CHANGING TREND IN OBSTETRICS & ITS EFFECT ON MATERNAL & CHILD HEALTH DURING LAST 3 DECADES

by

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Introduction

The future of any nation is the future of its children. It is stated in National Health Policy, Govt. of India, that along with vigorous steps needed to achieve reduction in the birth rate, we need to improve the facilities available to mothers and children to assure the families of the safety of their progeny. While antenatal care is the sheet anchor of maternity and child health, there have been enormous changes in curative side of obstetrics during last 3 decades mainly due to easy availability of blood, antibiotics and improved anasthetic techniques.

Material and Methods

The Study was undertaken in Lady Dufferin Victoria Hospital and the period covered was 3 years. The first period was from January to December 1959; January to December, 1969—was the second and January to December 1979, was the third period.

A comparative statistical evaluation was made between the three periods.

This hospital caters mostly to the lower socio-economic group of people i.e., I.C.M.R. gr. III to VI with monthly income of Rs. 499 to less than Rs. 100. It is relevant to note that about 40% of the hospital population comprise of rural people.

The Study comprised of the delivery and maternal and fetal outcome.

Results and Analysis

The present study is a comparative evaluation of the health care delivery system during last 3 decades in the hospital. The main objective was to ascertain the quality of the obstetric care vis-a-vis the maternal and fetal outcome.

TABLE I

Total Deliveries and Antenatal Care

Year	Adequate attendance[a]	Fairly adequate attendance[b]	Total confinement
1959	155 (2.9%)	213 (3.9%)	5423
1969	300 (4.9%)	505 (8.2%)	6179
1979	400 (10.4%)	650 (16.9%)	3844

[a]Nine attendances from 1st trimester.
[b]At least 6 attendances from 2nd trimester.

Considering the overall attendance depicted in this Table, it is painstaking to note that little achievement was there to convince people about the necessity of antenatal care during last 30 years (Following Thomas and Rosario, 1977).

This table lists the age of the women availing of the antenatal care. One could see that in the teenager group between

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TABLE II

Age-distribution of Total Cases of Confinement

Age groups	1959		1969		1979	
	No.	%	No.	%	No.	%
12-19	852	15.7	1048	17.0	692	18.0
20-34	4251	78.4	4863	78.8	2998	78.0
35-40	305	5.6	250	4.0	145	3.8
41	15	0.3	16	0.3	5	0.1
Total	5423	100.0	6179	100.0	3840	100.0

12-19 years there is gradual increase in the incidence of pregnancy from 15.7% in 1959 to 18% in 1979.

There is only marginal decrease in the elderly woman beyond 35 years from 6% to 4%. It is worth mentioning that youngest one was a 12 year girl confined in 1959 and the eldest woman was 52 years delivered in 1969.

The parity distribution in Table III indicates that there is some increase in incidence of primigravida. It also highlights the fortunate fact that there is remarkable fall of grand multipara from 29.47% in 1959 to 4.44% in 1979. The highest parity recorded in the series was 18th para in 1959.

Table IV is an attempt to appraise of the effect of the obstetric service. It could be observed that the incidence of hypertension was reduced from 11.7% in 1959 to 7.9% in 1979. Over the years the frequency of anemia has also been reduced from nearly 5% to about 1.3% i.e., about 1/3rd. There has been reduction in the incidence of eclampsia and post partum haemorrhage.

TABLE III

Distribution of Parity of Total Cases Confined

Parity	1959		1969		1979	
	No.	%	No.	%	No.	%
Primi	1302	24.0	1852	30.0	1087	28.3
2-4	2523	46.5	3333	53.9	2586	67.3
5-9	1442	26.6	944	15.3	167	4.3
10	156	2.9	50	0.8	4	0.1
Maximum	18th gr.		13th gr.		11th gr.	

TABLE IV

Complicaions During Pregnancy and Labour

Complications	1959		1969		1979	
	No.	%	No.	%	No.	%
Hypertension or PET	632	11.7	371	6.0	305	7.9
Anemia	264	4.9	122	1.9	50	1.3
Eclampsia	12	0.2	5	0.1	3	0.1
PPH	54	1.0	59	1.0	20	0.5

TABLE V
Nature of Delivery

Operations	1959		1969		1979	
	No.	%	No.	%	No.	%
L.U.C.S.	22	0.4	145	2.4	322	8.4
Forceps	107	2.0	314	5.1	135	3.5
Internal version	10	0.2	7	0.1	1	0.02
Destructive operation	10	0.2	5	0.1	1	0.02

Table V shows the remarkable increase in the incidence of Caesarean section from 0.4% in 1959 to 8.4% in 1979, a 16 fold increase. Simultaneously, there is some increase in the forceps rate from nearly 2% in 1959 to 3.5% in 1979. There is decrease in the frequency of internal versions and destructive operations.

Regarding fetal outcome one can see that the premature birth rate remains about unchanged over the years. The same is applicable to the stillbirth rate (Table VI).

This Table shows the perinatal mortality as 70.3/1000 in 1959 and fell to 54.4/1000 in 1969 and 59.1/1000 in 1979.

Therefore, it is clearly evident that the reduction is not remarkable.

However, regarding maternal mortality the rate fell from 6 per thousand (6/1000) in 1959 to 4.1/1000 in 1969. A remarkable achievement indeed.

Discussion

Total number of deliveries during 3 decades showed slight decrease during 1970's which may be considered as the effect of increased emphasis given on Family Planning Programme and also partly due to liberalisation of abortion.

Distribution of age shows that though marriageable age has been increased to 18 for women, good percentage of teenager mothers are still becoming pregnant. Even in 1979, teenager mothers formed about 18.11% of total cases. It can be explained by the fact that present study group mainly comprised of lower socio-economic classes (ICMR gr. III to VI) and people of rural and slum areas in which group early marriages are still prevailing. This vast number of young mothers are possibly responsible for high premature birth and high perinatal mortality in the study group. Hardy *et al*

TABLE VI
Fetal Outcome

	1959		1969		1979	
	No.	%	No.	%	No.	%
Premature 5 lbs	891	16.43	686	11.10	619	16.10
Stillbirths	213	3.92	211	3.41	131	3.41
Perinatal mortality	381	7.03	337	5.45	227	5.91

(1978) showed a high premature birth rate and high perinatal mortality rate in adolescent mothers. Fortunately, however, there is slight decrease in elderly mothers.

Distribution of parity reveals a progressive fall in percentage of grand multipara and parity above 10 was only 0.10% in 1979 in contrast to 2.88% in 1959. Maximum number of children to a woman was found to be 18 in 1959 but only 11 in 1979. This fall in percentage of grand multipara was responsible for decrease in maternal mortality, post partum haemorrhage and hypertensive diseases.

Diseases of pregnancy like hypertension, anaemia show some decrease though there is slight fall in number of eclampsia. This may be explained by a poor percentage of mothers attending antenatal clinic adequately.

There has been a steady rise in number of caesarean section which is 16 fold increase in 1979 over the number of 1959 and 4 fold increase over the number of 1969. Application of forceps also show a rising trend over 1950's. Along with this there has been fall in number of internal versions and destructive operations. In 1979 there has been one case of evisceration which was a case of conjoined twin with dead fetus.

The Table of fetal outcome gives a depressing picture which showed little change in percentage of premature births and stillbirths during last 3 decades.

Perinatal mortality shows slight fall, though there is remarkable fall in maternal mortality. High perinatal mortality rate is due to increase in teenager mothers, low socio-economic condition leading to poor nutritional status and poor antenatal attendance can all be blamed.

Donald states that prematurity is responsible for 2/3rd to 3/4th of perinatal mortality. "The first 38 weeks of human life span in the allegedly protected environment of the amniotic sac are medically more eventful and more fraught with danger and accidents than the next 38 years in the life span of most human individual". He also mentioned that half of all neonatal deaths occur in premature. In this study, 90% neonatal deaths occurred in premature. It may be mentioned that L.D.V. Hospital does not have a special Baby Care Unit.

Pitkin (1976) states that virtually all major studies have documental and positive correlation between maternal weight gain and fetal birth weight; nutritional support to underfed women leads to decrease in proportion of infant of low birth weight.

Lack of antenatal care and inadequate care play a significant role both in maternal and perinatal mortality. Thomas and Rosario (1977) also noted poor adequate antenatal attendance. Adequate attendance was noted at its maximum only 16.4% in Class I and it decreased in low income group. Thomas and Rosario (1977) also remarked that lower social classes have 4 fold increase in premature birth in relation to class I and a similar correlation was also observed with stillbirth and perinatal mortality.

Summary

The present study is a comparative evaluation of the health care delivery system during last 3 decades in the hospital. The main objective was to ascertain the quality of the obstetric care vis-a-vis the maternal and perinatal outcome. All the women belonged to low socio-economic group.

It was clearly evident that inspite of increase in rate of Caesarean Section and

Forceps from 0.40% to 8.38% and 1.97% to 3.5% respectively, the premature birth rate remained almost constant during the 3 decades viz. 16.43%, 11.10% and 16.10% in 1959, 1969 and 1979.

There was fall in maternal mortality rate from 5.9/1000 to 3.11/1000 total birth.

Perinatal mortality showed little drop from 70.26/1000 in 1959 to 59.055/1000 in 1979 though there was little difference in stillbirth rate e.g. 3.92%, 3.41% and 3.41% respectively.

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