

## EARLY DISCHARGE OF POSTPARTUM MOTHERS

### A REVIEW AND CRITICAL APPRAISAL OF THE DOMICILIARY AFTER CARE SERVICE AT THE KANDANG KERBAU HOSPITAL, SINGAPORE

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The modern trend is decidedly in favour of hospital delivery. Every community which has come under the influence of modern medicine has seen this movement away from home towards hospital. In the most progressive countries almost 100 per cent of deliveries are conducted in hospital. This movement can also be seen in Singapore (Fig. 1). For its 1.6 million

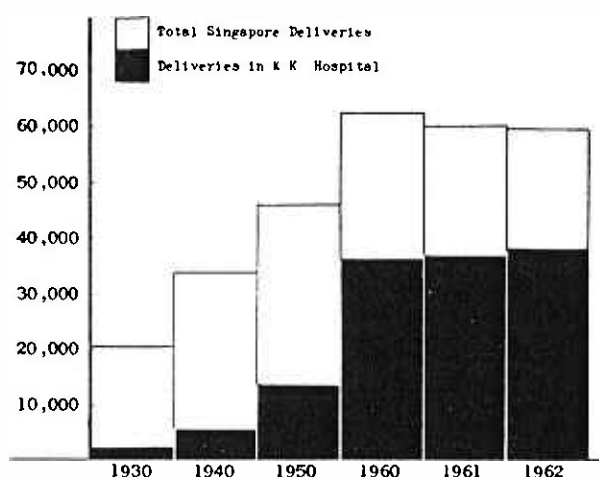


Fig. 1 - Chart showing proportion of mothers delivered in Kandang Kerbau Hospital, 1930 - 1962

population, there is only one Government maternity hospital, the Kandang Kerbau Hospital which has about 300 maternity beds. During the last three decades, the ratio of confinements in this Hospital to the total deliveries on the island has risen sixfold. Today, an average of over 100 mothers are delivered daily at Kandang Kerbau, representing 60 per cent of the total Singapore deliveries.

Several reasons may be found to account for this trend. The phenomenal advance of medical science with its obvious superiority over native methods has steadily increased the popularity of hospitals. The rapid population growth of recent years has caused widespread overcrowding so that many homes are unsuitable for conducting deliveries. Not only the slum dwellers but even mothers living in new housing estates prefer to deliver in hospital. The advantages are obvious—all the bother, inconvenience and embarrassment of home delivery are avoided. At the same time it is increasingly recognized that hospital confinement is safer for mother and child and more satisfactory for all concern-

ed. Not the least important is the fact that this excellent service is being offered to the public by the Kandang Kerbau Hospital completely free of charge. No expectant or labouring mother is ever turned away.

This trend towards hospital delivery has gathered momentum especially after the Second World War. Expectant mothers have "invaded" the Kandang Kerbau Hospital in ever mounting numbers, creating an increasingly difficult situation. The problem became acute in 1954. Somehow, the growing numbers of postpartum women had to be accommodated. Since patients increased while beds did not, and no other hospitals were being made available, the obvious and only solution was to cut down on the length of postpartum stay and send mothers home early in the puerperium. In order that these mothers might not be neglected, nursing care during the lying-in period was made available to the patients in their homes. Thus evolved the Domiciliary After Care Service.

#### *The Domiciliary After Care (DAC) Service*

This system was introduced in 1954 by the late Miss M. Chalmers, Midwifery and Nursing Tutor of the World Health Organization attached to the Kandang Kerbau Hospital.

All uncomplicated normal deliveries are considered potentially suitable for this service. Mothers are accordingly advised that in the absence of any abnormalities they would be sent home the day after delivery, and that home nursing care would be provided by Government midwives operating in their districts. On the morning of discharge, the resident house officer examines every mother and child and all being well, the discharges are finalized. Each mother is given a "Bath Slip" addressed to the Sister in-charge of the Maternal and Child Health Clinic of her district requesting for the after-care service. Depending on availability, some patients are sent home by hospital ambulance while others go home by taxi.

On presentation of the "Bath Slip" at the district clinic, the patient is assured of the services of a midwife for at least seven days or

until such time as the baby's umbilical cord drops. A double check is kept on all patients by a member of the DAC Staff who sends out daily a list of names and addresses of mothers to the appropriate clinics so that defaulters may be traced.

All Hospital case sheets are sent to the DAC Office and retained until the patient has been discharged by the visiting midwife. A register of all cases is kept. The visiting midwife carries with her a puerperal chart for each mother and child, and enters her findings each day. This chart is attached to the case sheet at the completion of the visits. The visiting midwife also keeps daily records of the work done, and compiles a monthly return at the end of each month.

During their bathing rounds, midwives make notes of all abnormalities detected, treat the minor ones, and report the others to the sister in-charge. The sister visits the patients in question and selects the cases for referral to the doctors. They are seen as outpatients in the first instance, and admission to hospital prescribed where necessary. Midwives give health instruction in the homes while carrying out their duties and encourage the mothers to use the Health Clinics at their disposal, and also to attend the Hospital Postnatal Clinic at the end of six weeks.

*A Survey of One Year's Work in 1961*

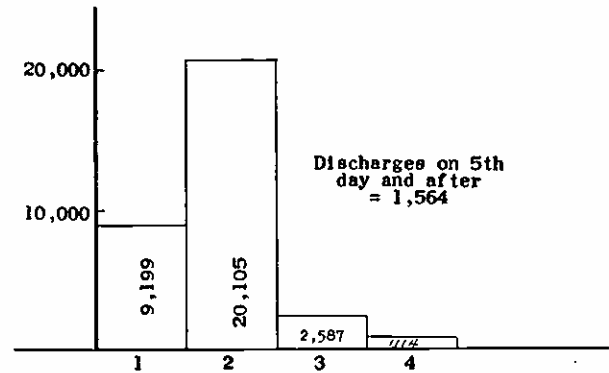
During 1961, 36,590 mothers were delivered in the Kandang Kerbau Hospital. Of these, 34,359 were discharged within 7 days of delivery and were entered on the DAC register. Only 30,059 were actually visited by Government Staff Midwives, who paid a total of 152,193 visits, an average of 5 visits each; 4,300 mothers (12 per cent) were not contacted.

**TABLE 1**

**PARITY DISTRIBUTION OF D.A.C. MOTHERS, 1961**

Para 1 .. .. .	6,051
Para 2-4 .. .. .	14,689
Para 5+ .. .. .	13,619
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Total:-	34,359
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Table 1 shows the parity distribution, and Fig. 2 shows the numbers discharged on the first 4 postpartum days. It is evident from these figures that four out of every five mothers de-



**Fig. 2 - Chart showing Discharges on the first 4 postpartum days.**

livered in hospital returned home within 48 hours. Approximately 1.3 per cent of mothers and 2 per cent of babies were referred to doctors in the Maternal and Child Health Clinics or at the Kandang Kerbau Hospital for various

**TABLE II**

**INDICATIONS FOR RE-ADMISSION TO HOSPITAL -- MOTHERS**

Pyrexia .. .. .	85
Secondary P.P.H. .. .. .	16
Broken down perineum .. .. .	10
Urinary complaints .. .. .	10
Abdominal pain .. .. .	5
Mastitis .. .. .	3
Miscellaneous .. .. .	9
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Total:-	138
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**TABLE III**

**INDICATIONS FOR RE-ADMISSION TO HOSPITAL - BABIES**

Jaundice .. .. .	114
Sticky Eyes .. .. .	69
Pyrexia .. .. .	9
Gastro-enteritis .. .. .	9
Imperforate Anus .. .. .	6
Miscellaneous .. .. .	46
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Total:-	253
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complaints. Of these, 138 mothers (0.5 per cent) and 253 babies (0.8 per cent) were re-admitted to hospital for treatment. The reasons for admission are shown in Tables II and III. Of the re-admissions, one mother died of a febrile illness. Being a Malay, autopsy was refused. Fifty babies died for reasons listed in Table IV.

**TABLE IV****NEONATAL DEATHS AMONG D.A.C. BABIES**

Kernicterus .. .. .	23
Cardiac failure .. .. .	4
Meningitis .. .. .	2
Gastroenteritis .. .. .	2
Pneumonia .. .. .	2
Infected meningocoele ..	1
Pulmonary atelectasis ..	1
Intestinal atresia .. ..	1
Intracranial haemorrhage ..	1
Tetanus .. .. .	1
Congenital heart disease ..	1
Unknown .. .. .	11
<b>Total:-</b>	<b>50</b>

Of the mothers, 5,310 had episiotomy wounds and 7,022 had vagino-perineal tears, making a total of 12,332. Breakdowns of these wounds occurred in 67 patients, or 0.05 per cent. Ten of these had to be re-admitted for secondary suture while the rest were treated as outpatients.

**DISCUSSION**

When an efficient hospital obstetric service is offered to the public free of charge, an increasing demand is inevitable. This demand may be met in two ways: by increasing the number of beds or by decreasing the length of stay after delivery. Bed strength may be increased by putting up "emergency" and "corridor" beds. This is an undesirable measure as it means overcrowding, cross-infection and little or no privacy. In the Kandang Kerbau Hospital, these so-called "temporary" beds have come to stay. The congestion in the main postnatal ward, though undesirable, still allows a reasonable degree of physical comfort and hygiene. Bed-sharing has not yet been resorted to. In 1954 when it became obvious that the demand on hospital beds could no longer be met, the second expedient was employed, that is, early discharge of mothers from hospital and Domi-

ciliary After Care by Government Midwives during the early puerperium.

Early discharge following hospital delivery has been practised in other advanced countries. In America, Nabors and Herndon (1956) reported good results over a five-year period, discharging 57.6 per cent of 11,466 mothers within 24 hours of delivery. Theobald in England (1959) discharged 26 per cent of mothers within 48 hours in order to reduce the demand for lying-in beds and make available more beds for antenatal purposes.

This practice has much to offer from the patient's view-point. One or two days after delivery, she is re-united with her family, and family ties being so important in the local culture, this is a major consideration, especially to the grande multiparous mother. It means a minimum of disruption of home life. Early ambulation for the mother ensures against circulatory stasis and thrombo-embolic complications. The short hospital stay minimises the risk of cross infection. To the hospital administration, too, there are no small benefits. It saves on the building of new hospitals—an expensive business. It also saves on the upkeep of hospital beds, which in the Kandang Kerbau Hospital costs over \$25 per day per bed. So much on the credit side of the picture.

On the debit side, there are many undesirable features. The rapid turnover of large numbers inevitably leads to slipshod habits—a deadly enemy of good medicine. The staff have to constantly battle against the incessant inflow of patients and the pressure on beds. Somehow, beds must be vacated, patients sent home, and space found for fresh arrivals. Working under continuous high pressure, individual patient attention is reduced to the barest minimum. Complications which can and should be detected are missed. Six cases of imperforate anus (Table III) illustrate the point. The condition was missed by the labour ward midwives, the postnatal ward staff and the medical officer responsible for the discharge. Supervision by senior medical staff, too, is much thinned out and diluted by the volume of clinical material.

Even more inimical is the effect on the various training programmes conducted in this teaching hospital. Every available hand is constantly in demand to keep up the flow of patients at the rate of over 100 deliveries each 24 hours. Admittedly, a remarkably smooth and efficient piece of work is being accomplished and much credit goes to the staff. But pupils and nurses in training are kept constantly doing

many things mechanically, with hardly any time to investigate, enquire, reason and think. There is also a woeful lack of puerperal nursing knowledge since so few patients stay long enough after delivery. In a similar manner these undesirable features also adversely affect the training of medical students.

It is not often realized that the Kandang Kerbau Hospital is the only institution in the entire region of Malaysia where pupils, nurses, medical undergraduates and postgraduates are trained in obstetrics. For such a training institution certain minimum conditions must be maintained in order to provide for an efficient training programme, unhampered by overwhelming service demands. In order to regain these minimum conditions, the number of deliveries permitted in this Hospital must be reduced by half. This will allow a sufficient number of post-partum women to stay in long enough in the lying-in period for teaching purposes. What this lying-in period should be is a matter to be determined by the Midwives' Board, Singapore. The Rules of the Central Midwives' Board, Great Britain, defines it as a period not less than 14 days nor more than 28 days. But most hospitals in that country have modified it to 10 days. This practice apparently receives official approval (Cranbrook Report, 1959). In the Kandang Kerbau Hospital a period of 7 days would seem to suffice.

#### CONCLUSION

The Domiciliary After Care Service has solved in large measure the acute shortage of lying-in beds at the Kandang Kerbau Hospital by providing home supervision of patients in the first week of the puerperium. This allows the discharge of 80 per cent of mothers within 48 hours of delivery. The results appear satisfactory.

It has made possible the continued increasing intake of patients into the Kandang Kerbau Hospital, leading to rapid mass production methods, to the great detriment of the teaching and training programmes of the Midwifery School and the University Department of Obstetrics. The ultimate solution still lies in the provision of more lying-beds, and the restriction of the turnover at this teaching hospital.

#### SUMMARY

- 1 The worldwide trend in recent times has been a growing popularity of hospital confinement in preference to home. The reasons for this trend are briefly discussed.
2. The increasing demand for a free hospital obstetric service in Singapore and the problems created are considered.
3. This demand has been largely satisfied by a drastic reduction in the postpartum stay in hospital, 80 per cent of mothers being discharged within the first 48 hours of delivery.
- 4 In order to provide "lying-in" supervision after discharge, a Domiciliary After-Care Service was instituted in 1954 and has functioned on an increasing scale since then.
5. The workings of the Domiciliary After-Care Service are briefly outlined, and its results for the year 1961 summarised.
- 6 The service has afforded many benefits of a socio-economic nature to patients as well as to the hospital administration. But, by making possible the continued rapid turnover of deliveries, it has seriously interfered with the training of undergraduate and postgraduate students, midwives and nurses.
7. The solution to the problem lies in the provision of more maternity beds in Singapore.

#### ACKNOWLEDGEMENT

Grateful thanks are due to the late Miss M. Chalmers and to Miss Janet Chew of the Midwifery School, Kandang Kerbau Hospital, for supplying information about the Domiciliary After Care Service and for their help in this survey.

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