

BIRTH WEIGHT AND OTHER HEALTH STANDARDS OF CHILDREN BORN AFTER ABORTION

by

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SUMMARY

Birth weight and other health standards of babies born to the mothers with the history of abortion and with no history of abortion was compared in a sample of 500 cases. The history of previous abortion was found not affected significantly on the birth weight of babies in the subsequent deliveries. The relationship between the history of abortion and the condition of baby in the subsequent delivery was found to be significant. History of abortion is found to have affected the nature of labour of women in their subsequent deliveries. The relationship of the age of the mother and the weight of the babies born to them after abortion was found to be not significant. The factors like economic status, occupational status and educational level of the mothers had no significant effect on the birth weight of babies born after abortion. The birth weight of babies born to illiterate mothers with history of previous abortion was significantly low when compared to the other groups. History of more than one previous abortion did not affect significantly the birth weight of the babies born in the subsequent deliveries.

Introduction

Since the enactment of the M.T.P. Act 1972 in India, the proportion of abortion among the women of the early reproductive ages has been increasing. It was indicated in various studies that there is a long term effect of abortion on the outcome of subsequent pregnancies including prematurity and or low birth weight, early neonatal death, perinatal mortality and congenital malformations (Moriyama and Hirokawa, 1966; Kalra *et al*, 1967; Harlap and Davies, 1975). In some studies it was reported that there is no effect of induced abortion on

subsequent deliveries (Steve *et al*, 1976; Kline *et al*, 1978; Carol Madore *et al*, 1981). These studies show that the potential impact of abortions on subsequent pregnancy, labour and birth weight has not been proved completely. So, the present study was undertaken to find out the effect of abortion on birth weight of children born on subsequent deliveries, and to find out the relationship of various demographic variables of the mothers with the birth weight of babies born after abortion.

Material and Methods

Pregnancy outcome in a random sample of 250 women who had history of previous abortion was compared with the outcome in a random sample of 250 control subjects

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without history of abortion. Data were collected through a pre-tested questionnaire from the case records and interviews with women who had their deliveries at the S.A.T. Hospital, Trivandrum during the period of 12 months in 1983.

Results

It is noted from Table I that the percentage of babies with birth weight of above 3 kg was only 35.2 in the study subjects as against 57.2 among the control group. The mean birth weight in the case subjects was 2.83 kg and it was 3.04 kg in the control subjects. The difference between these mean weights was statistically not significant ($Z = 0.868$; $P > 0.05$). This shows that the history of previous abortion has no significant effect on the birth weight of babies born on subsequent deliveries.

shows that there is a significant association between history of previous abortion and the condition of baby in the subsequent delivery ($X^2 = 7.23$; $P < 0.001$).

TABLE II
Condition of Baby at Birth

Condition of baby	Experimental group		Control group	
	No.	%	No.	%
Alive	219	87.6	245	98.0
Asphyxiated	11	4.4	1	0.4
Still birth	13	5.2	3	1.2
Macerated	7	2.8	1	0.4
Total	250	100	250	100

$$X^2 = 7.23; P < 0.001.$$

As regards the nature of labour, it was observed that 38.8 per cent of the study

TABLE I
Birth Weight of Babies Born After Abortion (Case Subjects) and Normal Delivery (Control Subjects)

Birth weight in kg.	Case subjects		Control subjects	
	No.	%	No.	%
— 2	14	5.6	4	1.6
2.1 — 2.4	39	15.6	24	9.6
2.5 — 2.9	109	43.6	79	31.6
3.0 — 3.4	71	28.4	106	42.8
3.5 +	17	6.8	38	14.4
Total	250	100	250	100
Mean:	2.83		3.04	
S.D.:	3.16		3.09	

$$Z = 0.868; P > 0.05.$$

Regarding the condition of baby at birth, it was noted that (Table II), only 87.6 per cent of the babies were alive in the study subjects as against 98 per cent in the control subjects. The mothers who gave birth to asphyxiated babies in the case subjects was 4.4 per cent, whereas it was 0.4 per cent in the control subjects. Still births in the study group was found to be 8 per cent and it was 1.6 per cent in the control group. This

subjects had abnormal labour as against 12.4 per cent in the control subjects (Table III). The association between abortion in the previous pregnancy and the nature of labour in the subsequent delivery was found to be statistically significant ($X^2 = 45.74$; $P < 0.001$).

It was noted in the case subjects that birth weight increases corresponding to the increase in the number of gravida (Table IV).

TABLE III
Nature of Labour

Group	Normal		Ab-normal		Total No.
	No.	%	No.	%	
Experimental	153	61.2	97	38.8	250
Control	219	87.6	31	12.4	250
Total	372	74.4	128	25.6	100

$$X^2 = 45.738. \quad P < 0.001.$$

Among the control group, birth weight decreases as the gravida increases. The mean birth weight of babies born to the mothers of all age groups was found to be low in the study subjects when compared to the control subjects.

TABLE IV
Mean Birth Weight According to Gravida

Gravida	Experimental group	Control group
2	2.80	3.08
3	2.81	2.98
4	2.89	2.99
5	2.85	2.75
6	3.08	—

As regards the relationship between economic status and the birth weight of babies, it was observed that the birth weight increases with increase in the economic status of the parents. The occupational status of the mothers had not affected the birth weight of the babies in the case as well as control subjects. The difference in

the birth weight of babies born to the mothers of various occupational groups in the study and control subjects was found to be statistically not significant ($P > 0.05$).

The study revealed that the literacy status of mothers has significant influence on the birth weight of the babies in the case as well as control subjects (Table V). In the illiterate group of mothers, the mean birth weight of babies was 2.44 kg among the study subjects and it was 3.02 kg among the control subjects. The difference between these values is statistically significant ($Z = 6.51$; $P < 0.001$). In the literate group of mothers, though there was difference in the birth weight between case and control subjects, it was statistically not significant ($P > 0.05$).

This study also revealed that the occurrence of more than one previous abortion did not affect the birth weight of the babies in the subsequent deliveries. This was due to the fact that these mothers received more

TABLE V
Birth Weight in Relation to Literacy Mothers

Literacy status	Experimental group		Control group		Z	P
	Mean	S.D.	Mean	S.D.		
Illiterate	2.44	0.66	3.02	0.90	6.51	0.01
Primary	2.69	1.24	2.93	1.22	0.89	0.05
Upper primary	2.91	1.73	3.00	2.60	0.23	0.05
Secondary	2.91	2.29	3.07	2.78	0.44	0.05
College	2.80	2.94	3.19	0.92	0.87	0.05

attention during pregnancy who had the history of repeated abortions.

Discussion

The present study reveals that there is no significant association between the history of previous abortion and the birth weight of babies in the subsequent deliveries. This result is in conformity with the reports of WHO (1979) and Carol Madore (1981). Steve *et al* (1976) stated that an obstetric history of abortion increases the subsequent rate of foetal loss, prematurity rate and perinatal death. Macnaughton (1961) has also found a high rate of pre-term deliveries after previous abortions. The present observation reveals no significant increase in the frequency of pre-term labour among the mothers with history of abortion. This finding does not agree with the reports made by the above workers.

The still birth rate was found to be more among mothers with history of abortion than the control subjects. This finding agrees with the reports of Harlap and Davies (1975) and Carol Madore *et al* (1981) who observed that, patients with history of abortion are less likely to have normal delivery and most of them need manual removal of placenta or other intervention during subsequent labour. The present study also shows a significant association between the history of previous abortion and the nature of labour. Moreover, the tendency to have assisted labour and caesarean is more among women who had previous abortions when compared to control subjects of this study.

It was observed in the present study that the birth weight of babies born to the mothers with history of abortion increased corresponding to the increase in the number of gravida. This may be due to the utilization of better antenatal care by the

mothers of multigravida who had the history of abortions. This study revealed that abortions occur most frequently among the low income group and the birth weight of the babies increases corresponding to the increase in the economic status of the parents. The influence of maternal age on the birth weight was found to be insignificant in the present study which agrees with the reports of Carol Madore *et al* (1981).

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