The idea to form the Federation of Asia Oceania Perinatal Societies was conceived when Prof Ratnam and I were invited by Fred Grauaug to a meeting in Perth in 1978. The embryo was developed in Japan in the laboratories of Sakamoto Takeda and Maeda where the constitution was drawn. Nine months later on 26.11.79, Dr Ho Nai Kiong and I had the pain and pleasure of delivering the 'FAOPS' baby. It happily coincided with Fred Grauaug's honeymoon but not so for the organisers. 17 years later to host the meeting in Singapore is the privilege of the PERINATAL SOCIETY OF SINGAPORE. We are supported by the MOH, NUS, O&G and Paediatric societies, restructured and private hospitals and are indebted to members of the Organising Committee and our sponsors for their cooperation and generous support. We are happy that over 750 participants from 36 countries are attending the congress.

No period in an individual's life is as critical in determining his or her future health and propensity to disease as the perinatal period. Recent studies by DAVID BARKER indicates that insults during the earliest stages of life can affect us in adult life. Now we have to think that long term morbidity has its beginnings in failure of the baby to grow inside the mother's womb. It is a significant risk factor to develop high blood pressure, diabetes and stroke in adult life. This 9th Congress of the Federation which looks at PERINATAL HEALTH poses enormous challenges with staggering implications for obstetricians, neonatologists, health care providers and society. More importantly as the theme of the meeting is RELEVANCE AND EXCELLENCE IN PERINATAL CARE, we will be critically examining the type of care we are giving. Clearly, technology is not the answer as many members cannot afford it. "Prevention is better than cure." Before effective preventive strategies can be employed the aetiologies must be understood. Professor Emile Papiernik will talk to us on the success of a program preterm birth in France. Prof Robert Brandt will address us on Primary Prevention of Birth Defects. Birth asphyxia remains a major problem and will be considered by several speakers.

The observation between asphyxia and cerebral palsy provided the impetus for electronic fetal heart rate monitoring. The public were reassured by the obstetricians that cardiotocography would prevent birth asphyxia. When babies were born with cerebral palsy, legal suits ran into millions of dollars by way of compensation. Twenty years later we know that the presumption was
wrong and the lawyers were the only ones who benefited from our foolishness, as only 10% of cases of intrapartum asphyxia lead to cerebral palsy. The next blunder came in the field of neonatal intensive care with great showmanship saving babies weighing less than 600g, who were kept alive by available technology at considerable expense, only to have severe neurological disabilities or die in the first few years of life! The cost of survival in the US is currently estimated at US one million dollars per survivor of VLBW babies. In Singapore it costs $1000/per day to be in the NICU (<1500g). Developing countries cannot afford this and have little or no facilities for handicapped children. With limited resources it is necessary to prioritise neonatal care. It will have to begin with training in neonatal resuscitation and provision of basic neonatal facilities.

"WRONG IDEAS BEGET WRONG TECHNOLOGIES NOT DEFECTIVE ONES"

At the turn of the century, Ballantyne wrote that the goals of perinatal care should be to prevent fits, treat maternal disease and identify monsters, obstetricians and paediatricians have therefore concentrated on congenital malformations and genetic disorders. Perinatologists can look back with satisfaction on the progress they have made in these areas. Slow in most Asian countries but rapid in Japan, Singapore, Australia and New Zealand. We can look with pride that some of the real major advances in perinatal medicine have come from the Asia Oceania region. As a trainee registrar in Auckland in New Zealand in the 60’s, it was a great fortune to see fetal medicine born when Sir William Liley (BIL) transfuse the baby whilst still in the mother’s womb for Rhesus haemolytic disease. Sir Graham Liggins (MONT) introduced steroids for accelerating babies lung maturation. In Australia the pioneering efforts of Geoffrey Thorburn made us understand the birth process and the fetal circulation. Sadly the first President of the Federation who was going to address us at this meeting passed away a few weeks ago. On the paediatric side FUJIIWARA from Japan introduced surfactant therapy which is now widely used to save preterm babies. In the 70’s in Singapore, Sultan Karim, the Sultan of Prostagraminds introduced several PG analogues for clinical use, some of which are only now commercially available.

On the less scientific but practical side, Shirodkar in Bombay introduced cervical cerclage to prevent preterm birth and this was later popularised by MacDonald in Australia. My Filipino friends may remember the simple introduction of a sterile pack containing a blade, a ligature and swab by Fedel De Mundo and Genato under the sponsorship of Dr Watterville led to saving of millions of babies dying from neonatal tetanus.

A major challenge now is to look at genes and the environment and reduce morbidity at a cellular and molecular level and practice evidence based medicine. This is where the future of perinatal medicine lies. To those countries of the Federation on top of the league like Singapore, Japan, Australia, New Zealand and Taiwan, the outlook is very bright. However we should not forget our neighbours where in some countries for every 1000 births, 100 babies die. A staggering mortality. To reduce this mortality the Federation has successfully organised workshops in countries like the Philippines and Pakistan. To some of us who partook in workshops, it was an eye opener. For the Federation it was a great step forward as the workshops were attended by both governmental and non governmental and funding agencies like the World Bank. At the last workshop in Pakistan, Victor Yu, Dr Ho and I were deeply moved by seeing a poster of this Congress displayed in a dirty old hospital. To members of the Federation of these developing countries, we respect you for your perseverance, clinical competence, and slow progress. The Federation is further planning workshops in Nepal and Vietnam and we would welcome doctors and nurses from advanced developed member countries to help us. We can assure you that the contentment and happiness you receive in the rural parts of the developing world is far more satisfying and resourceful than the half truths of perinatology - you may publish in journals. Let us be honest and teach them the basic tenets of perinatal care and impress on them the value of careful audit. Remembering the theme of our Congress - RELEVANCE AND EXCELLENCE IN PERINATAL CARE.

Singapore has attained some of the lowest figures on perinatal health in the World in 1995 (per 1000) PNM 4.3, NNN 2.1, SB 2.9. There has been a steady decline in mortality since 1965’s, the thrust for this came from socio-economic progress and family planning with the provision of a state of the art infrastructure of health care by the MOH. The antenatal screening programme also includes screening for thalassaemia, genetic counselling, and ultrasound. All deliveries are in modern hospitals providing optimal neonatal care.

Perinatologists are in a key position to understand the many factors which affect the health, welfare and education of mothers and children. We play a prudent role for providing scientific facts to governments on which we should base our clinical practice and on which they can understand our role as advocates for the optimal, mental and physical health of our mothers and children.

I conclude with a deep sense of gratitude to members of the Council of the Federation and members of the organising committee.

PRESIDENTIAL ADDRESS - 9TH FAOPS, 10-11-1996
Prof. R L Tambyrajah PhD FRCS, FRNZCOG, FRCOG
President, Federation Asia Oceania Perinatal Societies
President Perinatal Society of Singapore
Welcome Speech by the Organising Chairman, Dr. Ho Nai Kiong at the Opening Ceremony of the 9th Congress of the Federation of the Asia Oceania Perinatal Societies on November 10, 1996 at 6pm at the Raffles City Convention Centre, Westin Hotel.

"We are happy that we see our effort of hosting this Congress realised. We made the attempt of bringing this Congress to Singapore as early as 1980 when we were in Perth Australia for the 6th FAOPS Congress. We were not successful then. Again we were not successful in Bangkok. 3 years ago we finally won the trust of the Council of Federation to have the Congress held in Singapore.

For both Dr. Tambyrajah and myself, we have sentiments for this Congress. We were Joint Organising Secretaries for the 1st Congress held in Singapore from November 25-28, 1979, when we were young and energetic. The idea of holding the FAOPS was mooted in Perth when Dr. Tambyrajah, Prof. Ratnam attended a meeting in Perth where they met Dr. Alfred Grauaug. Prof. Ratnam subsequently became the Organising Chairman of the 1st Congress and Dr. Alfred Grauaug was the 1st President of the 1st Congress. For us, after 17 years we become the Organising Chairman of this Congress. This gives us a sense of satisfaction.

The Organising Committee has been working very hard for the past 3 years. So many things have been involved. Campaigning for our participants to come, Salesmanship in foreign countries, fund raising, getting the best speakers to come to lecture, selecting the up-to-date topics. We had a lot of anxious moments, serious discussions how to ensure this Congress a success, and to make sure that all our guests have a fruitful meeting and a memorable trip.

The lecture topics were carefully chosen. The speakers of the topics are experts or authorities of their own right. Some of our speakers are known to us, some have long association with us. I am happy to mention that some of them have trained our doctors, either in Singapore or in their own country. Some of them are partners in our research projects.

This is a most meaningful gathering. This Congress enables us to come closer, to get to know you, to do networking. Long lasting association and friendship should be established from here. For those who have already known one another, lets us re-new and further strengthen the bond.

I thank the members of the Organising Committee, & the two Scientific Chairmen, for all their hardwork. We enjoy working with our members for the past 3 years to see this Congress through. I also wish to thank all our sponsors for their strong and unfailing support. Some of our sponsors have put up the trade exhibitions. I strongly encourage our participants to visit their booths.

Once again I think Dr. Chen Ai Ju who is the expert in the field in maternal and child health. Her presence here tonight indicates how much she cares for perinatal medicine."

Dr. Ho Nai Kiong
Organising Chairman of the 9th Congress of the Federation of the Asia Oceania Perinatal Societies
5-YEAR OUTCOME OF CHILDREN LESS THAN 1500 GRAMS BIRTHWEIGHT
Yeo C L, Ho L Y, Department of Neonatology, Singapore General Hospital, Singapore

Rapid advances in Neonatal intensive care has resulted in significant increase in survival of Very Low Birth Weight (VLBW) infants and hence raised serious concern regarding long term outcome of these infants.

We report the neurodevelopment outcome of VLBW infants born between January 1988 to December 1990. Of 169 infants, 76.3% of 105 children survived.

The principal impairments documented included cerebral palsy in 8 (severe 2, mild 6), bilateral deafness and epilepsy in 1 child. None in this cohort were blind.

Severe cerebral palsy, bilateral sensorineural deafness and low Leiter Scale or severe retardation caused severe disability in 7 (6.7%) children (multiple factors in 3, single factor in 4). Mild/moderate disability was present in 7 (6.7%) children with borderline IQ of 69 to 84, mild or moderate cerebral palsy, deafness or epilepsy (multiple factors in 2, single factor in 5).

For the cohort, our 2 years assessment overestimated the prevalence of mild/moderate disability at 5 years (15.5% vs 6.7%). For individual children, the 2 years assessment correctly estimated 5 years disability in 90 (85.7%), overestimated in 13 (12.4%) and underestimated in 2 (1.9%).

We conclude that developmental delay at two do not always signify intellectual impairment at five, hence continuous follow-up till school age in essential and important for these children.

ANTENATAL PREVENTION OF RESPIRATORY DISTRESS SYNDROME
Emile Papiernik, France

Antenatal corticosteroid therapy for fetal maturation reduces mortality, respiratory distress syndrome and intraventricular hemorrhage in preterm infants. These benefits extended to a broad range of gestational age (24-34) corticosteroids are greatest more than 24 hours after beginning treatment, treatment less than 24 hours may also improve outcomes. The benefits of antenatal corticosteroids are additive to those derived from surfactant therapy.

In the presence of preterm rupture of the membranes, antenatal corticosteroid therapy reduces the frequency of respiratory distress syndrome, intraventricular hemorrhage and neonatal death, although to a lesser extend than with intact membranes.

Data from trials with follow up of children up to 12 years indicate that antenatal corticosteroid therapy does not adversely affect physical growth or psychomotor development.

THALASSAEMIA: DIAGNOSTIC METHODS AND PRENATAL SCREENING
Ivy Ng, Law Hai Yang, Tan Cheng Lim
Dept. of Paediatrics, Singapore General Hospital, Singapore

Thalassaemia is the commonest genetic disorder in South-East Asia, afflicting approximately 3% of the population. It is inherited in an autosomal recessive manner, with the homozygous form presenting with serious medical consequences.

Population and prenatal screening play a vital role in the detection of individuals with the thalassaemia trait. Screening is of particular importance in the presence of a positive family history. The National Thalassaemia Registry, established since 1992, aims to register all individuals with thalassaemia minor/major and undertakes to screen all first degree relatives and spouses of these individuals. To-date, there are more than 4000 registrants. Screening of this high-risk group in the Registry has resulted in a 45% positive pickup rate.

Prospective identification of couples at-risk for a child with β-thalassaemia major or Bart’s hydrops foetalis allows genetic counselling and the option of prenatal diagnosis to be made available to them.
least 400 micrograms of folic acid a day in the prepregnancy period to early pregnancy has been shown to reduce the incidence of spinal cord and brain abnormalities. This has led to the fortification of almost all brands of "milk for pregnant mothers". Folic acid is also available inexpensively as a dietary supplement in a tablet form. In mothers with previously affected children the recommended dosage is 5 mg a day.

2. Zinc
Zinc is a mineral that needs to be supplied daily as it is secreted through the kidneys and in perspiration. It is found in animal proteins and thus vegetarians or those who dislike meats may require zinc supplements. The US RDA or recommended dosage for zinc in pregnancy is 12 - 15 mg/day. Low zinc intake has been associated with low birthweight and premature babies.

3. Iron
Iron supplements are usually required as pregnancy increases the body's demand. The blood volume in a pregnant mother increases by 1.5 times and thus she needs to build up adequate red blood cells or run the risk of anemia. The US RDA for iron in pregnancy is between 30 - 60 mg a day. Iron supplements can cause constipation or nausea, but taking them with meals can help. To build blood, proteins, folic acid and vitamin B12 are also required. The presence of Vitamin C allows iron to be more easily absorbed. Iron is essential for fetal growth and has been shown that iron deficient babies do not function mentally as well as those with adequate iron.

4. Multivitamin supplemetations
Vitamins are useful in the digestion of foods in the body and thereare to release the energy stored within them. Vitamins B1, B2 and niacin are found in meat, poultry, fish, eggs and dark green leafy vegetables. Vitamin B12 together with folic acid are required for the formation of red blood cells and for cell multiplication. As vitamin B12 is found only in animal proteins, vegetarians will need supplementation. Vitamin D is essential for calcium absorption and the need for this vitamin increases by 145% for the formation of the baby's skeleton. Vitamin A is required for the developing baby's growth however excessive doses in pregnancy of greater than 25,000 IU per day have been found to cause fetal abnormalities. A daily dose of 4,000 IU in pregnancy is the recommended dosage. Vitamin E is important in maintaining the integrity of the developing nervous system, muscles and retina.

5. Dietary
The hormones that are produced to ensure a successful pregnancy tends to relax the intestinal muscles and the transport of food slows down. A diet low in fiber would often result in constipation as fiber enhances intestinal motility. Thus it is advisable to increase one's intake of high fiber foods as well as increase fluid intake to reduce the chance of constipation.

6. Alcohol, Smoking and Drug Abuse should be avoided as much as possible as all have adverse side effects on the developing baby. Excessive alcohol leads to the development of Fetal Alcohol Syndrome which is associated with abnormal faces as well as mental retardation and other anomalies. Smoking leads to growth restriction and small babies with reduced reserves. Smoking also increases the risk of miscarriage.

7. Medications
A word of caution which has been repeated ad nauseum is that the pregnant mother should be aware of her medications and seek to convert them to those compatible with a good pregnancy outcome.

A balanced nutrition is required to protect the mother’s health, optimise baby’s growth as well as to prepare the mother for nursing. A mother has to have an adequate supply of nutrients so as to ensure that her own reserves are not depleted by her pregnancy.

### US RDA RECOMMENDATION

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Pregnancy and childbirth bring with them accompanying joys and fears. As parents-to-be, we want to ensure that our newborn has the strongest possible head start in life. Healthy Baby, Happy Mummy was compiled by local obstetricians, paediatricians, nutritionists and nurses for the Perinatal Society of Singapore to provide you with a concise handbook on the whole pregnancy experience, on labour and childbirth, and on looking after your newborn and seeing him into the first few years of life.

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