

# Trends in adolescent pregnancies at Tygerberg Hospital, 1976 - 1980

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## Summary

This study was undertaken to highlight trends relating to pregnancies among females aged less than 21 years seen at Tygerberg Hospital, Parowvallei, CP, during the 5-year period 1976 - 1980 inclusive.

There was a fairly steady decline in the pregnancy rate for Coloured adolescents over this period. The rate for Black adolescents increased after a 3-year decline, and that for Whites also increased after a 2-year drop. The caesarean section rate increased after a marked drop in 1978, both in White adolescents and in the White group as a whole, possibly due to an increase in the instrumental delivery rate in 1978. The caesarean section rate has increased steadily among non-Whites, while the forceps delivery rate for non-Whites declined to below the normal level of 15% and that for Whites fell after a steep increase in 1978. Vacuum extractions appeared to be very popular during the first 3 years, but the rates declined rapidly towards 1979 - 1980, particularly in the White group. Pre-eclamptic toxæmia remains a problem among White adolescents. Among both Whites and non-Whites 1978 seems to have been a disastrous year as far as the outcome of pregnancies is concerned, with an increase in the incidence of miscarriage. A drop in the non-White stillbirth rate in 1978 was followed by a sharp rise in 1979 - 1980. The incidence of abruptio placentae and placenta prævia rose in 1978, but in 1979 - 1980 dropped to below 10% for Whites and to below 15% for non-Whites. Premature deliveries are still common among non-Whites, with average incidences of 23% for the 5-year period for non-Whites and 8,5% for Whites.

Pregnancy rates for unmarried Coloured and Black adolescents remain high, and the rate for Whites increased slightly over the 5-year period.

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Women aged under 21 years frequently need treatment during pregnancy and labour which is somewhat different from that required by older women, and are classified at Tygerberg Hospital (Parowvallei, CP) as adolescents. This criterion was used in the preparation of this study.

Premature births are defined as births of infants weighing 2 500 g or less, births before 36 weeks' gestation, or both. No figures for the total number of premature births were available.

## Objectives

The objective of this study was to evaluate trends relating to pregnancies in women aged under 21 years from all racial groups and seen at Tygerberg Hospital during the years 1976 - 1980 inclusive. The incidences of miscarriage (spontaneous abortion), stillbirth, including neonatal death, pre-eclamptic toxæmia (PET) and eclamptic toxæmia (ET), abruptio placentae (AP) and placenta prævia (PP), and premature birth in the different racial groups were examined. Obstetric procedures performed in the various groups, including lower-segment caesarean section (LSCS), forceps delivery and vacuum extraction, were considered and compared, as were illegitimacy rates. All information was gathered from the labour ward record books and the Department of Statistics at Tygerberg Hospital and from the Professor of Obstetrics and Gynaecology at the hospital.

## Results and discussion

The annual number of deliveries among Black women at Tygerberg Hospital fell from 1 222 to 442 during the period under review (Table I). The rate of pregnancies among adolescent Blacks (these representing 33,5% of the total number of pregnancies among Blacks in 1976) also declined, then rose again in 1980 to approximately 29,4% of the total, with a mean of 29,2% (Fig. 1).

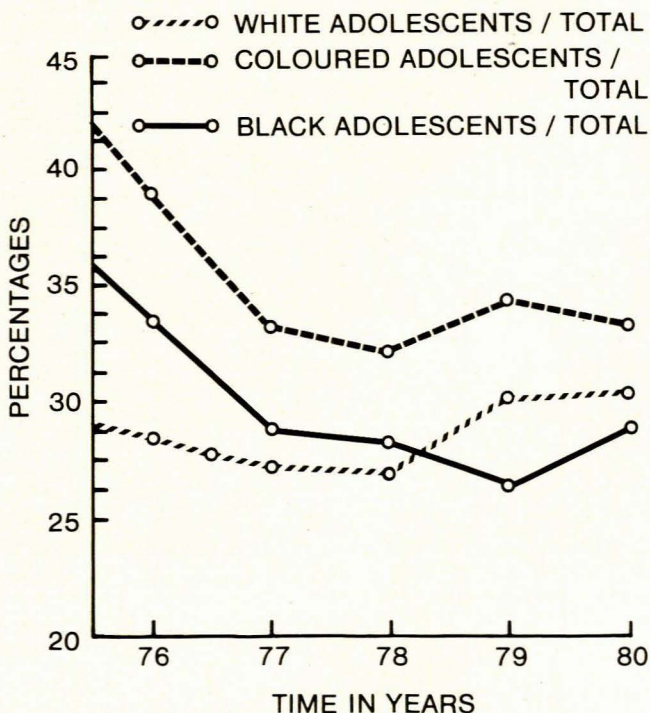


Fig. 1. Deliveries among White, Coloured and Black adolescents, expressed as percentages of total deliveries, 1976 - 1980.

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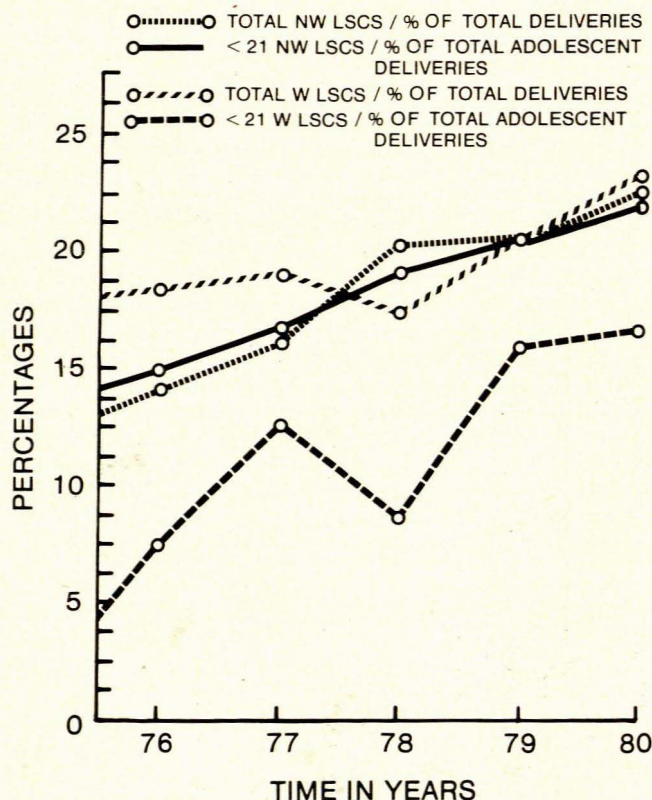
**TABLE I. TOTAL NUMBER OF DELIVERIES IN ALL RACIAL GROUPS DURING 1976 - 1980**

	1976	1977	1978	1979	1980
<b>Tygerberg Hospital</b>					
<b>Non-White</b>	6 715	7 186	5 835	5 908	6 300
<b>Coloured</b>	5 599	6 309	5 057	5 161	5 513
<b>Black</b>	4 377	4 915	4 478	4 711	5 071
<b>White</b>	1 222	1 394	579	450	442
<b>White</b>	1 116	877	778	747	807
<b>Maternity units Home</b>					
<b>Home</b>	1 513	1 817	2 735	2 594	3 160
<b>Home</b>	227	309	260	159	129
<b>Total</b>	<u>8 455</u>	<u>9 312</u>	<u>8 830</u>	<u>8 661</u>	<u>9 609</u>

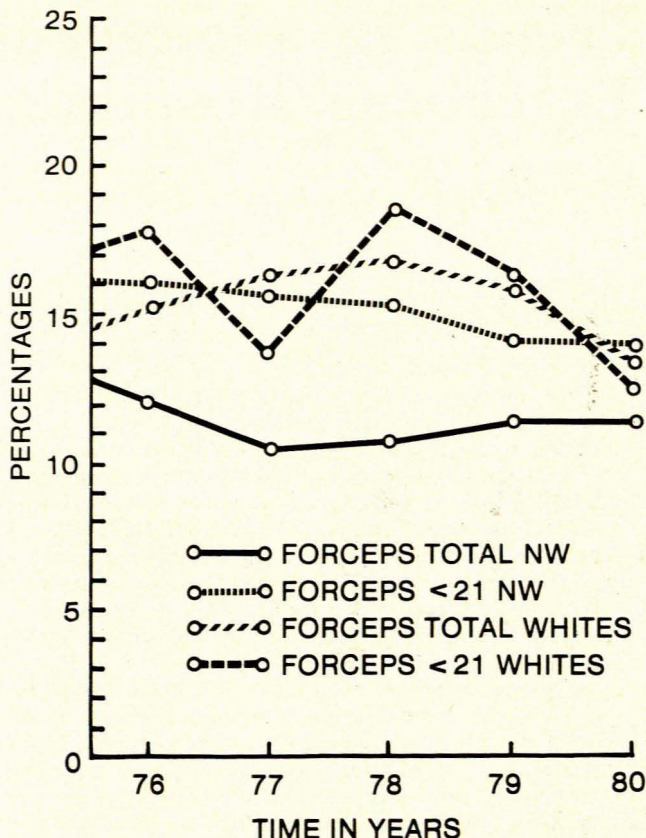
The total number of deliveries among Coloured women increased from 4 377 in 1976 to 5 071 in 1980 with an average of 4 710,4 deliveries per year over the 5-year period. Pregnancies among Coloured adolescents, which represented 38,7% of the total number of pregnancies among Coloureds in 1976, fell to 33,3% of the total in 1980, with a mean of 34,4% (Fig. 1), while pregnancies among White adolescents over the same period increased from 28,4% of the total for Whites to 30,5%, although actual numbers fell from 317 to 246 (a difference of 71), giving a mean of 247,6 per year (Fig. 1).

**Procedures**

The incidence of LSCS among both adolescents and women as a whole increased in all racial groups (Fig. 2). This increase was also noted in the study carried out by De Groot<sup>1</sup> at the University of Cape Town teaching hospital maternity units in 1979. The rate of forceps deliveries among White adolescents



**Fig. 2. LSCS rates among White and non-White adolescents and Whites and non-Whites as a whole, 1976 - 1980.**



**Fig. 3. Forceps delivery rates among White and non-White adolescents and Whites and non-Whites as a whole, 1976 - 1980.**

dropped during the review period, while forceps delivery rates for non-Whites remained virtually unchanged (a rate of up to 15% is considered normal) (Fig. 3).

Rates of deliveries by vacuum extraction rose during the first part of the review period, particularly among White adolescents, then fell in all racial groups (Fig. 4), a trend also noted by De Groot.<sup>1</sup>

**Complications**

The incidence of ET among White adolescents fell slightly during the 5-year period, but the incidence of PET rose, both among adolescent Whites and Whites over 21 years of age, despite a slight decrease in 1977 - 1979. The incidences of these complications among non-White adolescents and non-Whites as a whole generally increased slightly over the review period but remained low. PET seems to be a real problem among White adolescents (Fig. 5).

Among non-White adolescents the miscarriage rate dropped in 1977 and increased again in 1978, dropped in 1979 and showed a marked increase in 1980, while the stillbirth rate rose over the 5-year period despite a drop in 1978 (Fig. 6). Among White adolescents the miscarriage rate rose dramatically in 1978, fell in 1979 and increased to beyond the 1978 level in 1980.

The stillbirth rate for non-White adolescents increased over the 5-year period despite a drop in 1978, while that for White adolescents was virtually the same in 1980 as it was in 1976, despite having risen sharply in 1977. Among both White and non-White adolescents the incidences of AP and PP reached peaks in 1978 and despite a steady decline thereafter increased over the period as a whole (Fig. 7).

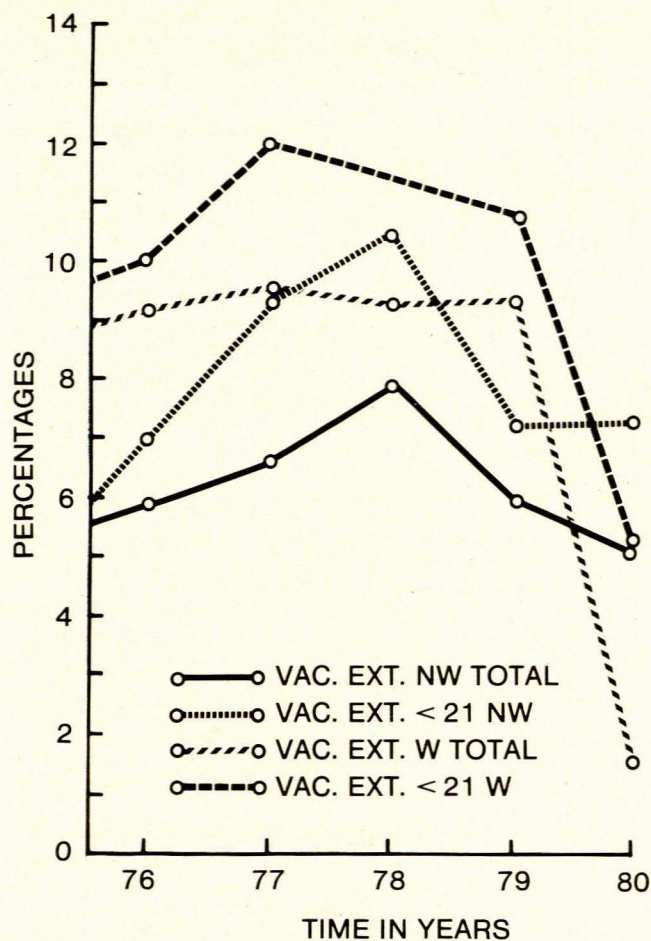


Fig. 4. Vacuum extraction rates among White and non-White adolescents and Whites and non-Whites as a whole, 1976 - 1980.

Among non-White adolescents the premature delivery rate increased very slightly in 1980 after a period of stability during the years 1976 - 1979, while the rate for White adolescents fluctuated over the 5-year period, with a decline in 1977, an increase in 1979 and a decline in 1980 (Fig. 8).

**Illegitimate births**

During the review period the proportion of White adolescent mothers who were unmarried increased from 19,2% to 22,8% (Fig. 9). It is possible that a relaxation of moral standards in recent years and a more understanding and tolerant attitude on the part of the public has resulted in a far more ready acceptance of childbirth out of wedlock among most racial groups everywhere. An average of 81,6% of Coloured adolescent mothers were unmarried, the proportion fluctuating little over the review period, while the average for Black adolescents was 67,8%, the figure increasing by some 4% during the review period.

When considering illegitimacy rates in the various racial groups a number of factors should be taken into account, including: (i) socio-economic circumstances; (ii) differences in moral standards — it is often assumed to be acceptable for a Coloured or Black woman to demonstrate her fertility before marriage by bearing at least one child, but Khamissa<sup>2</sup> and Loening<sup>3</sup> found that extramarital conception causes great distress, to Black parents in particular; (iii) Coloured and Black women usually have little difficulty in securing day care by elderly relatives for their children, which frees them for employment; (iv) the White mother can seldom rely upon ready assistance

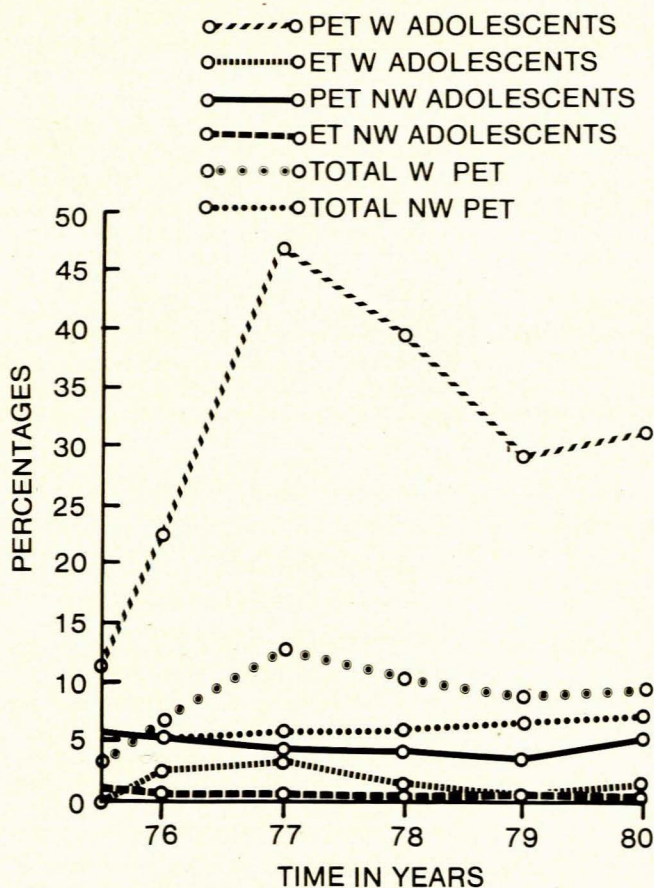


Fig. 5. PET and ET among White and non-White adolescents and Whites and non-Whites as a whole, 1976 - 1980.

from relatives or friends in caring for her child should she need to go out to work; (v) the social stigma, guilt and public disapproval once associated with illegitimacy have declined greatly in recent years, the unmarried mother being accorded far more recognition, sympathy and tolerance (even officially) than was the case previously; and (vi) current South African legislation places the age of consent at 16 years while officially prohibiting the use of contraceptives by persons under 18 years of age without prior consent from parents or guardians.

**Other factors**

During the last 2 years there has been an 80% increase in the sterilization service (tube ligation) available at Tygerberg Hospital. This 24-hour service, offered to all racial groups, possibly constitutes yet another reason for the decline in the number of deliveries at the hospital, notwithstanding the fact that outlying maternity units in the area recorded an increase of 1 647 deliveries during the review period (Table I). The total number of home deliveries fell from 227 in 1976 to 129 in 1980, most of these women probably giving birth at home because of tardy reporting to hospital.

**A review of the literature**

In a recent study Kiernan<sup>4</sup> states: 'Since the mid-1960s about 10% of annual births in England and Wales have been to teenagers. The majority of these births are from extra-marital conceptions. At the beginning of the 1960s the majority of

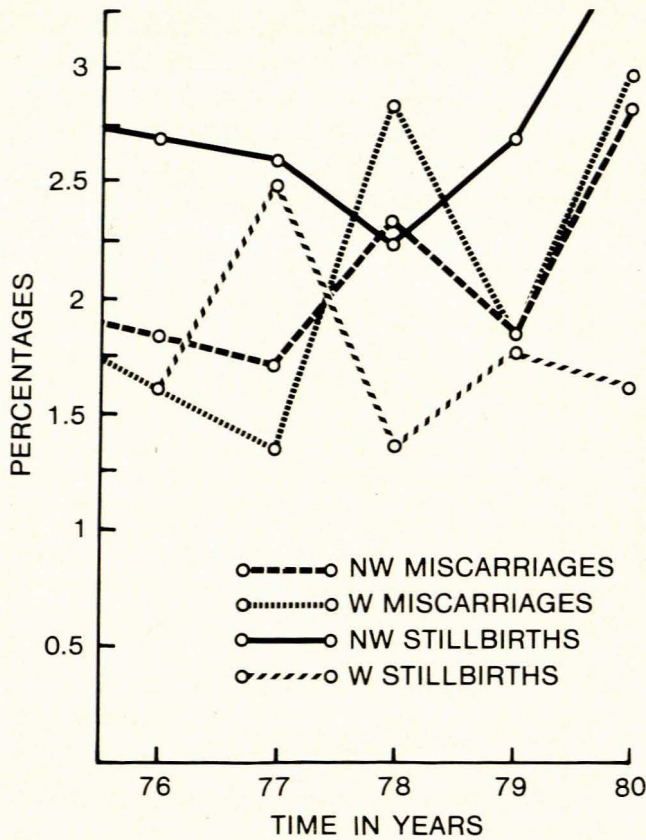


Fig. 6. Miscarriages and stillbirths (including neonatal deaths) among White and non-White adolescents, 1976 - 1980.

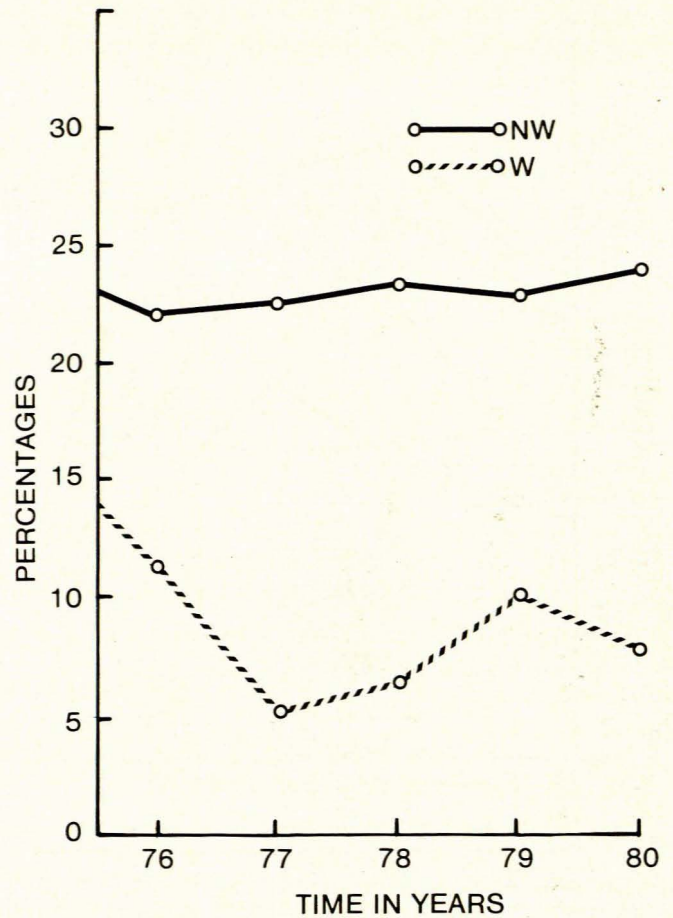


Fig. 8. Premature births among White and non-White adolescents, 1976 - 1980.

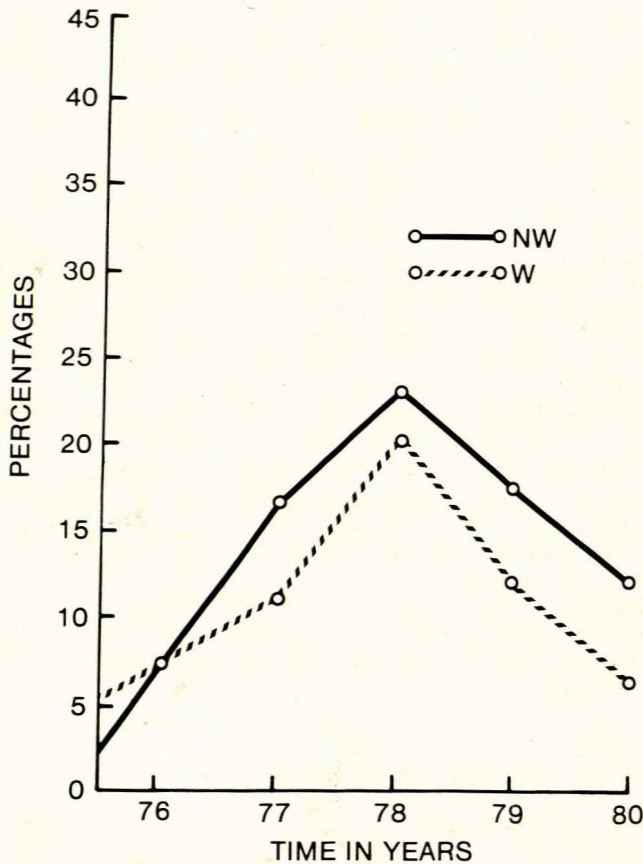


Fig. 7. AP and PP among White and non-White adolescents, 1976 - 1980.

legitimate teenage births were pre-maritally conceived. In only a minority of teenage mothers was the birth pre-marital, i.e. illegitimate.'

In the only representative group in our community, the Coloureds, over 30% of women who give birth are adolescents. We must take into account the fact that during the 1960s the population of England and Wales was predominantly White and remains so to date, whereas in the Cape we are dealing with several different racial groups.

The number of deliveries of White women at Tygerberg Hospital is not representative of the total number of deliveries in this group in Cape Town or in its Northern suburbs. Most White women give birth in private nursing homes, of which there are several in the area. Black women, on the other hand, have until recently had little option but to go to one of the general Provincial hospitals or maternity units. It must be kept in mind that most adolescents are admitted to a hospital for delivery; they do not usually go to private maternity units or have their babies at home.

Kiernan<sup>4</sup> also points out that in England and Wales the rate of illegitimate births increased steadily throughout the 1960s and up to the present, with a corresponding drop in the rate of legitimate births. After 1970 the proportion of premarital conceptions (of infants born in wedlock) declined noticeably, so that by the middle of the decade the rates for the three categories were almost equal. She points out that as an age cohort moves through life it is subject to the prevailing social, economic, technological and legislative forces. Legislative changes such as the Abortion Act, the Family Planning Act and the Divorce Reform Act of 1969, parental consent and the contraceptive

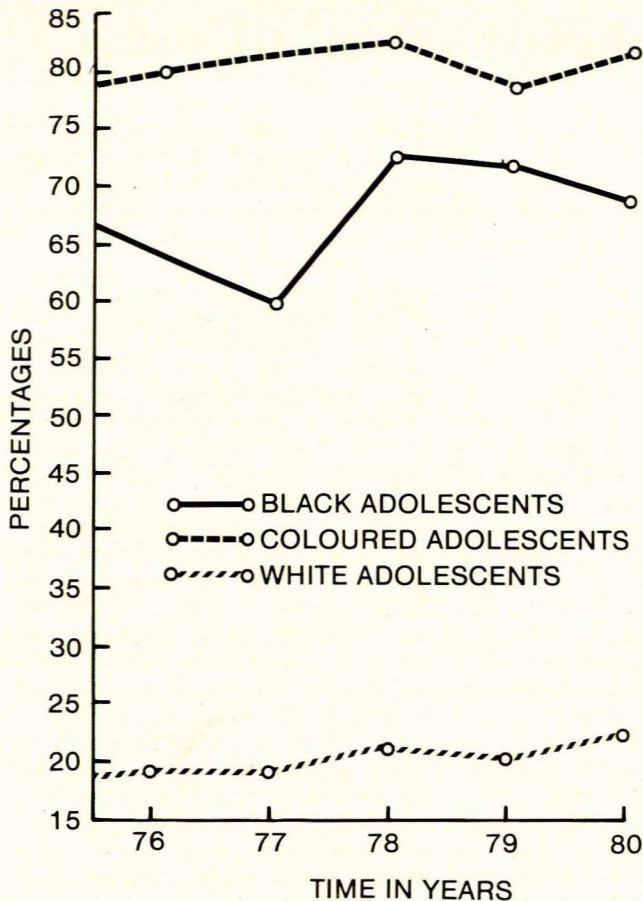


Fig. 9. Illegitimacy rates among White, Coloured and Black adolescents, 1976 - 1980.

revolution have all played their part in the overall trends. She also stated that extramarital conception on a larger scale appears to be a phenomenon of the teenage years. Numerous studies have reported that the earlier a woman begins her family, the more children she is likely to have.

Grebenik<sup>5</sup> states that women who are pregnant when they get married have more children than do women who conceive after marriage, while Kiernan<sup>4</sup> found that women (not necessarily teenagers) who became pregnant before marriage had spouses who were all in manual occupations and that 75% of them were living in Council accommodation by the age of 26 years. Workers at the Centers for Disease Control in Atlanta, Georgia,<sup>6</sup> reported that in 1977 birth rates among adolescents in the USA increased for the first time since 1970, in spite of the increasing availability of contraception and its increasing use by members of this age group, increasing federal expenditure on family planning services and an increasing abortion rate. The actual risk of pregnancy in teenagers having premarital sex (28%) stayed the same.

The rate of spontaneous abortions at Tygerberg Hospital among White adolescents averaged 2% over the review period. The figure for non-White adolescents over the same period is also 2%, the latter being a truer reflection of conditions in that racial group (i.e. poor socio-economic circumstances).

Baldwin<sup>7</sup> points out that in the USA in 1977 there were approximately 1,3 million spontaneous abortions, about one-third of which took place in women under the age of 20.

Klerman<sup>8</sup> (quoting Baldwin and Car) states: 'Evidence suggested that the effect on social/emotional development does not result from the mothers' age at birth directly, but rather is transmitted through other factors associated with early child bearing, such as education and economic disadvantage and greater likelihood of marital break-ups.' Workers at the Centers

for Disease Control<sup>6</sup> have estimated that in 1977 46% of teenage births were unintended, and that when conceptions terminating in abortion are included 70% of all these conceptions may have been unintended.

An average of 8,6% of the infants born to White adolescents at Tygerberg were premature, compared with 23,2% of those born to non-Whites. In his study Naeye<sup>9</sup> found that young adolescent mothers (aged 10 - 16 years) had significantly smaller infants at term than did older mothers. Unfortunately, no figures are available for women aged over 21 years at Tygerberg Hospital. Naeye<sup>10</sup> states 'Smoking mothers also have a diminished uterine blood flow. This causes a higher incidence of spontaneous abortions, placenta praevia, abruptio placentae, chorioamnionitis, preterm labour, malformed offspring, deaths, behavioural problems and lower intelligence.' We have no figures indicating the smoking habits of our adolescent pregnant women but smoking may be one of the causes of the high stillbirth, abortion and prematurity rates among non-White adolescents.

Ross<sup>11</sup> found that childbirth was most risky in adolescents below 15 years of age. Deliveries in the rest were relatively easy and fetal outcome was good. The outcome of pregnancies occurring more than 3,5 years after menarche was generally good.

## Conclusions

It is evident that over the 5-year period 1976 - 1980 there was a decline in the number of adolescent patients delivered at Tygerberg Hospital.

Of the various methods of delivery, caesarean section has gained favour over vacuum extraction and forceps delivery. PET is still a problem among White adolescents, probably because a high proportion of pregnancies in this group are first pregnancies which are associated with a high incidence of toxemia. Prematurity remains a frequent complication in the Black and Coloured groups, in part because of unsatisfactory socio-economic circumstances.

Illegitimacy rates remain high in the non-White groups, and the rate is increasing among Whites.

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