Quality Development in Perinatal Care: The OBSQID Project

Report on the Seventh WHO Workshop
Budapest, Hungary
2–3 November 2001
ABSTRACT

At the Sixth Workshop in 2000, initial steps were taken to decentralize the Project to national and international partners with longstanding involvement in OBSQID. Satellite activities undertaken within specific areas of perinatal care, such as neonatal care, diabetes in pregnancy and multiple births, have gained their own momentum. At this Seventh Workshop, these plans for transfer and decentralization matured into concrete action plans that will ensure continued implementation of the Project throughout Europe. Responsibility for the Project will be passed to national associations of perinatal medicine and ministries of health under the aegis of the European Association of Perinatal Medicine, and more specifically its Study Group on Standardisation of Birth Certificates and Perinatal Death Certificates.

Keywords

PERINATAL CARE
OBSTETRICS
QUALITY OF HEALTH CARE
DELIVERY OF HEALTH CARE
APPROPRIATE TECHNOLOGY
INTERNATIONAL COOPERATION
EUROPE
ACKNOWLEDGEMENTS

The World Health Organization Regional Office for Europe wishes to extend its special thanks to Professor György Bartfai, Head of the WHO Collaborating Centre for Research in Human Reproduction, University of Szeged, Faculty of General Medicine, Department of Obstetrics and Gynecology for hosting and providing his kind and generous assistance in co-organizing this event.
LETTER OF ENDORSEMENT
FROM THE MINISTRY OF HEALTH OF HUNGARY

MINISTRY OF HEALTH
REPUBLIC OF HUNGARY
ADMINISTRATIVE SECRETARY OF STATE
Address: Budapest V., Arany János u. 6-8.; H-1245 Budapest, P.O.Box 987.
Telephone: (36 1) 302-0922; Telefax: (36 1) 359-1765; Telex (61) 22-4337

10.750/2001

To the Participants
of the Seventh Workshop
for quality development in perinatal care

Budapest, 30 October 2001

Dear Colleagues, Ladies and Gentlemen,

It is an honor and pleasure for Hungary to host the seventh Workshop for quality development in perinatal care project in Central Europe.

The topics you are going to discuss during the forthcoming days, namely the promotion of the quality of perinatal care, is a top priority in our country. Year after year, the live birth rate has been declining in Hungary. Most recently, the downward slope has been less steep, but stopping it altogether is still a major task before us. We loose nine out of every thousand babies born, a rate double that of the advanced nations in Europe. Nine percent of our neonates enter the world with a birth weight of less than 2.5 kg, and in the congenital anomaly rate was nearly 3 for 100 thousand live births.

And all this happens under the circumstances of high professional level perinatal care. We do not have well-trained, experienced, devoted experts, centers of excellence that make every effort to contribute to improving the life chances of the new born. We had to recognize, that, while the professional level perinatal care is of inevitable importance, it should be accompanied by a number of inter-sectoral actions, if we want to reach a real breakthrough in improving live birth rates, and the health of our newborn. This recognition is reflected in the Government's "For a Healthy Nation, Public Health Program for 2001-2010" that was accepted by the Government in June 2001. One of the key elements of the program is the set of recommended actions aiming at "Guaranteeing a healthy start in life and childhood".
As you, experts in this field surely know, that demographic trend in Hungary -- although showing some positive signs -- is also very unfavourable. Thus, it is one of our main aims to promote a significant change in the mentioned trend, to support family planning and primarily big families. This aim is highlighted also by the fact that recently a special Committee for Population-Policies has been established and is presided by the Prime Minister, Dr. Viktor Orbán.

Within that overall framework, the objectives of the OBSQID project in Central Europe gains even more importance for us. It may significantly contribute to our aim, to have growing number of a healthy young population. In the hope that your recommendations will be understood, accepted and implemented appropriately not only by professionals, but also by the population we are wishing you lively discussions and a fruitful workshop.

Dr. Gyula Pulay
Administrative Secretary of State
Ministry of Health
INTRODUCTION.........................................................................................................................................1

History of the OBSQID Project ..............................................................................................................1

OBJECTIVES OF THE SEVENTH WORKSHOP ON QUALITY DEVELOPMENT IN PERINATAL CARE ..............................................................................................................................5

PROCEEDINGS ...........................................................................................................................................6

The OBSQID Project status quo .............................................................................................................6
The situation of quality of perinatal care in Hungary: achievements and problems ....................................7
Importance of introducing a European integrated and standardized perinatal data collection system in Hungary .............................................................................................................................11
The quality of perinatal care and the OBSQID Project in Slovakia ............................................................14
The progress in quality of perinatal care and adoption of the OBSQID Project in the Czech Republic ........................................................................................................................................17
Experiences in data collection and comparison to improve the quality of perinatal care: Progress and implementation reports ........................................................................................................21
Change from a government-hospital [St. Luke’s Hospital] database to a National Maternity Database with 100% data capture rate ........................................................................................................24
Perspectives of a subregional OBSQID model and links with EAPM .......................................................50
Proposal for implementation of OBSQID project at a national level in Hungary .........................................54
Identification and promotion of the best perinatal clinical practice in Hungary: Existing structures and resources for continuous training ................................................................................................................................56

WORKING GROUPS (WG): WHAT STRATEGY AND INFORMATION SYSTEM FOR THE OBSQID PROJECT FOR IMPLEMENTATION AT NATIONAL OR LOCAL LEVEL? ...............58

SUMMARY OF THE WORKSHOP ...............................................................................................................64

Next OBSQID Events ................................................................................................................................64
INTRODUCTION

History of the OBSQID Project

“By the year 2000, there should be structures and processes in all Member States to ensure continuous improvement in the quality of health care and appropriate development and use of health technologies. This target can be achieved through:

- Combined strategies for the assessment and promotion of the quality of care, the selection, development and proper use of appropriate technology, and the training of personnel;
- International collaboration and information exchange on assessment procedures, care standards, training and technology development.”

- The WHO Health for All 2000, Target 31, Quality of Care and Appropriate Technology

In the mid-1980’s, the concept of using telematic information systems to collect perinatal data was developed. This came at a time when differences were being observed in maternal and child health throughout the European region which could not be attributed to genetic or socio-economic factors. It was suggested that the aggregation of perinatal data at local, regional, and national levels as well as timely data analysis, feedback and comparison of results could assist in promoting quality of care and improving perinatal outcomes.

In 1984, the European office was given a special mandate by member states to collect more extensive data on maternal and child health in the region. A developmental strategy was initiated in 1986 by the Quality of Care and Technologies Programme and an action programme was subsequently carried out by the office during the 1992-3 biennium. An early version of a labour and delivery basic information sheet as well as a data collection software were developed as part of this action programme.

**The European Consensus Conference on Quality Indicators for Perinatal Care Tübingen, Germany, 21 – 22 October 1993**

This conference was a joint effort between WHO/EURO, the Institute for Medical Information Processing (IMI) in Tübingen, Germany, and the Robert Bosch Foundation in Stuttgart, Germany. Perinatal experts in the fields of obstetrics, neonatology, public health, and telematics representing 25 EURO Member States participated in the meeting. Their main goal was to reach consensus on a set of key quality indicators based on existing practice which could be used for evaluating perinatal health care activities.

The main outcome of the meeting was the identification of twenty-one indicators proposed used by providers, national health authorities, and third party contributors for evaluating quality and resource utilization in perinatal care. These indicators were compiled on the OBSQID Perinatal Aggregated Data (PAD) Sheet.

**The First Workshop on Quality Development in Perinatal Care Hillerød, Denmark, 9-10 September 1994**

The objectives of this conference were to discuss and evaluate the results of PAD pilot test (conducted October 1993 - September 1994 at 29 centres and 18 national facilities) and to further
refine the indicators. As a result, 23 indicators were finally agreed upon.\(^1\) PAD data collection activities were to continue through 1995.

The pilot revealed considerable differences in perinatal outcomes both between obstetric clinics/wards, countries and between regions within countries. To investigate why these differences existed participants recommended a case-based data sheet be developed to capturing data on individual patient encounters and processes carried out in relation to birth.

*The Second Workshop on Quality Development in Perinatal Care*  
**Trieste, Italy, 6-8 October, 1995**

This workshop was organized by the Instituto per L’Infanzia of the Bureau for International Health (WHO Collaborating Centre) in connection with the WHO/EURO course, *Perinatal Care: Planning for Appropriate Equipment*. The objectives were to present the results of 1993-4 PAD pilot testing, create a preliminary version of the *OBSQID Basic Information Sheet (BIS)* for case-based data, and introduce the concept of benchmarking as a tool for QCD.

The OBSQID BIS evolved into a one-page form containing over 50 process and outcome variables related to the perinatal period. It was piloted in September, 1996 in 11 clinics in 8 countries and data on more than 1200 deliveries was collected.

*The Third Workshop on Quality Development in Perinatal Care*  
**Trieste, Italy, 18-20 October 1996**

The Third Workshop focused on reviewing the data from the 1996 BIS pilot, discussing the advantages and disadvantages of OBSQID data collection systems, sharing experiences with data collection activities from various European countries, and proposing a logo for the OBSQID Project. The BIS variables and definitions were finalised. It was decided that indicators on maternal and fetal well-being would be included in data collection activities, that guidelines for the establishment of national perinatal QCD policies in member countries be developed, and that twinning projects be established.

*The CARAK BIS*

In December 1996, a special version of the OBSQID BIS which included data on family planning was presented at a meeting in Tashkent, Uzbekistan, attended by representatives from Azerbaijan, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan. This BIS was produced in coordination with the Sexuality and Family Health Programme at the WHO/EURO. The BIS was presented to representatives of pilot districts from the Central Asian Republics (CARAK) with an invitation to test the tool at their clinics. The resulting pilot test collected data on approximately 1500 births from five of the six CARAK countries.

*The Fourth Workshop on Quality Development in Perinatal Care*  
**Poznan, Poland, 23-25 October 1997**

The goals of the meeting were to discuss the results of the second OBSQID BIS pilot conducted 15 May-15 June, 1997, assess the need for further modifications of BIS variables, examine

\(^1\) The original “perinatal mortality” indicator was divided into antenatal death (after 27 wks), fetal death in-partu, and early neonatal mortality (i.e. death within 0-6 days after birth, reflecting different responsibilities in particular stressing the responsibility of the obstetrician in intrapartum death.
perinatal outcomes from recently collected PAD data, and increase twinning project activities. Participants also agreed on an OBSQID logo.

Recommendations were made to produce a separate neonatal BIS sheet because participants felt the existing BIS did not adequately record neonatology issues. In addition, working groups discussed specific sections of the BIS (ultrasonography, anaesthesia, well being, blood transfusion, diabetes, and neonatology) and how the concepts and tools of OBSQID can be integrated into existing national data collection systems at the local, regional and national levels.

The Fifth Workshop on Quality Development in Perinatal Care  
Nof Ginossar, Israel, 29 October – 1 November 1998

The participants of the Fifth Workshop critically examined the accomplishments of the first five years of the OBSQID Project and shared their experiences and ideas related to the development of quality of care technologies and practices in the field of perinatal medicine. Participants also examined both WHO and country specific models for data collection and management and discussed their merits and weaknesses. A number of participants reported on their practical experiences using the OBSQID BIS and made suggestions for further improving the form. An important topic discussed was how countries can develop national QCD policies based on existing perinatal QCD programmes. In addition, some participants considered how patient rights and confidentiality may be affected by the development of national and international clinical databases. Twinning project activities were reported and recommendations for creating case-based data collection tools for use in various perinatal specialities were made.

Lastly, participants identified future goals for the Project which included:

- Improve data reporting.
- Improve validity of reported data.
- Establish more twinning projects.
- Improve perinatal outcomes throughout the WHO European region.

The Sixth Workshop on Quality Development in Perinatal Care  
Porto, Portugal, 22-24, June 2000

All major OBSQID contributors and players were brought together to report and exchange information on current OBSQID national, regional, local, and satellite activities as well as twinning programmes. Working groups explored the possibility of new country based applications and uses of OBSQID as well as potential satellite programme. These working groups demonstrated progress in the development of new quality basic information sheets (BIS) for specific perinatal issues, such as monitoring of maternal pathology, neonatology, blood safety in perinatal medicine and diabetes in pregnancy.

During the workshop, Dr Isuf Kalo, Regional Adviser of the Quality of Health Systems Programme, presented a critical review of the OBSQID programme, as well as the reforms currently underway at WHO-EURO with regard to the re-orientation of country strategy and re-shaping of activities to improve WHO’s response to the demands and needs of Member States. It was agreed that the OBSQID is a useful tool for quality development that should be used and adapted as necessary to each country’s situation. In this regard, it was agreed that countries should begin establishing national task forces at country level which utilize professional associations to mobilize support and implementation of OBSQID networks. The participants were assured that QHS will continue to support countries with technical tools such as software development, assistance in data systems management, training, international standardization of
perinatal definitions, policy advocacy and a forum for perinatal health information international comparison and benchmarking. To assist countries in developing a national OBSQID network, Dr Kalo made available generic national programme implementation guidelines created by QHS. The key achievement of the 6th OBSQID workshop was gaining a commitment from the European Association of Perinatal Medicine (EAPM) to assume future stewardship of the OBSQID programme. This collaboration, proposed by Professor Karel Marsal, followed an extensive study conducted by the EAPM of the frequency of OBSQID indicators in existing vital registry and birth registry documents at the country level throughout Europe. This partnership with EAPM will serve to mobilize international and national professional associations to develop OBSQID networks and monitor the quality of perinatal care from a more generic or health system approach.
OBJECTIVES OF THE SEVENTH WORKSHOP ON QUALITY DEVELOPMENT IN PERINATAL CARE

The main goals of the *Seventh Workshop* were to:

- Examine the accomplishments of the first seven years of the Project and critically review its successes and failures.
- Present WHO and country specific models for data collection and management.
- Present the activities conducted under the twinning projects
- Review the status of the Neonatal Basic Information Sheet and the Diabetes in Pregnancy Aggregated Data Sheet (DPAD) as well as the development of case-based data collection sheets within other specialities.
- Provide participants with an opportunity to share their experiences and ideas related to the development of quality in perinatal care practices, outcomes, and technologies.
- Consolidate the collaboration between WHO EURO and EAPM.
The OBSQID Project status quo

Dr Isuf Kalo

With the structural changes in 2000 that accompanied new political leadership in the Regional Office, the programme formerly called Quality of Care and Technology has been given a mandate to shift and expand its scope from a care-based to a health system-based approach to quality development.

Thus, we will be looking more to policy than practice, taking a generic rather than a disease and condition perspective. While continuing to examine clinical practice and outcomes, this will in future take the form of health technology assessment, and in attempting to map the situation of quality development in health systems in our Member States we will be reviewing the role of insurance and other forms of health financing, licensing and accreditation, institutionalisation of health technology assessment and quality assurance schemes.

Along with its parallel project, the St Vincent Declaration Diabetes Action Programme, OBSQID has been an important activity of our programme for almost a decade, and not least thanks to our many partners and contributors we can boast of considerable progress toward our objective: to provide tools and systems for, and to promote, quality development through comparison of outcomes among peers and self-improvement.

Two obstetrical data forms, one for case-based (BIS) and one for aggregated data (PAD), have been designed for collection of information using the same indicators across all of Europe. Implementation has not been easy, but many of the indicators that we have identified as important are now included in national patient record systems or birth registers, allowing for interfacing with the OBSQID systems. Tools for collecting case-based data, primarily via the user-friendly EpiInfo, have been prepared, and WHO has purchased and set up a server exclusively to host OBSQID aggregated data and has designed the software which allows contributors to compare their own outcomes on each of the PAD’s 23 indicators with others immediately after inputting their data.

Not only has OBSQID been able to register its popularity in the amount of data we have received, but the principles and the concept of OBSQID have also inspired our partners to develop similar systems within their various medical specialities. I may mention here most notably Professor Moshe Hod and his Diabetes Perinatal Aggregated Data Sheet (DPAD), Professor Janusz Gadzinowski and Dr Jan Mazela with the NEOCARE BIS, and Dr Charles Savona-Ventura with a BIS for multiple pregnancies, all in various stages of implementation.

Here in Hungary, we hope that our honoured hosts, representing national perinatal societies, will be inspired to take the OBSQID project forward here in their setting, Hungary, as a country in accession to the EU, has an important role to play in demonstrating its ability and willingness to integrate with west European systems and structures, and although our project would be but a tiny stepping-stone in this process, we believe it can serve as an important feasibility study and a model for other Member States of our Region. We have great expectations here of bringing our Hungarian partners onto the centre stage of OBSQID!

However, with the new challenges that present themselves for our programme in WHO, we will not be able to continue as project manager and mentor for new OBSQID satellite activities. It is
therefore my hope that our long-time associate, the European Association of Perinatal Medicine, whose logo appears alongside that of OBSQID, more particularly the EAPM Study Group on Standardization of Birth and Death Certificates, will assume full day-to-day management of the project. This will include hosting the aggregated data base, periodically reviewing and promoting data input, facilitating twinning projects to exploit best demonstrated perinatal practice, and arranging meetings and workshops to bring our partners together on a regular basis for discussion and exchange of knowledge and expertise.

I hope at the next workshop of OBSQID to be able to sit in the sidelines while my good collaborator and friend Professor Marsal takes the floor as head of the project, and that with the help of you all he will be able to meet the challenges, overcome the obstacles, and maintain the momentum that OBSQID now has achieved, and of which I am sure we will hear more in the presentations to follow today and tomorrow. I take the liberty on behalf of all of you to offer him our full support and wish him the best of success with his endeavours.

The situation of quality of perinatal care in Hungary: achievements and problems

Dr György M. Csákány

Hungarian obstetric statistics has seventy years of tradition. In the 1920’s Vilmos Tauffer established a nationwide data bank called "Statistics of obstetric regulation" which was in use until 1980. At this time the Hungarian Central Statistical Office took over data-collection, although a significant part of the professional data was lost. As of the early 1980’s, the Hungarian Institute of Obstetric and Gynaecology (OSZNI) therefore introduced a new obstetric data-collection system. Besides the earlier "Tauffer" data, this also processed more important modern obstetric data, initially at institutional level. Since 1994 Hungary has converted to a statistical data-collection system that contains data on each individual obstetrical event. At this level 50% of the institutes joined the data-collection in 1994, and in 2000 we have individual information on 90 % of Hungarian obstetrical events. Obstetric institutes send their data either on floppy disc or by e-mail using the internet to OSZNI, where data collection and processing are performed. We publish the collected data in the Journal of Hungarian Gynaecologists every year. OSZNI performs special data processing on individual request, which can be used for scientific or quality control purposes. Data are anonymous, the individual patient cannot be identified from this system, and legislation regulates data-collection as well as data-supply.

The obstetric data-sheet is composed of three parts, and contains a total of 40 questions. The first half of this data-sheet is common with regard to childbirth and other obstetric events. We collect data on legal and spontaneous abortions, ectopic and molar pregnancies on this same data-sheet. The institutes have a computer-software that supports data-entry. This software prepares the data of the current month for monthly submission to OSZNI.

The first part contains identification data:
1. Hospital code
2. Number of patients list: since each institute conducts its own documentation, the data-sheet contains the data of this documentation as well as the list numbers. These lists are compulsory by law, they are administered in every Hungarian institute.
3. Number of births list
4. Mother’s date of birth
5. Date of obstetrical event
6. Zip code of patient’s address. These data are suitable for collecting various quality information.

7. The obstetrical event:
   - spontaneous abortion
   - ectopic pregnancy
   - molar pregnancy
   - interruption of pregnancy
   - delivery (single/multiple)

For example the age distribution of women in childbirth in Hungary can be determined but it is also possible to process data on individual towns, villages or regions. This provides a possibility to define the age tendency of women giving birth according to parity, or to evaluate the frequency of juvenile abortions in Hungary. In this way it became evident that the proportion of molar pregnancies in the forty plus population is five times higher than in the younger population.

<table>
<thead>
<tr>
<th>The rate of some obstetrical events: deliveries: by age</th>
<th>the others: by the delivery rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 30</td>
<td>30-34</td>
</tr>
<tr>
<td>%</td>
<td></td>
</tr>
<tr>
<td>deliveries</td>
<td>80,0</td>
</tr>
<tr>
<td>spontan abortions</td>
<td>12,2</td>
</tr>
<tr>
<td>legal abortion</td>
<td>60,0</td>
</tr>
<tr>
<td>ectopic pregnancies</td>
<td>1,0</td>
</tr>
<tr>
<td>molar pregnancies</td>
<td>0,1</td>
</tr>
</tbody>
</table>

The second part of the data-sheet contains the obstetrical history of the patient:
Number of previous deliveries, live births, still births, spontaneous abortions and legal abortions

The next group of questions concerns pregnancy: booking (date), mode of conception (spontaneous, assisted), main disease independent of the pregnancy, main pregnancy pathology (ICD-10-“X”) and disease-related hospitalisation at pregnancy. We collect data on the time of booking, because the quality of prenatal care is well characterised by the date the pregnant woman first received care. We also process the most important pathological events of pregnancy, and the diagnoses why pregnant women are hospitalised.

<table>
<thead>
<tr>
<th>Booking time in Hungary, 2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>cases</td>
</tr>
<tr>
<td>I.trimester</td>
</tr>
<tr>
<td>II.trimester</td>
</tr>
<tr>
<td>III.trimester</td>
</tr>
<tr>
<td>unknown</td>
</tr>
<tr>
<td>total</td>
</tr>
</tbody>
</table>
This slide shows that two thirds of the pregnant Hungarian population are booked in the first trimester.

The last 19 questions deal with the delivery and the puerperium and the newborn.

- Time of pregnancy in terminated weeks at delivery
- Place of delivery
- Induced delivery (maternal or foetal cause)
- Monitoring
- Mode of anaesthesia
- Managed by (midwife, obstetrician …)
- The foetus (living, exit intra / post partum)
- Presentation
- Main complication intra partum (ICD-10-“X”)
- Mode of delivery (vaginal with or without episiotomia, vacuum, forceps, assisted breech, SC elective or not)
- Other intervention (manual removal of placenta, extirpatio uteri, sterilization)

We know the frequency of birth-terminating operations, like caesarean section rate, and the frequency of episiotomia.

<table>
<thead>
<tr>
<th>previous deliveries</th>
<th>episiotomia</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>26998</td>
<td>93,6</td>
</tr>
<tr>
<td>1</td>
<td>18746</td>
<td>84,6</td>
</tr>
<tr>
<td>more</td>
<td>7907</td>
<td>49,2</td>
</tr>
<tr>
<td>all</td>
<td>53651</td>
<td>80,0</td>
</tr>
</tbody>
</table>

From two questions we can judge progressive patient-care that indicates the quality of obstetric care. The first is related to induced delivery (maternal or foetal cause). However the Caesarean section rate of the institutes is also informative. It is obvious that in higher-level institutes the proportion of patients progressively cared for is related to the frequency of Caesarean section and premature delivery, which indirectly indicates that progressive care is effectively operated in obstetrics.
Data of the progressive care in the obstetrical practice in Hungary, 2000

<table>
<thead>
<tr>
<th></th>
<th>deliveries cases</th>
<th>deliveries %</th>
<th>premature deliveries cases</th>
<th>premature deliveries % of deliveries</th>
<th>cesarean sections cases</th>
<th>cesarean sections % of deliveries</th>
</tr>
</thead>
<tbody>
<tr>
<td>primer care</td>
<td>56483</td>
<td>63.7</td>
<td>3291</td>
<td>5.8</td>
<td>10579</td>
<td>18.7</td>
</tr>
<tr>
<td>progressive</td>
<td>32236</td>
<td>36.3</td>
<td>4041</td>
<td>12.5</td>
<td>7842</td>
<td>24.3</td>
</tr>
<tr>
<td>all</td>
<td>88719</td>
<td>73.3</td>
<td>7332</td>
<td>9.0</td>
<td>18421</td>
<td></td>
</tr>
</tbody>
</table>

Questions relating to the newborn are:
- weight
- male/female
- Apgar score at 5 min
- congenital malformation (ICD-10-“Q”)
- other disease of the baby (ICD-10-“P”)
- postnatal exit (in 168 hour)
- transport to an intensive care unit (NICU)

The concluding slide will show that the perinatal mortality rate in Hungary has continuously declined over the last decade.
Importance of introducing a European integrated and standardized perinatal data collection system in Hungary

Dr Miklós Szabó

The outcomes of perinatal care are in focus in all countries, because this represents key information about the health status of a region or a nation. But healthcare providers of countries at different levels of socioeconomic development employ quite different outcome measures.

In low-income countries the predominant questions are the maternal and fetal/neonatal mortality rates. Because of the relatively high number of non-medically assisted deliveries in these countries, it is sometimes difficult to precisely determine even this very simple outcome indicator.

In high income countries today, maternal mortality is a very rare event, and neonatal mortality has reached a nadir. A further substantial reduction in neonatal mortality rate in the short term is not expected in these countries, therefore more attention is paid to the maternal morbidity and the long term outcome of the infants.

In poor countries the main targets of the medical system are to reduce maternal mortality, to reduce the (mainly term) neonatal and fetal losses, to increase the frequency of prenatal care and medical assistance at deliveries and to control neonatal infections.

In the most developed countries the interest is focused on new themes, e.g. problems associated with the increasing maternal age and fetal size, and the increasing frequency of in vitro fertilization and twin pregnancies. The amelioration of the survival of extremely premature babies makes long term outcome a capital factor. The ability to handle the conflict between “too much” medical assistance and “natural” delivery, and the performance, economics and psychological aspects of medical care in perinatology is becoming more and more important. Improvement in antenatal therapy is luring us with bright prospects.

Just as in Hungary, perinatal performance in the eastern European countries is in transition: both results and interventions are in continuous and dynamic change. While mortality is still the dominant element of the orientation, the long term outcome results are becoming equally important. Premature babies with respiratory distress are treated in increasing numbers with increasing effectiveness.

In these countries therefore, the main goals of the perinatologist are to reduce the rate and severity of premature birth, to lower the rate of perinatal asphyxia, to prevent congenital malformations and screen for congenital metabolic disturbances, and to treat RDS, neonatal infections, as well as repair congenital malformations and their complications.

In the last 30 years, i.e. the “transitional phase of perinatology”, perinatal mortality declined from a value of 34 per thousands to 9 per thousands in Hungary. During this period we were able to achieve many major obstetrical interventions. Antenatal steroid treatment was introduced in 1975, but even today the frequency of use particularly among premature babies of less than 1500 g birth weight remains 30%. The use of cardiotocography was initiated in 1978 and became universally obligatory in 1990. The first intentions for intrauterine transport of high risk fetuses started in 1985, as did intensive ultrasound screening of congenital malformations. Between 1992 and 1996, based on the better chances of neonatal survival, there was a major change in attitudes to the indication of elective caesarean section of mothers bearing VLBW infants.
Unfortunately all interventions require and have required long periods of time from introduction to complete application as an everyday practice in the country.

Naturally we experienced significant progress also in the field of neonatology. In 1976 eleven NICUs began work with facilities to ventilate neonates. In the last 25 years the number of NICUs has been doubled, mainly because of the lack of postnatal neonatal transport facilities. Unfortunately the problems related to transport have still not been solved. The other factor that may have played a major role in improving survival was that the introduction of catecholamin and surfactant therapy required only a short time.

The main sources of information about the perinatal system in Hungary are the Governmental Health Statistics, the Hungarian Obstetrical Database, the "Győgyinfo" Database of the Hungarian Health Insurance Institute, and the annual reports of the Hungarian NICUs, which report only about patients treated in NICUs. The data system of the obstetricians in the field of neonatology shows the birth weight, gestational age, mortality in the first week of life and the need for intensive care. The governmental health statistics offer information exceptionally about birth weight-specific mortality. The Hungarian NICUs present annual retrospective mass data on the institutional level. The content of these reports is the number of treated infants, distribution of diagnoses, number of some interventions and the major complications. The simple summing up of these local summaries served as national reports of the NICUs.

Parallel obstetrical and neonatal data collection were independent from each other. The lack of case-based data collection and presentation ruled out any further database processing.

In addition, both obstetricians and neonatologists lack precise information about the mortality and morbidity outside the NICUs, and the need for care at national level. It is equally important to monitor the realization of the recommended perinatal diagnostic, therapeutic and organizational initiatives, and to measure the specific health improvement related to the recommended interventions. Experts should have exact data about the number of mentally and neurologically handicapped infants to be able to identify the neonatal population at risk of later impaired development.

This data can provide information for decision-making on which effective interventions should be prioritized for introduction in these limited financial circumstances. Such a differentiated database can allow for comparison of the regional and institutional differences in outcomes and
practice. This database gives us the possibility to make quality of care analyses and to plan the healthcare system.

The situation of „transitional countries“ is not the same as it was in the high income countries 20-30 years ago. While there is a demand for the introduction of known, already existing and mostly expensive technologies and organizational changes, there are limited financial resources to improve facilities. Therefore it is important to create a hierarchy of demands for interventions.

First we must be familiar with the status of our perinatal system, especially the need for care, critical points and the specific effects of interventions.

The integrated data collection of ante-, peri-, and postnatal periods should describe antenatal events and the delivery, delivery room status and interventions, the initial risk of mortality, the
first 72 hours of life (the problems originated antepartum and/or peripartum), the treatment period from 72 hours of life until the hospital discharge and the follow up at six and twelve months of age. The database should contain the symptoms, laboratory and radiological results which depict the disease or the definitive risk, the treatments which are indicative for the diagnoses or constitute additional risk. We should only use diagnoses based on wide consensus, and use the simplest items possible.

For further detailed analyses only those data collections are useful which contain in one data series all the items which reflect the patients health career. Defining distinct time-periods in which disease or risk develop increases the potential of the database to provide important information. Ideally, the collected item is simple, well defined and objective. The more data are collected, the higher the informative value of database.

Conclusion: At the present level of quality of care, birth weight specific mortality as outcome measure alone is no longer sufficient in the estimation of the performance of the obstetrical and neonatal care in Hungary, therefore a new concept of data collection and processing is required in the field of neonatology.

**The quality of perinatal care and the OBSQID Project in Slovakia**

*Prof. Ivan Fric*

The quality of perinatal care in the Slovak Republic is largely related to the country’s economic and demographic background. There has been a permanent decline in the birth rate and in the natural increase of population, which in the year 2000 approximated zero. The unfavourable economic situation is reflected not only in global indicators, but also in significant differences between regions within Slovakia.

Health system reform and the process of economic transformation is slow and unsystematic, and high-quality, sophisticated perinatal and neonatal intensive care has been underfinanced. There is thus little difference in reimbursement between nursery care, healthy newborns and NICU.

The consequences of these unfavourable trends in perinatal care include:
- a lack of cooperation between private prenatal care and state hospital care in medical centres
- insufficient centralization of high-risk pregnancies and newborns
- problems in the collection of valid perinatal data
- run-down medical equipment and problems procuring basic medicines and supplies etc.

resulting in a stagnation in mortality and morbidity rates compared to well-developed European countries such as the Czech Republic.

The global NMR in Slovakia in the year 2000 was 5.4 promilles, PMR 6.9 promilles, specific NMR in ELBW ranged from 210 to 330 promilles in perinatal centers, but only 670 promilles in ELBW born at level 1-2 departments. Specific NMR in VLBW ranged from 50 to 90 promilles in perinatal centres but only 250 to 450 promilles in VLBW born at levels 1-2. When comparing early neonatal outcome among 3 subgroups of newborns with BW under 1500 g according to the quality of perinatal management from an analysis of East Slovakia region in the year 1999, we confirmed “good” results in newborns who were transported to the Perinatal Center in Kosice more than 3 days before birth not only in NMR but also in the proportion of newborns discharged from NICU without severe morbidity. A preliminary analysis of the causes of NM in Slovakia confirmed that the main causes are: complications in newborns with BW under 1500 grams (43.6%), congenital malformations (29.9%), and perinatal hypoxia (16.1%).

WHO and EAPM expert working groups have stressed the importance of quality of care in obtaining better results in perinatal care. The Slovak Republic joined OBSQID in 1997, and perinatal aggregated data at national level has been submitted to the database each year. In 2000 a “National Perinatal Programme” was drafted as a result of a consensus between an expert group of Professional Medical Associations (obstetrics and neonatology) and the Ministry of Health, which identified the main obstacles and aims in improving the quality of perinatal care in Slovakia. It addresses 4 main issues:

1. systematic transformation of the Perinatal Information System into a valid, internationally compatible and electronically worked-up system with standardized output settings for analysis of data
2. management and professional (medical) aims: regionalisation of perinatal care and identification of professional priorities and intervention strategies
3. investment in human resources: education of professional staff and patients, humanization of perinatal care and an active international collaboration
4. monitoring of results (outcome evaluation), and implementation of health care policy.
The Perinatal Information System, based upon the Czechoslovak Information System created by Professor Stembera was a “case-based” system with paper-based input modules very similar to OBSQID and NEOCARE BIS. Its greatest shortcoming was validity of data and very late, non-standardized analysis of results. The innovated Perinatal Information System 2001 will ensure validity, compatibility with WHO and EAPM databases, accessibility at all levels of care and with actual and standardized output settings for analyses.

Acceptance of the principles of regionalisation of perinatal care is one of the most important steps in quality of care development. Slovakia has 5 perinatal centers mostly on the basis of University Hospitals with equal importance of obstetrical and neonatal departments, which provide all levels of care within their referral areas.

Economic problems: to achieve adequate objective conditions for perinatal care on all levels of care, modern medical equipment, well-educated, skilled and experienced staff through adequate, real needs and costs related budgeting of perinatal care,- are of basic importance. We have made, after an internal audit of all departments involved in perinatal care, a proposal for an effective network of departments within Slovakia with reduced overall numbers of beds.

We know we have many reserves in systemic changes in education, in humanization of perinatal care and in intensification of international collaboration.
Our present goals in implementation of quality of perinatal care principles are:

1. the implementation of our innovated Perinatal Information System (fully operational by 1 January 2002).
2. acceptance of the National Perinatal Programme by the Ministry of Health as a priority health-care programme
3. The newly created “National Committee for Perinatal Care” as a consultative institution of the Ministry of Health in close cooperation with both professional Medical Associations will permanently monitor of health-care policy in perinatal care and set priorities based on evidence.
4. Our aim is to stress outcome evaluation of population health care, community aspects and diminishing regional differences in the level and quality of care within Slovakia, as well as the quality of life

The progress in quality of perinatal care and adoption of the OBSQID Project in the Czech Republic

Dr Petr Velebil
Birthweight and age at death

Perinatal mortality

<table>
<thead>
<tr>
<th>Birthweight (g)</th>
<th>Late Fetal (28+ wks.)</th>
<th>Early Fetal (≤28 wks.)</th>
<th>Late Neonatal (28-27 days)</th>
<th>Neonatal (28-27 days)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 1000 g</td>
<td>0.27</td>
<td>0.18</td>
<td>0.07</td>
<td>0.11</td>
</tr>
<tr>
<td>1000-1499 g</td>
<td>0.45</td>
<td>0.18</td>
<td>0.07</td>
<td>0.11</td>
</tr>
<tr>
<td>1500-1999 g</td>
<td>0.5</td>
<td>0.3</td>
<td>0.3</td>
<td>0.13</td>
</tr>
<tr>
<td>2000-2499 g</td>
<td>0.11</td>
<td>0.06</td>
<td>0.06</td>
<td>0.13</td>
</tr>
<tr>
<td>≥2500 g</td>
<td>0.06</td>
<td>0.05</td>
<td>0.05</td>
<td>0.06</td>
</tr>
</tbody>
</table>

Priorities for perinatal care

- Collection of aggregated data
- Cross-tabulation of birthweight and age at death
- Use of birthweight-proportionate measures to identify the areas with greatest potential for improvement
- Use of birthweight-specific measures to compare facilities, regions, countries

Time-period specific priorities

Birthweight and age at death

Priorities

- Malformations
  - Birthweight
    - < 1000 g: 1.3
    - 1000-1499 g: 0.7
    - 1500-1999 g: 0.7
    - 2000-2499 g: 0.7
    - ≥2500 g: 0.7

- Perinatal mortality
  - 10.0 (1990)
  - 4.4 (2000)

- Other causes
  - 8.1
  - 3.7

Czech Republic Practical measures

- Prevention of preterm deliveries
- Prenatal diagnosis with early detection of nonviable malformations followed by termination of pregnancy, if desired
- Transport in utero to Perinatal Centers
- Pre- and intranatal clinical management to achieve the optimal start of extrauterine life
- Improved organization and quality of neonatal care
- Some changes of indications for cesarean section
Midterm priorities
- reach the same level of intensive perinatal care among newborns under 1500 grams in regional perinatal centers

Long-term goals
- prepare a national system of long-term follow-up of VLBW newborns
- continue in analyzing regional data including audit of individual cases of perinatal mortality and severe maternal and neonatal morbidity

Early Neonatal Mortality
(per 1000 births, last available year, WHO)

Cesarean sections
(in % of births, WHO)

Eclampsia up to 10 days after delivery
(per 100 000 births, WHO)

Hysterectomy within 48 hours
(per 100 000 births, WHO)

Vacuum extraction and forceps
(in % of births, WHO)

OBSQID and the Czech Republic
Aggregated data
Facilities
Regions, CR
Institute, WHO CC
Professional Society
WHO
Report on Mother
Regional / national
Interventions
International comparisons
Conferences
Priorities, strategies
Mortality
Morbidity

Individual data
Facilities
Regions, CR
Institute, WHO CC
Professional Society
WHO
Report on Mother
Regional / national
Interventions
International comparisons
Conferences
Priorities, strategies
Mortality
Morbidity
Experiences in data collection and comparison to improve the quality of perinatal care: Progress and implementation reports

Malta: Dr Line Janulova, Dr Charles Savona-Ventura

Located in the Mediterranean Sea, just south of Sicily, the Maltese archipelago consists of three main islands: Malta, Gozo and Comino. The largest island is Malta, from which the archipelago gets its name. The total area is 316 km². The total population of Malta is 380,000, giving a population density of 1200 per km², which is one of the highest country population densities in the world. Both Maltese and English are the official national languages.

Malta scores high on the Human Development Index with a life expectancy of 74.9 years for males and 79.8 years for females. The crude birth rate is 13.2/1000 and the crude death rate is 7.4/1000. The male to female ratio is 0.98 and the dependency ratio is 0.5 (1997).

Obstetric Services in Malta

Obstetric care on the Maltese islands is mainly delivered through an integrated and comprehensive public health care system, although there are also private facilities for maternity care and delivery. The recent trend is to receive a mixed (public & private) form of care.

There are two Government run general hospitals which house the public maternity services, one on the island of Malta which is the main public hospital offering a full emergency service and is
equipped with a Special Care Baby Unit and the other is on the island of Gozo. There are a number of state run health centres in various localities on the island, which also offer antenatal services.

For five years there have existed three established private hospitals and one private clinic which offer maternity services mostly to mothers who are either covered by a private insurance scheme or can pay directly.

Qualified obstetricians, general practitioners and midwives provide maternity care and have access to both facilities. Home deliveries are not popular and have declined in recent years.

**Obstetric information systems**

1981: Data collection using internationally standard Forms was first introduced at the main public hospital in conjunction with the International Fertility Research Programme (USA).

1983-1986: Following the experience gained with IFRP in standard data collection and processing, the Department of Health with Government Computer Centre (Malta) initiated the electronic batch processing of obstetric data at the main public hospital. This event orientated data capture continued for a period of 4 years.

1987-1990: In 1986 the Department of Health in collaboration with the WHO introduced a computer based INDIVIDUAL HEALTH PROFILE, which was offered to the Department of Obstetrics and Gynaecology. Hence a computer-based Medical Record was introduced for its obstetric patients. Since at that time more than 95% of births on the Maltese Islands occurred at this hospital, it was decided to capture the data on a set of standard sheets at source and then to forward these sheets to the Health Services Information Unit for processing.

1991-1998: A hospital-based computer aided Maternity Information System (MIS) was jointly set up by the Department of Health Information and the Department of Obstetrics and Gynaecology at the main state hospital in 1991. This was an event orientated system where data collection commenced once the mother delivered her baby. Data capture was case-based where a standard MIS sheet was used for each parturient and this was forwarded to the DHI for data processing and inputting into a computer Dbase IV programme. The main objective was to provide information on obstetric care and outcomes to clinical and managerial professionals.

**National Obstetric Information System**

1999 to date: In October 1998, the European Regional Office of the WHO requested the DHI, Malta to collect and submit national perinatal data within the context of the OBSQID Project. In order to participate in this project and achieve national coverage of obstetric activity the health authorities in government agreed to extend the MIS to all government and private maternity centres on the islands. Aggregated perinatal data (PAD) was collected at national level for the period of 1995-1998 and forwarded to WHO for use on the WHO OBSQID web site.

Following the success of receiving national PAD, it was decided after unanimous agreement from all maternity centres to actively participate in this project. The DHI developed the NOIS using standard epidemiological indicators, operational definitions of events and outcomes which are based on the MIS and the BIS of WHO/EURO-OBSQID project.
The setting-up of NOIS

At present there is no law that requests the specific collection of clinical obstetric and perinatal data at the national level. The Department of Health Information is the government agency responsible for the collection, processing and dissemination of national health statistics. Submission to NOIS is on a voluntary basis from private facilities and mandatory from the government hospitals.

Data Collection: All private and public birthing facilities
Data Recording: The NOIS Sheet
Data Transfer to DHHI: monthly by mail or hard delivery
Data Management: Coding (ICD-10), centre codes, validations
Data Storage : Dbase IV

NOIS Information Output

- Monthly, half-yearly and annual reports to all system partners
- Diabetes pregnancy joint clinic
- HFA-2000-07-05 PAD submission to OBSQID
- Malta Congenital Anomalies Register
- http://www.magnet.mt/services/health/nois1.htm
- Various departments within the Ministry
- Media/Ad hoc reports

The future

The introduction of new Data Protection Legislation may present further challenges to system regarding data collection and processing. It is envisaged that these will be met and overcome.

The implementation of statutory notification will help in overcoming these challenges and is presently being worked out.

Being a small country and having had an interest in collecting clinical obstetric information over the past 20 years, it is envisaged that NOIS will continue to improve within the context of the OBSQID project.

Maternity Database - computerised systems in Malta

✔ 1981: Data collection using standard forms was introduced at the main public hospital in conjunction with the International Fertility Research Programme (USA).
✔ 1983-1986: The Department of Health with the government Computer Centre initiated the electronic batch processing of obstetric data.
✔ 1987-1990: The Department of Health in collaboration with WHO introduced a computer based Individual Health Profile, which was offered to the Department. Hence a computer based ‘Medical Record’ was introduced. Obstetric data was captured on a set of standard sheets at source and forwarded to the Health Services Information Unit for processing.
1991-1998: A hospital-based computer Maternity Information System was set up. This was an event-orientated system, where data capture was based on a standard MIS sheet. Annual validation of submitted data commenced after 1995.

1999-to date: WHO-EURO invited the DHI to submit national perinatal data within context of the OBSQID Project. The MIS was extended to all government and private maternity centres. OBSQID-PAD was collected retrospectively at a national level for the period of 1995-1998.

Following the success of receiving national PAD and unanimous agreement from all centres to actively participate in this project. The DHI developed the NOIS using standard epidemiological indicators, operational definitions of events and outcomes which are based on the MIS and BIS (OBSQID).

**Progress with NOIS**

Change from a government-hospital [St. Luke’s Hospital] database to a National Maternity Database with 100% data capture rate.

- 1995: non-SLH maternities - 12%
- 1997: non-SLH maternities - 18%
- 2000: non-SLH maternities - 17%

**Data validation & audit**

Data validation using a standard programme designed at the DHI occurs on monthly basis.

In order to improve the quality and accuracy of data collected, the DHI introduced NOIS to the midwives in all centres. Since April 2001, the recording of NOIS data onto the standard sheets are carried out by the midwife in charge of the delivery and hence the data quality has improved remarkably.

Diabetic Pregnancies used to audit reliability of data collection from clinical sources by clerical staff.

Led to greater involvement of clinical staff [Midwives] in data capture after general training sessions.

NOIS Information Output:

- Regular Quarterly and Annual Reports to all system partners
- Diabetic Pregnancy Joint Clinic
Data confidentiality

✔ Rigid measures are taken, so as to ensure that only national or public & private centre aggregated data are published to non-medical professionals. However, centre specific data are published to all system partners.

✔ Demographic details of each maternity are given to the DHI and used by the department solely to link the various databases. Since linkage takes place by using a unique number which is the national ID numbers.

✔ Any person requiring person-based data for research purposes has to formally apply to the DHI and assure the department that person-based data that can in any way breach confidentiality will not be published.

✔ Data Confidentiality enforced by National Legislation.

Links to other databases

Database Utility

- Helps identify secular changes to assist health policy planners and hospital management.
- Helps audit maternity practice between different birthing centres in Malta & Gozo.
• Helps compare maternity services and obstetric outcomes with those of other centres in Europe.

• Assists in carrying out clinical and epidemiological studies.

Israel: Professor Moshe Hod

Database research is generally cheaper and faster, but is weaker on research design, however this is a trivial problem for many areas of research.

“We still cling largely to a traditional research paradigm based on adhoc studies”


Evidence - or lack of it?
Any progress 2000 vrs. 2001?

1033 pre-GDM
3677 GDM
17 countries

2292 pre-GDM
6929 GDM
17 countries

Diabetes in pregnancy (2.23%)

Prepregnancy diabetes rate (21.50%)

Prepregnancy counselling (49.38%)

GDM treated with insulin (31.20%)
United Kingdom: Dr Philip Banfield

Introduction

The UK has a long history of data collection. A national audit – the Confidential Enquiry into Stillbirths and Deaths in Infancy – CESDI has found that many antenatal and intrapartum stillbirths in the UK may be preventable. They recommended Consultant Obstetrician cover of the labour ward (as opposed to the trainee or ‘staff doctor’ cover at present) to support and improve the standard of care. This finding was endorsed by the Royal College of Obstetricians and Gynaecologists – RCOG. It seems a paradox that the highest risk area (adverse outcome, litigation, rising interventions) is not covered by the most experienced senior staff. Hospitals...
throughout England have expanded consultant numbers, but hospitals in Wales have been much slower to change practice, claiming short-term (cost) constraints.

**OBSQID**

My links with OBSQID span 10 years. I gave a presentation in England after Anne-Marie Worning’s talk about the WHO’s work on the feedback of surgical infection rates. I showed post caesarean section morbidity inter-hospital comparisons and their implications for length of stay, in anonymised form, for the whole of the (then) North West Thames Health Region. I was invited to Copenhagen, presented my work and was asked to write a textbook on quality assurance (QA) in obstetrics – MATCARE – which contained a discussion on a minimum data set necessary for QA. This used existing data from the St Mary’s Maternity Information System (SMMIS) to test the validity of variables. I was also involved with the discussions on Quality Indicators – using real data from real patients to test usefulness and ‘collectability’.

By the Poznan meeting, the minimum dataset had evolved (with a lot of work from many other people) into the OBSQID BIS and had been piloted across Europe. Louis Keith, from the USA, enthused in Porto about the potential of OBSQID to deliver hitherto uncollected data on multiple pregnancies. Presenting some preliminary SMMIS data emphasises the potential of such collaboration. My thanks go to Jean Chapple and John Harris at Imperial for allowing me a subset of data from the selection of ‘number of infants = 2’ (NOINFANT=2).

**Twins**

On the selection criterion above, there were 6017 ‘twins’ from almost 439,000 consecutive deliveries, with an overall perinatal mortality rate (PNMR) for twin 1 of 21/1000, versus 24/1000 for twin 2. The UK centralised National data cannot separate out birth order, but an overall estimate was 37/1000. These crude figures demonstrated immediately the problems of collecting data without the means, the resources or the intellectual mind to question accuracy and completeness. There is a need to link the figures with clinical findings. Twin 1 and twin 2 could be analysed as large groups, but there is a need to link each twin together – accomplished by some recoding and merging of files in SPSS. There were 118 ‘twins’ listed as being NOINFANT = 2 without a corresponding twin. Most were ‘missing’ twin 2s, but not all. Excluding the ‘unpaired twins’ alters the PNMR slightly, which makes a separate analysis of these cases an imperative. There are several possible explanations.

One or more babies might have been less than 24 weeks – a live born would still be registered by law in the UK, but an intra-uterine death delivered before this gestation would not. Secondly, data collection can be affected by particularly stressful or busy times on the labour ward (the ‘I’ll do it later’ phenomenon) but this should be impossible with the SMMIS as the statutory birth notification forms are generated at the same time, unless these too were omitted. Thirdly, the number of infants could have been incorrect – in-system self-validation should have prevented this, but computers do not always behave in the manner clinicians expect!

There is an important message here for OBSQID, summarised elsewhere as ‘garbage in, garbage out’. The quality of the input data are important and the clinicians have a duty to at least oversee this process if they are not going to input the data themselves because of constraints on their time. The WHO should continue work on the validation of the OBSQID database if the 30,000,000 pregnancies currently archived are to mean anything together. Hopefully, the cooperation with the European Association of Perinatal Medicine (EAPM) will ensure this work continues.
Spontaneous or infrequent errors become less significant the larger the database, but we should all be on the look out for unidentified systematic errors which bias one set of results against another. Clinical application, common sense and an ability to pursue the truth prospectively should drive the process of investigation forwards.

The traditional teaching agrees that twins are high risk, with observations of premature delivery, higher mortality in twin 2 and a greater need for intrauterine manipulation of the second twin. Twins mature earlier and the excess mortality resides largely due to prematurity. An obstetrician with any size of practice will have a nightmare story about twin delivery – be it vaginal or abdominal. Transverse lie, breech extraction, intrauterine death of one twin, intrapartum standards of management being flagrantly ignored – and this is even before any discussion of zygosity and the complications of monochorionic monoamniotic multiple pregnancy.

Table 1 above shows the PNMR in the 5796 paired twins, by gestation and the percentage of each that are stillbirths. From the discussion above, this may be an underestimate. However, the trend is probably correct. The results suggest that the PNMR for twin 1 improves with gestation, but that the PNMR for twin 2 remains almost static. At early gestations, therefore twin 2 fares better, but this is clearly not so towards term.
The influences on PNMR for twins may be different for both twins and vary with gestation. Twins withstand prematurity – the figures for twin 2 at early gestations support this. The mortality rate for twin 1 is higher than twin 2 at low gestations, with a higher rate of stillbirth. The role of premature rupture of the membranes is unknown, but may expose the first twin to a differential risk, for example. The death of the first twin may be the first signs of severe maternal disease, twin 2 having been hitherto uncompromised. This would fit with the general clinical approach to twin pregnancy – to get the twins as mature as possible until they either labour spontaneously or develop fetal or maternal complications.

At later gestations the PNMR for twin 1 falls to approximate that of a singleton. Twins at each gestation tend to be lighter than their singleton counterparts and this is reflected in figures being correspondingly better at the lower birthweights (Table 2). Delivery towards term is usually vaginal (and uncomplicated) for a vertex first twin and a non-vertex twin 1 often results in elective caesarean section.

The PNMR in twin 2 remains roughly static because the cause changes from prematurity to birth trauma from difficult delivery after an uncomplicated vertex twin 1 – and we have all seen the situation where both twins were vertex at the start of labour and a breech extraction has still been necessary. As our experience of vaginal breech delivery becomes less, the differences may become greater and the call for elective caesarean section for all twins may follow the same argument as that for singleton breech delivery at term.

Data presented from North West Thames on breech babies showed a relative risk of neonatal death of 20 (2.5-16.3) for vaginal delivery versus caesarean section. There was an outcry of objection to these retrospective data and people defended scoring systems and the ‘my hospital is better’ approach, but very few could come up with credible figures against these observations. However, a prospective multinational randomised trial reported in the Lancet, showed clearly that delivery by caesarean section was associated with lower perinatal mortality. An important point was that the difference depended on the background perinatal mortality rate for each country, with countries having the highest rates seeing the least benefit from operative intervention. This is an essential observation when looking at OBSQID data from the great diversity of countries taking part.

<table>
<thead>
<tr>
<th>Birthweight(g)</th>
<th>&lt;1000</th>
<th>1000-1499</th>
<th>1500-1999</th>
<th>2000-2499</th>
<th>2500-2999</th>
<th>3000-3499</th>
<th>3500-3999</th>
</tr>
</thead>
<tbody>
<tr>
<td>Twin 1 ’88-’98</td>
<td>341</td>
<td>84.6</td>
<td>10.2</td>
<td>7.2</td>
<td>2.9</td>
<td>1.3</td>
<td>10.5</td>
</tr>
<tr>
<td>Twin 2 ’88-’98</td>
<td>327</td>
<td>47.8</td>
<td>25.7</td>
<td>6.6</td>
<td>5.3</td>
<td>5.4</td>
<td>0</td>
</tr>
<tr>
<td>Singles NWT ’90</td>
<td>280</td>
<td>171</td>
<td>83.3</td>
<td>18.6</td>
<td>5.0</td>
<td>1.9</td>
<td>1.9</td>
</tr>
<tr>
<td>Singles UK ’96</td>
<td>411</td>
<td>112</td>
<td>49.2</td>
<td>16.4</td>
<td>5.4</td>
<td>2.2</td>
<td>2.2</td>
</tr>
</tbody>
</table>

*Table 2: PNMR / 1000 by birthweight for 5796 twins compared to singleton pregnancies, either North West Thames 1990 or UK National 1996 figures.*
The future

It is also worth reminding ourselves that the OBSQID project also challenges the ‘best’ units to demonstrate their assertions, because we have seen that the best outcomes are often from developing countries in reality and the whole of Europe, including the West would do well to include itself in OBSQID. Thus the challenge is 3 fold. Firstly, we will continue to report the process and outcome of twin pregnancy from the North West Thames data. This will have an additional benefit in serving as a validation of the twins data from OBSQID. Secondly, the OBSQID data should be explored, sooner rather than later, so that the quality of the data can be confirmed and improved – twins data, as I have shown, are often difficult to be certain of. Thirdly, the continued development of the twin BIS should be encouraged so that the opportunity of reporting the largest twin data set in the world is not wasted.

Latvia: Dr Maira Jansone

Births, deaths and natural increase (per 1000 inhabitants)

Maternal deaths

Structure of perinatal deaths

Stillbirths according to gestational age
The collection of medical information is an essential prerequisite for any country in order to assess its level of health care, identify problems and focus on priorities for improvement. There
is an increasing pressure from clinicians and administrators for more and better medical information as a result of advances in medical science and public expectations.

**Why was the project chosen?**

The data and values for the main indicators of national health assessment have indicated that for the last years negative trends have been gradually developing. A National Health Strategy was adopted early in 2001. One of the most important government priorities is intervention to improve the health of pregnant women, newborns and children, and building a unified information and telecommunication system in health care corresponding to European systems and standards.

The project has been organized by the Ministry of Health with the assistance and support of the WHO Regional Office for Europe, using experiences from the OBSQID project.

**Aim**

The purpose of the pilot project was:

1. To familiarize health care providers with
   - the concept of continuous quality of care development through comparison by perinatologies of their outcomes in relation to peers, and the identification, through data collection and analysis, of centers demonstrating best practice and the most rational use of technology in order that their knowledge and expertise may be disseminated and exploited.
   - The international accepted perinatal quality indicators and variables.

2. To allow health care providers and health care facilities to:
   - Test the feasibilities of collecting case-based data using the BIS
   - Using the PAD and method of benchmarking to assess the opportunities for self-analysis and intersite comparison of the use of technology and outcomes of perinatal care.

As a second step, this will allow the creation of a National Perinatal Information System connected with the OBSQID system which will provide quick feedback to users as well as the opportunity for comparison, through which health care providers, health care facilities and administrators may be motivated to continually improve their outcomes and the quality of their care.

**Subject and methods**

Some 22 perinatal centres from different levels of perinatal care (3 national, 12 regional, 7 local) have voluntarily and anonymously contributed data between 15 April and 15 July 2001. A training workshop for discussing the OBSQID BIS and perinatal audit programmes was organized. Arrangements were also made to collect data on all births according to WHO standards in each participating centre. We used a case-based collecting system. Approx. 7000 paper BIS forms were sent to the data collection centre, where EpiInfo was used to enter the data and obtain PAD results for every participating centre. Unfortunately, to date only 2229 BIS forms have been manually entered and the results we present here are preliminary.

**Results**

Some selected outcomes (out of 26 PAD indicators) are as follows:
Antenatal deaths between 3.97 – 11.24 average 3.14
(>27 compl. w.) %
Total antenatal death % 7.94 – 32.26 5.38
Preterm birth (<32 w) % 16 – 108.95 44.28
Preterm birth (32-36 w) % 18.99 – 190.48 84.95
Major congenital malformations % 0.28 – 3.08 1.17
Neonatal seizures within 7 days % 0.26 – 7.14 2.26
No prenatal visits % 2.84 – 86.67 9.38
Forceps % 0.63 – 3.88 1.35
Caesarean section % 3.33 – 16.51 12.98

The remainder of the variables were presented in graphs.

There are differences in the results of the participating centres. As a whole, the average results are comparable with WHO EURO results for the countries of our region, but they also reflect the problems we have as a country in transition with major reforms in the health care system.

**Obstacles**

Probably the greatest obstacle is an unwillingness to consider changes in practice. Others are the need for special training of the staff included in this project, an additional workload (this comes on top of existing national data collecting systems) and last but not least the lack of technical infrastructure at local and regional level.

**Future tasks of the project**

- To discuss the final results with participating project perinatologists and administrators
- To promote general acceptance of WHO perinatal definitions by the national perinatal association
- To include OBSQID indicators on maternal and fetal wellbeing in national data collection activities
- To develop guidelines for the establishment of national perinatal QCD policies.

**Italy: Dr Annunziata Lapolla**

*AN ITALIAN MULTICENTER STUDY ON OUTCOME OF PREGNANCY COMPLICATED BY DIABETES*


*SID and SIGO Diabetes and Pregnancy Study Group*

Pregnancy complicated by diabetes is characterised by high fetal and maternal morbidity. Studies evaluating diagnostic criteria, metabolic and obstetric treatments and outcomes of diabetic pregnancies are very useful, in fact we care learn what approaches we need to improve to reduce fetal and maternal morbidity.
Aims of our work were to collect and compare the data resulting from the outcome of pregnancies with diabetes occurring in 1998, 1999, 2000, recorded from different areas of Italy.

To collect metabolic and obstetric data of pregnancies complicated by diabetes a basic information sheet for diabetes and pregnancy according to WHO suggestion was used.

2523 pregnant women, mean age 35±5 yr., of which 12.7% affected by type 1 diabetes, 2.3% by type 2 diabetes, 71% by Gestational Diabetes Mellitus (GDM) and 14 by G-IGT were evaluated (Tab. I). GDM diagnosis was based on 100 g OGTT in 73%, on 75 g OGTT in 3.8%, on fasting glycemia in 13.7%, on GCT in 9.5%, at a mean gestational week of 27±5.

Tab. I: Patients evaluated

<table>
<thead>
<tr>
<th></th>
<th>1998</th>
<th>1999</th>
<th>2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type 1</td>
<td>95</td>
<td>115</td>
<td>107</td>
</tr>
<tr>
<td>Type 2</td>
<td>25</td>
<td>31</td>
<td>27</td>
</tr>
<tr>
<td>GDM</td>
<td>581</td>
<td>578</td>
<td>636</td>
</tr>
<tr>
<td>G-IGT</td>
<td>90</td>
<td>95</td>
<td>173</td>
</tr>
<tr>
<td>Totals</td>
<td>791</td>
<td>819</td>
<td>943</td>
</tr>
</tbody>
</table>

Tab. II: Prepregnancy counselling (%) in women affected by prepregnancy diabetes

<table>
<thead>
<tr>
<th></th>
<th>1998</th>
<th>1999</th>
<th>2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type 1</td>
<td>41</td>
<td>36.5</td>
<td>52.3</td>
</tr>
<tr>
<td>Type 2</td>
<td>16</td>
<td>38.7</td>
<td>29.6</td>
</tr>
</tbody>
</table>

Tab. III: Prepregnancy counselling (%) in type 1 patients recorded in 2 centres of North, 3 centres of Centre and 2 centres of South Italy

<table>
<thead>
<tr>
<th></th>
<th>1998</th>
<th>1999</th>
<th>2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>North</td>
<td>57</td>
<td>66.7</td>
<td>72.7</td>
</tr>
<tr>
<td>Centre</td>
<td>44</td>
<td>35.7</td>
<td>47.6</td>
</tr>
<tr>
<td>South</td>
<td>18.5</td>
<td>17.6</td>
<td>43.7</td>
</tr>
</tbody>
</table>
Tab. IV: HbA1c values (%) (M±SD) in women affected by prepregnancy diabetes.

<table>
<thead>
<tr>
<th></th>
<th>1998</th>
<th></th>
<th>1999</th>
<th></th>
<th>2000</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pts (%)</td>
<td>HbA1c</td>
<td>Pts (%)</td>
<td>HbA1c</td>
<td>Pts (%)</td>
</tr>
<tr>
<td>Preconception</td>
<td>63</td>
<td>7.9±2</td>
<td>64</td>
<td>7.1±1.5</td>
<td>60</td>
</tr>
<tr>
<td>Conception</td>
<td>75</td>
<td>7.8±1.9</td>
<td>78</td>
<td>7.1±1.3</td>
<td>60</td>
</tr>
<tr>
<td>Booking</td>
<td>89</td>
<td>7.5±1.9</td>
<td>84</td>
<td>7.1±1.5</td>
<td>91</td>
</tr>
<tr>
<td>3rd trimester</td>
<td>84</td>
<td>6.1±1.2*</td>
<td>84</td>
<td>6.7±1.4</td>
<td>88</td>
</tr>
</tbody>
</table>

*p<0.05 vs preconception and conception

Tab. V: Percentage values of patients with prepregnancy diabetes in which HbA1c was evaluated at different times of pregnancy in 2 centres of North, 3 centres of Centre and 2 centres of South of Italy

<table>
<thead>
<tr>
<th></th>
<th>North</th>
<th>Centre</th>
<th>South</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1998</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preconception</td>
<td>81.8</td>
<td>76.6</td>
<td>32.2*</td>
</tr>
<tr>
<td>Conception</td>
<td>100</td>
<td>90</td>
<td>48.3*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1999</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preconception</td>
<td>90</td>
<td>78.6</td>
<td>32.5*</td>
</tr>
<tr>
<td>Conception</td>
<td>100</td>
<td>97</td>
<td>51*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preconception</td>
<td>80</td>
<td>64</td>
<td>45.4*</td>
</tr>
<tr>
<td>Conception</td>
<td>86</td>
<td>93</td>
<td>25*</td>
</tr>
</tbody>
</table>

*p<0.01 vs North and Centre
*°p<0.01 vs North
Tab. VI: HbA1c (%) (M±SD) in patients with pregnancy induced diabetes

<table>
<thead>
<tr>
<th></th>
<th>1998</th>
<th>1999</th>
<th>2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pts HbA1c</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Booking Pts</td>
<td>39</td>
<td>47</td>
<td>44</td>
</tr>
<tr>
<td>Booking HbA1c</td>
<td>5.2±1.8</td>
<td>5.1±0.6</td>
<td>5.6±0.8</td>
</tr>
<tr>
<td>3rd trimester Pts</td>
<td>49</td>
<td>55</td>
<td>72</td>
</tr>
<tr>
<td>3rd trimester HbA1c</td>
<td>5.3±1.7</td>
<td>5.6±1</td>
<td>4.9±0.8</td>
</tr>
</tbody>
</table>

As for therapy, 35% of patients affected by GDM and 7% of patients affected by G-IGT were insulin treated.

In patients with prepregnancy diabetes, microalbuminuria was observed in 12.4%, proteinuria in 2.4%, retinopathy background in 15.6%, and proliferative in 9.2%. Progression of retinopathy was observed in 6.5%, progression of nephropathy in 2.2% of patients with prepregnancy diabetes.

Tab. VII: Maternal morbidity (%) in patients with prepregnancy diabetes

<table>
<thead>
<tr>
<th></th>
<th>1998</th>
<th>1999</th>
<th>2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypoglycaemia</td>
<td>11</td>
<td>13</td>
<td>11.9</td>
</tr>
<tr>
<td>Chronic hypertension</td>
<td>3.3</td>
<td>4.8</td>
<td>3.0</td>
</tr>
<tr>
<td>Pregnancy induced hypertension</td>
<td>10</td>
<td>12.3</td>
<td>13.4</td>
</tr>
<tr>
<td>Ketoacidotic episodes</td>
<td>5.8</td>
<td>6.8</td>
<td>0.74*</td>
</tr>
</tbody>
</table>

*p< 0.05 vs. 1998 and 1999

Tab. VIII: Maternal morbidity (%) in patients with pregnancy induced diabetes

<table>
<thead>
<tr>
<th></th>
<th>1998</th>
<th>1999</th>
<th>2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypoglycaemia</td>
<td>0</td>
<td>0.29</td>
<td>0.12</td>
</tr>
<tr>
<td>Chronic hypertension</td>
<td>1.0</td>
<td>0.44*</td>
<td>0.74</td>
</tr>
<tr>
<td>Pregnancy induced hypertension</td>
<td>7.9</td>
<td>6.2</td>
<td>6.6</td>
</tr>
<tr>
<td>Ketoacidotic episodes</td>
<td>0.29</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

*p< 0.01 vs. 1998
**Tab. IX: Mode of delivery (%) in patients with prepregnancy diabetes**

<table>
<thead>
<tr>
<th></th>
<th>1998</th>
<th>1999</th>
<th>2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vaginal delivery</td>
<td>20.8</td>
<td>26</td>
<td>27.6</td>
</tr>
<tr>
<td>Caesarean section</td>
<td>65</td>
<td>61</td>
<td>65</td>
</tr>
<tr>
<td>Abortion</td>
<td>14.2</td>
<td>13</td>
<td>7.4*</td>
</tr>
</tbody>
</table>

* p< 0.01 vs. 1998 and 1999

**Tab. X: Mode of delivery (%) in patients with pregnancy induced diabetes**

<table>
<thead>
<tr>
<th></th>
<th>1998</th>
<th>1999</th>
<th>2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vaginal delivery</td>
<td>64.95</td>
<td>63.56</td>
<td>66.9</td>
</tr>
<tr>
<td>Caesarean section</td>
<td>34.6</td>
<td>36</td>
<td>32.4*</td>
</tr>
<tr>
<td>Abortion</td>
<td>0.45</td>
<td>0.44</td>
<td>0.62</td>
</tr>
</tbody>
</table>

* p< 0.01 vs. 1999

**Tab. XI: Caesarean section (%) in patients with prepregnancy diabetes in 2 centres of North, 3 centres of Centre and 2 centres of South of Italy**

<table>
<thead>
<tr>
<th></th>
<th>1998</th>
<th>1999</th>
<th>2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>North</td>
<td>50</td>
<td>60</td>
<td>57</td>
</tr>
<tr>
<td>Centre</td>
<td>56.6</td>
<td>54.3</td>
<td>64.2</td>
</tr>
<tr>
<td>South</td>
<td>74.2</td>
<td>55.8</td>
<td>75</td>
</tr>
</tbody>
</table>

**Tab. XII: Caesarean section (%) in patients with pregnancy induced diabetes in 2 centres of North, 3 centres of Centre and 2 centres of South of Italy**

<table>
<thead>
<tr>
<th></th>
<th>1998</th>
<th>1999</th>
<th>2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>North</td>
<td>35</td>
<td>32.4</td>
<td>30.2</td>
</tr>
<tr>
<td>Centre</td>
<td>29</td>
<td>33.4</td>
<td>28.4</td>
</tr>
<tr>
<td>South</td>
<td>58.6</td>
<td>60</td>
<td>83.9*</td>
</tr>
</tbody>
</table>

* p< 0.01 vs. 1998

No maternal mortality was observed in all patients evaluated.
Tab. XIII: Fetal morbidity (%) in prepregnancy diabetes

<table>
<thead>
<tr>
<th></th>
<th>1998</th>
<th>1999</th>
<th>2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypoglycaemia</td>
<td>13.3</td>
<td>7.5°</td>
<td>15.6</td>
</tr>
<tr>
<td>Neonatal asphyxia</td>
<td>14</td>
<td>13</td>
<td>14</td>
</tr>
<tr>
<td>HMD</td>
<td>2.5</td>
<td>0.68</td>
<td>2.2</td>
</tr>
<tr>
<td>Fetal distress</td>
<td>10</td>
<td>6</td>
<td>5.9*</td>
</tr>
<tr>
<td>Obstetric trauma</td>
<td>1.6</td>
<td>1.4</td>
<td>0</td>
</tr>
<tr>
<td>Shoulder distocia</td>
<td>1.6</td>
<td>0.68</td>
<td>0</td>
</tr>
<tr>
<td>Hyperbilirubinemia</td>
<td>15</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>Macrosomia</td>
<td>15.3</td>
<td>14.6</td>
<td>12.9</td>
</tr>
</tbody>
</table>

*p< 0.05 vs. 1998
°p< 0.05 vs. 1998 and 2000

Tab. XIV: Fetal morbidity (%) in pregnancy induced diabetes

<table>
<thead>
<tr>
<th></th>
<th>1998</th>
<th>1999</th>
<th>2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypoglycaemia</td>
<td>2</td>
<td>1.9</td>
<td>0.86</td>
</tr>
<tr>
<td>Neonatal asphyxia</td>
<td>4</td>
<td>4.3</td>
<td>3.7</td>
</tr>
<tr>
<td>HMD</td>
<td>0.14</td>
<td>0.44</td>
<td>0.12</td>
</tr>
<tr>
<td>Fetal distress</td>
<td>2.2</td>
<td>1.8</td>
<td>1.9</td>
</tr>
<tr>
<td>Obstetric trauma</td>
<td>0.6</td>
<td>0.74</td>
<td>0.4</td>
</tr>
<tr>
<td>Shoulder distocia</td>
<td>0.14</td>
<td>0.24</td>
<td>0</td>
</tr>
<tr>
<td>Macrosomia</td>
<td>14.6*</td>
<td>8.9</td>
<td>9.9</td>
</tr>
</tbody>
</table>

*p< 0.01 vs. 1999 and 2000

Ponderal index was no different among the 3 years in prepregnancy diabetes (2.7±0.4) and in pregnancy induced diabetes (2.8±0.6) and related to shoulder distocia and obstetric trauma in patients evaluated in 1998 and 1999.
Tab. XV: Fetal morbidity (%) in prepregnancy diabetes

<table>
<thead>
<tr>
<th></th>
<th>1998 (n. 120)</th>
<th>1999 (n. 146)</th>
<th>2000 (n. 134)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>Malformations</td>
<td>3</td>
<td>2.5</td>
<td>10</td>
</tr>
<tr>
<td>Stillbirth</td>
<td>1</td>
<td>0.8</td>
<td>0</td>
</tr>
<tr>
<td>Early neonatal mortality</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Tab. XVI: Fetal morbidity (%) in pregnancy induced diabetes

<table>
<thead>
<tr>
<th></th>
<th>1998 (n. 671)</th>
<th>1999 (n. 673)</th>
<th>2000 (n. 809)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>Malformations</td>
<td>15</td>
<td>2.3</td>
<td>4</td>
</tr>
<tr>
<td>Stillbirth</td>
<td>1</td>
<td>0.15</td>
<td>2</td>
</tr>
<tr>
<td>Early neonatal mortality</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
</tbody>
</table>

The most frequent congenital malformations were cardiovascular, skeletal, genitourinary, neural tube disease and gastrointestinal.

Summary:

- **Prepregnancy counselling**
  - Type 1: 43%  
  - Type 2: 25%

- **Macrosomia**
  - Type 1: 14.2%  
  - Pregnancy induced diabetes: 11%

- **Malformations**
  - Type 1: 3.8%  
  - Pregnancy induced diabetes: 1.3%

- **Caesarean sections**
  Quite high in all classes
Conclusions:

Further efforts will be needed in improving:

- Preconception counselling and good metabolic control in prepregnancy diabetes
- The rate of macrosomia and some neonatal complications
- The rate of caesarean section

---

**Poland: Prof. Wlodzimierz Borkowski**

**Telematic system of perinatal analysis in Poland: Presentation of current accomplishments**

**Introduction**

The National Research Institute of Mother and Child in Warsaw (NRIMC) has by order of the Ministry of Health (MH) implemented the quality assurance system in obstetrics and neonatology from October 2000. This program is financed by the Government from public health resources. Executing this task NRIMC uses the telematic system for medical documentation developed previously within the programme financed by the Governmental Committee of Science Research.

NRIMC was requested to fulfil the following objectives:

- Introduction of quality assurance system in obstetrics and neonatology
- Development of methodology and assumptions for telematic quality system in any field of therapeutic medicine and prevention
- Development of telematic tools for collection, transmission and processing of data in the healthcare system
- Creation of the data warehouse example for collection, analysis and presentation of results
- Development of principles for integration of the introduced telematic system for obstetrics and neonatology with already existing systems for reporting purposes

**Assessment of current accomplishments**

The task ordered by MH was an excellent opportunity to promote the OBSQID project. Poland had already participated in this project and contributed greatly to its assumptions. Poland introduced collection of aggregated data on operations of obstetrics and newborn departments in accordance with the OBSQID PAD project requirements. Professor Janusz Gadzinowski has managed and still manages these activities.

We have decided that the application of telematics in the OBSQID project and integration with other legacy systems used in obstetrics and neonatology would be the optimal solution. This had certainly to lead to differences between the original OBSQID system defined by the WHO Europe and our version, subsequently referred to as P-OBSQID. P-OBSQID system covered 40 hospitals in the whole country and 13 regional health authorities for mother and child. The project has been carried out for over a year now. Data on approx. 40 000 births have been collected.

MH decided lastly to introduce P-OBSQID to a further 30 hospitals in the Wielkopolskie Region, and announced organisational activities and established legal grounds aiming to include
in P-OBSQID all hospitals in the country and to integrate with the existing birth reporting systems.

**Presentation of various aspects of P-OBSQID**

The whole P-OBSQID system includes numerous and complex issues, which are presented briefly below.

**Legal and organisation issues:** OBSQID assumes collection of data in obstetrics and neonatal departments independent of other existing systems of data collection. Only hospitals which accept rules determined by WHO can join the project. Results of analysis give hospitals comparison with the aggregated data for the whole region or country. As opposed to this situation, P-OBSQID is the part of the national reporting system which covers hospitals by law. The implementation of P-OBSQID is supervised by the regional health authorities for mother and child. Data on women giving birth and newborns serve not only the hospitals, but also regional health authorities and, in future, insurance agencies. This means the wide differentiation of needs and necessity of P-OBSQID integration with already existing systems. Unfortunately, the current legal regime does not allow for fulfilment of the objectives declared above and they remain intentions. These intentions are fully supported by MH.

**Substantial issues:** The P-OBSQID system basic set of information about woman in labour and newborn corresponds with information included in the Basic Information Sheet (BIS) recommended by the Steering Committee of OBSQID project. Nevertheless, necessity of integration with other legacy systems and consideration of the national regime prompted amendments in BIS. Analysis of results during the year-long execution of project also caused the further modifications in BIS. For example, only ca 10% of women answered positively for question about cigarette smoking. This was considerably lower than results from other surveys. The detailed interview concerning cigarette smoking revealed that women understood that they were asked for smoking in the moment of interview, i.e. just before labour (ca 17% of women smoked cigarettes at the beginning of the pregnancy). As a rule, women did not respond to “embarrassing” questions, e.g. about induced abortion, drug abuse or violence in pregnancy. The lonely women, by definition binding in BIS, turned out single women so it was replaced by question about marital status, which in demographers opinion, is very important for assessment of social safety of woman and child. The question about education had to be adopted to the education system in Poland. Other amendments in BIS, caused by national specificity, include registration of identifier of screening test towards hiprethyreosis and fenylokoetonuria which is obligatory and executed in 100% of newborns in Poland. The question about the well-being of women was omitted as it is not assessed by Polish obstetricians. It must be admitted that modifications of many questions in the Polish version were wrongly decided. The various suggestions concerning BIS modifications and expansion have been submitted by various P-OBSQID users during its yearly execution. For example, hospitals proposed to add to the BIS information necessary for reimbursements with the insurance agencies and for obligatory national reporting (among others the detailed specification of executed medical procedures during stay in hospital). The issues concerning rare and costly procedures and – in general – quality control – are important for insurance agencies. Regional health authorities recognized as important demographic issues and in-depth analysis of mortality in hospitals and stillbirths. A separate topic, which can be initiated by P-OBSQID, is the general register of newborns and children, and a handicapped children register. P-OBSQID currently introduces individual registration, with parental consent, of newborns with cleft lip and/or palate. It was also revealed that BIS supplemented by additional questions temporarily given to a selected group of women may be also used for detailed study and analysis. The study prepared for the Institute of
Oncology concerning the impact of cigarette smoking by pregnant women on newborn health is a good example.

**Technological issues:** We use in our P-OBSQID system such techniques as data warehouse, developed in HTML medical documentation management system, or highly encrypted internet transmission. We expect to use in the next year such technological achievement as electronic signature. The admittance of electronic signature in 2002 for official use will be a milestone in P-OBSQID system propagation.

After evaluation of documentation systems in the Internet version (by HTML or XML standard) available on the market we decided to develop the proprietary system, called AKSON – to which NRIMC has full copyright and ownership rights. This reduces greatly costs of its operation and development as well as enabling free distribution to hospitals and various health care institutions (GNU licence). AKSON is a software package designed to provide secure data communication through the Internet.

The system is able to collect data via the network. AKSON consists of one center collecting data and many clients, where users import files or type in information. The system is especially designed for medical data transfer. Data transmission can be done in both directions – the center is able to send messages and updates to clients. Data can be input in two ways:

- By import of the specified file
- Using a system of forms.

A form may consist of one or more windows.

In a form we can use many variants, choosen automatically depending on the data typed before. Subforms also can be created. Subforms may be used many times inside a form (for example a mother having many children). Subforms can be nested. Full validation is performed. Hierarchical dictionaries (like ICD9 or ICD10) are also implemented.
In center received from remote hospitals filled HTML forms are transferred to a relational database.

**Issues connected with development of reports, OLTP type analysis and deeper statistical analysis (mining):** P-OBSQID motivated mastery and introduced methodology known as the data warehouse. Initially the specificity of the data warehouse in medical applications was revealed. In such data warehouses the main problem is not the volume but the complex structure of collected data and continuous modifications. After mastering the phase of data acquisition and collection, the phase of data processing, analysis and presentation will now become more
important. We check on the collected material various methods of analysis and presentation, also useful for comparison between hospitals. We base such comparisons not only on frequency and size, but also to advanced statistical techniques. For example, we calculate risk factors by logistic regression separately for each hospital and compare them.

**Current priorities of the P-OBSQID project**

We currently focus on high efficiency of register and quality of collected data. We develop and improve mechanisms of the collected data validation. We also create mechanisms preventing selection of the registered births (which would lead to a dangerous bias). Verification of P-OBSQID register completeness by comparing it by capture/recapture method with the independent birth register kept for screening examination against hypothyreosis and fenylkoetonuria was introduced for this purpose.

We are introducing on the base of P-OBSQID a register of congenital malformations and a system of in-depth analysis of mortality and stillbirths in hospitals.

**Organisational and logistics issues**

We are aware that the quality of collected data and efficiency of system operation depend on qualifications, motivation and good work of people, both in NRIMC and in hospitals. We conduct training for this purpose – using Internet sites and e-mail communication – and remain in personal contact with the persons in hospitals who fill in the BIS. There is no legal obligation to fill in the BIS, so we provide incentives for hospitals, paying them (0,20 USD for one completed BIS), as well as support and advice in information technology, and offer of free of charge (GNU licence) a hospital system (on the base of middleware by the European Union open architecture standards).

**Our expectations of the Steering Committee OBSQID project and WHO Europe**

The most important issue is the moral support for our efforts to continue the P-OBSQID program in Poland and to cover the next hospitals. The quality assurance idea currently experiences reluctance in Poland and hindrances to its implementation in hospitals and outpatient health services. This is caused by wrongly and inconsistently conducted reform of Polish health care. The insurance agencies focus their activities on cost-effectiveness issues, neglecting the quality of health care services. The wrongly introduced health care reform did not secure legal regulations nor information instruments to ensure patient health safety. Society is convinced of the common health care black market and corruption in health care institutions. The last political changes in Poland, the new Government announcement of insurance agencies reorganisation and of introduction of mechanisms to defend patients in the face of these agencies and inequitable practices in health care – gives the P-OBSQID system a unique importance. The authority of WHO as well as connections with this organisation and with European Union institutions will be of great assistance in introducing health care quality assurance in Poland and in putting the physicians’ actions under society’s control. The success of the P-OBSQID program will lead to other ventures in the field of quality assurance in the health care system. Poland applies for European Union membership in 2004. Co-operation with the European Regional Bureau and European Commission’s Health Monitoring Programme (PERISTAT project) might be an example of accession attempts in health care.
The second postulation, with which we apply to the OBSQID project management, is the widening of the scope of problems which this project addresses. The project has focused up to now on support of individual hospitals which had access to it. Such support consisted of recommendations of medical documentation and taking over all problems connected with gathering and processing of data written down in questionnaires. The OBSQID project includes in our situation institutions which would like to integrate P-OBSQID system with other systems and independently conduct analysis on collected medical data. This is the base for new expectations from WHO. They concern transfer of knowledge in Electronic Health Record, methodology of the advanced statistical analysis and organisation of multi-division epidemiological research to Poland.

**Declaration of Intent**

Firstly, we declare our readiness to submit BIS-records collected in our database, in a format required by WHO, and to submit on an ongoing basis data from hospitals currently covered by project, as well as those joining in the future. We also declare our willingness to make available free of charge (GNU licence) the software used in P-OBSQID (AKSON telematic system) and to develop – in any language version – the electronic versions (in HTML standard) of OBSQID questionnaire forms for AKSON system. AKSON can be also applied to other medical issues. It is used in Poland in school medicine, monitored examinations in infant oncology and image diagnostics – for formalization of description of diagnostics research results. This system has proved itself in over a year of operation and has demonstrated high maturity. We are pleased to present DEMO versions of this module installed in hospitals. One of the incentives for participation in P-OBSQID project is free access (GNU licence) to the ADT hospital system, fulfilling the European Union open architecture standards. This hospital system, developed in NRIMC on middleware base (Java language, CORBA rules and IIOP transmission standard), complies with all requirements of three-layer object oriented architecture. The AKSON system can be attached as component to this ADT middleware-based system.
We are ready to make available our organizational experience gathered in hospitals and supervising institutions at regional and central level. We also declare our willingness to develop an information system for an orofacial cleft births register as a module of the OBSQID project.

Romania: Dr Simion Pruna

**Barriers to more widespread implementation of the OBSQID project and possible solutions**

The OBSQID BIS has been introduced into Romania as a nationwide activity to assess and compare the quality of perinatal care. **The aim** of this presentation is to review why OBSQID is not widely implemented using information and communication technologies.

**Material and Method:** our experience in implementing OBSQID is a good demonstration model of how OBSQID data can be collected and used in practical terms. During the past several years, there has been a coordinated effort by many organizations across Romania and the Black Sea area to improve obstetrical outcomes by changing the organizational systems by which obstetrical care is delivered.

**Results:** Important experience was gained from this process. Our centre has advanced expertise in data extraction routines and analysis that would be useful to regional (Black Sea Area) collaboration. These results have been fed back to the individual centres and are available to WHO, the Ministry of Health, etc.

A software called “SincroPAD”, freely available as Open Source on the SincroMed web site (http://www.sincromed.ro/sincrodr.htm), was written for automatic extraction of the PAD from the OBSQID.REC files. To date 23 centers worldwide have downloaded this program.

Our experience in OBSQID has clarified some of the challenges that any quality assessment program seeking to construct a quality management program must face regardless whether it uses the paper BIS or a completely computerized clinical information system. The main obstacles to more widespread use of computers for the obstetrics care quality evaluation are the negative attitude and resistance of the majority clinicians due to workload. Although individual physicians will often enjoy working with OBSQID data collected in computers and should be encouraged to participate in multiple levels of obstetrics management activities, it is seldom cost-effective to have physicians performing OBSQID maintenance tasks. Therefore, we need to have an understanding of the risks and benefits of computerization, attributes that influence the computerization in obstetrics.

Two types of software packages used in obstetrics are Patient Accounting and the Electronic Patient Record (EPR). The accounting office needs to record patients charges and payments and to correctly bill insurers and patients. Patient Accounting is widely used while EPR is not. The obstetrician’s office handles enormous quantities and many types of information. One need is to manage medical records in a legible and orderly fashion. The EPR, as a medical registry for long-term collection of data, when configured and implemented properly enables the routine generation and collection of data, provides decision support and facilitates workflow. An EPR allows multiple users to access it at one time. Misfiled and lost records are also drastically reduced. In the implementation of the very successful project for development of the Black Sea TeleDiab, a system which is also available as Open Source (http://www.telemed.ro/web_bstd/Trio_new.htm), we have found that users will be more receptive to a new system if they contribute to its design and its clinical evaluation.
Conclusions and solutions:
(1) The OBSQID project is operational but lessons about how best to apply it in a routine clinical setting still have to be learned.
(2) Despite the cost savings and quality improvements that a medical unit could realize, the EPR is not widely used. EPR implementation will only be successful if doctors and their support stuff adopt the application.
(3) Through implementation of the EPR as a medical registry for long term collection of data on the medical condition or treatment of patients in obstetrics in a large database as well as using the clinical data to support treatment billings, is a single viable solution to collecting a huge central database of good quality;
(4) The very first lesson we learned from health care computing is that clinicians don’t care as much about efficiency as they care about simplicity. Doctors want to be able to easily access information and work with it. Focus on simplicity and ease of use is the key element of an information system validation into practice;
(5) An EPR medical registry based on an internationally agreed data structure by extending the OBSQID BIS, increasing the number of structured and non-structured data items needed for standardised multicentre clinical trials, in order to optimize care quality and to communicate epidemiological information, will provide the insight to improve the effectiveness of national or regional obstetrics care.

Perspectives of a subregional OBSQID model and links with EAPM
Prof. Karel Marsal
EAPM - OBSQID PROJECT

1998 - partnership established
- the 23 OBSQID indicators (Perinatal Aggregated Data) extracted from the forms and tabulated
- the 23 OBSQID indicators extracted from the forms and tabulated

Number of indicators collected per country

Number of countries

The focus of the WHO-OBSQID project will shift towards the care providers - professionals and will run as a joint project with EAPM

Expected benefits:
- increased motivation
- improved compliance and consistency in reporting data
- better quality of data collected

Crucial issue - feedback to the clinician!

OBSQID-EAPM project tasks for the future:
- to revise the quality indicators to ensure that relevant information is being collected
- to promote general acceptance of perinatal WHO definitions
- to identify the existing sources of data and, if necessary, to develop the technical infrastructure at local / regional level

OBSQID-EAPM project tasks for the future:
- to establish European network between perinatal databases
- to provide timely analysis and feedback
- to enable access to stratified perinatal data for comparisons at local / regional /national data

2000 - EAPM questionnaire to OBSQID countries
- questions about the 26 OBSQID indicators (acc. the new PAD sheet)
- answers from additional 12 countries

Answers 2000

The number of OBSQID indicators

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23

Moldova
Albania
Slovakia
Malta
Lithuania
Armenia
Belarus
Russia
Croatia
Latvia
Estonia
Romania

No. of OBSQID indicators

0 5 10 15 20 25 30

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23

Moldova
Albania
Slovakia
Malta
Lithuania
Armenia
Belarus
Russia
Croatia
Latvia
Estonia
Romania

No. of indicators collected per country
OBSQID - EAPM Task Force

National registries:
- Czech Republic
- Slovenia

Regional registries:
- Copenhagen region (DK)
- Southern Sweden (S)

---

OBSQID - EAPM Task Force

Prerequisites for participation:
- full coverage of perinatal data
- continuous data collection
- continuous control of data quality
- epidemiological expertise (or at least interest in perinatal epidemiology)
- established periodic analysis of data (e.g., annually)
- established channels for feedback to the clinicians

---

OBSQID - EAPM Task Force

Data quality control of the OBSQID database (plausibility test)

---

OBSQID - EAPM Task Force

In depth analyses:
- analysis of the aggregated data
  - bilateral comparisons of the outcomes between the Task Force sites
- analysis of the case-based data
  - specific questions, e.g., c.s. indications, breech deliveries, maternal complications, specific PNM, neonatal morbidity (HIE, ROP, etc.)
OBSQID - EAPM Task Force

Intervention analysis of perinatal data, e.g. indications for c.s., intra partum deaths

Development of standard procedures for feedback to the clinicians

Epidemiological studies

National registries interested to join the task force:

- Hungary
- Slovakia

Plans for the future:

- benchmarking
- development of standards and acceptance of uniform definitions

- subsequent inclusion of as many OBSQID countries as possible
- activities towards the European Union – legislation to achieve European standards in perinatal data collection
Proposal for implementation of OBSQID project at a national level in Hungary

Prof. György Bártfai

At the previous OBSQID workshops, it was agreed that OBSQID is a useful tool for quality development and it should be used and adapted as necessary to fit each country’s situation. In this regard, countries should begin to establish national task forces at a state level which utilize professional associations to mobilize the support and implementation of OBSQID networks.

OBSQID can assist in promoting the quality of care and improving perinatal outcomes through:
- The aggregation of perinatal data at local, regional and national levels
- Timely data analysis
- Feedback and comparison of results

The reasons why we are not reaching our goals stem from three types of obstacles:
- Providers have shown a low level of interest in participation at the clinical level
- The technical infrastructures is often lacking or limited
- There has been little motivation to implement national programmes

Our tasks will be to design an action plan at local, regional and national level, as well as at the Central European level.

How can we implement OBSQID at different levels in Hungary?

**Proposed structures**

Establishment of a Hungarian National OBSQID Task Force

- A) representatives of Ministry of Health of Health Promotion Department of Central Statistical Office
- B) representatives of National Institute of OB&GYN of Departments of OB&GYN at Universities
- C) representatives of Medical Societies Hungarian Society of Perinatology Hungarian Society of OB&GYN
A Euroconform data collection system should be set up using electronic communication. This will involve adoption of the systems currently used, with introduction of the necessary changes. Key steps in this process will be:

- **Data collection**: All hospitals, *private (?)* on a monthly basis
- **Data recording**: Euroconform data sheet, *translation*
- **Data transfer**: Electronic mail, floppy and regular mail technical facilities
- **Data management**: Coding, validation, center codes
- **Data storage**: Optical discs, annual reports
- **Data access**: Authorized persons, purposes (scientific, insurance, health care)
- **Feedback**: To providers and to decision-makers
- **Communication**: Between national data banks (directly, through WHO EURO)

The suggested action in order to implement this system is as follows:

- **Election of Task Force**
- **Preparation of proposals for changes in data collection**
- **Involvement of Medical Societies**
- **Establishment of local and regional models (pilot phase)**
- **Nationwide extension of this data collection system**
- **Training courses (teaching of teachers)**
- **Application for grants to modernize technical facilities**

Problems must be anticipated in the effectuation of this process, and may include:

- Legislative issues (data collection amendments are regulated by law)
- Medico-legal issues during utilization
- Data on deliveries at home
- Technical facilities in small hospitals communication to the European database on different levels

However, the WHO Quality of Health Systems programme will continue to support countries with:

- Technical tools
- Software development
- Assistance in data systems management
- Training
- International standardization of perinatal definitions
- Policy advocacy
- A forum for the international comparison of perinatal health information
- Benchmarking

**Identification and promotion of the best perinatal clinical practice in Hungary: Existing structures and resources for continuous training**

**Prof. Ferenc Paulin**

---

**Number of living births in Hungary between 1970 and 2000**

**Arteficial abortion**

<table>
<thead>
<tr>
<th>Country</th>
<th>Abortions - Deliveries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hungary</td>
<td>1 ab. - 1.3 delivery</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>1 ab. - 4.5 delivery</td>
</tr>
<tr>
<td>UK</td>
<td>1 ab. - 6 delivery</td>
</tr>
<tr>
<td>Netherland</td>
<td>1 ab. - 9 delivery</td>
</tr>
</tbody>
</table>

In Hungary: 67,000 ab. and 100,000 deliveries/year

**Frequency of LBW newborns in Hungary**

<table>
<thead>
<tr>
<th>Year</th>
<th>LBW = Low birth weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970</td>
<td></td>
</tr>
<tr>
<td>1975</td>
<td></td>
</tr>
<tr>
<td>1980</td>
<td></td>
</tr>
<tr>
<td>1985</td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td></td>
</tr>
<tr>
<td>1995</td>
<td></td>
</tr>
<tr>
<td>1997</td>
<td></td>
</tr>
<tr>
<td>1998</td>
<td></td>
</tr>
<tr>
<td>1999</td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td></td>
</tr>
</tbody>
</table>

**Perinatal mortality (‰) in Hungary between 1970 and 2000**

**Best clinical practice**

Organisation  | Education  | Quality control
---|---|---
Reorganization and modernisation of pregnancy care
In Hungary the antenatal care is accessible free of charge for all Hungarian citizens. The care should contain:
- Blood group, Rh, VDRL, AFP, HBsAg
- Chemical and haematological tests 3 times during pregnancy
- Urinary sediment 3 times
- Vaginal pH 3 times
- Ultrasound 4-5 times (at suspicion of pregnancy, 11-12, 18, 28-30 and 36-38th week of pregnancy
- Preparing for delivery and family life

Proposition for financial support of pregnant women

**Proposed structure of antenatal care**
Organisations for Perinatology

Hungarian College of Ob/Gyn
National Institute of Ob/Gyn

Scientific Associations:
- Hungarian Society of Ob/Gyn
- Hungarian Society of Perinatology
- Hungarian Society of Ultrasound in Ob/Gyn
- Hungarian Society of Psychosomatic in Ob/Gyn
- Society of Hungarian Midwives
- Society of Hungarian Visiting Nurses

Proposed programs/projects for Hungarian perinatology

1. Data collection
2. Information, education for target groups
3. Preparing and validation of screening protocols
4. Diagnostic protocols and patient’s way
5. Home care and control methods
6. Evidence based treatment procedures
7. Progressive care (transport (in utero) to level III)
8. Improvement of perinatal and neonatal centres

What to teach in education?

The most significant pathology concerning the reproductive health

Low birth-weight newborns (premature and IUGR)
Multiple pregnancy
Diabetes in pregnancy
Hypertension and preeclampsia
STD infections
Artificial abortion

Birthweight and intrauterine Restriction

<table>
<thead>
<tr>
<th>Weight (gr)</th>
<th>Number of newborns</th>
<th>Alltogether</th>
<th>retarded</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;=1499</td>
<td>516</td>
<td>199</td>
<td>38.6</td>
<td></td>
</tr>
<tr>
<td>1500-1999</td>
<td>880</td>
<td>287</td>
<td>32.1</td>
<td></td>
</tr>
<tr>
<td>2000-2499</td>
<td>2569</td>
<td>1377</td>
<td>53.6</td>
<td></td>
</tr>
<tr>
<td>&lt;2500</td>
<td>3965</td>
<td>1863</td>
<td>46.9</td>
<td></td>
</tr>
<tr>
<td>&gt;=2500</td>
<td>26350</td>
<td>1833</td>
<td>6.9</td>
<td></td>
</tr>
<tr>
<td>Alltogether</td>
<td>30315</td>
<td>3696</td>
<td>12.2</td>
<td></td>
</tr>
</tbody>
</table>

Low birth weight and late onset illnesses

Animal models: low protein diet causes hypertension of the offspring
Human: asymmetric IUGR will be followed by cardiovascular illnesses in later life
J-Perin-Perin. 1998; Mar; 106(2): 307-12
Low birth - placental weight ratio predisposes for later cardiovascular illnesses
Placenta. 1996 Mar-Apr; 17(2-3): 169-72
Hypertension and coronary heart disease are “programmed” by fetal nutrition status.

Premature deliveries

Spontaneous (60-80 %) 
Elective (20-40 %)

PROM Premat. contr. Maternal/fetal cause
Infection Social situation
Hypertension Fetal retardation (IUGR)
Life-style, responsibility Uteroplacental insuff.
Twins/multiple births (partly iatrogenic)

Flowchart - IUGR

Risk factors
- age
- smoking
- drug
- weight
- hypertension
- kidney disease
- previous IUGR

18th week
UT and HUT
pathol.

28th week
biometry,
morphology

LBW newborns and health care costs in Hungary

Nowadays in Hungary are born 1200-1500 VLBW newborns per year.
Direct cost of care: 0.5-2.0 million Ft/newborn
Estimated total cost: 1.6 - 1.8 billion Ft/year

There are additional 8000 LBW newborns per year.
Direct cost of care: 2-600 thousand Ft/newborn.
Estimated total cost: 3.2 billion Ft/year

Estimated cost altogether: 5 billion Ft/year.
Permanent life-long cost is higher by order of magnitude!!
The significance of quality of life can not be counted!!
WORKING GROUPS (WG): WHAT STRATEGY AND INFORMATION SYSTEM FOR THE OBSQID PROJECT FOR IMPLEMENTATION AT NATIONAL OR LOCAL LEVEL?

WG 1 : Moderator - Dr C. Savona-Ventura

Findings presented by Dr Jan Mazela

The Working Group addressed the subject by first reviewing what had been achieved to date by the OBSQID project since its initiation in 1992.

It was decided that the project had been successful in bringing together a team of persons from various maternity and perinatal centres in Europe interested in the collection of perinatal-event data for quality control and development. This group has throughout the years developed a database tool in paper and electronic-base format [the Basic Information Sheet - BIS] that has been adopted or integrated in previously existing data systems by various countries. End-point indicators were identified and even more importantly defined. A free system of anonymous data circulation has been established using the Internet.

Having assessed the achievements of the OBSQID project, the Working Group discussed how the project could be better utilised.

The question of quality control of data was brought up and discussed. It was pointed out that while various contributors were inputting data in the system, there appears to be very little quality control and validation being carried out centrally and the reliability of the data remains questionable. After deliberation, it was concluded that quality control of data could only reliably be carried out at "ground level" where the basic information was being collected. It would be impossible for a regional or national node, and even more so for a multi-national node, to carry out quality control of data even if the BIS information is regularly submitted to these nodes. With aggregated data as submitted in the PAD, the higher data collection nodes - Regional, National, and multi-National - can carry out validation of the figures submitted and any discrepancies referred back to the submitting centre.

It was envisaged that data collection should ideally attempt to involve all countries on a national level, though the practicality of this was deemed well nigh impossible. Dissemination of data should be in two directions - upwards and downwards - in order that interest is generated and that audit processes could be initiated. Though difficult for the bigger countries, the ideal flow of data was envisaged as:
An important pre-requisite to achieve this ideal is to expand participation as much as possible at a national level. This can in reality only be achieved if different local centres are made aware of the OBSQID philosophy and are illustrated the benefits of adopting a similar database system that is comparable between centres, regions, and nations. The introduction of national legal enforcement to collate and supply data on the identified indicators can also be considered, though only the acceptance of the usefulness of the OBSQID philosophy by professionals would ensure the submission of accurate data and its correct utilisation.

It was pointed out that unfortunately, many centres may be investing in the collection of perinatal event data, but not all centres are auditing and utilising this data correctly and to the full for the benefit of the clients. Data audit is an essential follow-up of data collection so that evidence-based guidelines based on data analysis focused on possible intervention can be regularly identified and issued. Data audit must be carried out at all levels of data collection. Thus each contributing centre should analyse its data in the light of other corresponding centres to identify local problems and initiate evidence-based action processes. The Working Group proposed that each centre and/or region should set up an "OBSQID TASKFORCE" whose brief would be to audit the amassed data and recommend practical guidelines of practice based on this analysis. The importance of comparing like-to-like was emphasised since comparison cannot be made between high-risk and a low-risk centres. The use of identified low risk populations [e.g. primipara without complications] for outcome comparisons was proposed.

Data collected by the higher nodes should be disseminated by regular reports [monthly, quarterly, half-yearly or annual] circulated in traditional methods or via the internet. To enable the development of evidence based guidelines on problems identified from submitted aggregated data, it may be necessary for the Regional/National nodes to refer a problem [e.g. Caesarean sections, breech delivery, diabetes, multiple pregnancy, etc] for further analysis to the contributing centre or centres.

Finally the Working Group discussed the future structure of the OBSQID project in the light of the comments made by earlier speakers during the Workshop. It was agreed that the OBSQID project has now come to a turning point. It has been successful in developing tools and
demonstrating that these tools or variants thereof are functional. It now has to be further distributed and popularised. This may possibly be more likely to succeed in a clinical forum such as the proposed European Association for Perinatal Medicine [EAPM]. The EAPM may opt to set up a number of European Regional Taskforces [Northern, Central, and Southern Europe] answerable to a Central OBSQID Taskforce that would have links with EAPM and WHOEURO. The Regional Taskforces would then undertake to popularise the OBSQID philosophy in their region, to collate aggregated data, and disseminate information through regular feedback. The EAPM can address professional associations that concern themselves with perinatal medicine. It can have little or no influence on Governmental Ministries. The WHO can assist the propagation of the OBSQID philosophy by addressing the various national governments and ministries. It can further indirectly influence the member states by including the identified OBSQID Indicators in the list required for HFA indicators. Many of the OBSQID indicators are already included in the HFA indicators so only a minor augmentation of the list would be required. The WHO can further assist the OBSQID philosophy by adopting the definitions pertaining to the indicators.

Comments from the plenary:

Dr Kalo supported the concept of auditing and validation of data, but pointed out that a fundamental precept of OBSQID is the possibility of inter-side exchange of knowledge and expertise. Analysis of data and benchmarking in relation to peers will allow for twinning projects which will more concretely bring perinatal centres into contact to implement best demonstrated practice where possible. Twinning is a voluntary activity for quality development and such mechanisms should be encouraged and fostered. By building up the database, the basis for twinning projects will be enhanced. Likewise, the identification of centres of best practice as reference centres for OBSQID partners should be pursued.

Professor Marsal would like to see a merging of the EAPM study group and the OBSQID executive group prior to the Oslo meeting of the EAPM, in order to prepare a suitable and joint presentation and to consolidate the management of the project. Professor Bartfai raised the issue of how to link with Associations and Societies of Perinatal Medicine, and Professor Marsal responded that this would be highly dependent on the local setting and the internal structures and activities prevailing there. Dr Savona-Ventura reiterated the findings of his working group that each country should seek to create its own Task Force, with appropriate links to national perinatal bodies depending on the influence and advantages of such links. He stressed the importance of WHO in pressuring Ministries of Health to introduce OBSQID indicators and submit data either directly or by interfacing with the OBSQID database, although Dr Kalo stressed that the fundamental issue is not mother-and-child health per se, but quality development, which renders it more difficult to approach Ministries.

Dr Kalo supported the suggestion of national task forces, as opposed to an OBSQID national focal point or counterpart, in that such task forces would bring together a wider variety of players representing stakeholders in health care: insurance agencies, health technology agencies, clinicians, health care authorities etc. As such task forces are established within countries, WHO will promote and assist their work.
Findings presented by Dr Tamás Major

This working group examined the possibilities of implementing the OBSQID project at national level in Hungary and potentially as a sub-regional project for the Czech-Slovak-Hungarian area. When reviewing the OBSQID PAD indicators and assessing their applicability in the context of the current data collection system in Hungary, the following obstacles/inconsistencies have become evident and should be addressed prior to any consideration of implementation:

1. Suggestions should be solicited and considered by the OBSQID management for tracking the neonate

2. The terminology for congenital/lethal malformations must be amended continuously, as malformations which were previously lethal are no longer so.

3. When a woman’s death certificate is submitted for registry, the question should be added whether this death occurred within 42 days of a delivery (i.e. maternal death)

4. A distinction should be allowed for in data collection on blood transfusion, i.e. whether it was administered after delivery or during delivery?

5. As ultrasound use is prevalent in Hungary and scanings may be taken 4-5 times during pregnancy, the level of detection of multiple pregnancy would be higher. An interesting feature would be to know the order of delivery of multiples.

The working group compared the OBSQID PAD with existing indicators and variables in Hungary, and concluded that most of the items would be answerable using the present obstetrical database. However, the question arises as to access to current national databases and extraction of data for OBSQID purposes.

The working group was interested to consider how to add data on home deliveries into the database. In Hungary, 0.3% of all deliveries occur in the home.

Although the working group was in favour of the idea of establishing a national Task Force to facilitate and manage the process of joining OBSQID, it must be decided what parties should be included in such a task force. Here, the working group considered the three pillars presented by Professor Bartfai during his intervention (see above). Implementation of Professor Bartfai’s suggestions was accepted by all working group participants.

The obstacles and problems that may be anticipated concern primarily and in the first instance legislative issues (including medico-legal issues), the compilation of data on home deliveries, and the possibility of obtaining support for the improvement of technical facilities in small hospitals. Regarding the latter, the working group suggested that assistance would be needed from the Ministry of Health and WHO.

Comments from the plenary:
Professor Marsal commented that although it would be impressive to know the order of delivery of multiples, any amendment or addition to the PAD indicators would be inadvisable at this time. As the current indicators are the outcome of lengthy and numerous discussions at OBSQID workshops, some stability in these indicators would be optimal for long-term data collection.
Findings presented by Dr Tamás Bitó

Having reviewed the activities of the project since 1992, the working group concluded that OBSQID remains in a pilot stage and that the full potential of the project has not yet been realized. The working group felt that the support of the EAPM in further implementation of the project would be important for its consolidation as a pan-European database and quality development tool.

The working group found the indicators now comprised by the PAD to be useful in identifying good and poor outcomes and a valuable tool in pinpointing best demonstrated practice in various aspects of perinatal care. The group saw no need to expand the number of variables, but encouraged the development of Basic Information Sheets (case-based data forms) within perinatal specialities (sub-groups) where a need for additional data is identified. The working group identified as a priority to the need to expand the OBSQID database to allow for comprehensive and extensive inter-site comparison and benchmarking. Additionally, countries should be encouraged to develop databases (interface-able) according to their own needs, as the working group found OBSQID best suited to small settings.

Comments from the plenary:

Professor Tofoski gave a brief presentation of the perinatal database system in the Former Yugoslav Republic of Macedonia, as an example of a system which could be adopted in Hungary. Additionally, he emphasized the importance of OBSQID in comparison of outcomes and in assisting improvement. As a catalyst/facilitator of the project, WHO should not independently alter or add to the indicators and considering the lengthy process in agreeing on the PAD, he did not recommend any changes, finding the current indicators relevant for all. However, he suggested the importance of legislation in promoting and enforcing data collection.

Dr Banfield wished to support the statement of Dr Savona-Ventura that WHO must be more proactive vis-à-vis Ministries of Health, in order to ensure continuous development of the project within Member States. Dr Banfield felt that the project had advanced beyond the pilot phase and was pleased to see that the EAPM study group is willing to join the efforts to take the project forward. He also pointed out that the original PAD indicators identified in Tübingen (see above) were the result of a vote among a multinational group appointed by Ministries of Health.

Professor Marsal hoped to have the full support of Professor Ricardo Laurini, President of the EAPM, in advancing and promoting the role of the Association and in particular the study group in the future management of OBSQID.

In more concrete terms, and in continuation of the working group which discussed implementation of OBSQID in Hungary, Dr Balla asked what the plans are for follow-up of the neonate. Additionally, the issue was raised of the need to publish more, it being noted that publication of project outcomes has been limited. Professor Marsal agreed with this, confirming that the EAPM will publish the results of the study group which will include reference to the OBSQID project. He also concurred with the importance of follow-up of the neonate, although he mentioned the difficulty of this even within existing systems. This problem has been addressed in Sweden, where considerable reluctance was encountered in implementation, and this must be solved at a region/national level. To this Dr Mazela added that the NEOCARE BIS designed by Professor Gadzinowski includes a 1-year follow-up of the neonate.
Dr Kalo pointed out that further evolution will not be simple: traditional indicators and means of data compilation will not be easily changed, especially because Ministries of Health are generally happy with the status quo. In some countries, there is no infrastructure for database and information systems at all. Also, various players have various interests, e.g. payers will be interested in cost-effective care etc. A quality “culture” will be a key word in this context.

**Conclusions and recommendations**

The content of the presentations and the activities of the working groups clearly demonstrated the advantages of using the OBSQID concept for development of quality in perinatal care and the feasibility of the project. The viability of data collection using common indicators and variables, and the importance of enabling inter-site comparison and analysis, were once again confirmed at a successful workshop. The experience of Malta, the Czech Republic and Poland in using OBSQID at national level and progress in implementation in countries such as Israel and Slovenia were impressive.

A greatly encouraging development is the decision of the Ministry of Health of Hungary and three Hungarian perinatal associations, which jointly supported this workshop, also to implement OBSQID at national level, and within a wider collaboration between the countries of central and eastern Europe (Czech Republic, Slovakia). WHO supports such initiatives and will make its best effort to contribute through the influence of WHO offices in these countries.

In its working biennium of 2002-2003 WHO is looking to transfer project implementation and management to the EAPM Study Group on the Standardization of Birth and Death Certificates, headed by Professor Karel Marsal, and to the WHO Collaborating Centre in Tel Aviv under Professor Moshe Hod. To facilitate this process, Professor Marsal’s department of obstetrics and gynaecology at the University Hospital of Lund will be sought designated a WHO Collaborating Centre for an initial period of four years. Although WHO will remain an interested party in the effectuation of project goals and activities, it will no longer play any direct role in the leadership or implementation of OBSQID initiatives, nor will it host future meetings or workshops in this regard, passing on responsibility for this to Professor Marsal and other members of the steering group established. Despite the shift to a broader scope within the quality programme of the WHO Regional Office, however, it will continue to support the project at political and strategic level.

It will be recommended that those parties interesting in joining OBSQID, or those who have already undertaken satellite OBSQID projects, take contact with Professor Marsal and Professor Hod, who will coordinate and maintain the future development of the project.

WHO appreciates the effort, the dedication, and the enthusiasm of all its collaborators in OBSQID since its inception in 1993, and it will be pleased to see continuation of its implementation in Member States.
SUMMARY OF THE WORKSHOP

Dr Kalo found the setting by the Danube to be inspiring for many ideas and thoughts, and for fostering an exchange of experiences. In brief, it has once again become clear that the OBSQID project works. If implemented properly, it can improve the outcomes of perinatal care. OBSQID can be achieved through many different approaches and under different circumstances. There is no OBSQID dogma – it is a philosophy.

This workshop in Hungary has been a special experience. Hungarian Ministry of Health officials, the national associations of obstetrics and gynaecology and leading clinicians have come together to meet with European partners in OBSQID, and have agreed that it is a feasible and viable project for the Hungarian setting. Dr Kalo was pleased to note that these partners agreed to set up a National OBSQID TASK FORCE HUNGARY whose Members will consist representatives from the Obstetrical Society, being:

Professor György Bartfai
Professor Jenö Egyed
Professor Ferenc Paulin
Dr Miklós Szabó

This task force will facilitate communication with WHO and investigate the possibilities for further development of the OBSQID concept in Hungary. Steps have already been taken to implement it within the country, and this will be a model for countries with similar systems and situations.

Dr Kalo applauded the support of the EAPM in taking managerial leadership of the OBSQID project in terms of its scientific development. However, he noted, the project itself belongs to its participants.

With the EAPM, WHO will work with the Ministries of Health to support investment in the information systems necessary to implement the project. Health systems are generally under-funded, but it must be acknowledged that quality costs – money put into quality must be seen as an investment. Quality development is not simply a cost-saving mechanism, it is an obligation to patients that must be recognized.

A key element in future management of OBSQID will be the establishment of an Executive Group. Dr Kalo suggested that this include The WHO Collaborating Centre in Israel (Professor Hod), the WHO Collaborating Centre in the Czech Republic (Dr Velebil) and the EAPM (Professor Marsal). The secretariat of this Group would be located in Lund, Sweden and operate under specific terms of reference to be elaborated. A network for close and effective communication will be crucial in this process.

Next OBSQID Events

Professor Marsal suggested a meeting of the Executive Group in Oslo in June 2002 in connection with the EAPM congress. At this event Professor Hod will be giving a lecture on the DPAD on 19 June as a pre-congress event.

Dr Cihat Sen kindly offered to host the eighth workshop 2002 in Antalya, Turkey, in association with the 2nd World Congress of Perinatal Medicine for Developing Countries, 1-5 October 2002 at the Merit Atlantis Hotel, Antalya, Turkey. Dr Annunziata Lapolla suggested that the ninth workshop 2003 be held in Pisa, Italy.
I. Appendices

Contents

A. Scope and purpose
B. Programme
C. List of participants
SCOPE AND PURPOSE

In line with overall organizational strategic changes in the WHO Regional Office for Europe, there has been a shift in focus within the Quality of Health Systems (formerly Quality of Care and Technologies) Programme from a care and disease-based to a health systems and health services approach.

The implications of this require a decentralization of care and disease based projects to partners and collaborating centres willing to and capable of taking on the task to assure implementation of the ongoing QHS projects not only at national but also at European region level.

This workshop will assess the status and validity of OBSQID working groups within neonatal care, multiple pregnancies, diabetes in pregnancy, malformations and others, and discuss how these can be brought forward outside the auspices of the WHO Regional Office, while assuring continued cooperation and exchange of information as well as consolidation and dissemination of the outcomes already achieved within the OBSQID project.
PROGRAMME

Friday, 2 November 2001

13.00-14.00 Registration

14.00-14.30 Opening session

- Welcoming addresses:
  - President of the Local Organizing Committee
  - Representative of Ministry of Health
  - President of the Hungarian Society of Obstetrics and Gynecology
  - President of the Hungarian Perinatalogical Society
  - Director of the National Institute of Obstetrics and Gynecology
  - Director of the Department of OB/GYN, University of Szeged
  - WHO Liaison Officer to Hungary
  - Representative of the WHO Regional Office for Europe

- Election of Workshop Chairpersons & Rapporteurs
- Adoption of programme

Session Chairs: Prof. J. Egyed, Prof. M. Hod, Prof. A. Pál

  Prof. Isuf Kalo & Mr Visti Juncher

14.45-15.00 The situation of quality of perinatal care in Hungary: achievements and problems
  Dr György M. Csákány

15.00-15.15 Importance of introducing a European integrated and standardized perinatal data collection system in Hungary
  Dr Miklós Szabó

15.15-15.30 The quality of perinatal care and the OBSQID Project in Slovakia
  Prof. Ivan Fric

15.30-15.45 The progress in quality of perinatal care and adoption of the OBSQID Project in the Czech Republic
  Dr Petr Velebil

15.45-16.10 Coffee break
Session Chairs: Dr M. Katona, Dr F. Paulin, Dr P. Velebil

Experiences in data collection and comparison to improve the quality of perinatal care: Progress and implementation reports

16.10-16.20 Malta: Dr Charles Savona-Ventura, Dr Line Janulova
16.20-16.30 Israel: Prof. Moshe Hod
16.30-16.40 United Kingdom: Dr Philip Banfield
16.40-16.50 Latvia: Dr Maira Jansone
16.50-17.00 Bulgaria: Dr Aneta Popivanova
17.00-17.10 Italy: Dr Annunziata Lapolla
17.10-17.20 Poland: Prof. Wlodzimierz Borkowski
17.20-17.40 Black Sea countries: Dr Simion Pruna
17.40-18.00 Discussion & Questions

Saturday, 3 November 2001

Session Chairs: Prof. I. Rákóczi, Prof. K. Marsal, Prof G. Siklósi

9.00-9.20 Perspectives of a subregional OBSQID model and links with EAPM
   Prof. Karel Marsal
9.20-9.30 The new WHO vision for the future of OBSQID
   Prof. Isuf Kalo
9.30-9.40 Proposal for implementation of OBSQID project at a national level in Hungary
   Prof. György Bártfai
9.40-9.50 Identification and promotion of the best perinatal clinical practice in Hungary:
   Existing structures and resources for continuous training
   Prof. Ferenc Paulin
9.50-10.20 Discussion
10.20-10.50 Coffee break
10.50-11.00 Introduction to working groups
   Prof. Isuf Kalo and Prof. György Bartfai
11.00-12.30 Working groups (WG)
   What strategy and information system for the OBSQID project for implementation at national or local level?
12.30-13.00 Presentation of Working Group reports
13.00-13.30 General discussion
13.30-14.00 Summary, conclusions and closure
   Prof. Karel Marsal, Prof. Isuf Kalo and Prof. György Bártfai
LIST OF PARTICIPANTS

**Professor Kamil Akromov**  
Chief Doctor, 2nd Tashkent Medical University  
Ministry of Health  
12, Navoi str.  
70001 1-Tashkent  
Uzbekistan  
Fax No.: +998 71 144 1040

**Professor György Balla**  
Dept of Obstetrics and Gynecology  
Medical and Health Science Center  
University of Debrecen  
Nagyerdei krt. 98.  
H-4032 Debrecen  
Hungary  
Tel. No.: +36 52 411 717 / ex. 4380  
Fax. No.: +36 52 417 171  
Email: balla@obgyn.dote.hu

**Dr Philip Banfield**  
Consultant  
Dept of Obstetrics and Gynecology  
Glan Clwyd  
NHS Trust in North Wales  
United Kingdom  
GB-Bodelwyddan LL18 5UJ  
Tel. No.: +44 1745 583 910  
Fax No.: +44 1745 583 143  
Email: philip.banfield@hotmail.com

**Professor György Bártfai**  
Dept of Obstetrics and Gynaecology  
Faculty of General Medicine  
University of Szeged  
WHO Collaborating Centre for Research in Human Reproduction  
Semmelweis u. I.  
H-6725 Szeged  
Hungary  
Tel. No.: +36 62 545 520  
Fax No.: +36 62 545 711  
Email: bartfai@obgyn.szote.u-szeged.hu
Dr István Berbik
Department of Obstetrics and Gynaecology
Vaszary Kolos Hospital
Petőfi Sándor u. 26.
H-2500 Esztergom
Hungary
Tel. No.: +36 33 417 619
Fax No.: +36 33 417 619
Email: istvan.berbik@helka.iif.hu

Dr Péter Berkó
Department of Obstetrics and Gynaecology
Borsod-A-Z. County Teaching Hospital
Szentpéteri kapu 72-76.
H-3526 Miskolc
Hungary
Tel. No.: +36 46 321 211 / ex. 1400
Fax No.: +36 46 321 211 / ex. 1389
Email: berko.szulesz@bazmkorhaz.hu

Dr Tamás Bitó
Dept of Obstetrics and Gynaecology
Albert Szent-Györgyi Medical and Pharmaceutical Center
University of Szeged
Semmelweis u. 1.
H-6725 Szeged
Hungary
Tel. No.: +36 62 545 493
Fax No.: +36 62 545 711
Email: bito@obgyn.szote.u-szeged.hu

Dr Wlodzimierz Borkowski
National Research Institute of Mother and Child
Kasprzaka 17A
01-211 Warsaw
Tel. No.: +48 22 632 1281
Fax No.: +48 22 632 9454

Dr Zoltán Borthaiser
Dept of Obstetrics and Gynaecology
Albert Szent-Györgyi Medical and Pharmaceutical Center
University of Szeged
Semmelweis u. 1.
H-6725 Szeged
Hungary
Tel. No.: +36 62 545 493
Fax No.: +36 62 545 711
Email: borthaiser@obgyn.szote.u-szeged.hu
Dr Rony Chen
WHO Collab.Centre for Quality Management and Development in Perinatal care
Rabin Medical Centre- Perinatal Division
Department of Obstetrics and Gynecology
Beilinson Campus
IL-49100 Petah-Tiqva
Israel
Tel. No.: +972 3 9377 377
Fax No.: +972 3 9377 656

Dr György Csákány
Department of Obstetrics and Gynecology
Faculty of Health Science
Semmelweis University
Szabolcs u. 33-35.
H-1135 Budapest
Hungary
Tel. No.: +36 1 350 4760 /ex. 1834
Fax No.: +36 1 350 4738
Email: csmgy@axelero.hu

Dr Pierre Delvoye
Gynécologue - Chef de Service
Centre Intégré Santé Familiale
Hôpital Madeleine
Rue Maria Thomée, 2
B-7800 Ath
Belgium
Tel. No.: +32 68842818
Fax No.: +32 68842192
Email: PIDEL@UNICALL.Be

Dr Márta Dobó
Health Promotion and Development Centre
Andrássy út 82.
H-1062 Budapest
Hungary
Tel. No.: +36 1 383 8477
Fax No.: +36 1 383 8477
Email: titkarsag@nefi.hu

Dr. János Doffek
Health Promotion and Development Centre
Andrássy út 82.
H-1062 Budapest
Hungary
Tel. No.: +36 1 383 8477
Fax No.: +36 1 383 8477
Email: titkarsag@nefi.hu
Professor József Doszpod
Department of Obstetrics and Gynecology
Faculty of Health Science
Semmelweis University
Szabolcs u. 33-35.
H-1135 Budapest
Hungary
Tel. No.: +36 1 350 4760 /ex. 1834
Fax No.: +36 1 350 4738

Dr Eliahu Edelmann
Perinatal Division
Rabin Medical Centre
Department of Obstetrics and Gynecology
Beilinson Campus
IL-49100 Petah-Tiqva
Israel
Tel. No.: +972 51 927 570
Fax No.: +972 3 9377 656
Email: eedelmann42@hotmail.com

Professor Jenő Egyed
Department of Obstetrics and Gynecology
Faculty of Health Science
Semmelweis University
Szabolcs u. 33-35.
H-1135 Budapest
Hungary
Tel. No.: +36 1 350 4760
Fax No.: +36 1 350 4738

Dr Ivan Fric
Regional Perinatal Center
1st Dept of Obstetrics/Gynecology/Neonat
Faculty Hospital
Tr. Snp. 1
04066 Kosice
Slovakia
Tel. No.: +421 95 6420 234
Fax No.: +421 95 6424 706
Email: ifric@stonline.sk

Mr Kire Gruevski
Gynekolosko akuserska klinika
Medical Faculty
Vodnjanska 17
91000 Skopje
Former Yugoslav Republic of Macedonia
Tel. No.: +389 2 113 11912
Fax No.: +389 2 116 182
Professor Moshe Hod
Director, Perinatal Division
WHO Coll. Centre for Quality Management and Development in Perinatal Care
Rabin Medical Centre
Department of Obstetrics and Gynecology
Beilinson Campus
IL-49100 Petah-Tiqva
Israel
Tel. No.: +972 3 9377 377
Fax No.: +972 3 9377 656
Email: hodroyal@inter.net.il

Dr Boldizsár Horváth
Department of Obstetrics and Gynaecology
Markusovszky Teaching Hospital
Markusovszky u. 1.
H-9700 Szombathely
Hungary
Tel. No.: +36 94 515 543

Dr Maira Jansone
Head
Perinatal Center
Paul Stradiuna Clinical University Hospital
Pilsonu eila 13
Riga
Latvia
Tel. No.: +371 7069 592
Fax No.: +371 7069 351
Email: Maira.Jansone@riga.mail.telia.com

Dr Lina Janulova
Department of Health Information
95, G'Mangia Hill
G'Mangia MSDOX
Malta
Tel. No.: +356 237067
Fax No.: +356 235910
Email: lina.janulova@magnet.mt

Dr Ismeta Kalkan
Pediatric Clinic
Intensive Care Unit
KCU Sarajevo
Boknicka 25
Sarajevo
Bosnia & Hercegovina
Tel. No.: +387 33 472 406
Fax No.: +387 33 665 823
Dr Asamiddin Kamilov
Deputy Minister
Mother and Child Health
Ministry of Health
12, Navoi avenue
700011 Tashkent
Uzbekistan
Tel. No.: +998 71 241 16 80
Fax No.: +998 71 144 1033

Dr Márta Katona
Department of Paediatrics
Albert Szent-Györgyi Medical and Pharmaceutical Center
University of Szeged
Korányi fasor 14-15.
H-6724 Szeged
Hungary
Tel. No.: +36 62 545 129
Fax No.: +36 62 545 325
Email: katonama@pedia.szote.u-szeged.hu

Dr István Kis Csitári
Department of Obstetrics and Gynaecology
Szent Lázár County Hospital
Füleki u. 64.
H-3100 Salgótarján
Hungary
Tel. No.: +36 32 522 071
Fax No.: +36 32 311 779
Email: ikiscs@salgo.pszfs.hu

Dr Tatyana Konchakovskaya
The Children’s Scientific Medical Hospital
Geraev Stalingrada pr. 53, Apt. 89
Kiev
Ukraine
Tel. No.: +380 44 4135 413
Fax No.: +380 44 4329 956
Email: olderman@olinet.isf.kiev.ua

Dr Annunziata Lapolla
Servizio di Diabetologia
Cattedra di Malattie del Metabolismo
Università di Padova
Via Vendramini 7
I-35137 Padova
Italy
Tel. No.: +39 49 821 6268
Fax No.: +39 49 821 6266
Email: domenico.fedele@unipd.it
Dr Göran Lingman
Associate Professor
Obstetrics and Gynecology
University Hospital Lund
S-22185 Lund
Sweden
Tel. No.: +46 46 171000
Fax No.: +46 46 157868
Email: goran.lingman@skane.se

Dr Tamás Major
Dept of Obstetrics and Gynecology
Medical and Health Science Center
University of Debrecen
Nagyerdei krt. 98.
H-4032 Debrecen
Hungary
Tel. No.: +36 52 417 171
Fax No.: +36 52 417 171
Email: majort@dote.hu

Dr Michael Maresh
Consultant Obstetrician & Clinical Dir.
Maternity Unit
St Mary's Hospital for Women & Children
Whitwoorth Park
GB-Manchester M13 0JH
United Kingdom
Tel. No.: +44 161 276 6312
Fax No.: +44 161 276 6311
Email: esilver@care.cmht.nwest.nhs.uk

Professor Karel Marsal
Dept of Obstetrics and Gynecology
University Hospital Lund
S-221 85 Lund
Sweden
Tel. No.: +46 46 17 25 50
Fax No.: +46 46 14 86 95
Email: Karel.Marsal@gyn.lu.se

Dr Jan Mazela
Karol Marcinkowski University of Medical Sciences
Dept of Neonatology
Instytut Gin. i Poloznictwa AM
ul. Polna 33
PL-60-535 Poznan
Poland
Tel. No.: +48 618 419 405
Fax No.: +48 618 520 455
Ms Katalin Novák
Director
Department for International Cooperation and Coordination of European Integration
Ministry of Health
P.O.Box 987
H-1245 Budapest
Hungary
Tel. No.: +36 1 3313329
Fax No.: +36 1 3118054
Email: Novak.Katalin@eum.hu

Dr Hajnalka Orvos
Dept of Obstetrics and Gynaecology
Albert Szent-Györgyi Medical and Pharmaceutical Center
University of Szeged
Semmelweis u. 1.
H-6725 Szeged
Hungary
Tel. No.: +36 62 545 493
Fax No.: +36 62 545 711
Email: orvosh@obgyn.szote.u-szeged.hu

Professor Attila Pajor
2nd Dept of Obstetrics and Gynaecology
Faculty of Medicine
Semmelweis University
Üllői út 78/A.
H-1082 Budapest
Hungary
Tel. No.: +36 1 210 0990/ ex. 3214
Fax No.: +36 1 333 4934
Email: pajor@noi2.sote.hu

Professor Attila Pál
Dept of Obstetrics and Gynaecology
Albert Szent-Györgyi Medical and Pharmaceutical Center
University of Szeged
WHO Collaborating Centre for Research in Human Reproduction
Semmelweis u. 1.
H-6725 Szeged
Hungary
Tel. No.: +36 62 545 491
Fax No.: +36 62 545 711
Email: palattila@obgyn.szote.u-szeged.hu
Professor Ferenc Paulin
2nd Dept of Obstetrics and Gynaecology
Faculty of Medicine
Semmelweis University
Üllői út 78/A.
H-1082 Budapest
Hungary
Tel. No.: +36 1 313 7856
Fax No.: +36 1 333 4934

Dr Aneta Popivanova
Clinic of Neonatology
University Hospital of Obstetrics and Gynaecology
2, Zdrave Str.
BG-1431 Sofia
Bulgaria
Tel. No.: +359 251 661
Email: aneta_popivanova@hotmail.com

Dr Tanja Premru-Srsen
Dept. of Obstetrics & Gynaecology
University Medical Centre
Slajmerjeva 3
SLO-1000 Ljubljana
Slovenia
Email: Tanja.Premru@guest.arnes.si

Mr Simion Pruna
President
Romanian Society for Clinical Engineering & Medical Computing
Telemedicine Centre
I.L. Caragiale, No. 12, Sect. 2
RO-70208 Bucharest
Romania
Tel. No.: +40 1 212 3217
Fax No.: +40 1 330 3769
Email: simion.pruna@telemed.ro

Professor István Rákóczki
Department of Obstetrics and Gynaecology
Szent Imre Hospital
Tétényi út 12-16.
H-1115 Budapest
Hungary
Tel. No.: +36 1 464 8736
Fax No.: +36 1 464 8736
Email: dristvan@freemail.hu
Dr Manuela C. Russu  
Clinic of Obstetrics and Gynecology  
University Hospital  
'Dr I. Cantacuzino'  
I. Movila Str. 5-7  
70266 Bucharest  
Romania  
Tel. No.: +40 1 210 2806  
Fax No.: +40 1 310 1213

Dr Charles Savona-Ventura  
Consultant Obstetrician-Gynaecologist  
Department of Obstetrics  
North Wynds  
St. Luke's Hospital  
40 Triq Antonio Zammit, Ix-Xwieki  
Gharghur NXR 08  
Malta  
Tel. No.: +356 435 396  
Fax No.: +356 244 766  
Email: csav1@ihc.um.edu.mt

Dr Cihat Sen  
Dept of Perinatology  
Cerrahpasa Medical School  
Istanbul University  
P.O. Box 33, Cerrahpasa  
Istanbul  
Turkey  
Tel. No.: +90 542 2133301  
Fax No.: +90 212 633 4685

Professor György Siklósi  
2nd Dept of Obstetrics and Gynaecology  
Faculty of Medicine  
Semmelweis University  
Úllói út 78/A.  
H-1082 Budapest  
Hungary  
Tel. No.: +36 1 313 7856  
Fax No.: +36 1 333 4934

Dr Gábor Simon  
Department of Paediatrics  
"Szent György" County Teaching Hospital  
Seregélyesi út 3.  
H-8000 Székesfehérvár  
Hungary  
Tel. No.: +36 22 535 597  
Fax No.: +36 22 314 197  
Email: gSimon@mail.fmkorhaz.hu
Dr Miklós Szabó
1st Department of Paediatrics
Faculty of Medicine
Semmelweis University
Bókay János u. 6-8.
H-1083 Budapest
Hungary
Tel. No.: +36 1 334 3186
Fax No.: +36 1 313 8212
Email: szabmik@gyer1.sote.hu

Dr Imre Szilágyi
Department of Obstetrics and Gynaecology
Csolnoky Ferenc County Hospital
Kórház u. 1.
H-8200 Veszprém
Hungary
Tel. No.: +36 88 420 211
Fax No.: +36 88 420 211 /ex. 3517
Email: szilagyiimre@freemailhu

Dr Alvi Tellmann
Estonian Medical Birth and Abortion Registry
Institute of Experimental and Clinical Medicine
Hiiu 42
11619 Tallinn
Estonia
Tel. No.: +372 6514347
Fax No.: +372 6706814
Email: alvi@ekmi.ee

Professor Jovan Tofoski
Gynecološko akuserska klinika
Medicinski fakultet
Vodnjanska 17
91000 Skopje
Former Yugoslav Republic of Macedonia
Tel. No.: + 389 2 113 111912
Fax No.: +389 2 116 182

Dr Péter Tamás
Department of Obstetrics and Gynaecology
University of Pécs
Édesanyák útja 17.
H-7624 Pécs
Hungary
Tel. No.: +36 72 536 370
Fax No.: +36 72 536 372
Dr Péter Tóth
2nd Dept of Obstetrics and Gynaecology
Faculty of Medicine
Semmelweis University
Üllői út 78/A.
H-1082 Budapest
Hungary
Tel. No.: +36 30 242 6755
Fax No.: +36 1 333 4934
Email: totpet@noi2.sote.hu

Professor Zoltán Tóth
Dept of Obstetrics and Gynecology
Medical and Health Science Center
University of Debrecen
Nagyerdei krt. 98.
H-4032 Debrecen
Hungary
Tel. No.: +36 52 417 171
Fax No.: +36 52 417 171
Email: ztoth@jaguar.dote.hu

Dr Miklós Török
Department of Obstetrics and Gynecology
Faculty of Health Science
Semmelweis University
Szabolcs u. 33-35.
H-1135 Budapest
Hungary
Tel. No.: +36 1 350 4760
Fax No.: +36 1 350 4738

Dr Olga Török
Dept of Obstetrics and Gynecology
Medical and Health Science Center
University of Debrecen
Nagyerdei krt. 98.
H-4032 Debrecen
Hungary
Tel. No.: +36 52 417 144
Fax No.: +36 52 417 171
Email: to@jaguar.dote.hu

Dr Éva Törös
Dept of Obstetrics and Gynecology
Weiss Manfréd Hospital
Déli u. 11.
H-1211 Budapest
Hungary
Tel. No.: +36 1 276 5511
Fax No.: +36 1 276 1767
Email: wmhospit.ob-gyn@freemail.hu
Dr Erzsébet Ulveczki
Health Promotion Department
Office of Chief Medical Officer of Hungary
Gyáli u. 2-6.
H-1097 Budapest
Hungary
Tel. No.: +36 1 476 1306
Fax No.: +36 1 476 1309
Email: ulveczki.oth@antsz.hu

Dr Petr Velebil
WHO Collaborating Centre for Perinatal Medicine and Human Reproduction
Research Institute for the Care of Mother and Child
157 Podolské Nabfezi
CZ-147 10 Prague
Czech Republic
Tel. No.: +420 2 965 11 815
Fax No.: +420 2 965 11 391
Email: velebilp@seznam.cz

Dr Iván Veszelovszky
Department of Obstetrics and Gynaecology
County Hospital
Sima Ferenc u. 44-58.
H-6600 Szentes
Hungary
Tel. No.: +36 63 313 244
Fax No.: +36 63 313 972
Email: szthosp@mail.tiszanet.hu

Dr Katalin Waldinger
Department of Obstetrics and Gynaecology
Szent Imre Hospital
Tétényi út 12-16.
H-1115 Budapest
Hungary
Tel. No.: +36 1 464 8701
Fax No.: +36 1 464 8736

Dr Eliahu Wielunsky
Deputy Director
Schneider Medical Center for Children
Beilinson Campus
46 Kaplan
Petach Tikva 49202
Israel
Tel. No.: +972 3 925 3600
Fax No.: +972 3 924 7515
Email: ewielunsky@clalit.org.il
Regional Office for Europe

Ms Lisa Copple
Programme Assistant
Tel. No.: +45 39 171499
Fax No.: +45 39 171864
Email: lco@who.dk

Mr Visti Juncher
Short-term Consultant
Tel. No.: +45 39 171717
Email: postmaster@who.dk

Dr Isuf Kalo
Regional Adviser
Tel. No.: +45 39 171717
Email: postmaster@who.dk

Ms Helle Rink
Programme Assistant
Tel. No.: +45 39 171717
Fax No.: +45 39 171818
Email: postmaster@who.dk

Liaison Office, Hungary

Dr Marianne Szatmári
WHO Liaison Officer
WHO Liaison Office
c/o Ministry of Health
Arany János u. 6-8
H-1051 Budapest
Hungary
Tel. No.: +36 1 331 7450
Fax No.: +36 1 269 1303
Email: WHOLOHU@who.hu
Quality Development in Perinatal Care: The OBSQID Project

Report on the Seventh WHO Workshop

Budapest, Hungary
2–3 November 2001

2002