Teenage pregnancy

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Introduction

In Sri Lanka the number of teenagers becoming pregnant is steadily increasing. The age specific fertility rate (ASFR) of teenagers between 15-19 years decreased from 52/1000 in 1963 to 38/1000 in 1970. However it has remained virtually unchanged from 1970 to 1993. The ASFR for all the other age groups have shown a steady decline over this period and the total fertility rates have declined from 4.2% in 1970 to 2.3% in 1993. Hence the proportion of teenage pregnancies has steadily increased during this period[1]. Hospital based studies have found teenage pregnancy rates ranging from 4% in Colombo (1951-1985)[2] to 9.8% in Anuradhapura (1993-1995)[3] and 11% in Kuliyapitiya (1998/99)[4].

Epidemiology

In large population based epidemiological studies done in Great Britain, India and Taiwan, fecundability (ie the monthly probability of conception following regular unprotected sexual intercourse) has been shown to decrease from 0.25 in those between 20-24 year to 0.09 in young teenagers below 17 year of age[5].

Developed countries generally have late marriages, small families and an early end to child bearing. On the other hand in less developed (or developing) countries child bearing starts early and continues sometimes even over the age of 40 years. In both these situations however the ASFR for teenagers between 15-19 years is less than half the ASFR for women between 20-24 years[5]. These data indicate that there are natural (biological) factors associated with teenagers, which reduce their chances of becoming pregnant. Going against nature (biological phenomena) generally results in problems. Hence teenagers who become pregnant are bound to carry a higher risk of complications.

Teenage Pregnancies in Sri Lanka

Studies on teenage pregnancies have been carried out in Colombo (1951-1985)[2], Anuradhapura (1993-1995)[3], Chilaw (1996/97)[6], Colombo and Kalutara (1997)[7] and Kuliyapitiya (1998/99)[4]. All these were hospital based studies. Unfortunately in all these studies the outcomes were analysed with all the teenagers grouped together, without subdividing them in to younger teenagers (less than 17 years) and older teenagers.

In four studies, the delivery of low birth weight (LBW) babies of less than 2.5kg was the commonest high risk factor found[2,3,4,6]. However the correlation with the period of gestation was not assessed in three of these studies[2,3,6]. Hence the contribution of intrauterine growth restriction (IUGR) and preterm delivery (PTD) to the LBW babies could not be evaluated properly. The rate of PTD was found to be increased in two studies[2,6], at the upper limit of normal in one study[4] and not elevated in the other study[3].

The fifth study, although it did not show any of the above, found a high rate of long term post partum maternal morbidity including a significant proportion of mental disturbances[7]. The general impression that one gets from reading the results and conclusions of these studies is that teenage pregnancies should not be considered as high risk. All these studies suggest that teenage pregnancies are not as hazardous as thought to be earlier and that they only need adequate prenatal care and social support. This however is not true.

Adverse pregnancy outcome

Population based and hospital based large studies carried out in the United states of America (USA)[8,9], Sweden1[0,11], United Kingdom (UK)[12,13], India[14], Ethiopia[15], Malta[16] and Seychelles[17] have clearly shown that teenage pregnancies as a whole and particularly in those below 17 years of age have an increased risk of adverse pregnancy outcome. Several smaller studies carried out in India recently have also confirmed this[18-23].

It has been shown that when spontaneous abortions rates are plotted against maternal age they form a J-shaped curve which bottoms out at the mid twenties age range. Therefore, although the proportion of teenage pregnancies is less than that of pregnancies in the second decade of life in a given population, teenagers have a higher risk of spontaneous abortions compared to women during the second decade of life [12,16,20].

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LBW which is primarily due to PTD and is also contributed to by IUGR has been found to be the commonest adverse outcome seen in teenage pregnancy[8-11, 14-16]. Very preterm delivery (less than 32 weeks of period of gestation) and very low birth weight (less than 1500g) have been shown to be mainly responsible for the increased neaonatal and postneonatal mortality associated with young teenage pregnancies[8-11, 14-16].

Hypertension in pregnancy has been shown to be commoner in teenage pregnancies[9,13,18,19,21,22]. The characteristic J-shaped curve is obtained when eclampsia and pregnancy induced hypertension rates are plotted against maternal age[13]. However one recent study showed an increase of only non proteinuric hypertension and not preeclampsia in young teenagers. Hence it was suggested that this hypertension could be a result of fright and anxiety. However in this study 60% of the teenagers underwent termination of pregnancy (TOP) and the analysis was carried out only on the balance 40% who continued the pregnancy and delivered a baby[24].

IUGR resulting in the delivery of a small for gestational age baby has been found to be commoner in teenage pregnancies[10,17,18,21]. The instrumental vaginal delivery rate too has been found to be higher in teenagers when compared with older gravidae[11,17,23,24]. This could be due to fright and lack of cooperation in the second stage.

Feto-pelvic disproportion does not appear to be an important problem as thought to be earlier. Infact several recent studies have shown a lower Caesarean delivery rate in teenagers[3,9,24]. This could be due to the increased physical maturity of teenagers today as a result of earlier age of menarche and better overall nutrition. On the other hand it may due to the fact that the higher proportion of LBW babies is counteracting the possible impact of feto-pelvic disproportion.

Maternal morbidity too is increased in teenage pregnancies with anaemia being the most constant antenatal complication reported in most studies [4,17,19,21,24]. Even in the UK a recent study had found 35% of pregnant teenagers to be anaemic compared to only 14% of older pregnant women. Most of them had nutritional anemia, mainly of the iron deficiency type and it was suggested that the cause was probably poor dietary habits rather than under nutrition. Urinary tract infection too was common in the pregnant teenagers in this study[24]. In the study done in Colombo and Kalutara[7] mental disturbances were found in a significant proportion of teenage mothers. Chronic backache, "weakness of abdominal wall" and urinary incontinence were also documented as long term complications in this study. An increased risk of maternal mortality too has been reported from India[20,21].

Poor socio economic and demographic factors may contribute to and increase the risk of these complications. However, large studies carried out recently in Sweden, where pregnant teenagers are from good socio-economic strata and have good prenatal care, have clearly shown the adverse obstetric outcome of pregnancy in young teenagers[10,11]. Recently large studies from the United States of America (USA) too have shown that in communities where adverse socio demographic factors do exist, the risk of poor obstetric outcome still persist even after adjusting for their confounding effects statistically[8,9].

A recent study from the U.K however has shown that, contrary to previous reports, pregnancies are physically well tolerated by young teenagers below 16 years of age. They attribute this change to increased physical maturity resulting from early menarche and better overall nutrition compared to their counterparts two decades ago[24]. However this is the study that found that 60% of the pregnancies in young teenagers were terminated and the study results reflected the outcome of only the 40% that continued up to the delivery of a baby. Hence it is quite possible that those who opted for TOP (either of their own free will or as advised by their parents) were actually the younger, psychologically and physically immature teenagers who would have had an adverse pregnancy outcome had they continued with the pregnancy. Those who were included in study could have been the more mature teenagers who tolerated the pregnancy better. The adverse pregnancy outcomes in general and preterm delivery particular in teenagers is thought to be a direct effect of their young age (especially below 17 years) and biological immaturity[8,9,10,25,26,27].

Risk of cervical cancer later

Exposure of the cervix uteri to sexually transmitted carcinogenic agents during a time of active squamous metaplasia is thought to be a high risk factor for the development of cervical cancer. Young age at coitarche (age at first intercourse) and more importantly a short interval between menarche and coitarche have been found to carry a very high risk of cervical cancer[28-31]. It has been found that the risk of cervical cancer is increased from seven fold (RR 6.9, 95% CI 2.7-17.6) to as much as twenty six fold (RR 26.4, 95% CI 5.8-119.4) if the interval between menarche and coitarche is reduced from 1-5 year to under 1 year[28].

Social impact

The psychosocial issues of teenage pregnancy and childbearing are even more overwhelming than the medical issues[9]. Teenage mothers do not understand the social reality of pregnancy and motherhood. They do not realise that possible biological maturity (which may be incomplete) does not licence

activating this capacity at will. During pregnancy the teenager's further growth and development will be hampered by the parasitic fetus which will draw nourishment from its mother who is still growing. Once the baby is born too it takes precedence over its mother and at the same time the mother loses her own privileged status as a child.

Lost educational opportunities, unstable family life, poor employability and welfare dependence are recognised concomitants of teenage pregnancy even in well developed countries[32].

Unintended pregnancies

The vast majority of teenage pregnancies are unplanned and unintended and end up as TOP [20,24,33-39]. In 1987 in the USA 82% of teenage pregnancies were unintended and 51% of them had TOP on request. Although teenagers constitute only 10% of the women aged 15-44 years, 25% of the total number of TOP carried out were in this age group. It was found that women from poor socio economic strata had significantly high rates of unintended pregnancies and a large number of them were unmarried teenagers[33]. In the study carried out in Hull, UK from 1978-1988, 60% of teenage pregnancies ended up with TOP[24]. In a study carried out in Galle, 62% of teenage pregnancies were unplanned[40].

Prevention

Although good prenatal care and social support may minimize the adverse medical outcomes, the overwhelming social repercussions cannot be prevented. Hence teenage pregnancies should be prevented. Even in countries where TOP is legalized it has been strongly recommended and accepted that contraception is the most suitable remedy for this problem and not TOP[9,11,24,33].

Comprehensive sex education programmes in schools and community intervention programmes focusing on teenagers should be combined with general access of contraceptives to teenagers[11,34,40,45].

Conclusion

The rate of teenage pregnancies in Sri Lanka appears to be increasing. Teenagers especially below 17 years of age are biologically immature to undergo a safe pregnancy and not only have adverse obstetric outcomes but also carry a high risk of cervical cancer later. The adverse psychosocial implications are of greater concern and are applicable even to the older teenagers. Therefore, teenage pregnancies should be prevented. Sex education and community intervention programmes focusing on teenagers should be combined with general access of contraceptives to teenagers.

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