

## CHANGING TRENDS IN MORTALITY AND MORBIDITY FROM ABORTION IN SINGAPORE (1964 TO 1970)

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### SYNOPSIS

The number of abortions treated in Kandang Kerbau Hospital and Thomson Road Hospital from 1964 to 1970 were obtained from the operation registers and the number of abortion deaths were obtained from the hospital death registers. While the incidence of 'total' abortions have remained fairly constant, the incidence of septic abortion and mortality from abortions have been declining over the past seven years. This may be due to the declining incidence of criminal abortions performed by non-medically qualified abortionists. Whether liberalization of abortion would affect the trend in mortality and morbidity needs to be evaluated in the coming years.

The report on maternal deaths in England and Wales for the period 1964-1966 revealed 133 deaths from abortion out of a total of 579 maternal deaths. Of these abortion deaths, 73% were due to illegal interference. In Singapore, abortion deaths account for 20 to 25% of maternal deaths each year. There was evidence that most of these were due to criminal abortion. The new Abortion Act which was passed on 29th December 1969, liberalized abortion to include socio-economic reasons for abortion. One of its objectives was aimed at reducing the number of criminal abortions with the ultimate view of reducing the mortality and morbidity from these abortions. It is the intention of this paper to discuss the trend in mortality and morbidity from abortion in Singapore and the possible influence of liberalizing abortion on the trend.

### METHOD

The period of study is from the 1st January 1964 to 31st December 1970. The figures for 'total' abortions include all incomplete abortions, septic abortions, inevitable and missed abortions admitted and treated in Kandang Kerbau Hospital and Thomson Road Hospital. These figures were obtained from the operation registers which

register all operations. A case of abortion was usually labelled as septic when complicated by pyrexia together with other clinical signs of pelvic infection like foul smelling product of conception or adnexal tenderness. To obtain the figures for maternal deaths, the case notes of all deaths in Kandang Kerbau Hospital and Thomson Road Hospital were studied. Of the 36 deaths from abortions, 32 were from septicaemia. Most of these deaths were due to criminal interference. It is possible that an occasional abortion death might have been left out as a result of transfer to the Outram Road General Hospital renal unit. Therefore conclusions on maternal mortality cannot be made with certainty.

### DISCUSSION

Until March 1969, Kandang Kerbau Hospital was the only free Government hospital for women in Singapore. In April 1969 a second Obstetrics and Gynaecological unit was set up in Thomson Road General Hospital. As 80% of the Republic's delivery was conducted in these two hospitals, the impression is that the majority of spontaneous abortions and complicated illegal abortions were treated either in Kandang Kerbau Hospital or Thomson Road Hospital. Therefore the changing trends in morbidity and mortality from abortion in these two hospitals combined, would reflect the trends of the whole of Singapore (Tables I and II).

The incidence of 'total' abortions each year between 1964 to 1970 have remained at a fairly constant level of about 8% or 80 per thousand deliveries (Fig. 1 and Table II). This trend is similar to that of other countries and does not appear to be affected by changing abortion laws and family planning activities. Whether our new abortion act will affect our incidence of abortions will have to be evaluated in later years.

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TABLE I

	1964	1965	1966	1967	1968	1969	1970
No. of deliveries in K.K.H.*	39,598	38,849	39,856	37,924	36,337	34,462	35,715
Total No. of abortions	4,295	3,386	3,432	3,327	2,922	2,915	3,097
No. of septic abortions	350	258	265	250	174	165	140
No. of deaths from abortion	5	10	5	5	4	4	3
No. of legal abortions	—	—	—	—	—	—	1,910

\*K.K.H. means Kandang Kerbau Hospital for women.

TABLE II

	1964	1965	1966	1967	1968	1969	1970
Abortion rate excluding legal abortions (per thousand deliveries)	108.4	87.1	86.1	87.7	80.4	84.5	86.7
Septic abortion rate (per 1,000 total abortions)	81.4	76.1	77.2	75.2	59.5	56.6	45.2
Maternal mortality from abortion (per thousand deliveries)	0.12	0.25	0.12	0.13	0.11	0.11	0.08

N.B. 1969 and 1970 figures include Thomson Road Hospital figures.

As with most countries the actual incidence of illegal abortion is impossible to obtain. Lee (1965) estimated that about 50% of criminal abortions were admitted into Kandang Kerbau Hospital. The remaining probably did not require hospitalization. Lim *et al* (1969) from their study on a series of 336 cases of septic abortions estimated that 40% of them had surgical interference. Sepsis is one of the most frequent complications of criminal abortions and the leading cause of death from these abortions. In our study, 32 of the 36 abortion deaths were due to septicaemia. It is felt that the incidence of septic abortion for Kandang Kerbau Hospital would reflect the incidence of criminal abortions performed by non-medically qualified abortionists. Illegal abortions performed by gynaecologists or qualified doctors in private practice is felt to be associated with a much lower complication rate.

There was only a slight fall in septic abortion rate from 81.4 per thousand-total abortions in 1964 to 75.2 in 1967 (Table II). Between 1967 and 1970, there was a fall of 20 per thousand (26%) from 75.2 to 45.2. This declining septic abortion rate is probably due to the falling incidence of

criminal abortions as a result of rising standards of living. The authors feel that with rising standards of living and education a decreasing number of women would seek abortion from non-medically qualified abortionists. On the other hand there may be an increasing number of illegal abortions performed by qualified doctors. Improvement in the standard of hospital care is unlikely to contribute to this trend of declining incidence of septic abortion.

For the past 7 years the average number of obstetric deaths was in the region of 18 and the average number of abortion deaths is 5 each year. Therefore abortion deaths account for about 22% of maternal deaths in Singapore during the past 7 years. There appears to be a falling trend in mortality from 0.12 per thousand deliveries in 1964 to 0.08 in 1970 (Table II and Fig. 1). Because the number of abortion deaths each year is small it is difficult to interpret the significance in changes. Improvement in the standard of hospital care may reduce the mortality rate. A reduction in the incidence of criminal abortions may be a more important factor. There is no doubt that the majority of abortion deaths

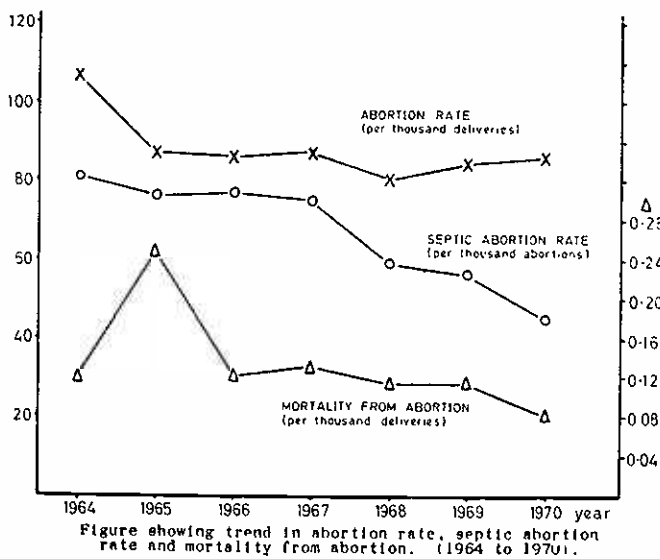


Fig. 1.

were the result of criminal abortions done by non-medically qualified abortions.

It is too early at present to assess the effect of liberalization of abortion in Singapore on the trend of morbidity and mortality from abortion. However, Mehlan (1965) speaking of abortion in Eastern European countries stated that "... there is no doubt that legalization of abortion has brought about a decline in criminal abortions in all these countries as may be clearly shown by the decline in cases of death and morbidity from abortion". The number of deaths due to abortion

in Poland decreased from 76 to 26 in the period 1959 to 1968, in Bulgaria from 47 to 16, in Czechoslovakia from 53 to 11 and Hungary from 84 to 24. Nikontschik (1956) estimated that there were 80 illegal abortions per 100 total abortions before legalizing abortion, while after legalization the number fell to 16.4 in 1963.

## CONCLUSION

Although the incidences of 'total' abortions have remained fairly constant, the incidences of septic abortions and mortality from abortions have been declining over the last 7 years. This trend of falling incidences may be due to declining incidence of criminal abortions performed by non-medically qualified abortionists. Whether liberalization of abortion would affect the trend in morbidity and mortality needs to be evaluated in the coming years.

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