CHAPTER-V
DISCUSSION

Analysis of the data on the knowledge of 524 TBAs of Orissa is already presented in Chapter IV. The study results have been presented in the light of the study objectives formulated in Chapter I. This chapter deals with discussion, summary, conclusion, implication and recommendations for the future study based on the findings.

1. Profile of the TBAs

The TBAs were almost equally distributed in three districts ie., about one third of the sample were from each district but there was variation in the PHC wise distribution of the TBAs. This might be due to the unequal number of subcentres in the sample PHCs. Koira PHC of Sundargarh had 21 subcentres whereas Sukuruli PHC of Mayurbhanj had 14 subcentres.

It is seen that around 46 percent of TBAs were above 54 years of age. The TBAs practising midwifery for "21 years and above" were about 29 percent. It is also observed that around 25 percent of TBAs were practising for less than 5 years whereas the younger group TBAs were 1.5 percent under 24 years and 7 percent between 25-35 years which supports the fact that TBAs started practising at an older age probably because there was more acceptability when the TBAs were older or because the older TBAs could give more time to their practice. Similar observations were also made by Gupta, (1979) and Pratinidhi, (1993) where more TBAs were above 35 years of age.

Only 7.25 percent of TBAs were literate in rural area whereas rural female literacy rate is 34.7 percent (Government of Orissa, 1993 p. 1). The data support the findings of WHO (1992 p.5) and Altaf, (1992 p. 17), who observed low literacy rate among TBAs. Thus the findings of the study confirms that those TBAs who were practising might have come from a lower socio-economic status.
More than 40 percent of TBAs learnt midwifery from untrained people whereas 41 percent learnt by self trial, by using trial and error method. It supports the findings of Pratinidhi et al., (1993) in Sirur, India where the researcher also found similar observations. Thus, training by untrained people as well as self-trial are dangerous to safe motherhood programme specially related to identification of risk conditions of pregnancy and child birth.

Out of 524 TBAs, around 70 percent TBAs were conducting less than 10 deliveries per year which is similar to the observation of WHO, (1992, p.5) and very few TBAs were conducting more than 20 deliveries per year. Thus, their knowledge on risk conditions is very essential for prevention of maternal mortality related to preventable causes.

The training status revealed that 43 percent of TBAs were untrained which is more or less similar to the observation of the researcher in Sirur (Pratinidhi et al., 1993). He reported that TBAs had not learnt about risk in pregnancy or how to assess the risk status of mothers to refer the cases to the subcentre, PHC or head quarters, in time.

2. Item-wise Analysis of KR and SS scores obtained by the TBAs

Item-wise analysis of 46 risk and 44 severity items revealed that among the risk items, only around 21 percent of TBAs responded correctly to the item "meaning of high risk pregnancy" whereas "importance of antenatal screening" was answered correctly by 63.7 percent of TBAs. Thus, it seems that though the TBAs had the knowledge of importance of antenatal screening they were not able to correlate it with "the meaning of high risk pregnancy" or had no concept or awareness of recognizing high risk factors which might be due to different age old ideas (Dutta, et al. 1983 p. 115 and Prathinidhi, et.al., 1983 p. 115). Further, out of 44 risk (KR) items (which have equal number of corresponding severity items) only nine were correctly answered by 50 percent but less than 60 percent of TBAs. Among these nine items, five items related to
antenatal area were anaemia, chronic illness, jaundice, history of caesarean section and oedema of face and limbs; four items related to postnatal area were anaemia, fits, fever and convulsions and swelling of feet. None of the intranatal item could be answered correctly by 50 percent or more TBAs. Haemorrhage and infection being major killers of postnatal mothers (Khan, et al., 1985; Oja, 1988; NIMFIT, 1992; Tinker and Koblinsky, 1993) these could only be responded correctly by 37 and 47 percent of TBAs respectively (Table 4.37). None of the severity items (44) was answered correctly by 50 percent or more TBAs. All except three severity items were answered by less than 25 percent of the TBAs. Pratinidhi et. al., also had similar findings where identification of normal presentation and multiple pregnancy and prolonged labour was difficult for the grass root level worker. (1990, Pp.75-81).

Thus, the findings reveal that out of 90 items (KR and SS) only 10 items of KR were responded correctly by 50 to 63 percent of TBAs. This indicated a below average knowledge in most of the areas of risk among the TBAs understudy. Among the two areas of knowledge (risk and severity) alarmingly poor knowledge was observed in the area of severity of risk conditions. Even five main causes of mortality i.e., haemorrhage, anaemia, toxemia, abortions, puerperal sepsis and malposition of the child as stated by Bhargava (1987, p.1) were not answered correctly by 50 percent of TBAs showing a greater concern for TBAs performance.

3. Knowledge on risk (KR) and severity of risk status (SS) of mother during pregnancy and childbirth.

The mean and SD values of risk (KR) and severity (SS) knowledge scores are 17.06±11.95 and 6.41±5.68; and these are around 37 percent and 15 percent of maximum possible scores, respectively. Further, the SD values of risk and severity scores show variation in the score values.

The graphical presentation of cumulative percentage distribution of the scores shows that the SS values are constantly less than KR values on the entire
range of the graph and that the difference is narrower in the lower end than the middle and upper range of score distribution. Thus, the knowledge of TBAs on both KR and SS were poor but SS value was indicating very poor knowledge when compared to KR score.

Only in the knowledge of risk areas, "importance of antenatal screening (maximum = 1) and "warning signs" (maximum = 4) 25 percent of scores reached the maximum level, or it can be said that 25 percent of the TBAs could answer correctly the above areas. In all other areas 75 percent of scores of KR and SS lie below the respective maximum scores. Thus, it is inferred that the TBAs under study had very poor knowledge in the total test as well as in each of the subareas and items specially indicating severe deficiency in identifying severity of risk status. In the absence of any statistical data on maternal mortality and causes of maternal mortality for the state of Orissa the investigator is unable to link the findings as a possible cause of maternal mortality. However, it can be rationalized that when the knowledge was so deficient the practice would still be poorer and thus it is assumed that TBAs lack of knowledge is responsible for poor health of mothers, maternal illness and death that are preventable.

Among three districts, highest KR mean score (19.56) is seen among the TBAs of Ganjam district whereas mean value of KR was lowest (15.28) in the Mayurbhanj district. Similarly highest SS mean score (7.20) was found to be in Ganjam district and lowest (5.68) in Mayurbhanj district. However, the chisquare values computed to find out the relationship of district wise distribution of TBAs with their KR and SS values, revealed that there was no significant relationship between districts and KR scores whereas association was found between the SS scores and different districts (Table 4.38). Therefore, it can be concluded that the knowledge of severity was associated with the TBAs coming from different districts.

Out of six PHCs of three sample districts, highest (21.91) and lowest (11.19) KR mean values were found to be in the PHC Subdega (5) and Koira (6)
which belonged to Sundargarh district, whereas highest mean value of SS (8.02) was found in the Subdega PHC but lowest (4.36) in the Sukuruli (4) PHC which belonged to Mayurbhanj district. Findings also revealed that there was difference of mean score between the PHCs in Mayurbhanj as well as Sundargarh; whereas in Ganjam district there was apparently similar SS mean scores in both PHCs i.e., Kukudakhandi(1) and Municipentha(2) PHC (SS=7.00 and 7.38, respectively). Further, chi-square was computed to find out the association of KR and SS with different PHCs. Both chi-square values of KR and SS suggest significant relationship (P < .05) with regard to PHCs. Thus the differences in distribution of TBAs in three quartiles of KR and SS scores in different PHCs were true differences. The difference observed may be due to several reasons, such as the distance of the PHC from the district head quarter, the involvement of the health team, supervision and interaction with the TBAs or retraining programme as observed in the district of Ganjam shown in Table 4.3.

Thirty seven literates who can read and write (KR=24.45 and SS=8.94) and seven TBAs who can only read had higher mean scores (KR=21.14 and SS=7.14) when compared with illiterates (KR=16.42 and SS=6.20). It shows that literacy is associated with knowledge of KR and SS. The chisquare values indicate that there is significant relationship between literacy level and knowledge on risk scores of the TBAs ($\chi^2(4)=15.473$). However, no significant relationship was observed between the literacy level and severity score ($\chi^2=7.600$). Therefore it can be said that the difference in distribution of TBAs in 3 quartiles of SS scores is not a true difference. However, while drawing the conclusion it is noticed that the illiterate group is around 91 percent of the total samples, and thus requires further study in this area.

The SS mean values were similar in the groups of 11 to 15 years (KR=18.91 and SS=7.39) and 6 to 10 years (KR=18.78 and SS=7.23) of duration of midwifery experience and were higher than the same of other experienced groups. The chi-square values computed show that both KR and SS scores were associated with duration of midwifery experience (Table 4.42 and
The percentage scores of TBAs falling in 1st quartile were less in 6 to 10 (12.6\%) and 11 to 15 (17.7\%) years than other groups whereas in 2nd and 3rd quartile distribution of percentage of TBAs was more as well among 11 to 15 years (86.07\%) and 6 to 10 years (83.79\%) respectively. Thus, it seems that the TBAs of 6 to 15 years of duration of midwifery experience had higher knowledge both on assessment of risk and severity status. Therefore, it can be concluded that less years of experience have less knowledge on KR and SS. However, 28 and 29.4 percent of TBAs with 16 to 20 years and more than 20 years exposure respectively, have their scores in 1st quartile. Similar observation was made with regard to SS indicating low KR and SS. Therefore it is possible that the TBAs with several years of experience do not believe that there is anything like risk in pregnancy, that they are over confident as Poerwanto et al. (1994, p.16) of Indonesia reported that the TBAs were reluctant to refer mothers as they fear that their competency may be in doubt and they may lose their practice if they refer the mothers with risk.

TBAs who had learnt midwifery from untrained sources (ignoring four TBAs who learnt from "friend") The KR and SS mean are lower (KR=1695 To 18.73 and SS=5.88 to 6.80) when compared to trained sources i.e., Health worker female (KR=19.01 and SS=7.16) and other health personnel (KR=21.81 and SS=7.48). Further, the TBAs who learnt midwifery by "self trial" by using trial and error method also obtained lowest of mean scores (KR=16.94 and SS=6.01) lower than the trained sources. However, the chi-square values computed (Table 4.37) between various sources of knowledge and the risk and severity scores, no significance association was found. Thus it can be said that there is no relationship of the sources of midwifery knowledge with level of knowledge of the TBAs to identify high risk mothers.

With regard to mean scores obtained by the TBAs in relation to the number of deliveries conducted per year, highest mean value was observed among the TBAs conducting more than 30 deliveries (KR=21.53 and SS=8.07). Thus it can be suggested that TBAs conducting more deliveries had higher knowledge on risk
and severity of risk of pregnancy and child birth. However, the chi-square values indicate that there was no significant association of KR ($\chi^2(12)=17.801$) and SS ($\chi^2(12)=14.014$) scores of the TBAs when compared with the number of deliveries. Therefore, the difference observed in the distribution of scores in 3 quartiles was not a true difference and could be due to chance. Hence, the level of knowledge of the TBAs is independent of the number of deliveries conducted per year.

Both KR and SS mean values were higher (KR=19.25 and SS=7.20) among the trained than untrained (KR=14.17 and SS=5.38) TBAs which suggests that training is related to the level of knowledge of the TBAs on risk and severity assessment. Further analysis to find out the relationship of training status and level of knowledge in the quartiles $\chi^2$ was computed. The $\chi^2$ values indicate that there is significant relationship between the training of TBAs and their KR and SS knowledge. The percentage of untrained TBAs in 1st quartile were 34.51 percent and 33.19 percent in the area of KR and SS, respectively whereas the trained TBAs were 21.48 percent (KR) and 19.8 percent (SS) in the same quartile; similarly, in 3rd quartile both KR & SS seem to be higher among trained (KR=29.87% and SS=29.53%) in comparison to untrained (KR=14.60% and SS=18.14%). Hence, it can be concluded that there was association between the training and knowledge of TBAs on risk in pregnancy indicating importance of training TBAs for identifying risk and assessing their severity in pregnancy. The low mean score of untrained TBAs may be because they did not have any concept of antenatal high risk conditions and their first contact with the women was during labour as reported by Pratinidhi and others (1983, p. 115). However, the mean values among the trained TBAs were below 50 percent of maximum score. It may be associated with their poor memory as reported by researcher (Family Health International, 1988).

Further, 298 trained TBAs knowledge on risk and severity scores were computed to find out their means in relation to duration and type of training, training in relation to midwifery practice and year of last training received.
Findings reveal that the TBAs who had received both TBA training and orientation training which exceeded the period of one month obtained highest mean (KR=21.54 and SS=7.72) whereas the KR score was lowest (m = 18.21) among the TBAs with TBA training which is for one month period and SS was lowest (m=7.03) among the TBAs who had undergone only orientation training which was only for a period of less than one week. Thus, it seems that the TBAs with both training had better knowledge on risk and severity of risk. However, $\chi^2$ values obtained both for KR and SS suggest no significant relationship of KR and SS scores with regard to their type or period of exposure to training. It may be associated with poor follow up supervision and support from the health services as stated by WHO, (1992 p. 9) and Altaf, (1993, p. 41) had also reported that lack of followup or refresher training was found to have adverse impact in performance of TBAs.

The mean score value of KR when compared to the TBAs training in relation to midwifery practice reveals that the TBAs who received training both before and after scored highest (23.7) whereas the SS mean score value was highest among the TBAs who had taken training before practice (8.02). Thus, TBAs who received training after practice scored less mean values for both KR (18.59) and SS (6.99). Further, $\chi^2$ values reveal that there was significant association between the KR score and training in relation to midwifery practice ($\chi^2(4)= 9.458$). However, no significant relationship was observed between the training in relation to midwifery practice and SS($\chi^2(4)=2.540$). Therefore, it can be said that the knowledge of the TBAs was found to be associated with the period of midwifery training in relation to their practice and that those who had training both before and after the practice showed highest knowledge on risk assessment than the groups who had training before or after practice. Hence, it can be said that training taken by TBAs both before and after might have increased the knowledge of identifying risk whereas training after practice has not done so. It may be because the TBAs who had already learnt the wrong concepts on the risk conditions might not accept the usefulness of the training.
The mean KR score of those trained between after 1991 December, was highest (20.33) whereas it was similar for TBAs trained between 1990 January to 1991 December and those who were trained before 1986, results being 19.23 and 19.26 respectively. Further, the TBAs who received training between 1990 January and 1991 December and after 1991 December obtained similar mean scores in SS, i.e., 7.69 and 7.68, respectively. The chi-square values also indicate no relationship between KR and SS scores with regard to year of last training received. Thus, the difference in the scores obtained by the TBAs were not significant though the mean seem to be highest for the TBAs received training recently.

Correlation between total KR and different areas of risk scores (KR) when compared with eight areas of KR scores all \( r \) values were statistically significant and positive as well as high in all except KR4, KR2. Interarea \( r \) values were also significant indicating moderately positive between KR3 and KR5; a KR4 and KR3 to KR2; Kr2 and KR8 to KR3. The \( r \) values were high positive between KR8 and KR7 to KR8 and KR4 and KR8. \( r \) values between KR1 and KR2; KR2 and KR4 and KR1 and KR8 were found to be low positive. This shows significant relationship between three areas of risk factors i.e., antenatal intranatal and postnatal except "meaning of high risk" and "importance of antenatal screening" indicating that though TBAs had knowledge on risk factors in three areas, they could not associate them with the "meaning of high risk pregnancy".

Correlation between total SS and different areas of SS revealed that SS when compared with six areas the \( r \) values were statistically significant. The \( r \) values are high and positive between SS1 and SS6; moderately positive between SS2 and SS3 whereas they low positive with SS1. All interarea \( r \) values with SS2 and SS3 were not significant but significant between SS1 and SS2 and SS1 and SS3. Thus the \( r \) values reveal that there is positive correlation between the areas and subareas of both KR and SS when compared to total and areawise relationship. Further, correlation between KR1 and SS1 is found to be positive and highly significant.

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Individually, with both knowledge on risk and severity assessment with regard to training of the TBAs and also with their duration of midwifery practice, significant results were obtained. However, the association sought between trained and untrained TBAs with experience no significant association was found between trained and experience as well as untrained and experienced TBAs. Thus, the observations indicate that though experience alone and training alone revealed association with KR and SS scores, both training and experience had not made any significant difference in the knowledge scores. In order to examine the association between these two variables further investigation is needed to draw a meaningful conclusion.