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Ante-Natal Care at Kandang Kerbau Hospital an Evaluation of Ante-Natal Services

by

T. A. Sinnathuray, MBBS (M), FRCS (EDIN.) FRCS (GLASG.), MRCOG.
KANDANG KERBAU HOSPITAL, SINGAPORE.

Historical Aspects

The concept of antenatal care is not a modern one, and is probably one of the oldest forms of preventive medicine. Browne (1960) points out that Dr. Ad. Pinard was one of the early pioneers of Europe who was primarily responsible for advocating the preventive care of the pregnant woman. In 1878 and 1895, Dr. Pinard presented two historical papers, in which he pointed out the value of antenatal care in the early detection and correction of abnormalities in pregnant women. His particular reference was then made to the problems of foetal mal-presentations and toxaemia of pregnancy. His pioneer work was done on the abandoned unmarried pregnant women of Paris.

In the United Kingdom, Dr. J. W. Ballantyne of Edinburgh published a paper entitled "A plea for a pro-maternity hospital" in 1901, and this historical document marked another important step in the development of antenatal care. His chief purpose for the advocation of a "pro-maternity" hospital was the advancement of antenatal therapeutics in the interests of foetus and child. More reference will be made to Dr. Ballantyne's work later on.

In the United States of America, pioneer work on antenatal care and preventive midwifery was initiated by the Instructive Nursing Association of Boston in 1901. They carried out their work at the Boston Lying-in Hospital; and by 1912 this Association was providing about three antenatal visits to each patient of the Boston Lying-in Hospital out-patient department.

In Australia, the first antenatal clinic was opened in 1910 by Dr. T. G. Wilson of Adelaide, and this is said to be the first antenatal clinic in the British Empire. Two years later, in 1912, Dr. J. C. Windeyer of Sydney opened a similar clinic at the Royal Hospital for Women. During the first two completed years, the individual attendance was 906, or 29 per cent of the total confinements conducted by the hospital staff.

Comparative Patterns of the Ante-Natal Services in the United Kingdom and Singapore

The patterns of the antenatal services in United Kingdom and Singapore are presented schematically in the undermentioned Figures 1 and 2 for a comparative study. Both the Figures are representative of the outpatient and inpatient antenatal services that are at present available in their respective territories.

Both the Figures are self-explanatory, and it is not intended to enter into detailed discussion of the various facets, other than the few pertinent comments that have been made at the foot of each of the two Figures (Fig. 1 and Fig. 2).

In the above table (Table I) has been outlined the aims of modern antenatal care in the broadest possible sense. To fulfil such aims, there must not only be available adequate outpatient and inpatient antenatal services, but also such services must be of a reasonably high standard.

All the sixteen aims of a comprehensive antenatal service, as outlined in Table I (above) are self-explanatory, and it is not possible to elaborate further on these aims in this short paper.

(a) Outpatient Services

- Local Health Authorities
- Regional Hospital Boards (N.H.S.)
- General Practitioner Care (N.H.S.)
- Private Consultant Clinics (Ex-N.H.S.)

(b) Inpatient Services

- Regional Hospitals* (Registrar/Consultant Care) (N.H.S.)
- General Practitioner Hospitals (General Practitioner Care) (N.H.S.)
- Private Nursing Home (Consultant/ General Practitioner Care) (Ex-N.H.S.)

(c) No Care at All

Only a very small percentage. According to the Joint Committee of the Royal College of Obstetricians and Gynaecologists Survey in 1946, this group represented **0·9%** of all the pregnant mothers in the United Kingdom.

N.H.S. = National Health Service of the United Kingdom.

***Note:** In the majority of the Teaching Hospitals in the United Kingdom, the average number of Ante-Natal Beds is between 5 to 10 Beds per 1,000 births. At the Aberdeen Maternity Hospital, there are 8 Ante-Natal Beds/1,000 Births (Baird, 1960).

Fig. 1 — Pattern of Ante-Natal Services in the United Kingdom

(a) Outpatient Services

- Hospital (K.K.H.) Clinics (Consultant/ M.O. Care)
- Maternal & Child Health Clinics (M.O. Care)
- Private Doctor Care (Consultant/ G.P.)
- Private Midwife Care

(b) Inpatient Services

- Govt. Hospitals (K.K.H.)
- Private Hospitals
- Private Nursing Homes
- Domiciliary

(c) No Care at All

Compared to the United Kingdom, a relatively higher percentage of pregnant mothers would fall into this category.

Note: At the Kandang Kerbau Hospital (K.K.H.), the average number of ante-natal beds is approximately 3·5/1,000 Births.

Fig. 2 — Pattern of Ante-Natal Services in Singapore.

Principles of an Ideal Ante-Natal Service

In the above table (Table II) is outlined the principles that should be incorporated into any system of an ideal and comprehensive pattern of ante-natal services.

Ideally every pregnant mother should be booked for ante-natal care from very early in pregnancy, preferably in the first three months of gestation. At the first ante-natal visit there should be a comprehensive work-up of every new case. Such a work-up would include a detailed menstrual history and history of her present pregnancy.

History of "quickening", if available, would be of considerable use to evaluate the maturity of pregnancy in those women who are uncertain of their LMP, and seen for the first time late in pregnancy. Disturbances in early pregnancy, such as episodes of threatened abortion, urinary infection, rubella contact or hy peremesis, should all be made note of. The past obstetric and gynaecological history is of utmost importance, and will invariably have relevance to her present pregnancy. The family history is of relevance in so far as the possibility of recurrence of multiple pregnancies and foetal abnormalities. The social history may have some bearing to the management of her present pregnancy.

At the first ante-natal visit every case should have a routine assessment of her cardiac and pulmonary status. The blood pressure, body weight and urine examination for albumin and sugar should be assessed at the first ante-natal visit, and repeated for all subsequent visits. The haemoglobin estimation of every pregnant woman at her first visit is a routine at most reputable ante-natal clinics, and so is a routine X-ray of the chest.

At the first ante-natal visit, the pregnant woman should be adequately advised on diet and the intake of vitamin/mineral supplements throughout her pregnancy. She should also be advised on clothing, hygiene, rest and sleep throughout her pregnancy. Advice should also be given on the value of ante-natal care, and the importance of attending ante-natal clinics regularly without default throughout her pregnancy.

Every pregnant mother should have regular follow-up throughout her pregnancy and even during the first six weeks of her puerperium. Ideally ante-natal visits should be at four weekly intervals up to the twentieth week of gestation, 2 weekly between the twentieth and thirty-sixth week of gestation, and thereafter at weekly intervals until delivery.

The routine at these subsequent follow-up ante-natal visits consists of blood pressure and body weight, and the examination of urine for sugar and albumin. In addition the abdomen is palpated and a record is made of the fundal height, fundal girth and foetal lie and presentation. Abnormalities in any of the above findings may call for therapeutic measures; and such measures could either be administered as out-patient, or in some cases this may call for inpatient care. In certain abnormal conditions of pregnancy, such as heart disease and diabetes mellitus, joint ante-natal care may have to be instituted by obstetrician and physician at the same clinic. Patients with Rhesus immunised pregnancy will have to have regular and frequent blood checks throughout the pregnancy. Foetal malpresentation will have to be detected and corrected during the ante-natal care. Suspected cases of cephalo-pelvic disproportion and cases of foetal abnormality may warrant further radiological investigations. But, in view of the possible radiation hazards to the unborn child, unnecessary radiological investigations should be avoided at all costs in the ante-natal care of pregnant mothers.

To have a comprehensive ante-natal service working successfully it is necessary to provide needy mothers with adequate financial assistance, as well as a Domestic Home-Help Service. The latter has an important role to play in the ante-natal care of the cardiac patient. This field falls into the province of the almoner's department and the availability of such an almoner service is a must in any major maternity hospital.

Besides the abovementioned radiological facilities and the routine examination of urine and haemoglobin, facilities for other specialised investigations will have to be provided in all major maternity centres; specialised investigations such as a full work-up for a pregnant mother with anaemia, renal disease, thyroid

TABLE I

Aims of Ante-Natal Care

1. Build-up of Doctor-Patient Relationship.
2. Advise on Hygiene and Nutrition in Pregnancy.
3. Selection of Cases for Hospital Confinement.
4. Cytological Screening for Cervical Cancer.
5. Accurate Assessment of Foetal Maturity.
6. Early Detection and Treatment of Anaemia of Pregnancy.
7. Early Detection and Treatment of Toxaemia of Pregnancy.
8. Detection and Management of Medical Disorders in Pregnancy: (a) Heart Disease, (b) Hypertension (chronic), (c) Pyelonephritis, (d) Diabetes Mellitus.
9. Detection and Management of Rhesus Immunised Pregnancy.
10. Detection and Management of Foetal Malpresentation.
11. Detection and Management of Multiple Pregnancy.
12. Detection and Management of Cephalo-Pelvic Disproportion and Contracted Pelvis.
13. Detection and Management of Placental Insufficiency Syndrome.
14. Expectant Management of Antepartum Haemorrhage.
15. Expectant Management of Spontaneous Premature Rupture of the Membranes.
16. Build-up of Patient for Hypno-Therapy in Labour.

TABLE II

Principles of an Ideal Ante-Natal Service

1. Early Booking for Ante-Natal Care.
2. Comprehensive Work-up at the First Ante-Natal Visit.
3. Regular Follow-up—Frequency of Visits.
4. Routine at Subsequent Ante-Natal Visits.
5. Almoner Follow-up Service (Including Financial Assistance).
6. Domestic Home-Help Service.
7. Specialised Investigation Facilities.
8. Conduction of Combined Specialised Clinics.
9. Adequacy of Outpatient Ante-Natal Clinics.
10. Adequacy of Inpatient Ante-Natal Beds.

TABLE III

Ballantyne's Concept of the Achievements of an Ideal System of Ante-Natal Care (1923)

1. The removal of anxiety and dread from the minds of expectant, parturient and puerperal patients.
2. The removal of much discomfort, amounting in many cases to suffering.
3. The early and much more satisfactory treatment which can be given to the dangerous complications of pregnancy, such as toxaemia, syphilis or heart disease.
4. An increase in the number of normal labours and of normal pregnancies.
5. The stillbirth rate should be at once lessened.
6. To use his own words, "one may confidently look for a fall in the maternal death rate, due to such obstetric complications as sepsis, haemorrhage, embolism and the like, and to the operative interference which they call for."

disease, or diabetes mellitus may be called for in the ante-natal care of pregnant women with such complications.

Finally it must be stressed that in order to provide an ideal ante-natal service for any community there must be available an adequacy of both outpatient ante-natal clinics as well as inpatient ante-natal beds. Further the public should be educated towards the value of such a service; and such an ante-natal service shonld be within the economic reach of every pregnant woman of the community, irrespective of the race, social class or creed. To fulfil such an aim many countries have introduced a socialised system of medicine, and this may have to be seriously considered in our Malaysian and Singaporean society.

Achievements of an Ideal Ante-Natal Service

In the final section of this paper, it is intended to discuss the extent to which an ideal system of ante-natal care has fulfilled expectations. In this context, it will be both interesting and instructive to campare the concepts of the achievements of ante-natal care, as held by Dr. Ballantyne in 1923 (Table III) to that held by the present-day obstetrician (Table IV).

In his last address, delivered three weeks before his death in 1923 to the Nottingham Medico-Chirugical Society, Ballantyne put forth his concept, and this has been presented in Table III.

However, if Ballantyne's 1923 concepts were translated into the modern obstetrical jargon, and viewed at by the present-day practising obstetrician, the achievements of an ideal system of ante-natal care can be presented as follows (Table IV):

TABLE IV

Achievements of an Ideal System of Ante-natal Care (Modern Concept)

1. Attainment in the Motsher and Foetu of a comprehensive Physiological Status, both physically and psychologically, throughout the pregnancy.
2. Reduction of Maternal Mortality.
3. Reduction of Maternal Morbidity
4. Reduction of Perinatal Mortality.
5. Reduction of Neonatal Morbidity.

Summary

1. The history of the development of antenatal services has been traced.
2. A comparative study of the pattern of ante-natal services in the United Kingdom and Singapore has been undertaken.

3. The aims of antenatal care have been tabula ted.
4. The principles of an ideal antenatal service have been tabulated and discussed.
5. The achievements of an ideal system of antenatal care have been tabulated, and a comparative study made between Balantyne's concept of 1923, and that of the present-day obstetrician.

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