women know about the three cleans and about danger signs.

**Ideal practice:        Make certain that the newborn stays warm right after birth, both by putting the child to the breast and wrapping the baby in a soft cloth.**

About half the respondents wrapped up a child before the bath and the other half after bath. Women from NWFP are more likely to wrap a child right after birth.

Giving a bath has a ritual significance, an action which has to precede the ritual prayer (Azaan Dena), i.e., an adult male says words of Azaan (call for prayer) in the ear of the newborn.

There is a recognition that the newborn needs to be kept warm, however, in practice in most cases, the baby is wrapped right after birth. The time lapse between the birth and wrapping varied and included right after the birth, after cutting the cord, after the bath, and after 10-15 minutes.

The concept that a child comes out from the woman's body, which is warm, therefore the newborn needs to be kept warm is acceptable. This could become one of the messages.

### **Initiation of Breastfeeding**

When asked when to initiate breastfeeding, about one third of the women said right after birth (3) or within 3 hours after birth (9). A little more than half of the women suggested initiating breastfeeding after 24 hours and of these, most (13) would initiate it on the third (6) or on the fourth day (7).

The reasons for initiating breastfeeding within first three hours were:

***"The first milk is healthy and more powerful."***

***"It works as a vaccine and ghutti."***

***"Child is hungry and needs milk."***

***"It helps milk flow."***

***"Doctors say give breast milk to the child right away, they forced me to feed the baby."***

The most commonly reported reason for initiating breastfeeding after 24 hours is

***"Mother does not have or produce milk on the first day."***

Other reasons stated for delayed initiation of breastfeeding are:

***"The milk of first day is water-like, it is stale. Both doctor and elders have advised me to waste the milk of first two days."***

***"Woman is too tired on the first day so nobody pays attention when she gets up the next day and can hold the child herself and she starts feeding"***

*“If breast milk is initiated the first day, then the baby would not take other things like ghutti which are necessary for a baby.”*

*“The first day milk is solid and stale and dirty because it can harm the child. I do not know what kind of harm but our elders have told us to waste it.”*

### **Postpartum Care Practices (Sepsis)**

Postpartum fever is considered a very common condition among women. Almost all said usually women have fever after delivery. Perceptions of postpartum fever are the following:

- *weakness of mother*
- *tiredness after delivery process*
- *woman catches cold if not fully covered during delivery*
- *during summer, fever is caused by excessive sweating while delivering*

Infection or even injury during delivery was not mentioned at all.

Regarding actions taken to cure fever more than half (18) of the respondent consult a doctor. However, after how many days of fever, a doctor is consulted. A significant number of rural women (6) said that they go to a spiritual healer for this kind of fever.

#### **Benefits:**

- The majority of women consult doctors for fever. The messages should stress early consultation and the importance of the three cleans to avoid fever.

#### **Barriers:**

- Lack of knowledge about the cause of fever after delivery.
- Many women still practice undesirable behaviors. Just over half of the women stated they would initiate breastfeeding after 24 hours and most of them on the third or fourth day.
- The most common reason for the delayed initiation is that the mother doesn't have milk on the first day or the milk is stale.

#### **Recommendations:**

- The necessity of keeping the baby warm after delivery should be promoted. Half of the women in this sample wrapped the baby. The time lapse between birth and wrapping varies from immediately to 10-15 minutes.
- The message about the importance of colostrum and early initiation still needs to be actively promoted to all people who participate in the birth rite, and may even be promoted as part of the birth ritual.

## B. LACTATING WOMEN

A total of 46 lactating women with a child less than five months of age were interviewed. Of these, 11 women were urban and 35 rural. Ages of women ranged from 15 to 40 years, however ages of most women (36) ranged from 20 to 35 years. Urban women were comparatively younger, almost all ranged from 20 to 30 years.

The majority of women were housewives who rely exclusively on their husbands for financial support. Some women (5) reported activities for income generation, most of whom (4/5) were doing stitching or embroidery and one was teacher.

Most husbands were low income and self-employed (i.e., farmer, day laborer, farmer, fisherman), and a significant number were low paid employees in the public and private sectors (i.e., driver, technician).

The majority (38/46) of women could not read at all or could read very little. Some (8) from urban areas and rural Punjab could read well. Of these, most reported to have 10 years of formal education.

A little more than half (25) of the respondents were living with extended families. All women from urban areas and a majority of women from NWFP and Balochistan were living with an extended family.

Somewhat fewer than half (21) the women, mostly from Punjab and Sindh, were living with nuclear families.

The number of live children borne by each woman ranged from 1-18 (only one mother from rural Sindh had 18 children). A little more than half (24) of the women had 4 or fewer children. The majority of women from urban areas fall into this category. A little under half the women (21) had more than 4 children.

In the following table a breakdown of the ages of the youngest baby is provided

Age of children	# of children
< 1 month	9
1-4 months	23
4-5 months	14

**Characteristics of Rural Communities**  
Lactating Women

Province	Occupation	District	Village / Community	Number of Respondents	
Sindh (8)	Housewives (7) Railwork (1)	Shikarpur	Qadir Baksh Lohaar Safrani Ghot	2 1	
		Hyderabad	Hala New Zahar Abdul Wahid Peru Lohaar Bori Koru Wari (Zeer Peer)	2 1 1 1	
NWFP (10)	Housewives(8) Sewing and Embroidery(1)	Bannu	-Hasan-Kalan	2	
		Charsada	-Pale-Dhera	2	
		Peshawar	-Kochian	1	
			-Gara Tajak	1	
		Swat	-Mangoora	1	
			-Madeen	1	
Mardan	-Diptiabad	1			
Abottabad	-Mian Meera	1			
Punjab (9)	Housewives (7) Football Maker(1) Teacher 1	Rahim Yar Khan	Mohalla Thokrain 141-P 114-Chak	1 1 1	
			Kasur	Whadana	1
			Sahiwaal	61-SL	3
		Gujranwala	----	1	
			Dhaki Jehaz Wali	1	
Balochistan (8)	House-wives (7) Sewing and Embroidery (1)	Uthal (1)	Haji Sher Mohammad	1	
		Kali saif-ullah (2)	Jamkhel Kili Aurangpirzai	1 1	
			Quetta (2)	Kili Bangalzai Nawakali	1 1
		Lasbella (3)	Sunnar Bhatti Allanagroor	2 1	

Table-5b

**Characteristics of Urban Communities**  
**Lactating Women**

Province	Occupation	District	Village / Community	Number of Respondent
Sindh (6)	House wives (6)	Karachi-East	-Lines Area	2
		Karachi-South	-Akhter Colony	4
NWFP (3)	House wives (3)	Peshawar	-Peru Ghaib	1
			-Bala Marey	1
		Mardan	-Aladad Khan Kot	1
Punjab (2)	House wives (2)	Lahore	-Gawalmandi -Tajpura Scheme	1 1
Balochistan (0)	--	--	--	--

**Self-care, Support, Recreation, and Time with Children**

More than half (28) of the women find time to rest and relax. Among these, most of the women (21/28) reported to have a half-hour to one hour for rest and relaxing, while some (7) rest for 2-3 hours. Urban women are likely to have more time for rest. Most of the women lie down or sleep in their rest time. Some said they spend time with children or talk to friends in their rest time. Some women said that they find time to rest in summer, not in winter since the days are shorter.

Women who do not find time to rest do not because of work load. About half of the women play with the children. However, none of them mentioned the games they play together. Most women play with their youngest child (who are less than five months in this sample) and not with older children. Some women talk to them and one mother tells stories.

Most women spend one hour or less playing with children.

Some women responded that while feeding and breastfeeding their children they spend time with them.

A majority (32) of women reported to take time to talk with friends and family. However, most had interactions with relatives only. A significant number of women mentioned neighbors as their friends.

Fewer women mentioned the exact or appropriate time they find. Most said they meet friends whenever they get a chance. About one third of the women spend one hour or less with their friends. A few (4) mentioned two hours. Friends are relatives in most cases.

## **Infant Feeding 0-5 Months Old**

### **Breastfeeding Practices**

**Ideal Practice:** **Breastfeed fully, giving the infant breast milk exclusively until at least the 5th month. Less than optimal is to give only breast milk with other liquid supplements.**

Initiation within first hour:

A significant number of women (8) initiated breastfeeding within one hour of delivery. Most of them did so on the advice of the dai.

***“I think child should be given breast milk on the third day but dai asked me to give within one hour and I did so”***

One woman said she learned from Tariq Aziz show on Television.

8 women initiated breastfeeding after one hour but within 24-hours. Women from NWFP are likely to initiate early, i.e., within first four hours.

Reasons for initiating breastfeeding after one hour but within 24-hours:

- Woman is tired and sleepy, couldn't sit by herself.
- Woman had pains in the lower abdominal area.
- Milk is produced after the baby is born, that is why it can't be given until some time later.
- Child was sleeping since birth. Breastfeeding was started when baby woke up, after several hours.

Milk production starts after baby is born is a misconception which is widely expressed by many, and needs clarification in communication campaign. 15 women breastfed the baby on first, second, or third day. Almost half (7) women breastfed on the second day and the rest on the third day. The reasons included:

- First two days, milk has germs in it.
- First day milk has *pus* in it.
- Woman does not produce milk until first day.
- Staff in the hospital advised to initiate the breastfeeding on the third day.

Among the most commonly held belief is that milk is not produced by the woman on first day, and in some cases second day. There is a trend emerging and a few women said they wanted to breastfeed earlier because doctors say so, but their mothers or mothers-in-law didn't allow it.

The belief that first milk is stale and dirty, “*jamma hua daud*,” is quite strong, but may be dealt with by using the analogy of honey which is thick but acceptable for newborns.

### **Prelacteals**

All the babies were given one or more prelacteal feeds. There is variation in the type of prelacteals used, although honey is most commonly used among all the groups, especially in urban areas. Green tea or *qaawa* is more common in NWFP.

Other prelacteals given are sugar, brown sugar, ghee, ghutti, buffalo milk and medicines (syrup). Phenergon was given in two cases on doctor’s advice.

Three common reasons for giving liquids are:

- To clean the stomach
- To fill the stomach
- Tradition, custom, or ritual

Often, more than one purpose, i.e., cleaning, ritual, or hunger satisfaction, is associated with one prelacteal.

### **Benefits:**

- Half of the women wanted their babies to eat more than they currently do.

### **Barriers:**

- Initiation of breastfeeding was delayed for most of the sample.
- Most babies are given one or more prelacteals.
- The belief that milk production is delayed until the baby is born and that the milk is stale.
- Often multiple purposes, such as cleaning the stomach, satisfying hunger, and fulfilling ritual, were associated with one prelacteal.
- Promoting mother's milk as the natural ghutti may be one way to satisfy tradition and health needs.
- Only a few women associated increased appetite with breastfeeding or the need to eat more.
- Women consider many foods inappropriate for infants, such as potato, sweet potato, saag, lentils, family foods, apples and guava. These were seen as hard to digest, gas-forming, and causing diarrhea.
- Women linked eating well with increased milk production and satisfying their baby’s hunger; therefore, many do make some changes in their diets by adding milk, lassi, eggs, meat and fruits (only meat and vegetables in urban areas).

### **Recommendations:**

- All babies are given one or more prelacteal.
- Women believed that water was needed and this was supported by family, friends, and health care providers. In the winter months, only one third of the sample gave their child water.

This is a strongly-held belief. Helping women understand that breast milk is mostly water might help change this behavior.

- Women and families should get clear and consistent messages about exclusive breastfeeding for the first 6 months and the dangers of other liquids, including water.
- Women have made the link between other milks and diarrhea, therefore water should be positioned with other milks as another cause of diarrhea.

### **Breastfeeding on demand**

Frequency and duration of breastfeeding is adequate in most cases. Children are breastfed on demand and on average more than 10 minutes. Women reported to breastfeed at night as well.

It seems that women understood that if baby is fed for less than five minutes, it is not enough.

*“I feed her 8 to 9 times in a day and night, sometimes for 10 minutes and other times for 20 minutes.”*

### **Exclusive Breastfeeding for Six Months**

Most (37) women were feeding their children liquids other than breast milk. Some (5) women were giving breast milk only, and most of them were urban. The main reason for exclusive breastfeeding was doctor’s advice. Other reported reasons included:

- Child was too young to have any other liquids or food other than breast milk.
- Child’s stomach gets upset and passes stools too frequently when not exclusively breastfed.

Food and liquids given during 0-5 months can be divided into 3 main categories in term of their purpose of feeding:

1. Therapeutic value of liquid
2. Water
3. Semi-solids

In the first category, gripe water, honey, kehva, ghutti, satti post, (boiled poppy-seeds), a ground mixture of seeds and aniseed sugar, allopathic medicines such as Phanergon (for sleep), Septon syrup, and Kark (some kind of medicine).

Gripe-water, Kehva/tea, ghutti, satti, honey are given primarily to keep the child’s stomach clean, to facilitate wind-passing and to avoid stomach aches. It seems that baby’s stomach is the focal point, thus preventive measures are taken to avoid diseases/problems related to stomach. This theme can be used to promote breastfeeding.

About one-third of all the babies were given water; since the research was conducted in the coldest months of November and December, one may assume (based on previous research) that incidence is much higher in the summer.

Water is given normally to quench thirst:

*“When it is hot and baby’s mouth gets dry, only then I gave water”*

Women gave water, as they perceive it as a need of the child. Although health care providers, mothers-in-law and neighbors are encouraging woman to give water to the baby, in most cases, women give water at their own will. Water is not seen as having any particular thematic value.

The barrier is that women feel that a baby needs water and the belief is quite strong.

### **Complementary Feeding and Continued Breastfeeding for Two Years**

Six children under the age of 6 months were receiving semi-solids. The most commonly-given semi-solids were kheer and banana. Regarding frequency and quantity of semi-solids -- in all cases, semi-solids were given once a day.

Quantity was ½ banana or 2 tablespoons of crushed apple, egg, apple, potato, commercial baby foods (“*Cerelac*”).

Reported reasons for feeding semi-solids were:

- To make child healthy
- Mother’s breast milk was not enough
- Other food should be started at the age of 4 months

Reported sources of information about semi-solids were television, elders and neighbors.

A significant (14) number of babies were fed other milk. 5 were getting tin-milk and 9 were getting buffalo milk. The reasons for introducing other milk were:

- Mother’s breast milk was not enough
- Doctor’s advice

It is convenient if child is given both breast and other milk. Urban women are more likely to feed other (buffalo) milk.

### **Indicators for normal growth of child:**

Most women (40) reported their child is growing normally.

Most common of indicators women used/mentioned included:

- Child does not cry
- Sleeps well

- Child is active
- Child is not sick

Baby sleeps and eat well are most commonly expressed indicators of well being.

One Punjabi woman said that doctors weigh a baby to tell if a baby is growing well. Baby's weight is not used as an indicator. 6 women said their child was not growing well. Women who felt child was not growing well gave various indicators.

About half (3/6) of the women said child is weak. The weakness was defined as 'child has small face and thin hands and feet'. The other indicators were:

- Child felt light when carried.
- Child cries a lot.
- Child is not active.

The training curriculum of dais, LHVs and many NGOs, where weight of baby is used as an indicator of growth, may require a revision.

#### **Foods recommended for the baby**

The food most women want to feed their baby includes banana (4), khichri (5), cake (3), biscuits (3), roti (3) and Cerelac (4).

Women want to feed those foods to their children because they believe they fill child's stomach and consequently baby sleeps well. Another common reason for feeding these foods to child is to make child healthy. The foods considered suitable for children are all semi-solids. Cake is only specific to rural Sindh.

#### **Food amounts/Foods avoided**

Almost half (24/46) said they would like their children to eat more than what they are currently having. A variety of foods and drinks are considered harmful for children under 5 months. In the category of vegetables, potato, sweet potato, and saag (a kind of spinach) are considered hard to digest, gas-forming and causes of diarrhea.

Among fruits, apple and guava are hard and indigestible and orange causes cough and sore throat. Lentils and other family foods are also considered inappropriate for a baby for the same reasons.

Some (4) women said milk, other than breast milk, is bad for baby, as it may cause stomach ache, diarrhea and jaundice.

A few respondents considered rice and khichri as "cold" and cough-causing.

Most foods which are avoided, are thought to upset the stomach. If that is the biggest fear, breast milk can be promoted as something that will keep the child's stomach healthy.

**Benefits:**

- Women have many food breastfeeding practices -- they breastfeed on demand, day and night, usually feeding more than 10 minutes at a time.

**Barriers:**

- Exclusive breastfeeding during the first six months is non-existent.
- The barrier is that women feel that a baby needs water and the belief is quite strong.

**Recommendations:**

- It seems that baby's stomach is the focal point, thus preventive measures are taken to avoid diseases/problems related to stomach.
- Dais', LHVs' and many NGOs' training curriculum, where weight of baby is used as an indicator of growth, may require a revision.
- Most foods which are avoided, are thought to upset the stomach. If that is the biggest fear, breast milk can be promoted as something that will keep the child's stomach healthy.

**Women's Perception about Breastfeeding**

The majority (33) of women said they have enough milk, although a significant number (13) of woman felt they did not have sufficient milk.

An overwhelming majority of women said they are confident that their milk is sufficient because 'baby sleeps well'. Other indicators mentioned in this regard include:

- Child doesn't cry.
- Child is healthy (fat).
- Baby is satisfied and playful.
- If baby doesn't suckle for a while, milk overflows.
- Child is satisfied, if not he would cry, but doesn't cry.
- "Doesn't bother me, child sleeps after she is breastfed"

Women who said they didn't have sufficient milk most felt because child cries after being breastfed;

*"For first 4 months, baby was alright and well; after that he started crying so I knew milk is not enough and I started giving him soft foods"*

*"Women know when child is crying due to hunger so I started other milk"*

### **Problems related to breastfeeding:**

Most women said that they did not have any problems, but about one fourth (14) did have some problems. These problems can be divided into two categories related to mother and child: insufficient milk is the most common problem, and other problems cited are stomach ache, weakness, diarrhea and palpitation.

Problems related to the child were mentioned by urban women only. These include: child doesn't suckle so mother pumps out the milk and feeds in bottle. Another problem is that the child vomits, and for that, mother consulted a doctor who advised a syrup.

To increase milk, various actions are taken. Two women reported eating special foods, e.g., beans and rice cooked together, and some seeds mixed with sugar.

One urban mother consulted a doctor for insufficient milk who recommended buffalo milk (diluted) to be fed in bottle.

To cope with weakness and stomach ache, doctor was consulted, who prescribed 'Neurobean' and mother said it was ineffective.

Rest of the women who had palpitation and pain in chest didn't do anything to cure these problems.

### **Benefit:**

- Most women said that they did not have any problems with breastfeeding.

### **Continued Breastfeeding till two years**

An overwhelming majority (42) of women expressed the desire to breastfeed till two years. 2 urban mother said that they will continue breastfeeding as long as child wants it. 2 urban women said they would continue less than 2 years, but more than one year. Only one mother from rural Sindh said she would breastfeed up to 6-7 months.

Three most commonly reported reasons for continuing breastfeeding for 2 years or more include:

- Child spacing
- It is the norm
- It is good for the child's health.

Only one urban mother reported that the doctor had advised her to breastfeed for two years.

***'For three years I will breastfeed, because if I continue breastfeeding I will not get pregnant again'***

There was a concern expressed by some women from NWFP that if a mother gets pregnant again, she would have to discontinue breastfeeding.

Urban women are less sure about breastfeeding until two years. The misconception that breastfeeding for two years works as a contraceptive is widespread and family planning programs need to address this issue.

All mothers said breastfeeding is best for child.

Main benefits of breastfeeding include:

- Good for child's health (20)
- Convenient, women don't have to prepare (12)
- Child sleeps well (5)
- Economical (free availability) (5)
- Clean milk
- Other milk can cause diarrhea (7)

Secondly, the idea that mother's milk for two years is good for the baby's health is not as widespread as the program would like; neither are the women clear about its benefits for the baby. Program should stress the benefits of breastfeeding for two years in specific ways, rather than vague messages of breastfeeding for two years.

**Benefit:**

- An overwhelming majority (42) of women expressed the desire to breastfeed until two years.
- All mothers said breastfeeding is best for child. The statements women gave for considering breast milk are irrespective of length of breastfeeding.

**Barrier:**

- Women consider many foods inappropriate for infants, such as potato, sweet potato, saag, lentils, family foods, apples and guava. These were seen as hard to digest, gas-forming, and causing diarrhea.

**Recommendation:**

- The misconception that breastfeeding for two years works as a contraceptive is widespread and family planning programs need to address this issue.

### **Feeding Responsively**

An overwhelming majority of women said they find time to hold the baby. 7 women said that they don't find time to hold baby because of house work, except for when child is being breastfed.

Most women reported that the most common time to hold the baby was when a baby cries or while putting a baby to sleep.

### **Influences on Breastfeeding related decisions/self-care during lactation:**

A majority of mothers (30/46) reported changes in their health during lactation while a significant number of women said they didn't feel any difference. Urban women are less likely to feel any changes .

Women complained about weakness, dizziness, fatigue, palpitation, breathlessness and extra sweating. However, the perceived underlying cause of all these symptoms is weakness due to lactation. It has been clearly expressed that breast milk is produced from mother's blood. That is why mother gets weak while lactating.

Women who mentioned problems regarding breastfeeding, half of them sought advice while the rest of them did not discuss the problems with anyone.

Women consulted mothers, doctors, husbands and neighbors. Doctors were most frequently consulted. Doctors, mothers and neighbors advised some women to start other milk, while in some cases (4) mothers and doctors advised to eat more. One doctor prescribed 'Neurobean' for energy and strength (*taqat*).

Only two women said they feel more hungry than usual.

In order to combat weakness a significant number (12) of women consulted doctors. Doctors prescribed capsules/tables (red color of capsule was mentioned by two) and use of injection in one case.

A few women said that although doctors gave medicines, they didn't take them. Reasons for not taking the medicines prescribed were not reported except in three cases, where women said "I don't like to have medicines (*mujhe dowain khana pasand nehi*)."

One women was prescribed not to have any medicine because her baby (who was breastfed) got diarrhea. Mothers-in-law forbid 2 women to take any medicines as she thought medicine was the cause of diarrhea. One mother vomited after taking medicine (red-colored capsules) so she stopped the medication. Several women mentioned the link between feeling weak and inadequate diet.

A few said they don't feel like eating extra. Two women reported eating a little bit extra. However, their concern was that they couldn't have any special food. One woman reported having almonds. Two women recognize that they felt more hungry, and they reported having extra milk and eggs.

In response to how a lactating women should take care of herself, an overwhelming majority (37/46) of women mentioned diet in context of self-care during lactation. Seven women said that women should stay clean during lactation.

Addition of milk in the diet is recommended by one third (11/37) women. Eggs, fruits, vegetables and meat/fish are also recommended by a significant number of women, and only one woman said that women should drink more water during lactation.

When the same women were asked what they actually do to take care of themselves during lactation, most women reported that they make changes in their diet. Of these, the majority added milk or lassi (buttermilk), followed by addition of eggs, meat, and fruits. Some urban women reported to add vegetables. A significant number of women (9) said they eat more than usual. More urban women are reported to increase their diet during lactation. Some women (46) said they take rest more than usual. (Meat and vegetables is an urban phenomenon)

When asked if they have made any changes in their diet during lactation, more than half of the women had made some changes. While a significant number (12) of women did not make any changes, the main reason for not making changes is lack of support from family members.

***“Whatever is cooked at home, I have to eat , my mother in-law does not let me eat what I want to”.***

Food taboos:

***“if I eat different it might not suit child and he may have stomach pains”***

Economic constraints:

***“My husband is the only bread winner in the family and we are a family of ten persons, so I eat whatever is cooked for the whole family”.***

When asked if there are any foods that a lactating mother should eat more of, a majority of women recommended fruits and milk.

Fruits are considered healthy generally, and they increase breast milk, and make blood and give energy, while milk is supposed to increase breast milk production. About one third(15) of women said they would increase the amount of their diet. This helps to increase breast milk.

Meat and fish is recommended by several (4) women being as “good” for lactating women and they feel it helps to remove weaknesses.

Fish is mentioned by women from rural Sindh and Balochistan. Other foods recommended include eggs(3), vegetables, dry fruits (1) desi ghee (2) lassi (2). Most of the foods are recommended by family members or by women themselves. In a few cases (7) doctors recommended fruits, meat, lassi and eggs.

When asked what lactating women should do to keep their baby healthy, all women said they should eat well so that more milk is produced for the baby. Eating well is defined in terms of adding more milk and fruit to their diet, so, many women said they should eat more. About half (24) women suggested a variety of things that should be given to a child to make the baby healthy. These included other milk (4), supplementary food (5) Ghultion yaka (sedating medicine) and Amoxil and butter.

A significant number of women (11) suggested keeping the child clean and giving the baby a massage regularly as a way of taking care of the child.

#### **Benefits:**

- There is a deep-rooted belief expressed by a majority, that if lactating women eat enough so that they have a full stomach, then they can produce enough milk for the baby. "If I eat only then can I produce enough milk to satisfy baby's hunger."
- This is a major benefit and can be used as central theme to the promotion of improved nutrition among lactating women.

#### **Barriers:**

- There is a deep-rooted, widespread concern that lactation causes weakness. This is a very strong barrier to continued breastfeeding for two years, and is the major cause of early introduction of other milks.
- There is a lack of knowledge that by eating the usual family foods in adequate quantity, women can overcome weakness. Instead, women tend to use special foods and medicines to cure weakness during lactation. No one mentioned that taking rest could also help.
- The practice of drinking more water during lactation has not been reported. The lack of knowledge about increased need for water is a barrier.

#### **Recommendations:**

- Compared with pregnancy, lactation is a "cool" state of body, therefore many women mentioned addition of eggs and meat and considered having hot humoral foods in their diet.
- To increase their calories recommendation for addition of eggs and meat would be more acceptable to lactating women.

#### **Food Distribution/Control**

More than half of the women (26) reported that their husbands purchase food. About one third of the women (18) said that other members of their husband's family, i.e., mother-in-law, father-in-law, or brother-in-law, purchase food.

A significant number of women (9) reportedly buy food themselves. Only one woman reported that she pays for the food herself. In the majority of the cases (31) husband pays. Some women (8) mentioned that family members, i.e., mother-in-law, father or brother-in-law, pay for the

food. Most (33) women distribute the food themselves. A few (6) mentioned mother-in-law or other family members.

Regarding order of eating, varied practices were reported in the women. About one third (17) women said they eat with the family. More urban women reported to eat with the family.

A little less than one third women eat, after feeding the men and children. Some women eat at the end after the family has eaten. An overwhelming majority of women cook food themselves. Rest of women reported other family members or their husband's family (sister-in-law, or mother-in-law) to be responsible for cooking meals.

In terms of control over the food, in most cases husband is getting and paying for the family food. That makes husbands a very important target group for communication campaign.

Most women do not take any medicines, traditional or non-traditional, while breastfeeding. A significant number of women (11) reported to take some medicine, and of these, 9 were taking injections, tablets or syrup. Three women were taking iron and multivitamin tablets (i.e., Iberet, Sangobion, Fefol), while others could not specify the names. These women took the medicine because doctor, vaccinator or LHV had prescribed them. The reason for taking the non-traditional medicines were to cure weakness.

Two women were taking traditional medicines, one was taking *white-zeera* to increase milk production and another was taking panjeeri (mixture of sugar, nuts, suji and ghee) to cure weakness.

A significant number (11) of women were feeding other milk to their babies. All the babies were getting buffalo milk. Women from rural Sindh and rural Punjab are more likely to give other milk. Several women (9) decided to introduce other milk. In two cases, doctors advised the introduction of other milk.

**Benefits:**

- In most cases, women are cooking themselves, which could mean they can add more oil if they are convinced, or they could also eat white cooking.
- Half of the women wanted their babies to eat more than they currently do.
- Women linked eating well with increased milk production and satisfying their baby's hunger; therefore, many do make some changes in their diets by added milk, lassi, eggs, meat and fruits (only meat and vegetables in urban areas).
- Lactation is considered a "cool" state and, therefore, foods like meat and eggs are acceptable. There was no mention of increased roti consumption. Increased fluid intake is almost non-existent during lactation, but this should be actively promoted as a means of increasing milk supply.

**Barriers:**

- Only one mother said that an LHW/LHV advised her to eat more food. Women are not getting advice from doctors or from family members to increase the amount of food.
- The focus for most is on special foods rather than eating more of the usual foods.

**Recommendations:**

- Most of the lactating women in this sample were not buying food for their families. The husband bought the food or delegated it to other members of his family. Therefore, the importance of an improved diet must be promoted to all family members so that the right types of foods are bought and the woman can increase her food consumption with the food left over after others have eaten.

**In-depth Interviews with Mothers-in-Law  
Regarding Maternal Health**

A total of 21 mothers-in-law (MILs) were interviewed. A breakdown of rural versus urban sample and details of basic information is listed in the following table:

Area	District	Community/ Villages	MIL's Age	Family Size	DIL's month of Pregnancy	Education	
						Ability to Read	Schooling
<b>Sindh</b>							
Rural	Shikarpur	Santani Goth	45	15	4-months	Not at all	
Rural	Shikarpur	Santani Goth	50	22	3-months	Not at all	
Rural	Hyderabad	Salamat Kairean	50	14	7-months	Not at all	
Rural	Hyderabad	Mainen Hala New	52	8	6-months	Little Bit	4-Yrs
Urban	South-KHI	Barjani Town	45	8	4-months	Not at all	
Urban	South-KHI	Akhter Colony	60	17	9-months	Not at all	
Urban	West-KHI	Akhter Colony	70	5	4-months	Not at all	
<b>N.W.F.P</b>							
Rural	Bannu	Humani Kalan	50	10	7-months	Not at all	
Rural	Charsada	Palla Dharey	70	11	4-months	Not at all	
Rural	Peshawar	Koochian	55	10	8-months	Not at all	
Urban	Peshawar	Bahar Colony	60	16	9-months	Not at all	
<b>Punjab</b>							
Rural	Sahiwal	61-5L	60	12	9-months	Not at all	
Rural	Rahim-yar-Khan	Nawan-Kot	65	1	4-months	Not at all	
Rural	Kasoor	Khara	70	10	8-months	Not at all	
Rural	Gujranwala	Dhakki Niaz Wali	45	2		Not at all	
Urban	Lahore	Walton, Lhr	60	6	9-months	Not at all	
<b>Balochistan</b>							
Rural	Hub-Quetta	Haider Ghot	40	10	7-months	Not at all	
Rural	Qila Pishin	Nawan Kali	50	14	6-months	Not at all	
Rural	Utthal	Taleri M.Jan	35	16	5-months	Not at all	
Rural	Lasbella	M.Sadeeq Ghot	60	5	8-months	Little Bit	5-yrs
Rural	Quetta	Ghot Faqri Mohd.	45	8	7-months	Not at all	

## Prenatal care and Anemia

### Ideal practice for pregnant woman:

- ▶ Attend prenatal care beginning around the 4th month; ask if you need a tetanus immunization and obtain iron sulfate tablets. Consume the tablets as directed (one a day) with clean water or juice, not with tea or coffee. Continue to take tablets despite the side effects, and return for supply when needed.
- ▶ MIL should have knowledge about the above and support the daughter-in-law to practice this.

## Prenatal care

Almost all the MILs said that a pregnant women need prenatal care. Main reason cited for the prenatal care is to check if the position of the child is fine, and if there is any illness in the mother that might affect the delivery process adversely. To have an "easy and normal delivery" and a healthy baby and mother is desired. The belief that during pregnancy a women is more vulnerable physically and weak forms the basis for the prenatal care.

*"During pregnancy taqat of the human being is reduced therefore a women needs extra care"*

Three main aspects of prenatal care mentioned were:

- ▶ Women should eat good food, including fruits, ghee and milk.
- ▶ Women shouldn't carry heavy things or climb stairs.
- ▶ Consult a doctor if there is a need.

A doctor is consulted if there is a physical problem rather than for a routine prenatal check-up for tetanus and anemia. One MIL said that "Doctors are very expensive to consult."

Urban MILs are more likely to consult doctors for prenatal check-ups, tetanus injections and for registration in hospitals.

About half of the MILs said the best person to provide prenatal care is MIL herself because she has knowledge and can take her daughter-in-law to hospitals, can bring her medicines, and can help her with household work. Half of MILs mentioned doctors and husbands as possible prenatal care providers.

According to MILs, the main role of husbands in the prenatal care is that the "husband can take a women to hospital or to the doctor". Dai is consulted if there is a minor problem, but if pregnant women is very sick then doctor takes care of her. Advantage of dai is that 'they are readily available in the area', and she is an expert. One MIL said "if position of baby is breach, dai can change it through massage"

A doctor is seen as the ultimate expert who is consulted at a second stage if the problem persists and dai fails to understand the nature of the problem.

***"Doctor has studied for so many years and he understands about every type of illness."***

A majority (18) of MILs say they have someone in their community to provide prenatal care, while a few (3) MILs from rural Balochistan and rural Sindh said they didn't have a dai or doctor in their community.

In most (15) cases, dai was reported to provide prenatal care to daughter-in-law. A few (6) MILs said doctors, LHV and nurse could provide it. One urban MIL mentioned LHW. In one case, more than one person was available in the community. Majority (17) of MILs said that their daughter-in-law had contacted that person, which was a dai in most cases.

A few (4) MILs said their Daughter-in-law hadn't contacted that person because:

- ▶ Dai will be consulted after the eighth month of pregnancy.
- ▶ There is no problem so didn't see any doctor.

A little less than half of the MILs said their daughters-in-law did not report any problems during their pregnancy. Most common indicators used by MILs to state that their daughters-in-law's health is good are:

- ▶ She eats well
- ▶ Works normally
- ▶ Doesn't have any physical ailment or fatigue

More than half (13/21) MILs mentioned problems their daughters-in-law have: weakness (4) and pain in the body (backache) were most commonly reported. Other problems mentioned were vomiting, breathlessness, anemia, pale complexion, leucorrhea, swelling of hands and feet, and high blood pressure. In many cases, weakness, vomiting, breathlessness, anemia, backache, blood pressure and swelling of feet and hands is perceived as normal pregnancy-related problems, which usually vanish after delivery.

Regarding actions to take care of these problems, most MILs didn't report consulting anyone regarding problems their daughter-in-law had. One MIL said her DIL had anemia because she was pregnant with her tenth child. Pale complexion of the daughter-in-law was attributed to the heat in the body.

Two MILs reported consulting a doctor for blood pressure, weakness. Doctor prescribed 'Fefol' to have with milk.

One MIL said her daughter-in-law has consulted *center ki baji* (a health worker at a government facility) for backache who gave *Taqat ki dawai* (unspecified medicine for energy).

**Barriers:**

- General attitude of MILs regarding danger signs such as anemia, edema, blood pressure, breathlessness and weakness is casual and these problem are seen as part of the normal pregnancy process. This lack of knowledge and concern is a barrier.
- Reduced workload and need to increase time for rest was not mentioned by any as part of prenatal care.
- In many cases weakness vomiting breathlessness, anemia, backache, blood pressure and swelling of feet and hands is perceived as normal pregnancy-related problems which usually vanish after delivery.

**Recommendations:**

- Main significance of MILs in reference to prenatal care is that she is more mobile compared to a mother and therefore can take her daughter-in-law to a health facility for prenatal and post- natal care. Anthropological research suggests that mobility of a women increases as she grows older and has more children. Program can emphasize and utilize this fact to promote contact of pregnant women with health care providers where needed. Therefore awareness of MILs about danger signs during prenatal and post-natal period is critical .
- The doctor is seen as an ultimate expert and is trusted, which makes a very important target group for interventions. Role of dai is quite significant in prenatal care as they are the first contacted "local experts" for prenatal care. In majority of cases, she was consulted for prenatal care, and that makes training of dais very critical.

**Anemia**

A majority (14) of MILs had heard of anemia while a significant (7) number of MILs had never heard this word. More urban MILs were familiar with anemia.

Regarding signs and symptoms of anemia, paleness of complexion , i.e., "**Peela Rang**", and weakness, i.e., "**Kamzori**", are most widely recognized symptoms of anemia. Other symptoms mentioned were:

- ▶ Laziness
- ▶ Extra thirst
- ▶ Breathlessness
- ▶ Dizziness
- ▶ Pain in legs
- ▶ White nails
- ▶ Lethargy
- ▶ Backache

Most MILs said they know about those symptoms through the experience with their own pregnancies as well as by observing their pregnant daughters and daughters-in-law and other women. A few MILs said that the doctor or health worker has told them about anemia.

A significant number of MILs (7) said that their daughters-in-law had been sick with anemia. Almost all consulted a doctor. One MIL said her daughter consulted a dai who gave her tablets. A doctor was consulted because daughter-in-law suffered from one or more symptoms of anemia (dizziness, back pain, palpitation, weakness) and the doctor diagnosed it as anemia.

In two cases, doctors gave intravenous blood. In other cases, doctors recommended injections and tablets. One doctor gave Polyvian and CAC 1000.

All MILs said that their daughters-in-law felt better after the treatment of anemia.

All MILs said that anemia can be cured. The two most commonly recommended ways suggested to prevent anemia are:

- ▶ Eating good food.
- ▶ Having injections and tablets.

Most MILs suggested a combination of both; a good diet and medicine to treat anemia. Items listed as part of a good diet are fish, meat, fruits, ghee, butter, milk and almonds. Only one MIL from NWFP mentioned vegetables as part of good diet. No one mentioned daal (lentils) or Gur as sources of iron.

**Benefit:**

- Most MILs suggested a combination of both a good diet and medicine to treat anemia. Items listed as good diet are fish, meat, fruits, ghee, butter, milk and almonds.

**Barrier:**

- Only one MIL from NWFP mentioned vegetables as part of good diet.

**Iron Tablets**

About half of the MILs recognized iron tablets, but nobody could tell the name of the tablets. Less than half of the MILs said that their daughter-in-law had taken medicine during pregnancy. Of these, only two MILs mentioned negative side effects of iron tablets. Negative side effects mentioned by MILs were nausea and constipation. For nausea, the doctor had recommended her to drink more water than usual.

MILs mentioned various positive effects of using iron. These were:

- ▶ weakness was gone
- ▶ less fatigue
- ▶ body pain reduced
- ▶ pale complexion improved
- ▶ daughter was feeling happy
- ▶ baby born was healthy

Most (5) MILs obtained iron tablets from medical stores with the prescription of a private doctor. Two MILs obtained it from government hospital or health center. One MIL got it from dai.

In all cases husbands of pregnant women paid for the tablets. One MIL said that she paid for the tablets but she also specified that her son ( husband of the pregnant woman) gave her the money.

Most (7) MILs said they did not have any problem obtaining iron tablets. One MIL from rural Balochistan said she had difficulty because "Bazaar" is very far from her house and the fare to get to Bazaar is very high.

Most MILs said that their daughters-in-law did not have any problem in remembering to take the tablet. One MIL said "my daughter-in-law remembered to take tablets 3 times a day." Two urban MILs said that they reminded their daughters to take medicines. Mothers-in-law neither specify the length of period daughters-in-law took iron tablets nor the dosage. Only one MIL said her daughter-in-law took iron tablets for 2 months.

#### **Iron tablets present in the house**

3 MILs showed tablets present in her house:

<b>Name of the tablet</b>	<b>Numbers</b>	<b>Storage</b>
Ferrous Sulphate	10	in a plastic bag hung on the wall
Fefol Vit	7	in a plastic bag in cupboard
Theragram-H	8	in a plastic bag in cupboard

All the tablets were in good condition.

One woman from rural NWFP said that her daughter-in-law had thrown away the iron tablets the doctor had given her. She did not tell the reason for throwing the tablets away.

When asked if there were any other problems/issues that we had not discussed so far about iron tablets, the following things were mentioned:

*"Some medicines are "hot" and can cause abortion that is why a doctor should be consulted before taking iron tablets".*

*"One benefit of iron tablet is that my daughter-in-law used to have abortions, but after taking these tablets she became pregnant".*

***“Backache and pelvic pain of daughter-in-law went away after taking these pills.”***

**Benefits:**

- A combination of food and medicine is seen as proper treatment of anemia.
- Meat is considered good for curing anemia and the practice of giving meat for anemia was reported by a few. However, there is a need to emphasize and explain that to cure anemia, red meat is better than fish and poultry
- Most MILs had heard of anemia and knew the symptoms from their own experiences.

**Barriers:**

- A diet considered good for anemia is san vegetable and daal.
- Regular use of iron tablets for over three months could be a problem, because an underlying feeling reflected in the responses is that medicines are seen as producing results in short time, "quick fixes". This role is most commonly attributed to allopathic medicine.
- All allopathic medicines are generally considered to have hot, humoral effects. This belief could hinder prolonged (3 months or more) usage of iron tablets, as hot things should not be taken in large quantity or for a long period, and this is specially true in pregnancy.

**Common problems during and after delivery**

**Ideal Practice:**

- ▶ **Seek delivery assistance from a trained dai/health professional. Make certain that whoever attends a birth practices the three cleans: clean surface, clean hands, and clean instruments to cut cord. MIL knows about it and supports her daughter-in-law to practice this.**
- ▶ **Mothers-in-law recognize emergencies during and after delivery including PPH, prolonged labor, eclampsia and sepsis.**
- ▶ **MIL helps seek emergency medical care as soon as any of those problems are faced.**

Three most commonly reported problems that a woman may face during delivery were:

- Prolonged labor pain
- Fits
- Excessive bleeding

Other problems mentioned were water bag bursts early, breach baby, weakness, vomiting, or placenta does not come out.

A significant number of MILs said they had not seen women experience any problems. Urban MILs are more likely to believe that there are none or few problems during delivery.

Overall majority of MILs said that a doctor should be consulted to treat those problems.

However, many MILs suggested quite a few remedies tried at home for various problems before a doctor is consulted.

In the following section, some of those problems are discussed in detail.

### **Prolonged labor pains**

A majority of MILs reported that usual duration of labor pain is 8 hours or less. A significant number of MILs (6) also reported that sometimes slow pain starts 3-4 days before delivery. Some MILs from rural Sindh and Balochistan said it is normal to have delivery pain for 24 hours.

One MIL said:

*"Now the labor pains are prolonged because women don't have enough strength to deliver a baby, we used to have pain for half an hour only because we used to eat well and had lots of strength."*

All MILs said that if labor pains are prolonged, the mother is taken to a doctor because *"if it takes too long to deliver a baby then mother and child may die, so it is important take them to a hospital, as an operation might be needed."*

One MIL from rural Punjab said sometimes dai gives injections to increase labor pains, but if that does not work mother should be taken a hospital.

One MIL commented that:

*"Dais do not know anything. One time because of her stupidity, the child was stillborn and the mother had labor pains for 16-hours or more, but the dai wouldn't let us take the mother to a hospital"*

Some MILs (from rural Punjab and Sindh) reported trying to follow home remedies to increase labor pains for an easy delivery, before a doctor is consulted:

- ▶ boil dried dates (choara) in milk and give to woman.
- ▶ give hot milk to increase slow labor pain
- ▶ give castor oil to mother, as this induces loose motion and baby is delivered easily

### **Postpartum Hemorrhage**

When asked what could happen to a women if she loses too much blood during delivery, about half of the MILs said "mother or child could die," and others said that women would become very weak. Two MILs from rural Punjab and rural Sindh said they had no idea what could happen. Some MILs (2 NWFP, 1 urban, 1 rural Sindh) reported that four women and one child in their community died due to excessive bleeding.

More than half (6) MILs said they would consult a doctor if mother loses too much blood.

Urban MILs are more willing to go to a hospital. Some (3) MILs (from rural Sindh and Balochistan) mentioned home remedies such as:

- ▶ Sapari, Chalia grounded and mixed with sugar.
- ▶ A Balochi medicine Zafran and rice cooked in sheera.

### **Eclampsia**

One MIL from NWFP said if a woman has a fit during or after delivery, it means she has a "jinn" and Maulvi is called in to pray on her.

### **Placenta does come out**

One MIL said that if placenta does not come out within two hours, the poison penetrates into the woman's body and she dies. A MIL from rural NWFP said for delayed placenta, raw egg along with the woman's own hair (chotti) are put in the woman's mouth, she vomits and placenta comes out.

### **Postpartum care**

Fever after delivery was the most commonly reported problem, followed by heavy bleeding and stomach ache and backache.

Other problems reported include:

- ▶ high or low blood pressure
- ▶ pain in uterus
- ▶ vomiting
- ▶ headache

When asked about conditions under which they would take their DILs to a hospital, MILs said excessive bleeding was the most common reason for taking a woman a hospital. Other reasons include prolonged labor, fever, backache, vomiting and diarrhea, faintness and jaundice.

Regarding the person who would take a woman to a hospital, a majority of MILs (17) said the husband of a woman should take her to the hospital. A significant number (9) of MILs said that "MILs would take daughters to hospital."

Some MILs said any elder member of the household can take the woman to the hospital. One MIL from Punjab said that a dai could take a woman to the hospital.

In most cases, husbands (18) or MILs (14) or both decide if a woman can be taken to a hospital.

A practice is reported in urban areas across the board and in rural Punjab is that milk with ghee

should be given mother regularly or a few days before delivery, which makes baby come out easily and mother has enough "Taqat" to bear the labor pain.

**Benefit:**

- It is clearly reflected in the statement that these home remedies may or may not work, but the more appropriate way to deal with them is to "consult a doctor".

**Barriers:**

- MILs should learn what a normal delivery is, understand the problems and consequences and what needs immediate medical attention.
- MILs are not aware of proper hygiene required and focus their attention on special foods for mother after delivery and clothes for the newborn.

**Newborn care**

**Ideal practice:**

- ▶ **Make certain that newborn stays warm right after birth, both by putting the child to the breast and wrapping the baby in soft cloth.**
- ▶ **Initiate breastfeeding within one hour of birth.**
- ▶ **MILs have a knowledge of these and support mothers to practice them.**

Almost all MILs reported advising their DILs about newborn care. Two MILs from Balochistan reported not giving any advice to their daughters-in-law, but the reasons for not advising are not specified. Compared with husbands, advice given by MILs is quite specific in nature. The following advice is most commonly given:

- keep the baby warm
- breastfeed
- give ghutti
- keep the baby clean

Other advice offered is that women should eat well, don't let the baby cry, massage the baby, take care of umbilical cord by putting castor oil or ghee on it. Most MILs were in favor of giving ghutti, specifying various types such as ajvain, honey, raw buffalo milk and ghee. These are given to clean the stomach and/or satisfy child's hunger.

**Barrier:**

- Most MILs were in favor of giving ghutti.

## Initiation of Breastfeeding

Opinions of MILs regarding initiation of breastfeeding on the first day was divided. More than half of the MILs (13) believed that breastfeeding should be initiated on the first day, while less than half of the MILs said breastfeeding should be initiated on the second day. Main reason for not initiating breastfeeding on the first day is that "the milk is stale" milk is 9 months old (rural Sindh).

Other reasons given were "milk is thick on the first day, therefore a baby can't digest and vomits it out (rural Balochistan)." "Mother doesn't have milk on first day."

MILs who suggested initiating breastfeeding on the first day said so because:

- it gives strength to the child
- it saves the baby from illness
- learned it from TV
- doctors tell us to do so

Although more MILs were in favor of initiating breastfeeding on the first day, most MILs were not willing to give colostrum. The ones who want their DILs to start breastfeeding on the first day, explained the procedure thus:

***"Wash the breast with warm water, take out a few drops of milk and then read the Kalima and start feeding the baby."***

The reasons for discarding Colostrum are the same as not giving breast milk the first day, i.e.,

***"It is stale milk which had accumulated in the breast for over 9 months"***.

### **Barrier:**

- Majority of MILs were not in favor of giving colostrum.

### **Recommendations:**

- A significant majority of mothers-in-law are aware and are supporting initiation of breast milk on the first day. They insist on discarding a few drops of milk which should be acceptable if after that, breastfeeding can be accomplished within few hours.
- All MILs give advice to their daughter-in-law regarding newborn, so MILs are very important target group.

## Exclusive Breastfeeding

<b>Ideal Practice:</b>
<ul style="list-style-type: none"><li>▶ <b>Breastfeed fully, giving infant breast milk only until at least five months.</b></li><li>▶ <b>Do not give water.</b></li></ul>

The majority (14) of MILs did not support top milk feeding. The biggest argument given is to avoid top milk feeding as "it might cause diarrhea". Other benefits of breast milk reported are:

- it is convenient, one does not have prepare it.
- it is clean.
- mother's milk is more powerful.
- baby vomits out other milk.

Most MILs had learned it from friends, neighbors, elders; while some (4) said they know it from experience. Only 2 MILs (from Balochistan and Punjab) said they had learned it from doctor or lady health worker.

A significant number of MILs said that other milk should be given along with breast milk. Urban MILs are more likely to support breast milk with a top feed. The primary reason given for the introduction of top milk is "insufficient breast milk".

MILs said that they have learned about insufficient milk from personal observation, experience and from their elders. One MIL said "sometimes mother's milk doesn't suit the baby," which she had learned from a dai.

**Benefit:**

- Majority (14) of MILs did not support top feeding.

**Barrier:**

- A significant number of MILs said that other milk should be given along with breast milk. Urban MILs are more likely to support breast milk with a top feed.

**Water**

Most (16) MILs said water should be given to a baby. Urban MILs are most in favor of giving water to a baby. Most common reason for giving water is that "baby feels thirsty." Some (2) MILs from Punjab said that "child can develop dehydration if water is not given".

Other reasons offered for giving water are:

- if baby has jaundice(Balochistan).
- child does not have stomach ache(NWFP).
- baby passes urine more easily and frequently.
- if water is not given baby would have constipation.

The campaign on diarrhea management has had an effect on some: there is a new trend/concept emerging that even a healthy child might develop dehydration if he doesn't have enough water.

Some(5) MILs said mother's milk is enough and child doesn't need water. MILs from Balochistan are less likely to believe that water is essential. Most MILs (13) said that daughters had given water to the baby. Some (4) MILs said that their daughters did not give water to the baby.

**Benefit:**

- The fear that other milk may cause diarrhea is very widespread, which can indirectly be used to promote breast milk , e.g. , *"mothers milk is free of germs, very clean, and therefore doesn't cause diarrhea."*

**Barriers:**

- Most (16) MILs said water should be given to a baby, while urban MILs are most in favor of giving water to a baby.

**Recommendations:**

- The campaign on diarrhea management has its effects; there is a new trend/concept emerging that even if a healthy child doesn't have water, he can develop dehydration. This needs to be addressed.

## In-depth Interviews with Husbands Regarding Maternal Health

A total of 21 husbands were interviewed. A breakdown of rural and urban sample and details of basic information is listed in the following table:

### Fathers Regarding Maternal Health Rural

Province	Occupations	Ages (in Years)	District	#	Communities / Villages	#
Sindh	Farmer	50	Hyderabad	2	Gul Mohd. Gunbedan	1
	Farmer	50			Wasi Mohd. Shah	1
	Primary-Health	27	Shikarpur	1	Chand Ghot	1
NWFP	Mason	35	Charsada	1	Palay Dhari	1
	Servant	31	Mardan	1	Ismazal Khooni Khel	1
	Dispenser	45	Swat	1	Madin Birkley	1
Punjab	Steel-Worker	40	Gujranwala	1	Kot Khawaja Saeed	1
	Land-Lord	27	Lahore	1	Rat-Garh	1
	Pvt.-Job	25	Sahiwal	1	61-5L	1
	Electrician	28	Rahim-yar-Khan	1	Nawan Kot	1
Balochistan	- Agriculture	31	Pishin	3	Muslim Bagh	1
	- Field-Asst	27			Qila Saif ullah	1
	- Farmer	28			Qila Abdullah	1
	- Gardner	30	Utthal	1	Haji Sher Mhd	1
Totals				14		14

### Fathers Regarding Maternal Health Urban

Province	Occupations	Ages (in Years)	District	#	Communities / Villages	#
Sindh	General Merchant	28	Karachi	3	Akhter Colony	3
	Salesman	22			Shikarpur	1
N.W.F.P	Security Guard	35	Peshawar	2	Kababian	1
	Gardner	40			Bashirabad	1
Punjab	Watch-Smith	35	Lahore	1	Kot-Khawaja Saeed	1
Balochistan	--	--	--	0	--	0
Totals				7		7

### **Ideal Practice for Pregnant Woman:**

- ▶ **Attend prenatal care beginning around the 4th month; ask if you need a tetanus immunization and obtain iron sulfate tablets. Consume the tablets as directed (one a day) with clean water or juice, not with tea or coffee. Continue to take tablets despite the side effects, and return for supply when needed.**
- ▶ **Husband should have knowledge about the above and support the wife to practice this.**

### **Attitudes Towards Pregnancy and Prenatal Care:**

More than half of the husbands reported that their wives were healthy and normal during current or last pregnancy. About one third of the men said that their wives had some problems during pregnancy. Most men who said their wives were healthy believed so because “they were doing the household routine work as usual” and/or “they did not complain of any pain or illness”. Many urban men said they knew their wives were healthy because “They are seeing the doctor for regular check-ups”. There was one man, who said that “my wife has backache and diarrhea but this is not something to be worried about, as these symptoms are normal in pregnancy.”

Men who said that their wives were not healthy reported various problems:

- Anemia
- Backache
- Pale complexions
- Weakness
- Stomach ache
- Blood pressure

Most commonly reported problem is weakness, followed by dizziness and backache. Most of the husbands reported consulting a doctor to cure those problems. A common reason to consult a doctor for those problems was “so that my wife could give birth to a healthy baby”. One man who did nothing about weakness said ; “Weakness is because of pregnancy, so it is normal”. The problems were less apparent or less reported by husbands whose wives had their first pregnancy.

Majority of the men said that pregnant women need prenatal care. Only one man said a pregnant woman doesn't require prenatal care. Two main (equally strong ) reasons for needing prenatal care are to “have healthy baby” and” to keep mother healthy.”

Prenatal care is defined by the following characteristics:

- pregnant women should eat well.
- she should not carry heavy items.
- consult a doctor if she feels un-well or has a physical ailment.

None of the fathers mentioned consulting a health care provider without any illness as part of prenatal care, or taking extra rest time.

Regarding who could provide this care, husbands and mothers or mothers-in-law are the most commonly recommended persons.

Husbands see their role in prenatal care as someone buying or bringing food for a pregnant woman should she require it, or helping her with carrying heavy things.

Regarding mothers and mothers-in-law, husbands suggested that only women can understand and help other women in this state.

*"I help her with heavy work such as carrying the beds ,etc., and getting her medicines if there is a need. Mothers and mothers-in-law can support and advise her."*

A few men said doctors know everything so they should be consulted and their guidelines should be followed during pregnancy. Some men said dais can provide prenatal care because:

*"She is the expert and she has a knowledge."*

*"A man cannot help a woman, only women can really understand other women"*

More than half of the men said that their wives have consulted the person who should provide prenatal care. A few said since their "wives didn't have any problems therefore they didn't consult anyone".

**Benefits:**

- Majority of the men said that pregnant women need prenatal care.
- Two main (equally strong ) reasons for needing prenatal care are to "have healthy baby" and "to keep mother healthy"

**Barrier:**

- None of the fathers mentioned consulting a health care provider without any illness as part of prenatal care or taking extra time to rest.

**Recommendations:**

- One man from rural Punjab said that LHW visits his wife and has given her all the required guidelines. This kind of service provided at door step was appreciated.
- It is important that husbands should be included in the communication campaign for reproductive health. LHWs, LHVs, dais and doctors should be trained to include husbands in their interpersonal communication sessions with family members.
- Pregnant women should be encouraged to discuss problems with their husbands at early stages.

## Fathers' perceptions about anemia in relation to the health of a mother and child

When asked about possible changes in the blood of a woman during pregnancy, fewer than half of the fathers mentioned anemia, "*Khun ki kami ho jaati hai*" (translated as 'blood becomes less'). A significant number of men (8) didn't know if blood changes in any way during pregnancy. One father said blood increases and another one believed that it turns yellow.

Most husbands stated the following two causes for anemia during pregnancy:

- Women eat less.
- Fetus uses mother's blood to grow.

About half of the men had heard about anemia, '*khun ki kumi*'. A little less than half of the men had never heard this word and they didn't know anything about this subject. Urban men and husbands of primiparas were more ignorant about anemia.

Regarding signs and symptoms of anemia, the most commonly recognized signs by the husbands were weakness felt by the mother and pale complexion. Other signs mentioned were laziness and dark shades (*chaya*) on face.

Of the husbands who had heard about anemia, half of them learned it from a doctor. Some learned it from their wives or mothers. A few said they knew it by common sense.

More than half of the husbands (14) said that their spouses had never had anemia. Less than half of the husband said that their wives had anemia. All the husband whose wives suffered from anemia took some actions to cure anemia. All the husbands reported that their spouses consulted a doctor to treat anemia. In all cases, doctors gave capsules (Dane wale capsules, iron syrups or tablets). Some (3) husband also mentioned that their wives improved their diet, but only one husband specifically mentioned inclusion of egg and liver in his wife's diet to treat anemia.

Majority (18) of husband believed that anemia could be prevented. Some (4) husband said they did not know if it was possible to prevent anemia. Most (15/18) of the husbands who believed anemia could be prevented said "**good diet can prevent anemia**". Good diet was defined as a diet in which fruits, milk and meat, fish, vegetables and butter/ghee are included. Some (5) husbands said doctor's advice should be sought and followed to prevent/cure anemia. Urban husbands tend to rely more on doctor's advice. Some (4) husbands said women should take medicines for energy, "*taqat ki dawai*", to prevent anemia. A lot of reliance and confidence in doctors is expressed regarding treatments and prevention of anemia .

About half (12) of the husbands had heard about the iron tablets (*Folaad ki goolian*). Most (10) husbands, said that these are to give mothers "**Taqat**" (energy and strength). Some husbands (5) said that these tablets "**make blood**" in women. One husband said his wife doesn't like to take tablets therefore he gives her good food to treat anemia.

Generally husbands had very little information about possible complications during delivery. The responses were vague and unspecific. Some (6) said that “ procedure of giving birth is difficult and mothers or child or both could die during delivery.” *“How can a child be born without pain, women have to go through some pain.”*

A few (4) husbands said women could die or get very sick due to too much bleeding during delivery. Some (3) husbands said that they know labor pains are very intense and only one father mentioned clearly that prolonged labor pains could be a problem.

When asked if anything can be done to prevent the complications that may occur during delivery, about half of the husbands suggested consulting a doctor or taking the women to a hospital under emergency situations. Only one husband said a regular check-up during pregnancy could prevent complications.

Some husbands (2) said mothers could be given an injection or tablets to treat the complications during pregnancy. A few husbands said that they do what dai tells them: *“we don’t ask dai anything but we do what she tells us to do.”*

It seems that for referral, the dai plays a very important role. Interviews (TIPS) with pregnant women also supported this practice.

When asked what can happen if women lose lots of blood during delivery, the responses varied. Less than half (9) husbands said they didn’t know anything about the consequences: *“Men don’t have an idea about such issues”*

The same number of respondents (9) said that mothers could die because of the blood loss. Other responses were: mother could have jaundice, mother would have weakness, mothers could have anemia.

It is alarming that a significant number of husbands had no idea about the consequences of blood loss during delivery. However, at the same time, several men said that mothers could die because of blood loss.

### **Postpartum**

Regarding possible problems mothers may face after delivery, the most commonly reported potential problems were:

- Severe pain in body
- Excessive bleeding
- Weakness
- Fainting

It seems that husbands do not realize the consequences of many of the problems mentioned by them. A frequently mentioned phrase was:

*“A healthy women shouldn’t face any of such problems.”*

A significant number of husbands (6) said they didn’t have any idea about the problems. Husbands felt that it was not their business to know about these problems before they occur. Husbands of primiparas are less informed about potential problems.

*“Only dai can tell you about this, I have no idea.”*

*“I don’t know, my wife never faced any problems.”*

When specifically asked about fever after delivery, a majority of husbands said that women get fever after delivery and the reasons for fever include weakness, bleeding, fatigue and pain.

Only one husband from rural Sindh said if dai uses dirty instruments or delivers a baby with dirty hands, that may cause fever. All the husbands said they would take a women to a hospital in case of fever.

A significant number of husbands (8) said they didn’t know if women get fever after delivery.

### **Referrals to Health facilities**

Regarding conditions under which a women should be taken to a hospital, various conditions were stated;

- For regular check-ups during pregnancy
- If a women has difficulty in breathing
- If dai says she can not handle the case any further
- Prolonged labor
- Wrong position of fetus
- Severe fever
- Bleeding during pregnancy
- Excessive bleeding after delivery
- Jaundice
- Fainting fits

Bleeding, prolonged labor and wrong position of fetus are most frequently reported reasons by fathers to take a women to a hospital. Some (3) husbands said they had no idea. Dais are seen as experts, whose opinion matters a lot or seen as the major factor in deciding when a woman should be taken to hospital.

More than half (12) of respondents said that husbands would decide when to take a women to hospital. In a significant number (8) of cases mother-in-law decides when to take a woman to

hospital. A few husbands said dai or nurse will decide. It seems that although actual decision is made by husbands or family members, dai plays an important role.

In majority (18) of cases, husband is the one who takes his wife to hospital. Some (9) said her brother or father-in-law can also take a woman to hospital. In a few cases, mothers-in-law or other women in the family take woman to hospital. Primarily, husband takes a woman to hospital.

Reported distance to hospital was short in most cases. According to an overwhelming majority of husbands, it takes one hour or less to get to a hospital. Only two husbands reported 2 hours or more time to get to a health facility.

**Barriers:**

- Lack of knowledge of husbands about possible complications that mothers may face during and after delivery.
- Many pregnancy and delivery related problems are seen normal as part of process.
- Fever after delivery (sepsis) is not linked with unhygienic conditions during delivery and possible infection. Rather, it is taken lightly and associated with pain and fatigue during delivery.
- Pregnancy and delivery-related problems/complications are seen as ‘female domain’ in which men shouldn’t get involved. This, coupled with the fact that it is the husband in most of the cases who takes the woman to the hospital, may make it difficult for women to get to the hospital in time if an emergency arises.
- Doctor's attitude and inadequate services are a source of frustration, which were reflected upon by some husbands:  
*“Doctors and LHV's never tell the real situation to the family of the patient. One would keep asking and they don't answer”.*
- Difficulty to get to a health facility was highlighted by one man from rural Balochistan who said that:  
*“Doctor is very far away. We take women in truck and women have to stay there for 2-3 days”.*

**Benefits:**

- The fear of hospitals, which is reflected quite strongly in the responses of pregnant women, is not mentioned by husbands; neither is the concept of *parda* or *ijat* mentioned by them.
- There is a widespread fear/realization that a woman could die during delivery and needs hospitalization in certain cases. Husbands seem to have no resistance to hospitalization.
- Reported distance from a health facility is less than an hour in most cases.

**Ideal Practice:**

- ▶ **Make certain that newborn stays warm right after birth, both by putting the child to the breast/wrapping the baby in soft cloth.**
- ▶ **Initiate breastfeeding within one hour of birth.**
- ▶ **Husbands have a knowledge of these, and support wife to practice them.**

**Newborn Care**

About half of the husbands said that they advise their wives about the baby. The question was asked specifically about a newborn but the husbands mentioned general/occasional advice they offer to their wives about taking care of their youngest baby: “clothe the baby properly”, “put surma in the eyes,” “keep the baby clean,” “mother should eat various types of food (names of foods were not given) so that breastfed baby doesn’t get sick.”

Overall, husbands are not giving any specific advice about newborns. A significant number of husbands said that they didn’t give any advice to their wives about newborn care.

*“Mother herself is knowledgeable and knows what to do.”*

Regarding breastfeeding on the first day, almost half of the husbands said that mothers should start breastfeeding on the first-day. Of these, a few husbands very precisely mentioned that within one hour of birth, breastfeeding should be started.

*“5-10 minutes after birth, breast milk should be given to child.”*

*“Doctor says that right after birth, breast milk should be given to a baby because nature has taken care of everything but some people says that breast milk starts slowing on third day.”*

*“Give the baby breast milk only, don’t feed anything else.”*

Some husbands said that they had no idea what should be done with breast milk on the first-day:

*“I only know about buffaloes, a buffalo’s baby is put to breast right after birth, I don’t know about women.”*

*“Doctors would know when to feed a newborn.”*

Some husbands clearly said that breast milk shouldn’t be given to a baby in the first day because

*“first milk is 10 months stale and it should be discarded.”*

*“First day a baby is given ghutti because breast milk is thick on the first day; it’s the same as cow or buffalo’s milk on first day of their baby’s birth, which is not used by humans.”*

Concerning colostrum, there was more resistance to giving colostrum compared with initiation of breastfeeding on the first-day. Most of husbands said:

*“First-milk should be discarded because it is hard and stale, and then breastfeeding can be initiated on the first day”*

Some urban husbands said colostrum can be given and breastfeeding should be initiated within first hour. Source of information reported by all urban fathers who recommended colostrum was a doctor.

**Benefit:**

- Information on initiation of breastfeeding soon after birth on the first day is filtering in mostly through doctors and more so in urban areas.

**Barrier:**

- At the same time, a strong belief about first milk being stale is continuing to prevail. It is heartening to see a change taking place in terms of initiation of breast milk on the first day.

**Recommendation:**

Given the resistance against first milk, a more suitable strategy may be the one suggested in Marcia Griffith's report: that initiation of breastfeeding within the first hour of birth, after discarding the first few drops of breast milk, should be accepted as the most feasible practice to promote.

<b>Ideal Practice:</b>
<ul style="list-style-type: none"><li>▶ <b>Breastfeed fully, giving the infant breast milk only up to at least 5 months.</b></li><li>▶ <b>Give no water or other supplies.</b></li></ul>



**Exclusive Breastfeeding**

Regarding husband's opinion about feeding any milk other than breast milk to baby, almost all the husbands said that only mother's milk should be given to a baby. Reasons for not recommending other milk included:

- Mothers milk gives child strength.
- Keeps child healthy.
- Other milk has germs in it.
- Other milk is expensive, especially tin milk.

One husband from rural Sindh said that along with mother's milk, cow's milk should also be given to a baby, 'this gives baby strength.'

Some husbands (5) said that if mother does not have sufficient milk or is very weak, then other milk can be given to a baby. There is widespread acceptance to giving other milk when mother has insufficient milk.

When asked if the wife gave other milk to their youngest baby, most of the husbands responded in the negative. Most said that mother had sufficient milk, therefore other milk was not needed.

One husband from rural Sindh said that if other milk is introduced, their baby would have frequent diarrhea because keeping a feeder clean is very difficult.

Some (5) husbands reported giving other milk to their youngest baby. One husband was convinced that other milk was good for baby's health, which is why baby was given cows milk. In two cases, mother was pregnant again. In rural Balochistan a doctor prescribed other milk (cow's milk) because mother had insufficient milk.

Opinion regarding giving water to a newborn was divided equally -- half of the husbands said water should not be given and others believed it should. Urban fathers are more in favor of giving water to a baby. Husbands recommended water on the following grounds:

***“Human beings need water, it is the basic need.”***

***“A baby cries and his/her throat becomes dry, thus a baby needs water.”***

***“Water should be given to prevent dehydration.”***

The sources from whom husbands learned about the need to give water to a baby are doctors, friends, health center workers, elders, wives and some said they knew it themselves.

Interestingly, similar sources are reported (with the exception of doctor) by the husbands who said water shouldn't be given to a baby.

Two most commonly reported reasons for not giving water to a baby are:

***“It may cause diarrhea.”***

***“Mother's milk has both water and nutrients (khorak) in it.”***

A few fathers were not sure about whether water should be given to a newborn or not. When asked whether they had actually given water to their youngest child, about half of the husbands who said water should be given reported giving water to their youngest baby. Less than half of the husbands (the ones who believed water should not be given), reportedly had not given water to their youngest baby.

Several husbands said they didn't know if their wives had given water to their youngest baby.

**Barriers:**

- Belief that some mothers may have insufficient milk and the only solution to this is “top feeding” is quite prevalent. Two major sources of influence identified which encourage this belief are elders and doctors.
- The belief that water is needed by a baby under 6 months of age is common and strong.

**Benefits:**

- Belief that mother's milk is good for the child is very common and strong.
- Practice of giving other milk is not very widespread.

## **Conclusion**

- There is a lack of knowledge among fathers about pregnancy-related complications, as well as care of newborns. It is reflected in vague responses and open confessions that they did not know about such things.
- The reason for this lack of knowledge could be cultural segregation. Pregnancy, newborn care and related issues are seen as a female domain by both the sexes.
- There seems to be a communication gap between husbands and wives. This was very apparent when information on spouse's anemia was sought.
- It is absolutely critical to include men in any campaign designed to improve the health and nutrition of mothers and children. In particular, this would help to support wives to get access to iron and better food during pregnancy and lactation, and with early decision making to go to a health facility when there is any pregnancy-related complication.

**In-Depth Interviews with Doctors and Lady Health Visitors (LHVs)  
regarding Maternal Health**

**Basic Information about Doctors:**

A total of 13 doctors were interviewed, eight urban and five rural. A provincial breakdown is included in the table below:

Province	URBAN	RURAL
SINDH	3	1
NWFP	3	1
PUNJAB	2	2
BALUCHISTAN	0	1
<b>TOTAL</b>	<b>8</b>	<b>5</b>

Seven doctors were female and six male. The work experience of doctors ranged from 1-25 years, although the majority had 2-7 years work experience.

A majority of doctors were working in a government facility. Two doctors had private practices, and all the doctors had MBBS degrees.

**Basic Information About LHVs:**

A total of 12 LHVs were interviewed, of these four were urban and eight rural. A provincial breakdown of data is given in the following table:

Province	URBAN	RURAL
SINDH	2	2
NWFP	1	0
PUNJAB	1	3
BALUCHISTAN	0	3
<b>TOTAL</b>	<b>4</b>	<b>8</b>

Work experience of LHVs ranged from 6 months to 15 years. The majority (8) of LHVs had less than 4 years work experience, seven LHVs were government employees, while four were working in the clinics of private doctors. In the latter group, one LHV was working with both private and government agencies.

Most LHVs had completed 10-12 years of formal education, one LHV had 14 years of formal education plus training. In addition to formal education, all the LHVs had received 1-2 years of LHV training. The majority were trained at public health schools, and some had received training from MCH centers.

## In-depth Interviews of LHVs regarding Maternal Health

Province			TYPE		Experience	EDUCATION				
Area	District	Village / Community	Govt.	Pvt.		Formal	Special Training			
							Type	Organization	When	Duration
<b>Sindh</b>										
Rural	Hyderabad	Faqir Noah Hussaini	Govt.		1-year	Matric	LHV Family Planning Immunization	Public Health Public Health Hala-Hospital	1995-96 1996 Oct. 97	2-Yrs 15-days 10-days
Rural	Shikarpur	Wazirabad		Pvt.	6-months	F.Sc.	Gen. Nursing LHVs	R.B.U.T. Hospital R.B.U.T. Hospital	1992 1996	4-yrs
Urban	South-Karachi	Akhter Colony	Govt.		3-Yrs	F.A.	LHV	Public Health	1990-92	2-yrs
Urban	Not mentioned	Gulshan Iqbal		Pvt.	11-yrs	F.A.	LHV	MCH-Centre, Public health	1976	2+1/2 yrs
<b>N.W.F.P</b>										
Urban	Peshawar	Hyatabad	Govt.	Pvt.	15-yrs	Matric	FHT LHV	Public Health Public Health	1980 (together)	18-months
<b>Punjab</b>										
Rural	Lahore	Bhangali	Govt.		1-yr	F.A.	LHV	Public Health	1987	2-yrs
Rural	Sahiwal	111-9L (MCH Centre)	Govt.		1-yr	F.A.	LHV Family Planning	Public Health Distt. Health Office	1984 1991	2-yrs 15-days
Rural	Rahim-yar-khan	Chak-112	Govt.		4-Yrs	Matric	LHV	Nishter Hosp. Multan	1992-94	2-yrs
Urban	Lahore	Muslim Mohalah		Pvt.	1-Yr	Matric	LHV	Public Health	1993-94	2-Yrs
<b>Balochistan</b>										
Rural	Quetta	Killi Bangalzai		Pvt.	12-Yrs	Matric	LHV Family Planning	BRSP Dr. Shama Zahoor	1987 No Reply	9-Months Crash Course
Rural	Utthal	Alana Gadoon	Govt.		18-months	Matric	LHV Family Planning Civil Defence	Public Health, Quetta Public Health, Quetta Public Health, Quetta	1992	2-Yrs
Rural	Not mentioned	Muslim Bagh	Govt.		2-Yrs	B.A.	LHV Family Planning AIDS Immunization HMIS	Public Health, Quetta Civil Hospital, QS Public Health, Quetta Civil Hospital, Loralai Public Health, Quetta	1996 1996 1996 1996 1996	2-yrs 1-day No Reply 4-day 9-days

## **TYPE OF PATIENTS:**

### **Doctors:**

About half of the doctors (8/15) said they see women for prenatal care. Both male and female doctors reported to be consulted for prenatal care.

About half of the doctors see general patients for problems such as diarrhea, skin problems, ARI and fever among all segments of population, old, young, female, male, etc. Some (3) doctors, specifically in urban areas, reported seeing cancer patients or reported doing needed surgeries.

### **LHVs:**

Majority of the LHVs see mothers with MCH-related complaints. They reported doing prenatal care, post-natal problems, vaginal discharge, blood pressure, anemia, and family planning.

A few (2) said they see general patients with flu and fever, or young children.

## **TYPES OF PROBLEMS WOMEN SEEK ADVICE FOR:**

### **Doctors:**

Most (12) doctors said women come with complications related to pregnancy such as placental abnormalities, eclampsia, position of fetus, etc.

About half of the doctors said women consult them about anemia. All the doctors prescribe commercial prescriptions of iron supplements to treat anemia. Most of the doctors recommended changes in diet as part of the anemia treatment. Generally, inclusion of fruits, fish, meat and milk is recommended. Only one doctor mentioned vegetables and daal in this regard.

Some (5) doctors said women ask them about diet, what should they eat?. This question is asked in reference to "weakness" that a majority of women have, especially pregnant/lactating mothers. Most of the doctors advise eating more food, but less fat, to treat this condition.

Very few (3) doctors mentioned that they discuss social problems with their patients. It seems that the doctor's primary role is to provide/give medication, and in certain cases, the minimal instructions about diet.

Some (2) doctors mentioned that women ask them about adequate family planning methods.

### **LHVs:**

A majority (10) of LHVs said women ask about female diseases, and pregnancy-related problems. In case of emergencies, LHVs refer patient to doctors. LHVs talk in detail with the pregnant women about nutrition during pregnancy and lactation.

One LHV talked about anemia specifically. She recommends Fefol vit. for anemia. Some (4) LHVs mentioned family planning. They didn't specify the methods recommended. Several (5) LHVs said that women do talk with them about their family problems also.

**Q Are there any foods that a pregnant woman should avoid?**

**DOCTORS:**

Doctors advise avoiding a range of foods. These were ghee/oils (3) "because it can cause blood pressure" and "the digestive system of a pregnant woman is not well functioning"; salt (3) because it can cause swelling and blood pressure, rice (2) because these are difficult to digest, egg (1) causes blood pressure, vegetable (1), fish and meat (1) and tea are hot foods.

A few (5) doctors said women eat Imli and other sour foods which are not good for them. One doctor said 70% women eat the foods which doctors tell them not to have.

**LHVS:**

Most LHVs (7) said that they don't tell mothers to avoid anything. Some LHVs (4) tell mothers to avoid the following foods: Sweets (1) can cause diabetes, ghee (1) can cause jaundice, potatoes and cauliflower (1) are gas forming, salt (1) if mother has blood pressure.

Some LHVs (2) discourage fish, rice and tea, although they didn't specify the reason.

One LHV said some women use salt and ghee even though they have blood pressure.

**Q Are there any foods that a pregnant woman should eat more of?**

**DOCTORS:**

All the doctors suggested one or more foods that a pregnant mother should take in greater quantities or include in her diet. Vegetables (10), and meat / chicken (11) are the most commonly recommended foods by doctors for pregnant women. Other foods recommended for pregnant women are milk (7) eggs (6).

**LHVS:**

LHVs recommend vegetables and fruits (10), milk (5), eggs (4) and lentils (5). Most of these foods are recommended to make blood and to keep the fetus and mother happy.

**Q How much of these foods should a pregnant woman eat?**

**DOCTORS:**

Majority (10) of doctors recommend 1-1 ½ pao of milk and several (8) doctors said a pregnant

woman should increase her roti intake by one third. Five doctors suggested mothers include at least ½ pao of meat and chicken every day. Five doctors suggest eating one fruit such as apple or guava every day.

Two doctors said a woman should double her diet during pregnancy. Concerning frequency, almost half (6) of doctors suggest eating 6-7 times a day. Two doctors suggest 5 times a day.

**LHVs:**

Most LHVs (8) suggest increasing the amount of food. Three LHVs suggested increasing the frequency of eating food.

**Q What Percentage of women have anemia?**

The following table lists the responses of both doctors and LHVs:

<b>%</b>	<b>DOCTORS</b>	<b>LHVs</b>
50 - 70 %	7	3
80 - 90 %	2	5
90 - 100 %	3	4

**Q How do you diagnose anemia in pregnant women?**

**DOCTORS:**

Most doctors (8) diagnose it through physical checking such as eyes and pale complexion. Some doctors diagnose anemia by testing HB. Three doctors check blood pressure to diagnose anemia. One doctor said if a woman complains of severe headache that is a sign for anemia.

**LHVs:**

About half of LHVs (6) diagnose anemia through physical check-up like eyes, nails and pale complexion. Two LHVs take HB test. A significant number of LHVs (4) take blood pressure and some (2) said if a woman is very weak or has severe headache, these are signs of anemia.

**Q Do you recommend pregnant women take any medicines or tonic?**

**DOCTORS:**

Most doctors (10) suggest some medicines; of these, the majority (8/10) of doctors recommend multi-vitamins or B-complex. More than half (7/11) recommend iron tablets. A few (4)

recommend injections. Some (3) doctors recommend improved diet.

All the above are recommended to keep mother and fetus healthy. The majority of doctors (9) prescribe vitamin injections and iron tablets for women to be obtained from a chemist. Some doctors (6) said iron tablets can be obtained from LHWs, hospital and BHUs.

**LHVs:**

Almost all LHVs (10) suggested some medicines to women. Of these, most (7) recommend vitamins to keep mother and baby healthy.

About half of LHVs (6) recommend iron tablets to treat anemia. Two LHVs recommend injections, a course of 10-JEKOFER injections on alternate days and 12 injections of vitamin B. Two LHVs recommend improved diet. Injections are recommended to women who feel weak or dizzy, they recommend iron tablets to treat anemia.

Most LHVs prescribe medicines to obtain from chemist; iron tablets can be obtained from BHU, LHWs or hospital.

**Q Are you concerned about a pregnant woman gaining too much weight?**

**DOCTORS:**

Most of the doctors (8) expressed a concern. A few (3) doctors said it was not their concern, because it is the concern of the dai or LHV who delivers the baby.

Of the doctors who are concerned, most (7/8) advise mothers to eat less, take less carbohydrates, and less oil. Some doctors don't recommend vitamins such as Surbex-t during first months of pregnancy, because "fetus gains weight and could cause a difficult delivery". Other ways to avoid a big baby and difficult delivery are "exercise regularly (1)", "regular prenatal visits to identify potential problems (4)", "deliver at hospital so that potential complications are taken care of (3)".

**LHVs:**

More than half (7) LHVs were concerned about having a big baby. One LHV was not concerned, she said "baby should be healthy because what a baby gets from mothers blood helps him/her to survive in this world and fight the diseases, also a baby who is born healthy can later actively contribute to the development of society."

Most LHVs who were concerned said that "there is a danger of tear" in case of big baby or "baby has to be delivered by C-Section".

To avoid difficult delivery, LHVs suggested a variety of ways, such as regular check-up (7),

taking ultra-sound to identify the exact size of baby and hospital delivery. Some LHVs (3) suggest eating less or less oily and starchy foods, so that the weight does not increase much. One LHV recommended exercise to keep the weight of baby under control.

**Q In your opinion, should a pregnant woman eat differently? What and why?**

**DOCTORS:**

All the doctors recommended pregnant women increase variety in diet. Foods suggested included fruits, milk, meat, daal channa, roti and vegetables: “women give more importance to their children and husbands, if one egg is available they would give it to the children or husband, I tell them to eat two eggs themselves and one glass of milk”. The reason given for recommending variety is to “keep mother healthy” and to “make blood”.

More than half (7) of doctors advise increasing the amount of food taken. Most doctors recommend increasing diet by ½ and some recommend doubling the diet. About half (7) doctors recommend iron tablets during pregnancy because “most women in Pakistan are anemic”. A few (3) doctors advise increasing the frequency of food.

**LHVs:**

About half (7) LHVs advise adding variety. The foods recommended include fruits, milk, meat and vegetables because “these foods are important to make the fetus grow.” One LHV said “women have things available especially vegetables but they don’t eat them for the fear of cold or hot harmful effects”.

About half of (5) LHVs recommend eating more and most tell women to double the amount because “she is nursing another life within her, so she needs more”. Some (4) LHVs tell women to increase the frequency of food. A few recommend eating 5-6 times a day rather than 3 times.

**Weight gain during pregnancy:**

**DOCTORS:**

An overwhelming majority of doctors (11) tell women how much weight they should gain. Most(6) of them suggested 8-12 kg weight gain. One doctor recommended 12-20 kg weight gain and one suggested 5-8 kg.

**LHVs:**

Most LHVs tell pregnant women how much weight they should gain. The suggested amount of weight varies:

SUGGESTED WEIGHT GAIN	# OF LHVs
5-8 kg	2
9-12 kg	4
12-20 kg	1

Regarding how the women should gain weight, a number of methods were suggested and most LHVs recommended more than one method for weight gain. About one third (4) suggested increasing the amount eaten by “eating full stomach” or “eating more frequently”.

Some (3) suggested to take iron tablets. A few LHVs (2) tell women to take more rest, and some (2) suggest eating better foods such as fruits, vegetables, eggs and meat to increase weight.

**DOCTORS:**

Most doctors (8) tell women to “eat better” to gain weight. They advise eating fruits, eggs and meat. Some (4) doctors tell women to eat more. A few (2) doctors prescribe Fefol vit., iron tablets and calcium to increase weight.

**Anemia:**

**Q Do you have an idea what percent of women you gave tablets use those tablets?**

**DOCTORS:**

Most (5) doctors said 41% to 70% women take the tablets. Some (3) said 71% to 100 % take the tablets. One doctor said only 20% to 40% take tablets.

**LHVs:**

PERCENTAGE OF WOMEN	# OF LHVs
20-40%	1
41-70%	5
71-100%	3

**LHVs:**

Almost all LHVs said it is a serious problem: “ if a woman has less blood, she can die during delivery,” “she will not be able to run her home due to weakness,” “mother and child both will become weak”.

**DOCTORS:**

All doctors except one said they did not know about any such program; one said mothers should be gathered together and lectured to improve the program.

**LHVs:**

Some (3) LHVs said they only know about their own program which involves giving away iron tablets (no comments on the efficiency of these programs were offered).

To improve the program, suggestions given by LHVs are listed below:

- A national campaign along similar lines as the one for polio.
- Open centers for pregnant women only and give away iron tablets, etc.
- LHVs should visit here and distribute iron tablets.

**DOCTORS:**

Almost all doctors give iron tablets to women. Doctors give iron tablets from the 4th month of pregnancy. Some (2) said on the first contact or whenever a pregnant woman visits.

**LHVs:**

Most LHVs give iron tablets from the 4th month, while some (4) LHVs give iron tablets on the first contact with a pregnant woman.

**DOCTORS:**

About half (7) doctors advise three tablets a day, while some (3) doctors suggest one tablet or capsule a day. Most doctors prescribe Fefol.

**LHVs:**

Most (7) LHVs suggest three tablets a day. A significant number of LHVs (3) suggest two tablets a day. One LHV suggested one capsule (Fefol) a day.

**DOCTORS:**

More than half (7) doctors don't charge because they prescribe it, and women get it from government facility. Some doctors charge for the medicine or consider the price included in consultation fee.

**LHVs:**

Almost all LHVs said they don't charge for iron tablets. Some said the price is included in the consultation fee.

**DOCTORS:**

About half of doctors (7) suggested government facility as source to obtain tablets. Others said medical stores/chemists are the places to get iron tablets. One doctor commented that now even Karyana shops have those tablets.

**LHV:**

Most LHVs (8) said government facilities provide tablets. Others said chemist shops are the source. Some (3) LHVs said LHWs can provide iron tablets.

**DOCTORS:**

Almost all doctors said it is not difficult because tablets are available both in market and hospital. Two doctors said due to poverty, it is difficult for women to buy tablets.

**LHVs:**

Most LHVs said it is not difficult for women to obtain iron tablets. Some (3) LHVs said poor women can't get them easily from market.

**DOCTORS:**

Five doctors said they always have them in stock, and five said they write prescriptions for them.

**LHVs:**

Five LHVs said they sometimes run out of stock. 4 LHVs said they never run out of stock, and 3 LHVs prescribe them to get from the chemist.

**Q How does the method of distribution of tablets work?****LHVs:**

Most (6) LHVs give tablets for 2-5 days, (4) give for a week, and some (2) for 15 days. One LHV prescribes them only, and women can buy as many as they want from chemist.

**DOCTORS:**

Doctors give the tablets for 10-15 days (4), 30 days (3), 2-5 days (2), and some (3) prescribe them, and women get as many as they want.

**Q Do women come back to get iron without remedy?****DOCTORS:**

Most doctors (7) said that women come back because they know it is for their health and it's free. Some (4) said women forget about it when they feel better. A few said they come back, while

others don't.

**LHV:**

Most LHVs (7) said women come back because they feel better after taking iron. Some (5) said they put a date on their medical slips and tell them to come back and most of them do.

**Q Who can distribute iron tablets in your community?**

**LHVs:**

The following persons were mentioned:

<b>Persons Identified</b>	<b># of LHVs</b>
DOCTORS	2
MEDICAL TECHNICIANS	3
LHWs	7
MOLVI	1
LHVs	1
MEDICAL STORES	5

**DOCTORS:**

Doctors recommended the following outlets:

<b>Person Identified</b>	<b># of Doctors</b>
DOCTORS	2
MEDICAL STORES	3
LHV:	2
DISPENSER/MEDICAL TECHNICIANS	1
LHWs	2

One doctor said all persons mentioned in the table can distribute it.

**SIDE EFFECTS OF IRON TABLETS:**

**DOCTORS:**

Most commonly reported (4) side effect was diarrhea; other side effects listed were stomach pain (3), constipation (1) and gas (3).

**LHVs:**

LHVs listed the following side effects: diarrhea (5), stomach pain (4), palpitation (1).

**DOCTORS:**

The following benefits were reported:

<b>BENEFITS</b>	<b># OF DOCTORS</b>
LESS FATIGUE	4
LESS WEAKNESS	5
LESS PAIN IN BODY	1
LESS DIZZINESS	3
LESS BREATHLESSNESS	1

**LHVs:**

LHVs listed following benefits:

<b>BENEFITS</b>	<b># OF LHVs</b>
LESS FATIGUE	4
LESS WEAKNESS	6
LESS PAIN IN BODY	4
LESS DIZZINESS	4
MORE APPETITE	2

**DOCTORS:**

Most doctors suggest decreasing the damage to half or less. One said the woman should see a doctor regularly.

**LHVs:**

LHVs suggested drinking more water. If women have diarrhea, a few LHVs gave anti-diarrheal.

**DOCTORS:**

Almost all doctors said they didn't know about any home remedies. However, several (5) said that women use iron tablets Fefol vit (1) , B-complex (1), and calcium(1).

**LHVs:**

Most (9) LHVs did not know if women use home remedies, one said they do use but she didn't know what they were. Three LHVs said they eat ghee, milk, and fruits to combat weakness. Two LHVs said they get a syrup from hakeem called "faulaad ka sherbat".

**PROBLEMS DURING DELIVERY:**

**DOCTORS:**

Doctors reported the following as normal duration for labor and delivery:

24 HOURS	3
12-16 HOURS	3
2-6 HOURS	8

One doctor said it is different for different women.

**LHV:**

Most LHVs agreed that in multigravidas, 2 to 8 hours is normal time while for primiparas it can take 12-36 hours.

**DOCTORS:**

Most doctors said in cases of prolonged labor, women go to the hospital or a doctor. One doctor said they call for an LHV or consult the neighbors. One doctor commented that women try their best to deliver at home because they want to save the money that would be spent in hospital.

**LHVs:**

Almost all (9) LHVs said that women go to the hospital in cases of prolonged labor pain. Some said women consult a dai. Two LHVs said women use all sorts of home remedies and pain killers such as Bascopan before going to the hospital. One LHV said women get Neurobeon injections in the back in case of prolonged labor (who gives injection, dai or LHV, is not clear).

**DOCTORS:**

Almost all doctors said that a woman is taken to a hospital. One doctor said rest at home with her feet on a pillow with head down to stop bleeding, and if this doesn't work then she is taken to a hospital.

**LHVs:**

Majority of (9) LHVs said women go to hospital. However, some commented that the referral is usually delayed because as a first step a dai tries her best to stop bleeding. Some (2) LHVs said women stay home and her relatives and dais keep on doing their tricks. However, all agreed that if bleeding continues then a doctor is always consulted.

**Care of Newborn****DOCTORS:**

Almost all except one doctor said they give advice to mothers regarding care of newborn. One doctor said it is LHVs job to talk about newborn care.

Doctors advise mothers on the following issues:

- benefits of breastfeeding (5)
- initiation of breastfeeding right after birth (3)
- importance of immunization (4)
- general cleanliness such as "keep the baby clean," "put on clean clothes" (3)
- don't give ghutti (1)
- how to cut and take care of umbilical cord (2)
- keep the baby well wrapped in warm clothes (2)

**Initiation of Breastfeeding:**

All doctors except one said baby should be put to breast right after birth, because first milk is good for immunity (6), while only one doctor said it helps reduce bleeding. One doctor said he sees the baby (for immunization) when he/she is already 5 days old, so he does not advise initiation of breastfeeding.

**Colostrum:**

Almost all doctors advise giving colostrum because "it increases immunity (5)." One doctor said it cleans the stomach.

**Keeping the Baby Warm:**

Most doctors tell mothers to keep the baby warm (5) to protect the baby from chest infections.

Although some male doctors agreed that baby should be kept warm , they don't seem to advise mothers clearly and forcefully regarding this.

**Immunization:**

All doctors strongly recommend and advise mothers to immunize the baby within first week of birth.

**Ghutti:**

Although all doctors agree that ghutti should not be given to baby, it seems that only few clearly tell mothers not to do so. Most doctors don't discuss this with mothers.

**First Bath:**

Most doctors suggest giving a bath after birth with lukewarm water. One doctors said to give it after one day and one suggested within 6-8 hours. The reason according to doctors for recommending the bath right after birth was to "clean the germs from the baby".

**LHVs**

All LHVs advise women regarding child care after birth. Advice is offered on the following issues:

- Benefits and initiation of breastfeeding (7)
- Giving colostrum (4)
- Importance of immunization (6)
- Importance of general cleanliness and keeping the baby clean (3)
- Wrapping the baby well and protecting from cold (2)
- Not giving ghutti (1)
- How to take care of umbilical cord (1)

**Initiation of Breastfeeding:**

Almost all (13) LHVs recommended the initiation of breastfeeding within one hour after the birth, because "mother's milk is perfect diet for baby", "so that baby learns to suck", "helps to contract uterus" , "baby is hungry", "good for immunity".

One LHV said within 5-6 hours of birth breastfeeding should be started.

**Colostrum:**

All LHVs recommended colostrum. The main reason for recommending is that colostrum protects the baby from illness, it works to immunize.

**Keeping Baby Warm:**

All LHVs agree that baby should be well wrapped and kept warm right after the birth. Most said this is to protect baby from cold weather. If not well covered, the baby can catch pneumonia or

chest infection.

**Immunization:**

All LHVs strongly recommend and promote immunization. It seems that LHVs are very convinced about immunization and they make an effort to discuss immunization with mothers.

**Ghutti:**

All LHVs except one agree that ghutti should not be given to babies. However, it is not clear from the responses whether LHVs actually make an effort to discuss it with mothers. Some commented that it's in our tradition and most people give ghutti. One LHV said Flamey is a good ghutti to clean the stomach of the baby.

**First Bath:**

All LHVs recommended giving bath with warm water right after the birth. Some said 'baby is dirty when born so needs a bath.' A few said bath is prerequisite for *Azaan* to make a baby Muslim.

**Q Most common problems after birth?**

Doctors reported the following problems:

**Problem:** Postpartum Hemorrhage (9)

**Treatment:** Referrals (2) , Mother given tablets, Injections.

**Problem:** Peripural pains (2)

**Problem:** Minor Level Sepsis (6)

**Treatment:** Antibiotics (5), Paracetamol, pain killers

**Problem:** Retained placenta (2)

**Treatment:** Referral (2), Removal

**Problem:** Tear (3)

**Treatment:** Ointments, Stitches, Antibiotics

**Problem:** Weakness (5)

**Treatment:** Good diet (4), Vitamins

**Problem:** Abdominal Pains (3)

**Treatment:** Pain killer (3), Analgesic

**Problem:** Anemia (1)  
**Treatment:** Iron tablets

**Problem:** Backache (1)

**Problem:** Shock (1)

**Problem:** Tetanus (2)  
**Treatment:** Referral

**Problem:** Sore cracked nipples (1)  
**Treatment:** Vaseline, nipple swelled

**Problem:** Varicose Veins (1)  
**Treatment:** Drape bandage, do not hang down the feet

**Problem:** Fits (1)  
**Treatment:** Sedation, Dizapam, Valium

**LHVs** reported the following common problems after deliveries:

**Problem:** Bleeding (11)  
**Treatment:** Raise feet (2), packing (5), referral (7), bed rest (1)

**Problem:** Fever (10)  
**Treatment:** Antibiotics (4), referrals (2), take care of hygiene (5), ampicilial velosif

**Problem:** Blood Pressure  
**Treatment:** Referrals (2), regular check-ups from LHWs

**Problem:** Retained Placenta (3)  
**Treatment:** Referral (1)

**Problem:** Shock (1)  
**Treatment:** Referral (1)

**Problem:** Loss of appetite (1)  
**Treatment:** Suggest of alternative foods

**Problem:** Problems in breastfeeding (2)  
**Treatment:** Wash breast with warm water, use milk extractor

**Problem:** No Milk (3)

**Treatment:** Have more milk, make baby suck, extract milk

**Problem:** Abdominal pain (5)

**Treatment:** Bascopan, referral (3), pain killer (1)

**Problem:** Tear (2)

**Treatment:** Referral (1), packing with cold patti (1)

**Problem:** Fits eclampsia:

**Treatment:** Cold patti, tetanus, refer.

**Problem:** Weakness (4)

**Treatment:** Drip of (probably glucose), eat well (2), take vitamins, rest.

**Problem:** Pelvic disease (1)

**Treatment:** Ampiciline.

**Problem:** Anemia (1).

**Conditions for which LHVs refer to hospital:**

- We refer all cases because we don't have arrangements for delivery (1).
- Prolonged labor (3)
- Fetal distress (2)
- Maternal distress (1)
- Breech delivery (2)
- Transfer delivery (2)
- Postpartum hemorrhage (14)
- Tear (1)
- Retained placenta for 30 mins.(2)
- High blood pressure (7)

- High fever (5)
- Infection (1)
- Abdominal pain 92)
- If need C-section (1)
- Placenta previa (2)
- If need operation
- CPT (2)
- Intra-uterine death (1)
- Prolapse
- Fits (2)
- Diabetic patients (1)

Two doctors from government hospital said this hospital has all the facilities, so they don't refer anywhere (11), one doctor from private refers because clinic is not open 24 hours.

**DOCTORS:**

Most doctors talk to husband of the woman, a few said mother-in-law or whoever accompanies the pregnant woman. A few said they have to make a referring slip or letter and give it to the woman or her family. One doctor said she calls for an ambulance and sends the woman to hospital.

**LHVs:**

Most LHVs tells the person accompanying the woman. Some LHVs said that family members of woman decide among themselves, and LHVs just have to tell them that the woman needs to be taken to a hospital.

**DOCTORS:**

Most (8) doctors said that woman usually goes to hospital where they refer. Some (3) doctors said LHV or LHW takes the woman to the referred hospital along with the woman's family

members. Some (3) doctors said sometimes woman doesn't trust them which is why they don't go to the referred hospital. One said it is because the women are afraid of hospitals. In all cases, family members of the woman, mostly husbands, take the woman to hospital.

**LHVs:**

Almost all LHVs said women go to the referred hospital on their advice. One LHV was not sure if they do, and she was not concerned either, "my duty is to advise correctly, it is up to the patient if she wants to follow it." In most cases (9), husband or other family members take a woman. Some (5) LHVs said that they send dai or sometimes accompany a woman herself to hospital.

**TO REACH HEALTH CARE FACILITY :**

**DOCTORS:**

The time reported ranged from 15 minutes to 30 hours. In most cases (6), the time to reach the health facility is less than one hour.

**LHVs**

Most (11) LHVs reported it takes less than one hour to reach health facility. However, this time is given assuming the women will be taken in a hired transport rather than public transport. Some LHVs said it could take 2-3 hours to get to a hospital.

**Q Do you think most women get fever after delivery? Why?**

**DOCTORS:**

Almost all doctors said that women get fever after delivery, because "personal hygiene is not good and they get infections" (3), "women don't take antibiotics regularly" (1), "during home delivery, dai does not use clean instruments" (2), "women are weak and tired after labor pains" (5). Two doctors said that women don't have fever because "they have one soul". "Women developed immunity to dirty and un-hygienic conditions". One said "if delivery is done under proper hygienic conditions, then women don't get fever".

**LHVs**

Majority said that women have fear due to injections, because dai conduct deliveries under highly un-hygienic conditions, i.e., "unclean hands, unclean instruments and unclean floor". Some LHVs say women have fever because baby does not suck breast milk and it causes fever. "*Doodh chaar jaata hai.*" One LHV said women get fever due to weakness.

**Q**     **What do you advise for fever?**

**DOCTORS:**

More than half of the doctors give antibiotics. However, a significant number of doctors suggest “improved diet”, “better hygiene”, “pain killer and multi-vitamins” to treat fever because they believe the fever is due to weakness and pain.

**LHVs:**

Most LHVs give antibiotics to treat fever, some give “*Paracetamol*” or “*Calpol*”.

Almost all LHVs educate women about the importance of proper hygienic conditions during and after delivery to avoid infections.

## **In-depth Interviews with Lady Health Workers (LHWs) regarding Maternal Health**

### **Basic Information about LHW's IDIs:**

A total number of 15 LHWs were interviewed, 6 urban and 9 rural. A provincial breakdown of the sample is given below:

<b>Province</b>	<b>Urban</b>	<b>Rural</b>
<b>Sindh</b>	4	2
<b>N.W.F.P</b>	1	3
<b>Punjab</b>	1	3
<b>Balochistan</b>	0	1

Work experience of LHWs range from 6 months to 2 years. There was one LHW from Balochistan with 3 years of experience and one LHW from Sindh with 10 years of working experience. The majority had work experience of 2 years or less. 14 LHWs were government employees while one was employed by an NGO.

Regarding education, the majority had completed 10 years of formal education. One LHW had completed 14 years of formal education.

Concerning training, the length of training ranged from 3 months to one year. The majority were trained at district health departments or hospitals.

**Initial Information from LHWs regarding  
Maternal Health**

Province			TYPE		Experience	EDUCATION				
Area	District	Village / Community	Govt.	Pvt.		Formal	Special Training			
							Type	Organization	When	Duration
<b>Sindh</b>										
Rural	Shikarpur	Wazirabad	Govt.		18-months	Matric	Primary Health EPI	BHU Wazirabad Civil Hospital	May 1996 Nov 1997	3 Months 7-days
Rural	Hyderabad	Gahoot	Govt.		8-months	Middle	LHW	BHU-Bhandh	Jan. 1997	3-Months
Urban	Malir	Gulshan	Govt.		2-yrs	Matric	N.A.	N.A.	N.A.	N.A.
Urban	Shikarpur	Magsi Mala	Govt.		2-yrs	Matric	PM-HCP for FP Immunization	RBUT-Hospital Shk RBUT-Hospital Shk	Nov. 1995 Oct. 1997	3 Months 7- days
Urban	East-Karachi	Jacob-Line		Pvt.	10-yrs	Matric	PM-HCP for FP Immunization	HANDS (NGO) HANDS (NGO)	March 92 April 1992	1-day wkshp 2-months
Urban	Hyderabad	Amin-Fahim Colony	Govt.		1-yrs	B.Sc	LHW EPI	Talaqa-Hosp. Hafa Civil-Hosp. HDR	Dec-95 Oct-97	3-Months 6- Days
<b>N.W.F.P</b>										
Rural	Charsada	Durgai		Pvt.	18-months	Matric	LHW	DHQ-Hosp. Chrsda	Mar-96	15-Months
Rural	Bannu	Dar-mahal		Pvt.	2-yrs	Middle	LHW	PM's Program	May-96	3-Months
Rural	Abbotabad	Mirpur	Govt.		15-months	9th Class	LHW	MOH	Augst 96	3-Months
Urban	Peshawar	ATI-Colony	Govt.		6-months	9th Class	N.A.	N.A.	N.A.	N.A.
<b>Punjab</b>										
Rural	Lahore	Jalo-Pind	Govt.		4-months	Matric	LHW PTC	Neroor, BHU Hasan Mem. School	Sept. 1995 1993	15-Months 1- Year
Rural	Rahim-yar-Khan	114-NP	Govt.		18-months	Matric	N.A.	N.A.	N.A.	N.A.
Rural	Sahiwal	61-SL		Pvt.	16-months	Matric	LHW	BHU 59-SL	Jul-96	3-Months
Urban	Lahore	Mian Mir Colony	Govt.		18-months	F.A.	LHW	MOH	Jul-96	15-Months
<b>Balochistan</b>										
Rural	Qila-Saifullah	Tilri M Jaan	Govt.		3-yrs	Matric	LHW	Civil-Hosp Muslim Bagh	1995	3-Months

**Q      Would you tell us about your work and responsibilities?**

Main responsibility is seen as giving advice related to maternal and child health. This includes family planning, immunization, water and sanitation, information on infantile diarrhea and ARI. Some give advice on antenatal care (4), growth monitoring (3), promotion of breastfeeding(3) and maternal nutrition (3).

**Q      How many patients do you see in a year?**

Number of pregnant mothers seen ranges from 5 to 75. Most (8) LHWs see less than 25 women in a year, some (4) see more than 25 pregnant women in a year. (There were 3 non responses, when specifically asked how many pregnant women were they attending to presently). The majority (10) said less than ten. A few (2) mentioned up to 20 women.

**Q      How many times do you usually see a pregnant mother for prenatal care?**

Most LHWs see pregnant mothers 2-5 times for prenatal care. One LHW said she visits them 6-8 times.

Most (10) LHWs said they attend a pregnant woman on a regular basis. Two LHWs said if a woman has some complication such as very high blood pressure, pelvic structure is very small, or an operation may be needed, then she is sent to a government health facility and LHW does not see those cases on a regular basis. One LHW said “some women don’t see us regularly because people don’t trust us, they trust hospitals and doctors”.

During antenatal care, LHWs check position of fetus, weight of mother, movement of baby and advise tetanus injection. One LHW said if mother feels weak then she tells her about diet. The reasons for referral mentioned by LHWs include high blood pressure, anemia, fetus does not move, wrong position of fetus, mother needs operation for delivery, mother not gaining weight.

**Q      What do you think pregnant mother should do to take care of herself during delivery?**

All the LHWs emphasized taking good diet as most important part of self-care during pregnancy, followed by visits to a doctor (11), staying clean (9), and washing hands after defecating. A significant number of LHWs (6) specifically mentioned taking iron tablets for self-care. The reasons for recommending anemia tablets was to “give taqat”.

Other ways for self-care mentioned, included:

- ▶ take more rest.
- ▶ stay happy.
- ▶ carry less weight
- ▶ check blood pressure.

**Q What are the most common problems women face during pregnancy?**

Two main problems identified by LHWs were weakness and lack of appropriate diet, and both are seen as interlinked. Seven LHWs said that women don't eat enough during pregnancy because either the food is not available or they don't realize the significance of eating well during pregnancy. Other problems identified by a few were: age of pregnant women less than 18 or more than 45 years, vaginal bleeding, blood pressure, or abdominal pain.

Almost all LHWs said women ask their advice regarding the aforementioned problems.

**Q What kind of advice do you give regarding those problems?**

Most (11) LHWs say for weakness and malnutrition they advise good food. The foods suggested for a good diet are listed in the following table:

FRUIT	3
MEAT	3
VEGETABLES	3
EGG	2
MILK	2
RICE	2
LASSI	1

A few LHWs who mentioned anemia recommended iron tablets, as well as fruits and vegetables, as treatment. Many LHWs recommended TT injections.

**Q Do mothers have questions or concern about their diet nutrition?**

Almost all LHWs said that women have concerns about their diet. Most frequently asked questions about diet are:

“What should I eat that gives me strength”?

“What should I eat that keeps me and my baby healthy”?

Some LHWs (3) said that women clear their doubts about certain foods having hot or cold effect, for example, “if I eat an egg would that cause abortion” or “if I have milk would my fetus grow too much.”

One LHW said that women don't care about what they eat so they don't ask. Therefore, LHWs have to tell them.

**Q In your opinion should a pregnant woman eat differently from a normal woman?**

All LHWs said that a pregnant mother should eat differently from a normal woman. The majority (9) said she should eat more. The main reasons for eating more suggested by LHWs were: "she is nursing a life within her body and mother's food gives energy to the fetus;" "by eating more frequently, the stomach will not be empty and mother will not be weak."

Eating more was defined in the following ways:

"eat more often 5 times a day"

"every time she eats, instead of one roti she should eat 1 ½"

"she should eat double the amount of her usual diet"

Some (4) LHWs said women should eat differently, she should include more fruits and milk in her diet and avoid hot foods and too much masala. Only one LHW said pregnant women should have multi-vitamins and iron tablets.

**Q Do you give them advice in what to eat during pregnancy?**

All LHWs advise pregnant women regarding their diet. The most commonly given advice is:

"eat more (7)"

"include fruit in diet(8)"

"include green leafy vegetables in diet (8)"

"include milk (7)"

"eat meat (5)"

"eat eggs (4)"

"eat ghee (5) and daal (4)"

Other foods recommended are iodized salts, panjeeri (mixture of nuts and ghee) sherbat and yogurt.

**Q How much of these foods should a pregnant woman eat?**

Most LHWs give unspecific vague messages such as "eat more than usual". Some LHWs (5) suggested a specific amount such as doubling the amount of roti eaten during pregnancy or eating 5 times a day. Many LHWs said women should eat as much as she feels like eating.

**Q Are there any foods which a pregnant woman should avoid or eat less of?**

Most LHWs suggested at least one food that a pregnant should avoid or eat less, while a significant number of LHWs (4) said that pregnant women should eat everything, no need to

avoid any foods . Most LHWs believe that hot foods such as fish, eggs, chicken, dried fruits (or chilli rich foods) should not be eaten at all during first 3 months of pregnancy because “this can cause abortions or vaginal bleeding”. These foods can be eaten in small quantities after 3 months. One LHW said women still eat those foods while most said women avoid those foods.

Some (3) LHWs said women should not eat salt, because it can cause high blood pressure. A few (3) LHWs said fruits (oranges), vegetables (potatoes and cauliflower) and rice should be avoided. Vegetables and rice are gas forming while oranges are cold, and may cause cough. Two LHWs said lassi is cold and it can cause pain in legs so pregnant women should avoid it. However, most women do drink lassi even when they are advised by LHWs not to have it.

**Q Do you tell a woman how much weight she could gain?**

Most (10) LHWs said they do, and some LHWs don't discuss weight with pregnant women. About half (7) LHWs said women should gain less than 5 kg during pregnancy because “a normal baby is 3 ½ kg”. Some (3) LHWs said a woman should gain 10-12kg over a period of 9 months”.

Some (3) LHWs said they didn't know how much weight a woman should gain , therefore they advise women to eat well and weight will be taken care of.

A majority (9) of LHWs are concerned about weight gain, the big size of baby, and consequently a difficult delivery.

**Benefit:**

- It is very heartening that LHWs are recommending vegetables and daal.

**Barriers:**

- Only a few mentioned that pregnant women should take extra rest.
- Few understand the importance of iron pills and recommend it as part of antenatal care.
- Only half of the LHWs advise women to eat more.
- Food taboos have come out quite strongly among LHWs.
- LHWs do not have a clear idea how much weight a pregnant women should gain, but most recommend a weight gain up to 5 k which is less than recommended weight gain of 8-12kg.
- A significant number of LHWs said oil, butter, and ghee should be eaten in very little quantities because it can cause jaundice or big baby which cause delivery problems.
- A majority (9) of LHWs are concerned about weight gain, big size of baby and, consequently, difficult delivery.

**Q Do you recommend a pregnant woman take any medicine, injections, or herbs during pregnancy?**

Most (11) LHWs recommended some medicine, of these a majority (9/11) recommended iron tablets or syrups(only one recommended syrup). Some (3) LHWs recommended B-complex syrup (laderplex), given for “taqat” and to reduce burning in the chest.

A few mentioned TT injections. Iron folate tablets are given primarily to cure anemia, or to prevent anemia. Other reasons mentioned by a few (3) are to give taqat to mother and to keep mother healthy.

Most of the LHWs suggest mothers go to a government health facility to get iron tablets. A few (2) write prescriptions for them to get from a chemist.

**Q Among the problems that pregnant women have, do any of them have any of the following problems, weakness, headache, breathlessness etc.?**

According to all LHWs, anemia and severe headache are the most common problems among pregnant women, followed by breathlessness( 8), vaginal bleeding (8), edema (8) and weakness (7). Other problems mentioned were giddiness, backache, blood pressure, breech baby, and diabetes. The advice offered for these problems: for weakness, a majority advise “taqat ka injection” from doctors, a few suggest “eating well,” “child spacing,” and “taking extra rest.” For other problems mentioned, LHWs refer to health center.

**Q In your opinion how many pregnant women have anemia?**

Most LHWs said more than 50% of pregnant women have anemia, while some said about 40% of pregnant women have anemia.

**Q How do you diagnose anemia?**

Almost all LHWs diagnose anemia through apparent signs such as pale complexion, by checking inner side of eyes and white nails. Only a few LHWs said if a woman complains of breathlessness or fatigue that means the woman has anemia.

All LHWs consider anemia a serious problem. However, a few said if it is diagnosed at an early stage, it is not a problem and can be cured with tablets.

Regarding dosage of iron tablets, various dosages were mentioned. A majority (9) said 3 iron tablets a day. A few said 4 tablets, some said one tablet a day.

A majority (8) LHWs suggest mothers take tablets right after meals or during meals, some said

anytime with milk. A few LHWs suggested to take tablets between meals.

The most commonly reported side effect was burning of stomach; other side effects mentioned include constipation, diarrhea, barbs of tablets. A few LHWs said women don't complain of any side effects or the tablets don't have any side effects.

A majority of LHWs said iron tablets can be obtained from government health centers or BHU, and some said from a medical store. Only a few LHWs said women can get them from LHWs.

When asked if women have any problems taking iron tablets, all LHWs said women don't face any problems obtaining iron tablets because "LHWs" give them 60 tablets for a month. When they run out of them they can get it from BHU or health house for free. A few LHWs said due to *parda* system, if LHW is not there women have problems getting them.

Most LHWs (9) stated that women eat pills regularly. Some (5) LHWs said women don't take iron regularly and they suggested several reasons: "Women are too busy with work," "sometimes they go elsewhere and forget to take the tablet along."

When asked how many women who obtain iron folate actually take those regularly, a wide variety of observations were offered by LHWs.

All women take	3
About 70-80%	4
About 50-60%	3

When asked how do you check if women have taken iron, about half of the LHWs said they know it by looking at the women from their eyes and complexion. The rest said they ask the women, who answer if they feel less fatigue and more energetic. Some LHWs said women tell them straight away if they have taken the iron tablets or not.

Regarding positive effects of iron tablets, the most commonly mentioned benefits, include reduced dizziness and weakness, reduced pain in body (especially backache) and improved complexion. Side effects reported include constipation, anxiety, stomach pain, dizziness and diarrhea.

One LHW said women complain of the color of the tablet: "they don't like it".

Most of the LHWs said the system of iron distribution works well. Majority (9) LHWs give 30 tablets at a time. Two LHWs gives 60 tablets at a time.

One LHW writes prescription for Fefol vit. for women and they get from chemist.

Most (10) LHWs said that women come back for the tablets. A few (3) LHWs said they go to women regularly to give them tablets “we give them tablets during our regular visits.”

Most (11) LHWs said that they always have iron tablets in stock.”We get 1000 tablets usually, and only 600 to 700 are used up.” Some LHWs said sometimes they run out of iron tablets then they prescribe Fefol vit. and women get it from chemist.

All LHWs said they don’t charge for tablets, one LHW said if she runs out of tablets then she purchases it from the clinic she works for and sells it to women.

Regarding persons in the community who can distribute iron tablets, most LHWs said that an LHW is the best person to distribute. In LHWs' opinions, other persons who can distribute iron tablets are doctors, dais, mauvis, chemists, NGOs, nurses and hospital.

Regarding any medicines traditional or non-traditional used to treat anemia, most LHWs said they didn’t know of any such treatments. Some (2) LHWs said women use diet (liver, eggs, milk, fruits) as treatment for anemia.

**Q Do you know of any programs related to deficiency of blood?**

Most LHWs know about one program aimed to cure anemia; the program they mentioned was government’s effort to cure anemia by distributing iron folate through LHWs. The main suggestion to improve the program was “ if women cooperate and take medicines regularly, the program will be more effective”.

Some LHWs said if government gives them medicines other than iron tablets, it could improve the program because then an LHW will be contacted more frequently and she can monitor anemia better.

**Benefits:**

- All LHWs said anemia is a serious problem.
- Most LHWs said they always have iron pills in stock.

**Barriers:**

- Most LHWs don’t realize the magnitude of anemia, believing 50% or less pregnant women suffer from it.
- Most LHWs recommend incorrect dosage of iron tablets, i.e. 3 tablets or more per day.
- Most LHWs don’t realize the importance of better communication by LHWs to make an anemia control program more effective.

**Q What are the most common problems women face during delivery?**

Most commonly reported problems women may face during delivery include: malposition of fetus (5), prolonged labor (5), tetanus (4), followed by anemia, placenta coming first, women with diabetes, excessive bleeding, and if a woman is older than 35 years and less than 18 years.

**Q How long does a woman have labor pains?**

A variety of lengths for labor pains were reported: half of LHWs said usually woman have labor pains for up to 8 hours or less, and some (4) LHWs state 12 to 18 hours. According to a significant number of LHWs (6), one to two days is normal for labor pains.

**Q What do women do when labor is prolonged?**

Most (9) LHWs said “women go to a hospital”, some LHWs (3) said dai gives injection, a few said dai asks woman to push the baby for an hour before woman is taken to a hospital.

**Q What do women do in case of excessive bleeding?**

Most LHWs (9) said that women go to hospital or to a doctor. Some LHWs said that women consult a dai, some LHWs offered information on excessive bleeding for 40 days after birth, rather than PPH. Women eat wheat porridge (specific to Sindh) to reduce bleeding.

**Barrier:**

- A significant number of LHWs consider more than 12 hours of labor as normal.

**Q Do you give advice on the care of newborns?**

More than half of the LHWs give advice regarding care of newborns.

Regarding care of newborn, the most commonly given advice includes:

- ▶ mother should give her own milk.
- ▶ mother should keep the child clean.
- ▶ give child tetanus injections.
- ▶ take care of umbilical cord and don't put oil on it.
- ▶ keep baby warm after birth .

Other advice offered includes:

- ▶ start supplementary soft food after 4th month.
- ▶ weigh baby regularly.
- ▶ check for fever.

- ▶ check baby for jaundice.
- ▶ wrap baby in cotton cloth.
- ▶ don't give ghutti.

**Q What do you advise about the following:**

**Initiation of breastfeeding:**

A majority of LHWs (11) recommended initiation of breastfeeding within one hour. Some (3) LHWs said that breastfeeding should be initiated after two hours. The reasons given for initiation of breastfeeding were very general, such as,

- ▶ mother milk works as immunizer.
- ▶ it is good for the baby.
- ▶ it is essential for baby.
- ▶ it is fresh.

Some LHWs (3) who suggested breastfeeding within half an hour specified the benefits of immediate breastfeeding : “It helps control bleeding;” “placenta comes out quickly.”

**Colostrum:**

All LHWs said colostrum should be given to a baby, for the same reasons mentioned for early breastfeeding. An additional benefit of colostrum mentioned by one LHW is “colostrum cleans the baby’s stomach”.

**Keeping the Baby Warm:**

Very general, rather than specific, after birth advice was given regarding the baby’s warmth, such as “keep the baby warm” and “ cover the baby with clean cloth”.

**Ghutti:**

All the LHWs advised against giving ghutti. One LHW said “it can cause infection.” However, most LHWs did not know the reasons for not giving ghutti.

**Q What are the most common problems women face after delivery?**

Most LHWs (10) said that “excessive bleeding” is the most common problem women face after delivery, other problems mentioned included weakness, placenta doesn’t come out, infection, tetanus, fever, pain in uterus, swelling of body, and breast milk doesn’t come out. Most (10) LHWs said that in cases of excessive bleeding after delivery, a woman should be taken to a hospital. Other conditions after delivery for taking a woman to hospital include placenta doesn’t come out, mother feels very sick, mother feels dizzy, severe pain in stomach.

**Q Do you think most women get fever after delivery?**

A majority of LHWs (11) said most women have fever after delivery. Only one LHW said that the cause of fever is infection. Most LHWs said fever is due to weakness or due to labor pain. Regarding treatment for fever, more than half of the LHWs said they give tablets while fewer than half of LHWs said a doctor should be consulted for fever.

**Q Do women usually act upon your advice?**

All LHWs said that women act upon their advice. According to LHWs, the women listen to them because they contact them frequently (it is not a one time contact like with doctors). LHWs said the major reason for acting upon their advice is that women realize “the advice is beneficial for them and their children.”

**Q Among all the issues, to what issues do mothers listen most?**

A variety of issues were listed:

- ▶ mothers initiate breastfeeding soon.
- ▶ give ORS.
- ▶ weigh the baby regularly.
- ▶ immunize their children.
- ▶ anemia.

**Q What are the recommendations women listen to least?**

Most LHWs said women don't listen to them about family planning; they say “children are a gift from Allah”. A few LHWs also mentioned bottle feeding and cleanliness. Two LHWs said when they refer them “only a few women go to see a doctor.”

**Benefits:**

- All LHWs recommended initiation of breastfeeding within first 3 hours of birth.
- All LHWs said colostrum should be given to a baby.
- All the LHWs advised against giving ghutti.

**Barriers:**

- Very general, rather than specific, after birth advice was given such as “keep the baby warm” and “cover the baby with clean cloth”.
- Most LHWs don't link fever after delivery with infection.

**Recommendations:**

- Most LHWs believe that women follow their advice regarding many issues because they are in contact with them on a regular basis. That makes it very critical that LHWs have good training and correct information.

## **In-Depth Interviews with Dais (Traditional Birth Attendants) regarding Maternal Health**

### **Initial Information of Dais :**

A total of 28 dais were interviewed, 18 rural and 10 urban.

Ages of dais ranged from 35-70 years. The majority of them were less than 50 years of age.

Regarding education, the majority of dais could not read at all. Some (5) dais could read well and most of them had 6-8 years of formal education. A majority of dais were working independently. Only 6 out of 28 dais were attached to an organization at the time of interview. They were attached to Public Health School, Family Welfare Center, Government Health Department, NGOs (HANDS), and Civil Defense.

A breakdown of the sample of Dais is given below.

<b>CATEGORIES</b>	<b># OF Dais</b>
urban trained	9
urban untrained	1
rural trained	13
rural untrained	5
TOTAL	28

**Dais Regarding MCH  
Rural**

Province	Trainings						Ages (in Years)	District	#	Communities / Villages	#
	Professionally Trained					Un-Trained					
	Trained	Sponsors	Type	When	Duration						
Sindh	2	HANDS Sukhi Ghar	Formal / NM-F Dai and FP	1997 1987	8-d+2-m 1-yr	2	60 NR 70 NR	Hyderabad	3	Salamat Khet	1
										Bhabra	1
										Gharghat	1
								Shikarpur	1	HamaChak	1
N.W.F.P	3	-Kalan Project -LHVs Mukhtar -Public Health- School	-Dai -Dai -Dai	1994	5-m	1	35 24 70 20	Swat	1	Gari-kalin (Madin)	1
				1982	1-yr			Bannu	1	Jadeedabad	1
				1993	1-yr			Charsada	1	Pala-Dharey	1
								Peshawar	1	Nasir Bagh	1
Punjab	5	LHV Zahra Medical Assistant Mother-in-law Lady Doctor Mother-in-law LHV Rasheed	-Dai -Dai -Dai -Dai -Dai	1984	1-yr	2	35 18 45 70 58 60 60	Rahim-Yar-Khan	2	Nawa-Kot	2
				X	1-yr			Kasur	1	Khara	1
				NR	1-mn			Sahiwal	2	61-SL-1	2
				1977	1-yr			Gujranwala	2	Kila-Sundar Singh	1
				NR	1-yr					Dhaki-Subagwali	1
1995	1-yr										
Balochistan	3	LHV Sughra Civil-Hospital Civi-Hospital	-Dai -Dai -Dai	1992	1-yr	0	50 45 50	Lasbela-Hub	1	Sher-Mohammed	1
				NR	1-yr			Quetta	1	Kali-Nab Gharvi	1
				1975	1-yr			Muslim-Bagh	1	Muslim-Bagh	1
<b>Totals</b>	<b>13</b>					<b>5</b>			<b>18</b>		<b>18</b>

**Dais Regarding MCH  
Urban**

Province	Trainings						Ages (in Years)	District	#	Communities / Villages	#
	Professionally Trained					Un-Trained					
	Trained	Sponsors	Type	When	Duration						
Sindh	3	-UNICEF -TD-Hospital -HANDS	TBA Dai	1993-96	2-wk	1	35 45 50 45	Karachi (South)	2	KMC	2
			Dai	1972	1-yr			Karachi (East)	1	KMC	1
			Dai	1996	1-yr			Karachi (West)	1	KMC	1
N.W.F.P	3	-Public Health School - Dr. Pervaiz -Mardan Hospital	Dai	1986	1-yr	0	45 38 40	Peshawar	2	Kababian	1
			Dai	1976	1-yr					Father's Colony	1
			Dai	1985	3-m			Mardan	1	Sugar Mills	1
Punjab	3	-MCWAP -Dr.Surriya -LHV Akhter	Dai	1990	1-yr	0	45 43 68	Lahore	2	Kasur Munciple	1
			Dai	1989	1-yr					Lahore Cantt	1
			Dai	1959	1+1/2 yr			Gujranwala	1	Moenabad	1
Balochistan	0	---	---	---	---	0	0	---	0	---	0
<b>Totals</b>	<b>9</b>					<b>1</b>			<b>10</b>		<b>10</b>

**Q For how long have you been delivering babies?**

Regarding work experience of these dais, about half of them had less than 10 years of work experience, and the rest had 11 to 30 years of experience as a dai.

**Q Did the training affect your work?**

Out of 21 trained dais, the majority (14) said the training affected their style of work positively. The new things they had learned are:

“use of a disposable kit.”

“I clean my hands properly before delivery and don’t touch anything till the baby is delivered.”

“They learned about substitute of foods such as saag, carrot, and daal instead of expensive fruit.”

“tetanus injections.”

“identification of danger signs and referral.”

Most commonly reported benefit was the ability to recognize danger signs and referrals to the hospital.

**Q How many babies you deliver in a year?**

Number of deliveries conducted per year:

# of Deliveries	# Reported by Dais
1-10 babies	11
11-30 babies	8
30-50 babies	5
more than 50 babies	3

Urban trained dais are delivering more babies. Two urban trained dais reported to deliver 300 babies in a year.

**Q How should a mother take care of themselves during pregnancy?**

A majority of dais (22/28) said that a mother should take care of her diet during pregnancy. The major reason for “eating well” given by dais is that “it will keep the mother and baby healthy”. A good diet is defined as having milk, fruits, vegetables. More than one third of the dais mentioned “staying clean and not lifting heavy stuff” as the two important things regarding self-care during pregnancy.

Other things mentioned include:

- ▶ prenatal checkup from dai or some other health worker.
- ▶ extra rest.
- ▶ tetanus injections  
(Only trained dai mentioned tetanus)
- ▶ injections and tablets for *taqat*.
- ▶ travel less or don't travel at all.

One dai said that pregnant women should not eat hot foods such as meat, bitter gourd (Kamela) and egg plant because all these foods have iron in them and its dangerous for pregnant women. None of the dais mentioned taking iron tablets as part of self-care during pregnancy.

**Benefit:**

- Many dais consider vegetables as a good diet during pregnancy.

**Barriers:**

- Very few dais mentioned tetanus injections as part of prenatal care.
- Dais didn't mention eating more as part of self-care during pregnancy.

**Recommendation:**

- Dais need to be trained about increase of diet during pregnancy as well as about tetanus injections.

**What are the problems women face during pregnancy?**

More than half of the dais stated "weakness and dizziness" as the most common problems among pregnant women. Other problems mentioned by a significant number of dais (6-10) include blood pressure, back pain, bleeding, anemia, vomiting, and headache. A few dais mentioned edema, headache, stomach ache and early labor pains as common problems. Advice offered by dais for these problems is discussed below.

To treat weakness, most dais advise eating good food such as milk, fruits, meat, vegetables. One dai said poor people can eat spinach, daal, and yogurt. A few dais recommended Fefol vit.(iron capsule) or B-complex (Sangobion) for *taqat*.

To treat dizziness, hot foods should be avoided (meat, bitter gourd, eggplant) and cold foods should be eaten.

To treat anemia, dai recommended good foods such as egg, milk and vegetables. Only trained dais are recommending tablets and injections (names not specified). Regarding vaginal bleeding, most dais refers to doctors. Trained dais link headaches with blood pressure and refer to doctor. If a woman has blood pressure without headache, trained dais refer her to a doctor. Some trained

dais give tablets (not specified) to treat stomach ache and backache. Urban trained dais are more likely to refer to a doctor.

**Q What are the problems during pregnancy mothers frequently discuss with a dai?**

Backache and weakness are most common concerns of pregnant women, for which a dai is consulted. Dais recommend massage, eating well, extra rest as treatment to backaches. Massage and "*taqat kay injections*" are recommended for women who complain of weakness. Position of fetus is a concern of a significant number of women. Dais tell about the position by feeling the uterus from outside and rotate the fetus if it is a breech baby. A few urban trained dais refer to doctor for ultrasound if baby does not move or does not grow well. Dais are also consulted for family planning methods, what to eat, and when there is pain under the uterus.

**Q Number of visits at home**

Various number of visits were reported, with some (5) dais reported to visit three times or less. Some (7) dais said they visit 7-10 times. Several dais (6) visit on call only. Some dais (5) visit the mother only once at the time of delivery. Regarding purpose of the visits, most dais visit the mother to check the position of the baby. Urban trained dais look for danger signs blood pressure, weight, and refer to hospital. A few (3) dais visit mother to do the massage (which is a tradition).

**Q Do you examine every time you visit a pregnant women?**

Most (18) dais examine a pregnant woman at every visit. A significant number of dais (10) examine only once or if there is problem reported by mother. A few dais (both untrained) said they are called only for delivery but not during pregnancy.

**Q What do you check for during prenatal visit?**

Most dais (23) check for the position of the fetus by feeling the uterus from outside. Some (3) dais said if baby is breech or not growing well they refer to a doctor. About half of dais check for size of head of the baby and size of mothers pelvic bones to anticipate the possible problems at delivery. More than half of trained dais (16) check for anemia through nails and complexion. Treatments recommended for anemia include consulting a doctor, injections for *taqat* (names not specified) and eating well. One dai recommended iron (Fefol vit.) for anemia. More than half (17) dais check for edema. Some recommended herbal medicines: essence or aarq of aniseed. A few refer to doctor if swelling is too much.

A significant number of dais ask about vaginal bleeding. Most refer such cases to doctor. Some said a woman should rest with her feet up (on a pillow).

**Barriers:**

Only one dai linked weakness with multiple pregnancies and recommends family planning.

**Q Should pregnant women eat differently from normal women?**

Almost all dais said that a pregnant women should eat differently from normal women. A majority (14) said mother should take a good diet, "Aachi ghaazaa khaee". Good diet includes meat (6), milk (8), fruit (7), vegetables (7), eggs (2) and nuts (1). This is important to keep the baby healthy. A significant number of dais (9) said mother should eat more to combat weakness.

One dai (urban trained) said mother should drink more water 12-14 glass. Two dais said mother should eat more frequently, as in pregnancy, women usually feel less hungry.

**Q In your opinion how much weight should a woman gain during pregnancy?**

Opinions of dais was divided on this, more than half (17) dais said women should gain weight, while a significant number of dais (8) said a lot of weight should be decreased. Two dais (rural trained) said they did not know how much weight a woman should gain. In this question, weight was not specified in terms of kilos.

**Q What do you recommend a women should do to gain weight?**

The majority of dais recommend increase in diet, and some (5) dais suggest *taqat kay* injections and medicines for weight gain.

**Q Do women face the following problems during pregnancy?**

In the following table, the number of dais who said women face specific problems is given:

Problems	Dais who said 'Yes'
Weakness	28
Severe Headache	24
Dizziness	27
Rapid heartbeat	24
Vaginal Bleeding	25

**Barriers:**

- Most untrained and some trained dais don't recognize danger signs and they do not refer to

doctor often.

- Very few dais recommend iron tablets as part of preferred care during pregnancy.
- Less than desired number of dais recommend eating more during pregnancy.

**Recommendation:**

- Given that 86% deliveries are conducted at home by dais, they are a very important target audience for improved reproductive health.

**Q Have you ever heard of anemia?**

Almost all dais except one (urban untrained) had heard about anemia.

**Q Could you define anemia?**

Regarding signs and symptoms of anemia, pale complexion (14) dizziness (10), weakness/lack of energy (10), white eyes (7) and white nails (5) are more commonly recognized. Other symptoms mentioned include: swelling on hands and feet, breathlessness, can't work, headache, laziness, irritability, women don't gain weight, white tongue, hardened stomach and rapid heartbeat.

**Q What type of people are likely to have anemia?**

In response to this question, dais mentioned various causes of anemia. Most commonly perceived causes of anemia are lack of good food (7), weakness (7), poverty (8), and multiple pregnancies (7). A list of other causes of anemia mentioned by dais is given below:

- ▶ sickness/ illness
- ▶ extra work
- ▶ grief
- ▶ vomiting
- ▶ gases in stomach
- ▶ overeating
- ▶ elderly women
- ▶ water retention in head or stomach
- ▶ operation
- ▶ if women don't take calcium or other tablets, malfunction of liver and/or stomach.

**Q Do you think a lot of pregnant women get anemia?**

Almost all dais agreed with this statement. Two dais (1 urban untrained and 1 urban trained) did not agree.

**Q Can anemia be cured?**

All dais believed that anemia was curable. Regarding treatment of anemia, more than half (16) dais mentioned foods as the primary way to treat anemia. Foods recommended to treat anemia include milk, meat, vegetables, and fish.

Less than half (12) of the dais said “medicines should be taken to treat anemia.” Of these, three recommended injections, seven recommended tablets, capsules or syrup. Only two dais specifically named the iron tablets.

A significant number of dais (mostly trained) said a doctor should be consulted to treat anemia. Other treatments mentioned were: get an injection, a bottle of blood, try to stay happy, exercise, have operation for stopping children, and stay clean.

**Q How do you diagnose anemia?**

Most common ways to recognize anemia are checking eyes (6), color of face (7), nails (6), and if a woman complains of feeling weak. Other signs mentioned are swelling on face and hands, and pain in back and legs.

**Q Do you give iron tablets to women?**

Less than half (13) of the dais distribute iron tablets, while the rest do not give iron tablets.

**Q When do you give iron tablets?**

Most dais (9/13) give iron tablets in the third month of pregnancy. Two dais give it in the 6th month and one said she gives it at the first meeting.

**Q Do you tell them anything when you give pregnant women iron tablets?**

All dais motivate women, and a significant number of dais (5) say “these tablets make up for the loss of blood”. Other motivational statements are listed here:

- ▶ these tablets give *taqat*
- ▶ they are available free of charge
- ▶ they reduce pain in the body

According to dais, side effects reported by women include constipation, stomach ache, heartburn, dizziness and black stool. One dai gave advice to eat juicy fruits with tablets. Regarding dosage, the majority (12) of dais are advising more than two tablets a day. Details of recommended dosages are given below:

<b>RECORDED DOSAGE</b>	<b># Dais who recommended these</b>
1 tablet	1
2 tablets	2
3 tablets	6
4 tablets	4
5 tablets	2
<b>TOTAL</b>	<b>15</b>

**Q From where do pregnant mothers could obtain the iron tablets?**

<b>PLACE</b>	<b># OF Dais</b>
from BHU	6
from LHW	5
medical store	4
<b>TOTAL</b>	<b>15</b>

**Q Why is it necessary to take iron tablets?**

Most dais said iron pills are important to treat anemia “khun ki kami dur karnay ke liey.” One said iron tablets make blood. Two dais recommend iron tablets to treat weakness.

**Q Possible side effects and how to minimize?**

Most commonly reported side effects are “stomachache” (4) and diarrhea (3). Other side effects reported are heartburn, constipation, burps, bad smell of tablets, loss of appetite and vomiting.

**Q How are women given these tablets?**

Most (10) dais said 30 tablets are given to women, wrapped in a paper. Usually 30 tablets are given at one time. One dai gives it in a plastic bag.

**Q Can you tell how many women take iron tablets regularly?**

Some dais (5) said 80% to 100% of women take iron tablets regularly, while four dais believed that only 50% to 70% women take iron tablets.

**Q How do you check?**

Many dais (5) ask women if they are taking iron, and some (2) said they can judge from the face.

**Q Positive effects of iron tablets.**

Most commonly reported side effects are gained energy “kamzori kam ho gi” (7) and reduced dizziness, “chakar ana kam ho gae” (5).

Other benefits reported include:

- ▶ reduced pain in the body (1)
- ▶ reduced fatigue (3)
- ▶ reduced headache (1)
- ▶ reduced backache (1)

**Benefit:**

- Most dais recognize the signs and symptoms of anemia and all of them have heard about anemia.

**Barriers:**

- Few dais link anemia with multiple pregnancies.
- Many dais recommend incorrect dosage of iron tablets.
- Dais are not giving clear instructions on how to take iron pills.
- Dais have a lack of knowledge about all aspects of iron tablets, e.g., their benefits, how to minimize the side effects and correct dosage.

**Q What are the common problems women have during delivery?**

Reportedly, the most common problems women have are postpartum hemorrhage or excessive bleeding (14), followed by prolonged labor (5), placenta doesn't come out (4), breech baby(4), and big size of baby (3). Other problems mentioned include slow pains, mother gets injected during delivery, stillbirth, vomiting, uterus doesn't open up, tetanus and fainting.

**Q What is a usual length of labor pains?**

Majority of dais think that labor pains are usually 8 or less hours, and some dais (2) suggested 8-12 hours. A significant number of dais (7) said 12-24 hours is the normal time for labor pains.

However, most of them specified that this time is for primiparas only. Some (3), mostly rural(untrained), said labor pains could last for 2-3 days.

**Q What do you do when labor pain is prolonged?**

Almost all dais said they refer to a doctor or a hospital.

**Q Do you use injections during labor pains?**

About half of the dais (13) use injections during labor pains . Most (11/13) dais use them to increase the labor pains, while two dais use them to open the mouth of uterus. A significant number of dais (6) use Syntocinin, while some (4) dais did not tell the name of injections. Both trained and untrained (urban, rural) dais use injections.

**Q How do you cut and take care of umbilical cord?**

Dais reported using more than one thing to cut cord. Most (20) dais use scissors to cut the cord. Half (14) of the dais use a blade, untrained dais use a blade more often, some dais use a knife (2) and thread (2) to cut the cord.

**Q How do you prepare the instruments?**

Majority of dais (23) reported washing the instruments, however only five use Dettol or Spirit. Two mentioned using soap, and one dai said she always uses a new blade.

**Q What instrument do you use for delivery?**

A range of instruments were mentioned , most commonly mentioned instruments are thread (13) and scissors (16). Other instruments mentioned include blade (7), forceps (5), needle holder (5), cloth (5), gloves (5), cotton (3) and utensils. Some dais don't use any instruments.

**Barriers:**

- A significant number of dais use injections during delivery, which is very dangerous.
- Regarding hygiene during delivery, it is not at all routine, although some of the dais observe the three cleans, i.e., clean hands, clean surface, and clean blade.
- A significant number of dais replied that 12-24 hours of labor is normal.

**Q Do you advise on care of newborns?**

All dais give advice on care of newborns. Regarding what dais offer advice on, the majority (20) of them mentioned breastfeeding, followed by importance of cleanliness (12), and taking care of umbilical cord (12). Other advice offered includes ghutti (7), wrapping up of baby (6), protection

from cold (7), and immunizing the baby (4). One rural untrained dai suggested giving medicine (name of the medicine not specified.). Regarding initiation of breastfeeding, half of dais (16) recommended initiating breastfeeding within one hour. Interestingly, quite a few rural untrained dais are also recommending this. A significant number of dais (7) recommended initiating breastfeeding within first 2 hours. Two dais (rural trained and untrained) said breastfeeding should be initiated within 72 hours. One recommends initiating breastfeeding within 24 hours.

Regarding colostrum, more than half (8) of the dais recommended it, because it works as “injection of immunization,” “protects from illness,” and give *taqat*. Some (7) said a little bit of it should be discarded because “it is not clean” and “the rest of milk flows better.”

Regarding keeping the baby warm, most dais advise in general terms rather than for a specific time right after birth. Dais advise mothers to keep the baby warm during the first few months of life to save the baby from fever, cold and pneumonia.

All dais specifically recommend immunizing the baby and several mentioned the names of injections. When specifically asked about prelacteals, more than half (19) of dais admitted to recommending them, while a significant number of dais (7) did not recommend because “it is useless,” mothers milk is ghutti and other things can cause “diarrhea”. A majority of urban trained dais discourage ghutti.

Dais who recommend ghutti do so because “it satisfies the baby until breastfeeding is initiated” and “cleans stomach”. Honey, ghee, commercial ghutti and kehwa is recommended for ghutti.

**Benefits:**

- A majority of dais recommended initiation of breastfeeding within first three hours of birth.
- All dais recommended immunization.

**Barriers:**

- A majority of dais recommended prelacteals.

**Recommendation:**

- Since all dais advise on newborn care, it is critical that they have knowledge about it.

**Q What are the most common problems women face after delivery?**

Excessive bleeding is most commonly reported (19) problem, followed by fever (12). Other problems mentioned include stomach pain “paet ka d dar (7), tetanus (3), high blood pressure (3), weakness (2), dizziness (1), milk does not flow (3), feeling cold and shivering (4), swelling (2), and pain in the body (2). The reasons for excessive bleeding according to some dais are dirty gauzy pads and “piece of placenta remains inside”. Almost all dais refer to hospital in case of

excessive bleeding. Some dais (3) give injections (dais did not specify the name of injections) before referring to a doctor. One dai gives corasil injection. Fever is taken rather lightly. Some dais said most women have fever after because they are tired. Some said if women catch cold during delivery, they can have fever. However, when asked specially about fever, the majority (18) said they refer to hospital. Others (10) recommend massage (2), Ponstan tablets (7) and good food, such as milk and ghee to treat fever (4). To treat blood pressure, some dais give injections. If breast milk does not flow well, hot milk and soft food is fed to the mother.

**Q Do most women get fever after delivery ?**

The majority of dais (24) said women usually get fever after delivery because of “weakness (10),” “bleeding(4),” “tiredness (2),” “injection (9),” “catching cold (5),” or “if a piece of placenta remains inside.”

**Q What are the conditions under which you would refer a woman to hospital?**

Excessive bleeding (3) is most commonly reported. Other conditions mentioned are listed below:

- ▶ High fever
- ▶ breech baby (12)
- ▶ placenta comes first (3)
- ▶ if woman is weak (4)
- ▶ if needs an operation (3)
- ▶ slow pains (1)
- ▶ mouth of uterus does not open (3)

**Q Who do you need to consult?**

Most (18) dais stated husband needs to be consulted. About 1/3 of dais mentioned mother-in-law, and other family members mentioned were brothers (3), father in law (8), and mothers (4). Some (4) dais said a doctor should be consulted.

**Q Who usually takes mother to hospital ?**

About half of dais (12) said in most cases husband takes a pregnant woman to hospital. About one third (10) said MIL takes her to hospital, while other family members mentioned in this regard are brother (2), sister (2), father-in-law (4). Some (5) dais said a dai can take a pregnant woman to hospital.

**Q How long does it take to reach hospital?**

The amount of time mentioned is listed here:

<b>Time Taken to Reach Health Facility</b>	<b># of Dais</b>
15-30 mins.	14
30-60 mins.	8
60-120 mins.	6
2 hrs.-3 hrs.	3
Don't know	3

**Q If conveyance is required what is done and what conveyance is easily available?**

Most dais (5) said that a car (taxi) or van is hired. A significant number of dais said tonga is hired and some (5) rickshaw is hired. A few (3) dais said a pregnant woman is taken to hospital in personal car or neighbor's car is borrowed.

**Q What are the common concerns of family of a young baby?**

Concerns of family of newborn for which advice of a dai is sought are initiation of breastfeeding and problems related to breastfeeding, diarrhea, fever, cold, and supplementary feeding.

**Q Do you normally visit to see the child in first year?**

Majority (20) dais see a baby for first time after birth. A significant number of dais (8) said they only deliver the baby and after that don't see the family. Of these, most dais (14/20) visit the family 3 times a week or more. Some (6) said they see the baby occasionally until six months. Regarding purpose of these visits, a range of things were mentioned including "take care of baby's umbilical cord" (9), massage and bathe baby (6), massage the mother (6), immunize the baby (3), prepare to feed ghutti, and other things for the baby (8).

**Q Can you please describe your relationship with the family of the pregnant woman ?**

Most (16) said it is a very friendly and open relationship. Some (4) said it is like being elders of the family, where there is mostly a role of an expert and guide.

A significant number of dais (9) said it basically a material relationship: they deliver the baby, do other services, and get paid for it.

Variety in terms of eating from various food groups was not a problem. All women were taking staples and oil. Similarly, 20 women were taking various forms of protein, and 23 women were taking some kind of fruit in their diet.

The dietary recalls also analyzed if women were taking vitamin A-rich foods, foods rich in vitamin C, and if they were taking iron supplements. Nearly all women were consuming vitamin A thru foods and oil. 20 women were consuming vitamin C foods and there were only 5 women who were not taking vitamin C foods . Only two women were taking iron pills. 23/25 were not taking iron supplements.

Five major problems with a set of recommendations were developed to carry out the trials.

### **Major Feeding Problems Identified**

The five major problems that emerged after the 24-Hour recall analysis were:

1. 20/250 Rural) 2/7 Urban Pregnant women were not eating enough food. They had not increased their diet and were eating the same quantity before their pregnancy
2. 17/25 Rural and 5/7 Urban Pregnant Women were not taking iron pills.
3. Only 3/25 R and 3/7 U women were identified as not taking enough variety.
4. 1 rural pregnant woman was identified who was not taking iron pills regularly because she forgot.
5. There were only two rural women who were not taking iron pills because the mother did not like the side effects.

### **PROBLEM 1: PREGNANT WOMEN NOT EATING ENOUGH FOOD.**

#### **Recommendation 1a: Try to take foods with your family or children or when you cook:**

The recommendation was given to 22 rural and 2 urban women. 16 rural and 1 urban women gave an initial positive response to this recommendation. 7 rural women and 1 urban woman agreed to try it, and out of them, only 6 rural and 1 urban women actually tried it.

Majority of the women followed the advice as recommended. The only modification made was by one woman from Balochistan who ate more frequently with small intervals and in that way

she ate more than before. 2/5 women ate along with their children and 3/5 (r), 1/1(u) women ate while cooking or took out their share before serving the meal.

### **Constraints and motivations in promoting the recommended practice**

Out of the 20 rural and 2 urban women who were given this recommendation, 7 women gave initial **negative reactions** which were:

- I cannot do so because I do not cook all the time my sister- in-law cooks sometimes (Balochistan).
- I try to eat more but I cannot do so (Balochistan).
- I do not have that much time (Sindh urban).
- Cannot eat while cooking (Punjab).
- I would eat but I will not because my mother-in-law will get angry with me (NWFP urban)
- Cannot do so (NWFP Urban).
- It is not possible for me (NWFP).

**Positive reaction** given by 5 women who followed the recommendation were:

- One woman said that she felt good, and did not get tired while working (NWFP rural).
- Because I was eating hot food from the pot, it tasted better. Also normally I ate 1 ½ roti, while doing this I could eat 2 ½ roti and also took more curry. (Sindh rural)
- Another motivation explained by 2 (B/S r) women was that it was easy for everyone to eat together, and to eat with children.

The reason for **negative reactions** given by two rural women from Balochistan who initially agreed but did not follow the recommendation were:

*“Whatever was cooked the whole family eats, I can not eat alone. Already there isn’t enough food.”*

*“ Your advice is fine but we don’t have enough money or food”*

6/6 women (5r and 1u) who actually tried this recommendation have indicated they will continue with this practice.

In response to how they would advise others, their statements were:

*“I will tell them I have tried this recommendation and it is good”*

*“Eating together helps you to wash dishes with me”*

**Recommendation 1b: Increase the amount of food that you eat (1 more meal) or increase the amount of rice (1 pao), add a serving of vegetable, or fruit at each meal, add milk, lassi or yogurt at each meal.**

22 (r) and 5 u women were given this recommendation. 17(r) and 4 u women gave positive reactions to the recommendation. 14(r) and 4 u women agreed to try it. 12/14 r and 4 u pregnant women actually tried it.

A majority of the women followed the recommendation as stated. The only modification made in one case was eating more of the leftover food, and one woman had added two tablespoons of ghee/oil to the food before eating. One woman said that she ate more with short breaks. Although women reported that they were eating a variety of vegetables and fruits with meals, two women (1r + 1u) modified it to take fruits between meals.

### **Constraints and motivations in promoting the recommended practice**

Out of 20 women who were given this recommendation, 9 women gave the initial negative reaction to this recommendation:

*“I do not like what I’m eating now, how can I eat more.” (Balochistan)*

*“It is difficult and I cannot do so.” (Balochistan)*

*“I will eat whatever is cooked but I cannot eat too much.” (Sindh)*

*“cannot do so daily.” (Sindh urban)*

*“when I drink milk I vomit, cannot eat more than one roti do not feel hungry.” (Punjab)*

*“it is not possible to do so cannot do so.” (NWFP)*

*“I get a sore throat when I eat yogurt.” (NWFP)*

*“ I cannot eat yogurt, my chest gets congested.” (NWFP)*

**Positive reactions given by women who followed the recommendation were:**

- (8r) pregnant women said that they felt better and their health had improved by increasing the amount of the food.
- (1u + 2r) women felt that their child will also be healthier, and will not be ill and weak.
- (4u + 2r) women said that eating more food had helped them to overcome their weakness and now they did not feel tired and dizzy and it helped in improving breathlessness.
- 1 r woman said that eating more food will make more blood.

Some of the **positive** statements given by women who followed these recommendations were:

*“I have increased the amount of roti and food and it has benefitted me.”*

*“Eating home cooked food can help us be healthy, eating more is good—we did not know the difference between the diet of a normal woman and pregnant woman. Now we know pregnant and lactating women should eat more.”*

*“Since I have increased the food I am feeling energetic...eating more and eating fruits I like it very much.”*

*“Initially I felt weak while working, now I do not feel weak.”*

*“I was eating before but now I have increased the amount, vegetables were already cooked, the problem was fruit, now my MIL brings fruit and I am eating fruit.”*

From among the women who followed the reaction, there were was one **negative reaction** against this recommendation.

- The woman had added ghee, and she said that the ghee was causing breathlessness and darkness before my eyes. (B R)

The negative reactions of women (2 Balochistan, 1 Punjab, 1 Sindh) who initially agreed but did not follow the recommendation gave the following reasons:

*“Family eats whatever is cooked in the house, there are no leftovers.” (Balochistan)*

*“The health care provider which advised me to take rash-medicine has forbidden me to take meat, I’m waiting till my medication ends and then I will follow the recommendation.” (Punjab)*

*“Indigestion occurred due to overeating.” (Sindh)*

Out of 15 women who followed the recommendation, 9 r agreed to continue this practice.3 r and 4 u gave no response on continuation of the practice.

When asked if they would give the same advice to others, some of the statements were :

*It is easy to increase the amount of food;*

*All pregnant women should eat more and take iron pills to give energy to the woman, she*

*should eat eggs;*

*I will tell them to eat more food than normal;*

*I will advise that they should eat more roti.*

Reactions of **family members** to the recommendation:

“They agreed but forbade taking iron pills.”

“Mother-in-law said that you should not eat rice because it is cold and will give you congestion.”

“My MIL is happy that my color has improved.”

“My husband is happy that I am eating now.”

**Recommendation 1c. Add two snacks in addition to normal meals every day.**

The recommendation was given to 21 r and 6u women. 20r and 6u women gave an initial positive reaction. 14r and 5u women agreed to try the recommendations. 13r and 5u women actually tried the recommendation.

Most of the women took a snack like roti, pakoray, or rusks with tea. One woman took chat (chick peas) with milk or tea. Others ate fruit in between meals. Most of the women thought taking snacks was easy.

In the initial response, all women gave a positive response to this recommendation.

Women who tried the recommendations gave the following **positive reactions** :

- Now I eat whenever I am hungry; earlier I was eating on fixed times with my family.
- 5r and 2u women said that this has improved their health. 8 women stated that they feel energetic, do not feel weak and get less tired now.

There were was only one **negative** reaction:

*“I did not feel hungry but I forced myself to eat.”*

All women who followed the recommendation said that they would continue it.

Five women gave the following statements as to how the family reacted:

*“My husband said it is good to eat more fruit.”*

*“My mother-in-law eats something at 10 o'clock so I have no problem.”*

*“My husband himself brought fruit for me.”*

#### **Recommendation 1d. Avoid skipping meals**

The recommendation was given to 22 r and 6 urban women. All women gave a positive response in the initial reaction. 8r and 4 urban women agreed to try the recommendation. 7r and 4 urban women actually tried it. Two women started taking breakfast and one woman started taking afternoon meals.

**Positive reactions** from 5r and 2u women who tried the recommendation liked the advice and said that it is benefitting them. Two urban women said that they do not feel weak now and do not breathe heavily. One rural woman who started taking breakfast said:

*“I am getting used to taking breakfast and my heart does not sink now in the mornings.”*

Out of 11 women only one woman did not follow the advice and that was because she had delivered immediately after the first interview. 4 rural and 7 urban women said that they would continue the recommendation. 4 rural and one urban women gave no response.

#### **Reactions of family :**

There were only two responses from family members. One said they were curious about why the women were doing these interviews and what was going on in the interviews, but when women explained they also liked the recommendations. The other response was from a husband who was happy that his wife had started taking breakfast.

#### **Recommendation 1e. Add ghee butter oil when cooking or eating, (one to two tablespoons per meal)**

The recommendation was given to 22r and 6u women; 16r and 3u women gave an initial positive reaction to the recommendation. 7 rural and 2 urban women gave a negative reaction which were:

- If we eat too much ghee or butter we are liable to get jaundice (yarkaan)
- it is difficult for me (Balochistan)
- Do not like greasy stuff (Sindh Urban)
- I cannot eat ghee at all because I have a problem in the chest and have a cough (NWFP)
- Do not like ghee (NWFP)
- With too much ghee I get yarkaan (NWFP)

One rural woman who said that she would try it also did not follow the recommendation. She said we already have ghee in the curry that is why I have not tried it.

**Recommendation 1f. Every other day eat a food you do not eat often, like egg or meat**

22 r and 6 u women were given this recommendation. 15 r and 4u women gave a positive response, 7r and 1 urban gave a negative response, initially. Reasons for the **negative** response were:

- We do not get meat and eggs in the village (Bal r)
- This is not possible I have to eat what is cooked at home (Bal)
- This is difficult (Sindh u)
- This is not possible, in poor homes we have to eat whatever is available (P r)
- Do not eat eggs because I have high blood pressure (P)
- I will eat the egg if the child does not (P r)
- Do not like eggs and meat (P)
- I do not feel like eating meat (P)
- Our children do not get to eat eggs, so how can we eat them (NWFP)
- I like eggs, but my husband eats them, I can eat meat (NWFP)

3 rural and 1 urban woman agreed to try the recommendation, and all four of them tried it, and said they would continue. **Positive reactions** of women who **tried** the recommendation were:

*“Eggs are available at home and it is easy (NWFP r)”*

*“I like meat (NWFP r)”*

*“I like eggs and also the doctor has advised me to eat eggs (Sindh r)”*

*“ Improves iron intake, meat tastes good and I cooked liver and ate it (Sindh u)”*

Negative reactions of women who tried it:

*Doctor has advised me not to eat meat till I am taking other medication (NWFP r)*

*I cannot eat meat because I cannot afford it (P r)*

In response to reactions from family, one woman said that her husband asked her not to eat meat until she recovered. Same woman was on medication and doctor had advised her not to eat meat.

**Recommendation 1g. Eat frequently (every two hours) small meals and snacks when you feel hungry.**

The recommendation was given to 22 r, 6u women. 13 r, 4 u women gave a positive initial response. 9 r, 1 urban women gave a negative initial response to this recommendation:

- I cannot do this. I will have indigestion (B r)
- I am not used to eating frequently (B) (S u)
- I do not feel like eating again and again (B rural)
- I do not have extra food in the home that is why cannot do this (B)
- Cannot do it (2 B)
- Eating after every two hours is difficult (NWFP r)
- I will try it but eating in-between meals may cause stomach ache (S u)

The two women (1 NWFP, 1 Balochistan) who tried the recommendation gave the following positive reactions. Both of them said that they would continue the practice.

*“I liked the advice and it has helped in improving nausea”*

*“I like fruit as a snack, it gives energy”*

*“My appetite is improving , can eat more now, my color is improving”*

**PROBLEM 2: PREGNANT WOMEN WERE NOT TAKING IRON PILLS**

The second major problem identified was that women were not taking iron pills. The following recommendations were shared with women:

**Recommendation 2a. Go to LHW to get the iron tablets.**

The recommendation was given to 19 (r) and 5 (u) women. 6 (r) 2(u) women gave positive reactions, whereas 13 (r) 3(u) women gave a negative reaction. Only 6 (r) and 2 (u) women agreed to follow these recommendations, and out of these, only 4 (r) and 2 (u) women actually followed the recommendation.

**Constraints and motivations in promoting the recommended practice**

Four rural and two urban women who followed the recommendation got them from the medical store instead of getting them from an LHW.

2/6 (r) and 1/3 (u) women who agreed and did not follow gave these reasons:

- I am already taking medicine for rash, if it disappears I will start taking iron pills, if rash does

not disappear, I'll continue using iron pills; (Punjab)

- one rural woman said that because we do not have a BHU or an LHW, I am thinking I will go to the city and get myself examined and get the tablets; (NWFP)
- Forgot to take the medicine, as I am not in the habit of taking medicines (Sindh).

**Recommendation 2b. Go to the health center or send your husband to get iron tablets**

The recommendation was given to 19 (r) and 5 (u) women. 15 (r) and 5 (u) women gave a positive reaction to it. 4 (r) women gave a negative response to the recommendation. 10 (r) and 3 (u) women agreed to try the recommendation. Out of these, 5 (r) and 1 (u) actually followed the recommendation. All four women from Balochistan did not follow the recommendation.

**Positive reactions after acting on the recommendations:**

- These tablets are good for me because it will cure the deficiency of blood; (NWFP r)
- I am very happy and I feel better;
- It has helped to cure my backache;
- It has helped to overcome weakness, do not get breathless walking up and down the stairs, do not have backaches; (S u)

**Negative reaction:**

- One woman who was following the recommendation said that she had diarrhea and maybe it was due to the tablets.

**Constraints:**

Women who initially agreed but did not follow the recommendation gave the following reasons:

- I know iron tablets are good for me but my husband cannot go to the hospital, he was saying that if we had a prescription he would get them from the store; (r Puj)
- My husband took the prescription. I will take the tablets when he brings them; (r Bal)
- My husband says it is alright; there is no need to take any medicine; (r Bal)
- I gave prescription to my brother and will start eating them when he brings them; (r Bal)
- I told my husband that I need iron tablets, and that they are available at the hospital free. My husband said that he would not go to the hospital and they are not free there, if you had a prescription I could get them from the store for you.

**Recommendation 2c. Buy a large supply of iron pills from the pharmacy, especially if you live a long distance from the health center.**

19 r and 5 u women were given these recommendations. 12 r and 4 u women gave an initial positive reaction to this recommendation. 7 r and 1 u woman gave a negative reaction. 11 r and 2 u pregnant women agreed to try the recommendation. Only 3 r and 1 u women actually tried the recommendation.

**Constraints and Motivations in Promoting the Recommended Practice:**

One rural woman bought the pills but was not using them. One rural husband brought them from the chemist and the woman was taking one pill in the morning and one in the evening with milk.

Another rural woman said that she found that the BHU were giving these pills free, so next time she went there and got them. Also, the urban woman who was using them said that you could get these free from the hospital.

One woman from Punjab who used them said that it will increase the amount of blood in my body, and it has helped to remove Chanyan from my face. I do not feel tired now and my color has improved.

8 rural women who agreed and did not follow the recommendation gave the following reasons:

*“Family members say by eating milk and apples you will recover, there is no need to take medicine.”*

*“There was no one at home, my FIL has come back today and will bring them for me.”*

*“I will have them when my husband comes back from the other city.”*

*“My husband is very busy this week, so I will ask my cousin to bring them from the city, however I may not take iron tablets during my pregnancy as it makes me vomit.”*

*“I liked the recommendation but my SIL forbade me from taking medicines.”*

*“Husband will bring what the doctor has prescribed, but have not started taking them yet.”*

All women who used them said they would continue using them. Even women who were not using them were saying that they will use them when someone brings them the tablets.

## **Recommendation 2.d Eat meat at least every other day.**

20 r and 5 u women were given this recommendation. 13 r and 4 u women gave a positive initial reaction to it. 6 r and 1 urban women gave a negative reaction. 5 r and 3 urban women agreed to try the recommendation. 4 rural and all three urban women actually followed it.

One woman said that she ate 3 to 4 pieces while cooking meat, and most of the others increased the frequency of cooking meat.

### **Constraints and Motivations in Promoting the Recommended Practice:**

Of the 7 women who followed the recommendation, only one gave a negative reaction:

*I do not like meat and it will cause indigestion.*

Positive reactions from women who followed the advice were:

*Now I can do my household work better as I feel more energy in my body.*

*By eating meat I feel more energetic.*

*It is good and it will help to remove the deficiency of blood.*

*Now I do not get tired. When I told my husband and MIL that my weakness is due to lack of meat, my husband brought the meat. I like meat, and my MIL agreed that my weakness was due to eating less meat.*

*I like the taste of meat.*

All 4 rural and 3 urban women who tried the recommendation said they would continue to follow the recommendation:

## **Problem 3: Women not eating enough variety of food**

### **Recommendation 3a: Add some vegetables to each meal every day.**

The recommendation was given to 6 rural and 3 urban women. 6 r and 2 u women gave an initial positive response. 1 urban woman gave a negative response:

**“Our business is going down, which is why we cannot afford to buy fruit.”**

6 rural and 2 urban women agreed to follow the recommendation. 5 r and 1 u women tried it. One urban women who did not follow the recommendation said that she could not follow it because of her economic problems. 4 women who tried it gave positive reactions after trying this recommendation.

One woman gave a negative reaction, saying:

*“I do not like eating fresh vegetables; I ate them but did not like them.”*

All women agreed to follow the recommendation, except one who said:

*“I cannot promise to continue, as after delivery we usually do not take care of ourselves, even if we breastfeed.”* (S r)

**Reactions of family members were:**

- Husband and father-in-law did not comment on my diet, they said eat whatever is good for your health.
- My husband said vegetables are energetic and you should eat them.
- Husband was happy and now I tell him to bring vegetables every day.

**What will you tell others:**

*“I will tell pregnant women in my neighborhood to eat vegetables as they reduce heartburn and one feels energetic.”*

*“I will tell others to eat more fruits and vegetables as it will keep them healthier.”*

**Recommendation 3b. Include a fruit with your snack daily.**

The recommendation was given to 6 r and 3 urban women. 5 rural and 3 urban women gave a positive response, only one rural woman gave a negative reaction. 1 r and 2 u women tried the recommendation. Women took apples, orange and bananas as snacks and they liked the advice. One urban woman who agreed did not follow the advice because she had guests. The ones who tried said they would continue the recommendation.

**Recommendation 3c. Grow a vegetable garden.**

All nine women gave a negative response to this recommendation.

**Recommendation 3d. Add foods like meat and egg, every other day.**

It was given to 6 r and 3 u women. 5 gave a positive response while 2 gave a negative response. One urban woman from Sindh agreed to try but could not follow because she had guests.

**Recommendation 3e. Talk to your husband and MIL about the recommendations you have agreed to try and ask for their support**

The recommendation was given to 12 rural and 3 urban women. No one agreed to try the recommendation.

**Results of TIPS-III (including options pregnant women were able to adapt but which were more difficult to implement):**

**Problem 1: Women not eating enough food**

Results of the 24-hour recall on the third TIPS interview showed that only 8/25 rural and 3/7 urban women were taking less than 1500 calories. Out of these, 3 rural women were taking less than 1000 calories. 5 rural and 1 urban woman were taking calories between 1500-2000, and another 5 rural and 2 urban were taking calories between 2000 and 2500. 4 rural and 1 urban women were taking above 2500 calories.

The number of women taking three meals had increased to 17 and only 6 women were taking two meals. In the urban group, all 7 women started taking 3 meals. Overall, 8 (6r, 2u) women increased the amount of meals they were taking. 9 women (5 r and 4 u) women increased the number of snacks they were taking.

Women who were taking very low calories showed a substantial increase in the amount of calories. See table below:

<b>TIPS-I</b>	<b>TIPS-II</b>
674	1217
760	1390
820	1305
861	1615
406	3243
2006	6242

Although, in general, there was an increase in the number of meals, the number of snacks, and the amount of food eaten, there were still 17/32 women taking less than 1700 calories after the third trial. One issue, therefore, to consider would be to do some recipe trials for an energy-rich snack with a group of pregnant/lactating women to test its acceptability. Recipe trials could be done for a snack like *suji ki tukriyan* (semolina, sugar, ghee, and sometimes nuts are added) or *basin ki mithai* (graham flour, sugar, ghee), to be sure that the women get at least 1000 calories per day from these snacks. Something like panjeeri, which is specially prepared for women to eat after delivery, might also be acceptable.

### **Problem 2: Women not taking iron pills**

There was a significant increase in the number of women taking iron pills on the third interview: 4/32 (TIPS-I), 16/32 (TIPS-III).

Most of the women who agreed but did not follow the advice said the major constraint was that nobody had brought them the tablets. The ones who followed either got them themselves or their husbands brought them the tablets. Even where the recommendation was to get them from the LHW, the women had gotten the tablets through their husbands, from chemists, or from BHUs. One of the reasons the husbands could not get them was that they had no written prescription. There were a few attitudinal issues such as family members advising women not to take medicines during pregnancy.

Only one woman reported that after following the recommendation she had diarrhea and thought it was due to the iron tablets. Similarly, only one reported that she forgot to take the medicine. One woman who was taking the iron tablets took them with milk.

The strategy to talk about anemia through support groups/counseling cards can be an effective way to communicate, inform, and motivate women. However, this has to be supported by a strategy to make tablets accessible in or near communities, giving women a larger supply each time. Effective communication will also be needed to inform and motivate husbands. NGOs may need to look into ways to train volunteer distributors in the villages.

Also, there is a need to do new research including trials of pregnant women taking iron pills. The sample size can be small but should be representative of all cultural groups.

### **Problem 3: Women not getting enough variety of food**

The only two recommendations that women agreed to were adding vegetables to a daily meal and adding fruit as a snack. There was only one negative reaction against meat and that was the

woman who did not like it and thought it would cause indigestion. Also, one woman said that they could not afford to buy meat. In general, getting a variety of foods seems to be a smaller issue for the women.

## Summary of Recommendations Pregnant Women

**Problem 1: Women not eating enough and have not increased their food intake; they are eating the same quantity as before pregnancy. What should they eat when they get pregnant?**

Recommendations	TIPS - II								TIPS - III									
	Total No. of women to whom these recommendations were given		Women's reactions against these recommendations				# Women who agreed to try		# Women who actually tried		Reaction of women after trying these recommendations				Women who initially agreed but did not follow the recommendation		Women who agreed to continue	
			Positive		Negative						Positive		Negative					
R=Rural, U=Urban	Rural	Urban	R	U	R	U	R	U	R	U	R	U	R	U	R	U	R	U
1a. Try to take foods with your family or children or when you cook:	22	6	17	3	5	2	7	1	5	1	5	1	0	0	2	1	5	1
1b. Increase the amount of food that you eat (1 more meal or increase the amount of rice (11 pao), add a serving of vegetable or fruit at each meal, add milk, lassi or yogurt at each meal)	22	6	17	4	5	1	14	4	12	4	12	4	3	0	3	0	9	4
1c. Add two snacks in addition to normal meals everyday:	22	6	20	6	2	0	14	5	12	5	12	4	1	0	2	0	12	5
1d. Avoid skipping meals	22	6	22	6	0	0	8	4	7	4	6	4	0	0	1	1	4	3
1e. Add ghee, butter, oil when cooking or eating (1-2 tablespoon per meal)	22	6	16	3	6	1	1	0	0	0	0	0	0	1	1	0	0	0
1f. Eat every other day a food you don't eat often, like egg or meat	22	6	15	4	7	1	3	1	3	1	3	1	2	0	0	0	3	1
1g. Eat frequently (every 2 hours) small meals and snacks when you feel hungry	22	6	13	4	9	1	2	0	2	0	3	0	0	0	0	0	2	0

**Problem 2: Women are not taking iron tablets**

Recommendations	TIPS - II								TIPS - III									
	Total No. of women to whom these recommendation were given		Women's reactions against these recommendations				# Women who agreed to try		# Women who actually tried		Reaction of women after trying these recommendations				Women who initially agreed but did not follow the recommendation		Women who agreed to continue	
			Positive		Negative						Positive		Negative					
R=Rural U=Urban	Rural	Urban	R	U	R	U	R	U	R	U	R	U	R	U	R	U	R	U
2a. Go to LHW to get iron tablets	19	5	6	2	13	3	6	2	4	2	4	1	1	0	2	1	4	1
2b. Go to the health center or send your husband to get iron pills	19	5	15	5	4	0	11	3	5	1	4	1	1	0	6	2	5	2
2c: Buy a large supply of iron pills from the pharmacy, especially if you live a long distance from the health center	19	5	12	4	7	1	11	2	3	2	3	0	1	0	8	0	3	0
2d: Eat meals at least every other day which you do not eat regularly	19	5	13	4	6	1	5	3	4	3	4	3	1	0	1	0	4	0

### Problem 3: Women Not Eating Enough Variety of Food

Recommendations	TIPS - II								TIPS - III									
	Total No. of women to whom these recommendation were given		Women's reactions against these recommendations				# Women who agreed to try		# Women who actually tried		Reaction of women after trying these recommendations				Women who initially agreed but did not follow the recommendation		Women who agreed to continue	
			Positive		Negative						Positive		Negative					
R=Rural, U=Urban	Rural	Urban	R	U	R	U	R	U	R	U	R	U	R	U	R	U	R	U
3a. Add some vegetables to each meal every day	6	3	6	2	0	1	6	2	5	1	5	0	2	0	1	1	5	1
3b. Include a fruit with your snack daily	6	3	5	3	1	0	1	2	2	1	1	1	1	0	1	1	1	1
3c. Grow a vegetable garden	6	3	0	0	4	3 2-NR	0	0	0	0	0	0	0	0	0	0	0	0
3d. Add foods, like meat and egg, every other day	6	3	2	3	2	0	0	1	0	0	0	0	0	0	0	0	0	0
3e. Talk to your husband and/or mother-in-law about the other recommendations you have agreed to try and ask for their support	6	3	4	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0

**Problem 4: Women Don't Like the Side Effects of Iron Tablets**

Recommendations	TIPS - II								TIPS - III									
	Total No. of women to whom these recommendation were given		Women's reactions against these recommendations				# Women who agreed to try		# Women who actually tried		Reaction of women after trying these recommendations				Women who initially agreed but did not follow the recommendation		Women who agreed to continue	
			Positive		Negative						Positive		Negative					
R=Rural U=Urban	Rural	Urban	R	U	R	U	R	U	R	U	R	U	R	U	R	U	R	U
4a. Take iron pills even though you have side effects	2	0	2	0	0	0	2	0	1	0	1	0	0	0	1	0	1	0
4b. Try a different iron preparation	2	0	2	0	0	0	2	0	1	0	0	0	0	0	1	0	0	0
4c. Discuss the side effects of iron tablets with medical person but don't stop taking them	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

### Problem 5: Women Not Taking Iron Pills Regularly Because They Forgot

Recommendations	TIPS - II								TIPS - III									
	Total No. of women to whom these recommendation were given		Women's reactions against these recommendations				# Women who agreed to try		# Women who actually tried		Reaction of women after trying these recommendations				Women who initially agreed but did not follow the recommendation		Women who agreed to continue	
			Positive		Negative						Positive		Negative					
R=Rural U=Urban	Rural	Urban	R	U	R	U	R	U	R	U	R	U	R	U	R	U	R	U
5a. Take iron pills same time every day (in between meals) during pregnancy and lactation	1	0	1	0	0	0	1	0	1	0	1	0	1	0	0	0	1	0
5b. Have someone remind you each day	1	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0
5c. Put the iron pills in a place that you see daily so that you remember to take them	1	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0

## **B. FINDINGS FROM HOUSEHOLD TRIALS WITH LACTATING WOMEN**

### **Diet Analysis TIPS-I**

46 household trials were carried out with lactating women who had children between the age of 0-5 months. 35 were from rural areas, and 11 were from urban areas. The age of the child of the women interviewed fell into the following categories:

Less than 1 month: 7 (r), 3 (u)

Between 2 and 4 months: 20 (r), 3 (u)

Between 4 and 5 months: 8 (r), 5 (u)

Initial 24-hour recall during TIPS-I showed that 44/46 women were taking less than 2700 calories. 6 urban and 19 rural women were taking less than 1500 calories. Out of these, 4 were taking even less than 1000 calories. 5 urban and 11 rural women were taking between 1500-2000 calories. 0 urban and 3 rural women were taking between 2000-2700 calories. 2 rural women were taking more than 2700 calories.

The number of meals and small amount of food and snacks seem to be the cause of lack of calories. A majority of the women taking two meals belonged to the rural areas (1 u, 12 r). 32/46 women were taking three meals. The women taking two meals were from Punjab (9/9), Balochistan (2/8), and NWFP (10/11). 10/11 urban women were taking three meals.

8 urban and 25 rural women were taking an unsatisfactory amount of food. 10/46 women were taking no snacks. Although 25 women were taking 1 to 4 snacks, 40 women were not taking the right amount of the snacks.

Variety of food was not a major issue, although 3 urban and 10 rural women were taking no vitamin C-rich foods. Also, lactating women were not taking enough liquids or water.

41/44 women were taking no iron supplementation. 4 women who were taking iron were from the rural areas.

All recommendations were shared with 11 urban and 30 rural women. The recommendations women were most willing to try were:

#### **Recommendation 1h. Drink at least a pao of liquid each time you breastfeed:**

19/22 women who followed the recommendation said they would continue. Apart from a low intake of calories, most lactating women were not taking enough liquids. (We asked them to record the amount of liquid women were taking in the 24-hour recall and divided it by the number of times the woman was breastfeeding.)

**Recommendation 1b. Increase the amount of food that you eat** (take 1 more meal or increase the amount of rice by 1 pao, add a serving of vegetable or fruit at each meal, add milk, lassi or yogurt at each meal).

31/46 women gave a positive response to this recommendation. This was a popular recommendation with the women. 24 women agreed to try and 22/24 actually tried. Most of them were able to double the amount of roti they were taking, along with a few adding a roti to their breakfast or as a snack. 6/24 reported increasing the amount of milk they were taking. A few reported increasing the amount of curry they were using.

20/22 women (8 urban and 12 rural) who followed the recommendation said they would continue it. The reaction of the family in most cases was very positive. Most of the women were able to double the amount of roti they were taking at each meal. Many were able to increase the amount of milk and water they were taking. Most of the women reported that they felt active, less tired and were able to produce more milk. The majority of all the women who tried it said that they would share their experiences with others.

**Recommendation 1c. Add two snacks in addition to meals each day.**

15 women agreed to try this and 11 agreed to continue it. Fruit, roti, paratha, lassi, tea and biscuits were the snacks used by women. Positive reactions by women were: that they felt strong, they had more milk, they did not feel weak, and the child slept well and was satisfied.

**Recommendation 1d. Avoid skipping meals and eat three meals a day.**

This problem was identified only in rural women and more in Punjab. The recommendation was given to 12 rural women and 10 women actually tried. Most added a meal. Only one woman did not follow the recommendation and said that she did not like eating in the morning and this was her habit from the beginning.

Women who actually followed the recommendations did increase their calories. Still, there were five women who were taking less than 1500 calories. 19 women were taking calories between 1500-2000. 19 women were taking 2000-2700 calories and three were getting more than 2700. There is still a need for lactating women to increase calories. Some of the positive factors from the past, like giving panjeeri and ways to enrich the milk drink, could be ways to increase more calories. Again, there is a need to carry out some recipe trials to test the acceptance of various snacks. Generally, however, women were taking more food as compared to during pregnancy. This could be due to the fact that the burden of having a big baby is gone.

## Summary of Recommendations Lactating Women

### Problem 1: Woman is not taking enough food and drink

Recommendations	TIPS - II								TIPS - III									
	Total No. of women to whom this recommendation was given		Women's reactions against these recommendations				# Women who agreed to try		# Women who actually tried		Reaction of women after trying these recommendations				Women who initially agreed but did not follow the recommendation		Women who agreed to continue	
			Positive		Negative						Positive		Negative					
U=Urban, R=Rural	U	R	U	R	U	R	U	R	U	R	U	R	U	R	U	R	U	R
1a. Try to take food with your family or children or when you cook.	11	30	11	14	0	12	4	4	3	4	3	3	0	1	1	0	1	2
1b. Increase the amount of food that you eat (1 more meal or increase the amount of rice (1 pao), add a serving of vegetable or fruit at each meal, add milk, lassi or yogurt at each meal)	11	30	8	25	3	1	8	16	7	15	7	17	0	0	1	1	8	12
1c. Add two snacks in addition to meals each day.	11	30	10	20	1	10	6	9	6	9	6	8	0	0	0	1	5	6
1d. Avoid Skipping Meals and Eat three meals a day.	11	30	9	24	2	1	0	12	6	10	5	11	0	1	0	2	1	7
1e. Increase the frequency of eating and eat whenever you feels hungry	11	30	7	13	1	6	3	0	0	0	0	0	0	0	0	0	0	0
1f. Eat every other day a food you don't eat often, like egg or meat.	11	30	7	16	2	1	1	3	1	3	0	2	0	0	0	0	0	0
1g. Increase the Amount of Ghee, Butter or oil in diet (take 1 or 2 tablespoons)	11	30	4	14	5	3	1	9	1	6	0	4	0	1	0	3	0	5
1h. Drink at least a pao of liquid each time you breastfeed:	11	28	11	2	0	20	8	18	8	15	2	2	0	2	0	2	7	15
1i. Take at least one extra hour rest each day, if you can't add any additional foods	11	30	5	16	4	2	0	4	0	3	0	3	0	0	0	1	0	3

**Problem 2: Women Not Eating Enough Variety of Food**

Recommendations	TIPS - II						TIPS - III											
	Total No. of women to whom this recommendation was given		Women's reactions against these recommendations				# Women who agreed to try	# Women who actually tried	Reaction of women after trying these recommendations				Women who initially agreed but did not follow the recommendation	Women who agreed to continue				
			Positive		Negative				Positive		Negative							
U=Urban, R=Rural	U	R	U	R	U	R	U	R	U	R	U	R	U	R				
2a. Add a small amount of fruits and vegetables to each meal every day	7	20	7	18	0	1	6	12	6	10	6	9	2	0	0	3	0	6
2b. Include a fruit with your snack daily	7	20	4	12	1	2	4	6	2	6	2	6	0	1	0	0	2	0
2c. Grow a vegetable garden	7	20	3	2	2	8	0	2	0	1	0	1	0	0	0	0	0	0
2d. Add foods, like meat and egg, every other day	7	20	6	11	0	1	1	9	1	8	1	6	1	2	0	1		3

**Problem 3: Women not taking Iron Tablets**

Recommendations	TIPS - II								TIPS - III									
	Total No. of women to whom this recommendation was given		Women's reactions against these recommendations				# Women who agreed to try		# Women who actually tried		Reaction of women after trying these recommendations				Women who initially agreed but did not follow the recommendation		Women who agreed to continue	
			Positive		Negative						Positive		Negative					
U=Urban, R=Rural	U	R	U	R	U	R	U	R	U	R	U	R	U	R	U	R	U	R
3a. Visit your LHW to get Iron tablets	6	19	6	5	0	10	5	3	2	2	0	2	0	0	0	1	0	1
3b. Go to Health Center personally or send your husband to get iron tablets	4	19	4	7	0	8	2	5	0	3	0	3	0	0	2	2	0	2
3c. Buy a large supply of iron pills from Pharmacy, especially if you live a long distance from the health center	4	19	3	11	1	0	2	6	0	6	0	6	0	0	1	10	0	4
3d. Eat meals at least every other day which you do not eat regularly (meat)	4	11	2	8	2	5	1	6	1	4	1	4	0	1	0	2	0	4

## V. SUGGESTIONS FOR PROGRAM STRATEGY

It has come out clearly in the research that LHWs, LHVs, and dais don't have knowledge about the correct dosage of iron tablets. They are recommending three and sometimes four times a day.

Secondly, health care providers are not counseling women regarding expected side effects and how to minimize them. Health care providers do not appear to have knowledge about possible side effects and how to minimize the side effects.

It is critical that IEC material for health care providers should be developed on how to manage anemia. These could be along the same lines as the charts developed for diarrhea and ARI management.

Given that anemia is a huge problem among women of reproductive age and there exists a large knowledge gap among health workers and lay people, it is important to integrate the information on how to manage anemia in training curriculum for LHVs, LHWs, and dais, as well integrate this information in the program of NGOs focused on Maternal and Child Health (MCH).

Overall, women, families and health care providers have not mentioned that pregnant and lactating women need extra rest compared to other woman. Given that women have a low calorie intake, it is important to promote the idea that women need more rest during lactation and pregnancy.

It is clear from the findings that LHWs have correct knowledge about initiation of breastfeeding, colostrum and ghutti. The linkage between the dai and LHWs through support groups could prove useful to changing some of the attitudes and practices of dais.

## **VI. SUGGESTIONS FOR A COMMUNICATIONS STRATEGY**

### **A. PREGNANT WOMEN**

**Ideal Practice:** **Pregnant woman increases her food intake during pregnancy and consumes 2500 calories per day. She should eat 3 meals and 3 snacks a day and include a variety of foods in her diet.**

**Key constraints:**

- Women don't know they need to eat more during pregnancy.
- Women don't recognize that their weakness is related to poor diet.
- Health care providers do not see women early in their pregnancy, don't talk about increasing food intake, and don't have visual tools to describe how much they need to eat.
- Many women, if they eat snacks, eat snacks that are low in calories.

**How to overcome:**

Position eating more food and a greater variety of foods as the best way to have a healthy, energetic mother and a healthy child. Eating well also saves money on doctor bills. It is the entire family's job to ensure that the pregnant woman eats well.

Eating more will help improve a pregnant woman's appetite and she will be able to eat even more.

Families have to be provided with clear pictorial guidelines about how much and how often to eat during pregnancy.

All health care providers should discuss a pregnant woman's food intake with her and give the same guidelines each time they meet.

Women should be encouraged to eat "special pregnancy foods" whenever possible, in addition to more of all the usual foods. Eggs, daal, meat, vegetables and fruits and special dishes and snacks (to be determined) could be included under this umbrella.

Weight gain is a strongly-held concern of pregnant women. Two possible approaches are trying to explain why weight gain is good and why their concerns about a big baby are not real problems. Alternatively, the focus could be on an improved diet, including eating more, without the discussion of weight gain. This may be the better approach as women in the trials willingly ate more, felt better, and agreed to continue the practice.

### **Key Phrases:**

An extra roti at each meal makes pregnant women energetic and keeps weakness and the doctor away.

**Ideal Practice:**        **Pregnant woman sees a health care provider at least 3 times during her pregnancy and gets 2 tetanus injections, iron folate tablets, nutrition information and plans for a safe delivery.**

### **Key Constraints:**

- Women only see a health care provider if they have problems during pregnancy.
- All pregnant women and their families think it is normal to be weak and tired during pregnancy.
- Women and their families don't realize they need tetanus injections and iron folate, and consider prenatal care to mean eating good foods (not more), avoiding lifting heavy things, and seeing a doctor if sick.

### **How to overcome:**

Women and their families need to hear from all health providers that prenatal care means preventing illness for the mother and child. Just as all expectant women eat special foods, they need iron tablets, tetanus injections, and at least 3 visits to a health care provider.

Promote the idea that women can feel good and have energy during pregnancy if they follow the prenatal plan above.

Positioning visits to the local dai, LHV, or doctor during pregnancy and not only when sick as a way to prevent trips to the hospital during delivery.

**Ideal Practice:**        **Pregnant women and their families know the danger signs of pregnancy and delivery. The pregnant woman has a trained person to assist with delivery and she advocates that the person carry out a clean delivery. The family seeks medical attention as soon as a danger sign arises.**

### **Key Constraints:**

- Most pregnant women, their families, and some dais don't understand what the parameters of a normal delivery are, nor do they understand the seriousness of symptoms that most pregnant women experience.
- Many families wait to see if the symptoms disappear or try home remedies, rather than seeking medical attention immediately when problems arise.

**How to overcome:**

Pregnant women and their MILs need to interview dais and ensure that they select those that received training. They should discuss issues about sanitation. Since women and families know there can be many problems, they should try to find someone who had good training and who actively avoids problems. Families might need a visual checklist of things that they need for a safe delivery.

MILs should be positioned as the experienced ones who ensure that if danger signs appear the woman is immediately referred to a doctor. MILs also have control over their sons.

**Ideal Practice:**        **Women take 2 iron tablets from the fourth month of their pregnancy, with water or a citrus drink and not with meals. Women continue to take iron tablets throughout their lactation.**

**Key constraints:**

- Many women don't like taking medicines during pregnancy. Almost all health care providers prescribe the incorrect amounts of iron tablets and without any or correct guidelines as when it should be taken.
- Iron tablets are considered treatment for anemia, not a preventative measure.
- Tablets are usually dispensed in small amounts, requiring frequent trips for additional tablets and a clear understanding that tablets are required even if the symptoms disappear.

**Motivators:**

Taking iron tablets will help you feel better almost immediately; they get rid of weakness, dizziness, and breathlessness. Iron tablets must be taken by all pregnant and lactating women. Iron is not medicine but a nutrient that is hard to get enough of from food.

You can get tablets free or inexpensively in the bazaar.

**Key Phrases:**

I used to feel weak, but after taking these capsules I feel better and can go about my daily routine.

## **B. LACTATING WOMEN**

**Ideal practice:** **Women initiate breastfeeding right after birth, feed the traditional ghutti not more than one time and give only breast milk until the fifth month.**

### **Key Constraints:**

- Many women and families believe that the milk is stale or doesn't come in until the baby is born, so they delay breastfeeding for 3 or 4 days.
- Prelacteal feeds are universal and have many positive characteristics associated with them.
- Almost all women and families, as well as many health care providers, believe that additional water is essential, especially in the summer.

### **Motivators:**

Promoting immediate breastfeeding as helping the woman to stop bleeding and bringing in the milk supply avoids the issue of old milk. MILs and fathers are willing to have women breastfeed early. Dais support early feeding, and while they are at the delivery they should start the woman breastfeeding right away.

Women believe that babies need water, but instead of giving water to the baby, women should be encouraged to drink the water themselves. The water goes into the breast milk and the baby gets all the water it needs. The more water they drink, the more breast milk they will produce.

Since more women and MILS believe that other milks cause diarrhea, water should be positioned as causing diarrhea just like other milks..

### **Key Phrases:**

The newborn is hungry and needs milk right after birth.

The first milk is God's ghutti.

**Ideal practice:** **Woman increases her diet during lactation so that she is eating at least 3 meals and 3 snacks a day that contain a total of 2700 calories. She also increases her fluid intake.**

### **Key constraints:**

- Women don't know that they need to eat more when lactating than during pregnancy.
- Women don't recognize that their weakness is related to poor diet.

### **Motivators:**

Lactating women won't be tired if they drink more liquids and eat more food.

Lactating women should drink lots of water as it increases milk supply, and is free and readily available.

Buying extra food for the woman increases her milk supply and is cheaper than buying special milk for the baby.

## **VII. FINAL RECOMMENDATIONS**

Many of the problems identified for pregnant and lactating women resulted from their lack of understanding about the problem. Once empowered with information, the women found many of the suggested behavior changes acceptable and easy to implement. They had the support of their families who were concerned about both the woman's and the child's health. They were all low-income families, but almost all recommendations seemed to be within the means of the families. While medical providers tended to know more about the ideal behaviors, they often were not effective educators or promoted action without clear understanding from the families.

The following are the most important recommendations to emerge from the trials on pregnant women:

### **1. All pregnant women need to increase their food intake.**

This includes increasing the amount of food, the variety of foods and the frequency of meals and snacks. (The overall caloric value of the foods also needs to be increased by eating more calorically-dense foods, but this concept has yet to be tested.)

Women need to eat three meals and have at least three snacks every day.

### **2. Pregnant women need to take iron tablets.**

Multiple sources of iron tablets should be recommended as many prefer the convenience of buying them in the bazaar with a prescription, and others can find government workers or facilities where they can get them free.

Iron tablets relieve the weakness of pregnancy and must be taken from the 4<sup>th</sup> month through lactation.

Women need to understand that tablets are preventive and need to be taken even when they don't have symptoms of anemia or when symptoms disappear.

Medical providers/pharmacists must provide correct information about how many tablets to take, when to take tablets, and how to increase absorption.

Pregnant women and their families need to know which foods are the best sources of iron so they can include them in their diet.

If women experience side effects, they need to know how to limit them.

### **3. Lactating women need to increase their food intake.**

This includes increasing the amount of food, the variety of foods, and the frequency of meals and snacks. (The overall caloric value of the foods also needs to be increased by eating more calorically-dense foods, but this concept has yet to be tested.)

Women need to eat three meals and have at least three snacks each day.

Women should have an additional roti with each meal.

Women should add some vegetables and fruits to each meal.

Women should eat foods like meat every other day.

### **4. Lactating women need to increase their fluid intake.**

Drink a glass of water before each breastfeed.

Drink more liquids, milk, juice, water, and lassi to help produce more milk.

### **5. Lactating women need iron tablets throughout lactation.**

Multiple sources of iron tablets should be recommended, as many prefer the convenience of buying them in the bazaar with a prescription and others can find government workers or facilities where they can get them free.

Iron tablets help relieve the weakness many women feel during lactation and help build the blood supply. The tablets should be taken even if the symptoms disappear.

Eat a small amount of meat every other day as it will help build healthy blood.

#### **Other factors that should be considered:**

1. Families are concerned for the well-being of the woman but are often ill-informed about their needs, the dangers involved in pregnancy and childbirth, and cures for any of the problems that might arise. Once information is provided, families tend to support actions that are required.

2. Families rely on health providers for guidance when ill and follow their advice. However, health providers rarely take a preventative approach and don't clearly explain problems, treatment or desired behaviors in a manner that is understandable to families. Additional training

and resources for all levels of health workers seems imperative.

3. Families appear to have resources to buy more expensive food items periodically, purchase medicines, and pay for medical treatment in emergencies or when ill. However, some of these expenses could be redirected by following preventive advice and encouraging families to first eat more of their traditional foods like roti, milk, yogurt and vegetables and then add some higher cost foods periodically in small amounts.