CHAPTER VII

SUMMARY AND CONCLUSIONS
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A study was undertaken in Sassoon General Hospitals, Pune to analyse the bio-socio-cultural factors related to teenage pregnancy & to assess the effect of these factors on outcome of teenage pregnancy. Study population consisted of 500 mothers of age less than 20 years & equal number of controls i.e. mothers 20 years or more who delivered during the study period. In addition to this, 42 adolescents had undergone MTP during the same period & they were also included in the study. Incidence of teenage pregnancy in this hospital was found to be 7.1%. The mean age was 17.6 years for the adolescents & 22.1 years for the non-adolescents.

7.1 : SOCIAL FACTORS

Some of the social factors were studied. In educational status, proportion of illiterates & school dropouts were significantly more in the young mothers. Major reasons of drop out were – their own marriage, opposition from parents to continue, poverty, to look after younger siblings, responsibility of working at home etc. According to modified Kuppuswami’s classification for SE status, there were 69% young mothers in the socio-economic group IV & V, indicating more number of adolescent pregnancies in lower socio-economic group. Some of the problems like separated parents, alcoholic father, single parent, discriminatory behavior of the parents were found to be more prevalent in the teenage mothers than the non-adolescent mothers.

7.2 : FAMILY BACKGROUND

Proportion of husbands with poor educational & lower occupational status was significantly more in the young mothers than the non-adolescent mothers. Higher number of young mothers was from joint families with illiterate parents. Proportion of the adolescent mothers having unskilled labourer parents was significantly high.
It was further observed that, family history of early marriage & early pregnancy in either mother or sister was in more number of the adolescent mothers than the non-adolescent mothers.

7.3 : REPRODUCTIVE HISTORY

7.3.1 : Mean age at menarche
Mean age at menarche was 13.4 years for the young mothers & 13.6 years for the non-adolescent mothers.

7.3.2 : Marriage
- In the young mothers 95% were married & remaining were either unmarried or separated.
- Mean age at marriage was 15.7 years for the young mothers & 18.5 years for the non-adolescent mothers.
- 4.6% adolescents married before menarche & in about 22% they married immediately or within a short interval after menarche.
- About 42% young mothers married immediately after school leaving or within less than one year after school leaving.
- Important causes of marriage at an earlier age were related to the discriminatory attitude of the parents towards their daughters. Many of them thought that, this was the correct age of marriage. Other causes were insecurity regarding girls, cultural factors, too many girls in the family, poverty, need to look after younger siblings & to help parents in earning etc.
- Consanguinity & religion were significantly related to mean age at marriage in the adolescent mothers. In consanguineous marriages mean age at marriage was found to be lower than in non-consanguineous marriages.
- In the non-adolescent mothers along with these factors type of family, persons involved in the decision of marriage also had significant effect on mean age at marriage.
- Parents took the decision of the marriage in most of the cases. Young girls were not at all consulted. Similarly either in-laws or the husband were influencing the adolescent mothers for early childbearing immediately after marriage.

7.3.3: Obstetric history
- More than 50% adolescents delivered within one year of marriage, about 35% within 1-2 years indicating that when the marriage took place at an earlier age first pregnancy was also earlier.
- Out of a total of 500 cases, 84.4% were primipara & remaining were either second or third para.
- In second & third para young mothers interpregnancy interval was less than 1 year in 55.1% indicating earlier subsequent pregnancy with a shorter interpregnancy interval.
- Although present pregnancy was unplanned & unwanted in more than 50% of the young mothers, contraceptive use rate was just 2%, indicating a very high unmet need for family planning.
- When the pregnancy was unwanted chances of young mothers availing adequate antenatal care were less.

7.4: ANTENATAL CHECK UP
For the purpose of this study working definition of adequate antenatal care was used as, minimum three antenatal check ups, complete tetanus toxoid immunisation & consumption of IFA tablets or iron in any other form for minimum 100 days.
- Young mothers were less likely to have adequate antenatal check up, as only 22.4% had adequate antenatal care & 57.6% inadequate care whereas 20% did not have any antenatal care at all.
- A significantly higher proportion of mothers from the control group was having adequate antenatal care i.e.66.6%. The young mothers had only 2.8 mean antenatal visits as compared to 7.8 in the non-adolescent mothers.
- On examination of the young mothers it was observed that, mean height was 143.6 cms. & 61.8% were having mean height less than the cut off point of 145 cms. In the control group the same figures were 147.2 cm. & 46.2% respectively.
- Only 7.2% adolescent mothers & 13% non-adolescent mothers were non-anemic reflecting a very high prevalence of anemia in the young mothers. 24.8%, 65.4% & 2.6% were having mild, moderate & severe anemia respectively. In the non-adolescent group not a single mother had severe anemia & 56.6% & 30.4% were having mild & moderate anemia respectively.
- Proportion of at risk mothers (risk other than young age) was 73.8% in the cases & significantly lower i.e.21.8% in the controls. Preterm labor & PIH were the most prevalent risk factors in the young mothers.

7.5 : OBSTETRIC OUTCOME
7.5.1 : Maternal outcome
- A high proportion of about 40% young mothers delivered preterm i.e. before 37 weeks of gestation. Out of these 26.6% delivered before 32 weeks i.e. very preterm. In the controls only 5.8% delivered preterm & none had very preterm delivery.
- Proportion of normal deliveries without episiotomy was lower in the cases than in the controls & percentage of mothers requiring episiotomy was more in the young mothers. 22.6% cases & 33.2% controls had deliveries by LSCS.
- Incidence of postnatal complications was 7.2% in the adolescent mothers whereas there was not a single such mother with complication in the control group.

7.5.2 : Fetal outcome
When the fetal outcome was studied it was observed that, very high proportion had some or the other risk factor. Only 22.2% newborns of the young mothers did not have any risk.
Summary & conclusions

- Proportion of LBW babies was 57% in the adolescent mothers & about 11% were VLBW. In the control group there were 21.5% LBW babies & not a single baby in VLBW category.

- Among the teenage mothers 38.9% babies were premature, 18.2% had IUGR & 11.8% had fetal distress & this proportion was 5.8%, 15.5% & 11.3% respectively in the control group.

- Another important finding was that, 14 newborns of the young mothers had congenital anomalies whereas not a single newborn from control group had such problem. The commonest anomaly observed was anencephaly.

- Perinatal mortality was higher in the newborns of the teenage mothers. Total 58 perinatal deaths occurred in them. There were 7 perinatal deaths in the newborns of the non-adolescent mothers & all these were stillbirths. PNMR was 128.8/1000 & 14.1/1000 livebirths in the cases & the controls respectively.

- Proportion of newborns with a high Apgar score was lower & with a low Apgar score was more in the young mothers than the non-adolescent mothers.

- Apgar score was directly related to gestational weeks in the cases & the controls.

- It was inversely related to early neonatal mortality in both the groups. However when compared in the cases & the controls, early neonatal mortality was more in the newborns of the young mothers than the newborns of the non-adolescent mothers even within the same Apgar score range.

- Normal birth weight, preterm & IUGR infants were matched for Apgar score. Even after matching, newborns of the young mothers were having higher risk of early neonatal mortality than the newborns of the non-adolescent mothers.

7.6 : COMPARISON OF OUTCOME IN DIFFERENT AGE GROUPS OF THE ADOLESCENTS

Outcome of delivery was also compared within different age groups of the adolescents i.e. 15 years or less, 16-17 years & 18-19 years.
Summary & conclusions

- Mean values for height, antenatal visits & Hb were lowest in youngest age group i.e. 15 years or less. All these indicators improved gradually as age of the mother advanced to 19 years & more. The values were highest in the control group.
- Incidence of CPD & anemia was highest in mothers 15 years or less & showed a significant declining trend with increasing age.
- Proportion of mothers delivering by LSCS was higher in the older mothers showing significant increasing trend with increasing age of the mother.
- MBW was lowest in the newborns of the mothers 15 years or less & it increased gradually with increasing maternal age.
- Proportion of VLBW babies, newborns with fetal anomalies & PNMR showed significant declining trend with increasing maternal age.

7.7 : EFFECT OF ADEQUACY OF ANTENATAL CARE ON OUTCOME
- Adequate antenatal care helped to reduce the proportion of preterm births, LBW babies & perinatal deaths, improving the outcome in the young mothers.
- It improved the MBW in the newborns of the young mothers, though the MBW was not equal to MBW of the control group indicating that the risk of adverse outcome of pregnancy due to younger age can be reduced with adequate antenatal care but it can not be eliminated completely.

7.8 : EFFECT OF PARITY ON OUTCOME IN THE YOUNG MOTHERS
- Outcome of primi & second para adolescent mothers was compared & it was seen that, acute toxemia was significantly more in the adolescent primipara mothers than second para.
- Proportion of LBW, CPD, LSCS & PPH was more in primiparous young mothers but not at the level of significance.
- However APH, malpresentations, fetal anomalies & prematurity were found to be more in second para than primipara adolescent mothers.
- Stillbirth rate & PNMR were more in primipara than second para. Thus the risk of some of the factors seemed to be lower in second para young mothers, however it was not eliminated completely. Similarly outcome was not as good as outcome in the non-adolescent mothers, indicating persistence of risk for subsequent birth in the young mothers. Thus even for second birth, young mothers have to be considered as 'at risk mothers' & need to be paid more attention.

7.9 : GYNECOLOGIC AGE
Inverse relationship was found between gynecologic age & proportion of LBW babies. It was observed that, whatever may be the chronologic age, if gynecologic age was 2 years or less, proportion of LBW babies was more. Thus gynecologic age of 2 years or less can be added as one of the risk factors for identifying at risk adolescent mothers.

7.10 : NUTRITIONAL INTAKE
Nutritional intake in the form of mean caloric & mean protein intake was studied. Mean caloric intake was 1198.8 calories & mean protein intake was 32.6 grams in the young mothers which was far less than their RDA.

7.11 : EFFECT OF SOME SOCIAL FACTORS ON OUTCOME OF PREGNANCY
Effect of SE status, caloric intake, protein intake & adequacy of antenatal care on outcome of pregnancy was analysed.
- With the decreasing SE status from higher to lower, MBW also decreased & proportion of LBW babies increased in both the cases & the controls.
- With increase in caloric & protein intake MBW increased & proportion of LBW babies decreased in both the groups.
Summary & conclusions

- In addition to this, adequate antenatal care helped to reduce the proportion of LBW newborns & to increase MBW in the study population. It was noteworthy that, when the adolescent & the non-adolescent mothers were matched for SE status, nutritional intake & antenatal care, MBW was more & proportion of LBW babies was lower in newborns of the non-adolescent mothers than the adolescent mothers. Therefore it was concluded that, these social factors did have a causal association with adverse outcome in the mothers. However biological immaturity played a dominant role in the untoward outcome of pregnancy over social factors in the teenage mothers.

7.12 : HIGH RISK SCORE
A high-risk score was developed for health workers, to identify at risk mothers early during antenatal period & manage them according to their risk status. It was a 15 point score where '0' score indicated minimum & '15' score indicated maximum risk. As the score increased from '0' to '15' proportion of LBW & VLBW babies increased significantly at score '7' & score '9' respectively. Therefore score '7' was used as a cut off point to identify 'at risk' antenatal mothers who were likely to give birth to LBW babies. Score '9' was used as a cut off point to identify 'at risk' antenatal mothers who were likely to give birth to VLBW babies. Specificity was 76.92% & sensitivity was 59.01% for cut off point of '7' & the same figures were 85.71% & 75.26% respectively for cut off point of '9'.

7.13 : AWARENESS ABOUT VARIOUS ASPECTS RELATED TO MCH
Knowledge of the young mothers regarding some aspects of childbearing, childrearing, immunisation, management of diarrhea, contraceptive methods & about HIV/AIDS was assessed. Young mothers were ignorant about most of these aspects indicating the need for strengthening IEC activities.
7.14: ADOLESCENTS UNDERGOING MTP
There were 42 adolescents undergoing MTP in SGH, Pune during the study period.
- Lowest age was 14 years & mean age was 17.5 years.
- Proportion of illiterates was 38.1%.
- 71.4% were unmarried.
- In family background it was observed that, in about 60% cases, parents were illiterate & 50% had lost one of the parents. Problem of separated parents & alcoholic fathers was highly prevalent in the adolescents undergoing MTP.
- Awareness regarding various health aspects was very poor.
Out of a total of 42 adolescents undergoing MTP, 30 were unmarried. Among these 30 unmarried adolescents, sexual relationship was with the same person. In about 44%, sexual act was performed with willingness of both the partners. Very striking feature in these unmarried adolescents was that, majority of them were ignorant about the fact that sexual act leads to pregnancy. Most of them did not know that, pregnancy can be prevented by use of contraceptives.