CHAPTER-I
INTRODUCTION

Women's health and development are the indicators of national health and development. Similarly, mother's health is the bulwark of her family, the foundation of community and social progress. Pregnancy and child birth are the major causes of maternal mortality and morbidity. No one knows exactly how many women die in pregnancy and child birth. According to World Health Organization estimates, their number is 5,00,000 per year in the world (WHOa, 1992, p. 12).

The most striking fact about maternal health in the world today is the extraordinary difference in maternal death rate between developed and developing countries. In developed countries, the maternal death events are rare. The risk of maternal death is often 100 times higher in the least developed countries compared to the developed world (Canable, 1987, p.156). In Africa, for example, one in 21 women face the life time risk of dying from pregnancy related causes. The comparable figures in Asia and South America are one out of 543 and one in 73 respectively, as compared to almost one in 9,850 in North Europe (Malhotra, 1994, p. 193). The average life time risk for a woman, of dying due to pregnancy related causes, is between 1:4000 to 1:10000 in developed countries whereas it is between 1:15 to 1:50 in developing countries. It is 200 times higher in those who belong to neglected groups with the least power and influence over the national resources (Mahler, 1988, p. 199).

In many rural areas, there may be no health services at all, or lack of roads and difficulties of transportation, may make the matter still worse. A high proportion of maternal deaths in these areas occur at home, without trained assistance during delivery or when the women are actually on the way to a hospital (WHOb, 1991, p. 2).
Most of the women in the developing world receive insufficient or no prenatal care and deliver without help from poorly trained health care providers (Tinker and Koblinsky, 1993, p. 6). Child birth in poorer countries is now the leading cause of death in women of reproductive age. Among women within 15 to 49 years of age in developing countries 25 percent of mortality are maternal (Viegas, et al., 1992, p. 59).

The proximate determinants of maternal morbidity and mortality include, the development of complications related to pregnancy, delivery and post-natal period (Tinker and Koblinsky, 1993, p. 10). So, for safe delivery, it is essential that the pregnant woman is screened to identify any risk factors.

'Risk' implies that the probability of adverse consequences increase by the presence of one or more characteristics or factors. Thus, risk is a measure of statistical chance, the probability of a future occurrence usually undesired (Backett, et al., 1984, p.8). Definition proposed by a WHO symposium on identification of high-risk persons or population groups is

"A risk factor is any ascertainable characteristic or circumstance of a person or a group of persons that is known to be associated with an abnormal risk of having, developing or being especially adversely affected by a morbid process".


Risk strategy is often called high risk strategy to emphasize that the incidence rarely involves the whole vulnerable population and to draw attention to the fact that better definition of risk groups is needed to decrease the size of population receiving special attention (WHO, 1978).

According to a report of Government of India, the risk approach involves identification of a mother who may be at a risk of severe morbidity or death during pregnancy or delivery or is likely to give birth to an infant who may be at the risk of serious morbidity or death in early or late neonatal period (1982, p 1-2).
The task force of India (1987) recommended that minimum perinatal care approach for high risk assessment includes, antenatal care following detection of pregnancy, identification of high risk mothers and care for normal and safe delivery and referral of the abnormal cases to the Primary Health Centre, sub divisional hospital or district level hospitals as a part of intranatal care for high risk condition (Govt. of India, 1982, p. 6).

In the world, 45 percent of deliveries happen to be in the home and 50 percent of deliveries by trained or untrained dais (WHO, 1986). Institutional care is recommended for all types of cases, where home conditions are not suitable.

Several studies show that mothers prefer home deliveries when they are supported by friends and relatives. Home delivery is considerably cheaper, particularly where transport costs are high. Transport costs contribute to delays in referral for obstetric emergencies. These are exacerbated by failure of TBAs to recognize many common complications and their inability to stabilize women's condition prior to referral.

When complications of pregnancy and child birth arise at home, delay in securing expert attention is a major cause of maternal deaths. In spite of it, expectant mothers often refuse to attend hospital (Basir, et al., 1991, p. 183).

Coyaji reported that in the developing countries 20-45% of all deaths among women of child bearing age are due to complications of pregnancy and child bearing, while in the U.S.A. this figure is less than one percent (1991, p. 39). In Zambia, 10,000 mothers deliver each year. Two hundred of these mothers die as a result of problems related to child bearing, where only 40% of deliveries are institutional (Malhotra, 1984 p. 193).

Some three quarters of maternal deaths worldwide can be attributed to five immediate causes. They are hemorrhage, infection, pregnancy related hypertension, obstructed labour and complications of unsafe abortions.
India tops the world with 26 million births every year. According to Bhargava, et al. (1990) and Deorari (1991), maternal mortality is alarmingly high (400-600/1,00,000 live births) with majority of deaths due to preventable causes like antepartum haemorrhage, puerperal sepsis, toxaemia, obstructed labour and post partum haemorrhage.

Further, it is suggested (Prakash et al., 1991,) that 80 to 90 percent of all maternal deaths could probably have been avoided with proper handling by certain standards realistic method under the prevailing circumstances in that country.

Over 80 percent of births in rural India and 47% of births in cities take place at home and out of these, one in every three is not attended by a qualified person (George and Jain, Aug. 25th, 1983). A survey report on trained and untrained Traditional Birth Attendants (TBAs) indicate that they had no concept of antenatal care or awareness of recognising risk factors during pregnancy and their first contact with women was during labour (Pratinidhi, et al., 1985, Pp. 115 - 117).

The remaining problems result from pre-existing complications during pregnancy, such as hepatitis, malaria and heart ailment. Lack of access to timely and effective health care is a critical problem for most of the developing countries. They suffer from four sets of inadequacies: the facilities being too far from home, there being too few trained health care providers, too poorly equipped to identify or handle complications and too deficient quality care (Malhotra, 1994, p. 193). In recent years, many developing countries have concentrated on the training of TBAs at the expense of training professional midwives (UNICEF, June, 1991). Involvement and integration of TBAs in the safe motherhood programme is a worldwide effort. Many countries have implemented the programme. Between 1977 to 1986, UNICEF trained 2,50,000 TBAs all over the world. (UNICEF, 1990 - 91 p. 8).
The training of TBAs in India was started in 1937-38 for the first time in Najafgarh which had shown positive contribution by the TBAs in checking the complaints and complications. Dutta et al., reported that a large number of TBAs seemed to be confident enough to handle all types of cases which they face in their respective areas (1983, p.116).

The Government of India initiated the scheme for training of dais during second five year plan as a centrally sponsored scheme of MCH programme. During fourth five year plan period, the training of dais was transferred to the Family Planning Department. In view of the important role that these dais can play in the field of MCH and Family Planning Programme and for attracting a large number of dais for training the scheme was re-organised in 1977. The target was to have at least one trained TBA in each of the 5,80,000 villages in the country (Dutta, et al., 1983, p. 115).

But the review of the progress of the scheme of training in the country indicates that it has not met with desired success due to the conservative outlook and lack of education of the TBA. She finds it difficult to believe that training on new methods would help to improve her practice (Dutta, et al., 1983 p.115).

Critically reviewing this programme, Bentley suggests that the TBA should receive training in appropriate practice situations. It is thought that if TBAs were properly trained and if a general type of worker came into being, then most of the problems could be solved. Consequently, millions of dollars were invested in the training of TBAs. Unfortunately, only very limited success was achieved, in specific areas such as tetanus control and hygienic deliveries. As a result, there has been a great feeling of frustration among policy makers (1991, Pp. 12 - 13).

Further, the observations related to the home deliveries reveal that there is not much difference between the deliveries conducted by trained and untrained
birth attendants. A community study on utilization of maternal services in
Kupwara district of Jammu and Kashmir on 100 sample reveals that 84% were at
home and all of them assisted by TBAs. Only 8% were attended by trained dais

Another study in rural Aligarh on 212 pregnant mothers showed that
overall utilization of intranatal care is poor. Home was still perceived to be the
best place (96.6%) for undergoing deliveries because 89.6% of deliveries were
performed by untrained dais even when there was provision of trained workers
(Bharadwaj, et al., 1990, p. 29-30).

According to Khan et al., in Bangladesh, 95% of all deliveries take place
in rural areas. They are mostly managed by TBAs. They feel that with
appropriate training and motivation, the TBAs could deal high risk cases
persuading them on timely referral to proper clinical facilities (1985, p. 328).

The maternal risk factors during pregnancy are, maternal age (more than
30 years or less than 18 years), parity (>4), height (<140 cms), weight
(<40 kg) birth interval (<2 years), maternal illness, toxaemia, bleeding during
pregnancy, previous history of complicated deliveries, still births and neonatal
deaths. The risk factors which are responsible for mortality, as stated by the
WHO (1978) are, heart disease, rubella in first trimester, breech, post
maturity, multiple pregnancy, prolapse cord, severe anaemia, preeclampsia,
cephalopelvic disproportion, placenta praevia, malaria and retained placenta
etc. Thus, risk assessment must be given topmost priority for reducing maternal
mortality and it should start from community level.

Detection of risk factors requires a knowledge of characteristics associated
with poor outcome and the ability to recognize and measure them (WHO,
1978 p.1). It is expected that TBAs will be able to identify the risks by simple
training.
Statement of the Problem

"A study to assess the knowledge of the Traditional Birth Attendants to identify high risk mothers in their areas of work in the state of Orissa".

Objectives

1. To assess the knowledge of TBAs to identify high risk conditions of -
   (i) Antenatal mothers
   (ii) Intranatal mothers
   (iii) Postnatal mothers

2. To assess the knowledge of the TBAs on their assessment of severity or level of risk related to antenatal, intranatal and postnatal high risk conditions.

Need for the Study

One of the objectives of "Health for All by 2000 AD" states that maternal mortality rate should be less than 2 per 1000 livebirths. Unless necessary steps are initiated to improve the quality of maternal services, it is extremely difficult to achieve the goal. In most of the developing countries the main cause of maternal mortality is reproductive risks. It is estimated that in the developing countries, the chances of mortality among pregnant women is 200 times higher than that of pregnant women of an affluent society (Canable, 1987; Dutta, et al., 1990 a, Dutta, et al., 1990 b, Dhall, 1993). Most of them are from the rural poor belonging to the neglected group with less power and influence in the society (Kaul, 1981). Hence, it is essential to study the related services to find out the causes and to bring out the effective measures of reducing the maternal mortality.

One of the most important objectives of maternal care is to identify the high risk mothers during antenatal, intranatal and postnatal period. Eighty percent of the total population, come under rural areas; therefore, TBA is
the most essential grass-root level worker who is expected to carry out this function. In the developing countries only 20% of the deliveries are conducted by the trained persons (Dutta, et al., 1983). Rest of the deliveries are conducted by TBAs who may or may not have adequate experience or with sufficient experience she is poorly equipped. The risks of death can be prevented or reduced by evaluating the TBAs ability to identify high risk mothers in the community, for timely referral.

Maternal service as a preventive health service operated mainly by the TBAs in the rural and tribal areas where there is scarcity of health personnel for the delivery of maternal health services, and also, the pregnant mothers are not receptive to the Government's MCH programmes. Hence, a great number of births occurring in the rural areas continue to be attended, assisted and managed by either trained or untrained TBAs who are commonly known as 'Dais' (Dutta, et al., 1993). It is estimated that total number of dais trained in India from 1974 to 31.3.91 were 597,761 (Govt. of India, 1991 p. 14). Thus, it is essential that they should have adequate knowledge of providing efficient maternal services and prevention of risk prone deaths during pregnancy, delivery and postnatal period.

In India, women of reproductive age group constitute 22.5% of the total population and are grossly neglected (Raman, 1988, p.143). The mortality and morbidity among this group is higher in comparison to other groups besides the reproductive complications. Most of them are prevented by efficient screening and identifying the risk factors in time and then giving proper referral by the dais, to the grass-root level workers (WHO, 1987, p. 166). As per the report of WHO, (1989), the antenatal care should be concerned with the reduction of risk by identification and referral of high risk mothers to the appropriate level of care. Late referrals and late admissions lead to obstetric emergencies which may have lasting consequences on the mother and the child (Rajaram, 1988).

In the rural and tribal areas, traditional practice is more prevalent due to
poor educational and socio-economic conditions. They refer the TBAs; due to several reasons they are: illiteracy, strong faith in traditional and cultural practices, easy availability, common community practices, less expensive and many other conveniences (Gupta, 1979; Kaul, 1991 and Kwast, 1991). The efficiency of the TBAs to identify risk conditions will result in the prevention of preventable risks and help to reduce mortality and morbidity related to child birth.

In a large country like India, the population is widely scattered in the rural and tribal areas which in turn reduces the feasibility of covering rural population with organized health services. So, the people are compelled to depend on the local human resources for their care. Traditional Birth Attendant (TBA) is one of them who is mostly preferred by the people for the maternal care as it is traditionally believed to be exclusively female affairs. Thus, she is the key person responsible for maternal care during pregnancy, delivery as well as postnatal period. Her efficiency will help to prevent risks allied to reproduction in females. So the researcher felt the abiding importance of assessing their competency with the view to identify their learning needs and training needed for increasing their efficiency to reduce perinatal mortality and morbidity.

Further, India is the first country to commit the slogan of "Health for All" by 2000 AD' and one of the goals is to reduce maternal mortality to less than 2 per 1000 live births. In spite of several MCH programme activities and investment, the progress in the reduction of maternal mortality level has been slow. Within a decade the progress in terms of reduction is only around one per thousand of live births i.e., from 4-5 per 1000 live births during 1971-1981 to 3-5/1000 live births during 1981-1991 (Bhargava, 1991 p. 1403). Thus, this goal is far to reach; unless a broad and strong step is taken to use the feasible resources it will be difficult to achieve the goal within a short period of six years. It is also felt that exploring the knowledge of TBAs would indicate their learning needs and their training programme could be modified and necessary steps could be taken to reach the set goal.
Further, one of the areas of research as stated in the Symposium of Nursing Research Society of India (NRSI) by Krishnan (1980, Pp. 50-58), is the need for research on non-identification of high risk mothers in the early stage and clean deliveries by TBAs.

According to Rao, the epidemiological approach, thinking and acting with reasoning on the basis of 'TRIAD' aspects, it would help the nurses to become more scientific in interpretation of the existing maternal and child health problems. One of the epidemiological approach, as stated by the writer, is the study of mothers with high risk conditions and the factors associated with them (1989, p. 66).

With the establishment of three tier system the importance of traditional birth attendants was necessary and TBA training programme was then initiated in India in the year 1974 where simple training to TBA was given to provide them efficient maternal health services in rural areas. Though the Government spend a lot of money on the training of the traditional birth attendants, it is evident that complications and deaths are still higher among rural mothers due to pregnancy and child birth. A review of the progress of the scheme indicated that it has not met the desired success (Dutta, et al.1983,). Thus, the need was felt to assess the effectiveness of the TBA training programme. The Government of India is also committed to the goals of the "summit for children", for reducing MMR.

The high risk pregnancy not only ends with the maternal wastage which is a tragic and devastating experience for a woman and her family, but also leads to infant mortality. One of the strategies to reduce IMR, aims at imparting appropriate skills and the judgment in recognizing high risk pregnancy at the proper time (Government of India, 1982, Pp. 1-2).

In Orissa, maternal mortality and morbidity is still higher in comparison to other parts of the country. Seventy percent of the deliveries are conducted by the untrained persons (George and Jain, 1993). Most of them in unhygienic
environment especially in rural areas. The researcher is also a resident of this state. Hence, the researcher was interested to carry out the study in the state of Orissa.

Eighty four percent of the population of Orissa belong to rural community. Nearly 58% of them live below poverty line (Government of Orissa, 1991 p. 1). Further, availability of trained health manpower at hand is insufficient due to scattered nature of the population, especially in tribal areas, without transportation (roads and vehicles). Thus, 84% of population depend on the TBAs for maternal health services during pregnancy and child birth. Poor transport facilities cause hindrance to emergency referral which inhibits early arrival to the right referral center. Hence, to meet the slogan "prevention is better than cure" it is of paramount importance to assess TBAs efficiency in the state of Orissa to prevent maternal loss, fetal loss and complications by early assessment and timely referral.

TBAs were trained in all the districts of Orissa to facilitate maternal health services in Orissa from 1974 onwards. At present, there are 35,341 trained TBAs in this state (Government of India, 1991). Thus, the evaluation of the programme in terms of their ability to identify maternal risks is essential to draw the attention to the alarming situation leading to maternal loss and morbid state.

During the field visits, the researcher also observed that the traditional birth attendants who are trained were not utilizing the training knowledge in practice. Thus, pregnant women were not referred on time to avoid complications. Hence, the preventable problems still persist.

It is also observed by the researcher that the evaluation proforma of TBAs training programme does not contain any criteria to evaluate the knowledge of TBA to identify the high risk conditions of the mother during pregnancy, labour and postnatal period, (Govt. of India 1980, Pp. 19-21),
whereas the training kit contains the training of TBAs on high risk approach. (Appendix-8.) Thus, the findings of this study may help in the modification of the evaluation proforma to improve the quality of the training programme.

Few studies are available in the area of recognizing high risk pregnancy by grass root level workers in India, and no such studies are published in the State of Orissa where most of the rural, tribal communities, and urban slum depend on TBAs for pregnancy and child birth. But exact figures for deliveries being conducted in this state are not available. Sample survey in India reveals that 4% of deliveries are concluded in the institution in rural areas (WHO, 1993, p. 84). Around 40,000 TBAs conducting deliveries and only 35,341 TBAs trained for delivery in the State of Orissa (Government of India, 1991, p.14).

Further, traditional practices and taboos implanted in the rural, and in tribal population very poor trained health worker community and population ratio make the situation still difficult to improve the health status of women during reproductive stage. Rural India comprises of 5691 PHCs, 57,638 Subcentres with 3,61,000 trained birth attendants to serve 5,75,000 Indian villages spread over 32 million kilometers which are only accessible by roads. Nearly 85% of the 4,073 hospitals and dispensaries in the States of Orissa, Meghalaya, Tripura, Gujarat, M.P., Bihar, U.P., Rajasthan, Haryana, Punjab and Assam are in the cities. Orissa heads in the states where more than 50% of the child births are never attended by the hospital specially in the context of rural areas (George and Jain, Aug. 23, 1993).

In the State of Orissa, the overwhelming problems of health care system are faced with many barriers such as high prevalence of poverty, traditional practices and taboos which are implanted among the rural and tribal population. Very low tribal community and population ratio with wide variation in the language because of the scattered population such as 118 tribal blocks were within 314 community development blocks (Government of Orissa, 1993, p.10).
Thus, the researcher felt the importance of research on the TBAs conducting deliveries in the state of Orissa to identify the need of training and the training needs of the TBAs to facilitate delivery of efficient MCH programme to achieve the set goal "to reduce the maternal mortality to less than two per thousand by 2000 AD."

Operational Definitions

According to Palit and Hungler, (1978 p. 56) "The operational definition of a concept is the specification of the procedure and tools required to make the needed measurement." For this study the operational definitions used are listed below.

Traditional Birth Attendant: It refers to the person who assists during the child birth irrespective of training or experience (TBAs only utilized for massage and cutting cord were excluded).

Trained TBA: This comprises of the TBA who has acquired her skills by delivering babies herself or through apprenticeship on others and, in addition, received a short course as training. It may vary from less than one week to one month or even more.

Orientation training: This refers to any training programme for TBAs which may be for one day to less than a week.

TBA training: It refers to the training of the TBA for a period of one month with a remuneration of 300 rupees.

High risk: Refers to the physical, medical and obstetric risk and warning signs of pregnancy, labour and early postnatal period.

High risk mother: This refers to the mothers with physical, medical, obstet-

**Early postnatal period:** Refers to the period within one week of delivery.

**Physical risks:** Physical risks refer to low height and low weight, less than 18 years and more than 30 years as maternal age. Low height refers to less than 140 cm or 4'8" and low weight as less than 40 kg is referred to as very thin women.

**Medical risks:** Include medical disorders such as acute or chronic illness i.e., diabetes, tuberculosis, heart diseases, fever, jaundice, diarrhea or dysentery. It includes vomiting during pregnancy, history of fits during previous pregnancy and severe anaemia. Anaemia is referred to as severe paleness with weakness, fatigue and difficulty in breathing.

**Obstetrical risks:** Include past obstetrical history such as previous caesarean section, recurrent abortions or still birth or early neonatal deaths, birth of very small or very large baby and preterm delivery; and present obstetrical data such as primi or grand multipara, over or under distended uterus, abnormal foetal presentation and loss or less fetal movement.

**Warning signs:** It refers to bleeding per vagina, convulsions, premature rupture of membrane and oedema of face, hand and legs with headache and blurring vision.

**Maternal risk conditions during intranatal period:** These include foul smelling discharge from vagina, fever and convulsions, fits during labour, repeated vomiting, excessive bleeding from vagina, labour without progress for more than 12 hours, abnormal fetal part presentation, early rupture of membrane and delayed placenta delivery during labour.
Maternal risk conditions during postnatal period: These include excessive bleeding from vagina foul smelling pus, colour discharge, anaemia, fever with chills, convulsions and swelling of legs with pain and tenderness after delivery. Anaemia is referred to as severe paleness with weakness.

Knowledge on risk conditions: The correct verbal expression of the TBA in response to the knowledge items on identification of risk factors as given in the structured interview schedule. This is referred to as "Risk Score" (KR) in the text.

Knowledge on severity of risk: Refers to the correct verbal expression of the TBA in response to the items on assessment of risk into the three severity levels expressed in terms of low, moderate or high risks, which were scored as '1' for correct identification and '0' if not identified correctly. This is referred to as "Severity Score" (SS) in the text.

Assumptions

* It is assumed that the TBAs will be able to assess high risk mothers during pregnancy, labour and early postnatal period.

* The trained TBAs will be able to identify risks with the severity better than the untrained TBAs.

* The TBAs with more experience will be able to recognize the risks better than less experienced TBAs.

* Assessment of the risk and the accuracy of severity assessment would be better in relation to the period of experience and training.
Delimitations

* The study was limited to the TBAs who were willing to participate. The TBAs who have had hearing problems or cannot come to subcentre due to sickness or distance or old age were excluded from the study.

* The language used in tool was limited to the basic Oriya language although there is variation in the spoken Oriya language in various parts of tribal Orissa. The researcher modified some of the terms used in the tool according to the spoken language of the sample population.

* The trained TBAs who did not conduct deliveries were excluded from the study.

* The TBAs utilized only for massage and cutting cord were excluded.

* For a few interviews, help of the health worker female or other TBA was taken in order to facilitate the interview where the TBA (Sample) was not able to follow the general terms known to the researcher.

Conceptual Frame Work

Polit and Hungler (1989, p. 80) describe "conceptual frame work deals with abstractions (concepts) that are assembled by virtue of their relevance to a common theme".

Conceptualization is a process of forming ideas which utilized and forms conceptual frame work for development of research design, it helps the researcher to know what data needs to be collected and gives direction to an entire research process. The frame work also provides the organizational scheme
into which new findings of the research will fall into broader field of knowledge (Charter, 1975). The findings of the research are reported in relation to the framework either conforming or refuting the structure, thereby adding to the existing knowledge. Thus, it helps in providing a clear and concise statement of knowledge in the area under study (Abdellah, 1965, p. 69). Conceptual framework is designed as "The interrelationships between concepts, described loosely, in order to provide a structure to guide the development of testable hypothesis" (Akinsanya et al., 1994, p. 3).

A conceptual framework developed in the study, is to provide direction and to design the study. This study aims at assessing the level of knowledge of TBAs with regard to risk factors in pregnancy and childbirth and identify the risk status.

The present framework identifies the maternal risk conditions from the study of literature based on recommendation of NNF to be utilised for the TBAs or the community level workers, WHO and Government of India. The areas have been grouped and classified according to the objectives to be achieved. Simple scoring system for maternal risks recommended by NNF has formed the primary guideline for the study. Further, the Task Force, Government of India (on the basis of the recommendation) has developed the guidelines for antenatal, labour and postnatal risks to be identified by the TBAs. These concepts primarily formed the basis for the conceptual framework for the study.
Fig. 1.1
FRAME WORK FOR ASSESSING MATERNAL RISK CONDITIONS RELATED TO
PREGNANCY AND CHILD BIRTH
Knowledge gained by any individual varies with his or her period of exposure or experience to any phenomena. It can also be expected that an individual improves qualitatively if he/she is supplemented with formal training. In this study (Figure 1.1) the concept of the knowledge of the TBAs refers to the knowledge of assessing high risk maternal conditions during antenatal, intranatal and postnatal period. It is also expected that the traditional birth attendants will be able to grade the severity of risk conditions based on their period of exposure to the practice or training or both.

Maternal risk during antenatal period has been conceptualized under this study as physical, medical disorder, obstetric as well as warning signs indicating high risk state of the antenatal mothers. The intranatal high risk conditions has conceptualized as the medical disorders and obstetric conditions leading risks to the mother during labour or intranatal period. Further, postnatal risk conditions of the mothers are conceptualized as haemorrhage, infection and medical disorders (Figure 1.1). The levels of knowledge framed for the study are reflecting the ability to accord priorities to the risks based on their severity state. These areas have been further conceptualized in figure 1.2 through 1.4.

Concept of physical risks of the pregnancy included for the study are under and over age, short statured and underweight maternal conditions; medical disorders include severe vomiting, diarrhoea or dysentery, fever, severe anaemia, chronic illness, jaundice and history of fits; obstetrical data consists of past and present obstetrical risks related to child birth. Past data include history of birth of very small or large baby, preterm delivery and caesarean section. Present obstetric conditions include primi or grand multipara, over or under distended uterus, abnormal fetal presentation and reduced or absence of fetal movement during pregnancy. Warning signs are included within this framework as these conditions need specific attention for immediate action by the birth attendants. The areas are bleeding with or without pain, convulsions, premature rupture of membrane and swelling of hand, face and legs with headache and blurring vision as a marked sign of eclampsia (Figure 1.2).
PHYSICAL CONDITIONS

- Age of mothers < 18 yrs
- Age of mothers > 30 yrs
- Height of mother (<140 cm)
- Weight (< 40 kg) (very thin)

MEDICAL DISORDERS

- Severe vomiting
- Diarrhoea or dysentery
- Fever
- Severe weakness
- Dyspnea with paleness
- Chronic illness
- History of fits during last pregnancy

ANTENATAL MOTHERS AT RISK

OBSTETRIC CONDITIONS

PAST
- Recurrent abortion or still births or early neonatal deaths
- Birth of very small or large baby
- Pre term delivery
- Previous C.S.

PRESENT
- Primipara
- Grand multipara
- Over or under distended uterus
- Fetal presentation other than head
- Loss or reduced fetal movement

WARNINGS SIGNS

- Bleeding with or without pain
- Convulsion
- Premature rupture of membrane
- Edema of hand, legs, face with headache and blurring vision

FIGURE -1.2
CONCEPTUALIZATION OF ANTENATAL MOTHERS AT RISK
### Conceptualization of Intranatal Mothers at Risk

<table>
<thead>
<tr>
<th>High Risk Medical Disorders</th>
<th>Obstetric Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foul smelling vaginal discharge</td>
<td>Excessive bleeding from vagina</td>
</tr>
<tr>
<td>Fever and convulsions</td>
<td>Labour with no progress</td>
</tr>
<tr>
<td>Fits during labour</td>
<td>Premature labour</td>
</tr>
<tr>
<td>Repeated vomiting</td>
<td>Abnormal foetal presentation</td>
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<td></td>
<td>Early rupture of membrane</td>
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<tr>
<td></td>
<td>Placenta not delivered within half an hour of delivery</td>
</tr>
</tbody>
</table>

**FIGURE - 1.3**

Conceputalization of Intranatal Mothers at Risk
Certain abnormal conditions leading risks to the mother during intranatal period are also essential to identify and accord the priorities to the specific risk. They are conceptualized as medical disorders and obstetric conditions that need timely identification to save the mother from complications. In the present study the high risk maternal conditions like foul smelling vaginal discharge, fever with convulsions, repeated vomiting during labour are considered as medical disorders of the mothers leading to risk, whereas excessive bleeding before delivery, delayed labour, premature labour, rupture of membrane before onset of true labour, fetal presentation other than head, retained placenta are considered as obstetrical risks for the mothers at labour (Figure 1.3).

Similarly, the postnatal risks of mothers are also conceptualized as maternal risk for the study. The factors considered for the study are haemorrhage, infection and medical disorders viz., anaemia, fever and chills, swelling of legs with pain and tenderness (Figure 1.4).

The frame work further assumes that the TBAs with training and experience will be able to quantify the risk scores related to antenatal, intranatal and postnatal risk.
Pallor and breathlessness
Fever and chills
Convulsions
Swelling of legs with pain or tenderness
Foul smelling pus
colour discharge from vagina
Severe vaginal bleeding after delivery

FIGURE 1.4
CONCEPTUALIZATION OF POSTNATAL MOTHERS AT RISK

MEDICAL DISORDERS

INFECTION

HAEMORRHAGE