

# A SIMPLE LOCAL DATABASE FOR AUDIT AND EPIDEMIOLOGIC STUDIES

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*Summary:* The Authors, after having outlined the importance of clinical audit in order to improve the perinatal care provided and reduce management-dishomogeneity between obstetrical staff members, present a simple off-line system of computerized perinatal data collection that has proved to be the useful for audit applications and statistical epidemiological evaluations.

## INTRODUCTION

Technological tools, like cardiotochography and its computerized elaboration or acid-base status evaluation on fetal blood microsamples, have to be considered a useful amelioration in fetal wellbeing monitoring during labour and delivery, only in case of standardized interpretation of diagnostic data from the medical staff members. In a previous paper, we evaluated the routine use of cardiotochography as an intrapartum "objective" diagnostic tool, in order to ascertain whether an improved pattern of consistency in labour management, among members of our clinical staff, had been achieved. The statistical evaluation of selected pregnancy risk factors, as well as of obstetrical management and neonatal Apgar score when related to single members of our group, showed significant management dishomogeneity, thus emphasizing the relevant influence of the human factor as a variable (<sup>1</sup>).

In order to enlarge consensus on standard interpretation of diagnostic data and obtain an improved homogeneity in labour management among our group members, we applied audit techniques; for this primary goal we found it necessary to elaborate a simple « off-line » database system, which allowed rapid access to our up to date perinatal records.

## METHODS

We selected a series of data for each delivered patient to be input "off line" on a weekly basis. Data were coded (tab. 1) and then transferred into an "ad hoc" data base, utilizing a P.C., also linked to the main frame (Cyber 370) of the Trieste University Computer Center. We used "Full Screen Editor" software as editing procedure. For statistical evaluation we use the SPSS-X package. This operating system resulted extremely open to any implementation and "friendly" enough after a short training period (tab. 2).

## COMMENT

There is a need for better information in perinatal care. Members of perinatal teams may need information on the efficacy of new technology and the effectiveness of the care they provide. To show that a clinical approach taken in a specific case matched the community standard, may be useful during litigation. The computerized management of perinatal data that we adopted, or others similar (<sup>2</sup>), makes possible a rapid access to statistical and epidemiological evaluations. Reports and clinical audit are readily available without a time-consuming manual sorting. An example of audit application of our computerized perinatal data system is shown in table 3.

Table 1. — *Data recorded for each delivery.*

| "A" DATA                           | "B" DATA                     | "B" DATA                        |
|------------------------------------|------------------------------|---------------------------------|
| Year                               | Married                      | Vertex                          |
| Month                              | Seen before 20 weeks         | Face                            |
| Progressive number                 | Diabetes                     | Brow                            |
| Maternal age                       | Gestational diabetes         | Breech                          |
| Parity                             | Pre-eclampsia                | Transverse lie                  |
| Number of previous C.S.            | Eclampsia                    | Prolapse of cord                |
| Maternal height                    | Chronic hypertension         | IUD                             |
| Gestational age                    | IUGR                         | Intrapartum death               |
| Maternal weight gain               | Placenta praevia             | Spontaneous delivery            |
| Electronic-CTG % of labor duration | Abruptio placentae           | Shoulder dystocia               |
| First stage duration               | PSROM                        | Vacuum extractor                |
| Second stage duration              | Pharmacological induction    | Forceps                         |
| Third stage duration               | Pharmacological acceleration | Cesarean (new)                  |
| Apgar score at 1 and 5 minutes     | Meconium                     | Cesarean (repeat)               |
| Postpartum blood loss in cc        | Distocia                     | Vaginal delivery after cesarean |
| Placental weight                   | Disproportion                | Episiotomy                      |
| Operator code number               | Pyrexia in labour            | Laceration                      |
|                                    | Anesthesia                   | Ruptured uterus                 |
|                                    | ARM                          | Early neonatal death            |
|                                    | Fetal blood sampling         | Call for senior operator        |
|                                    | Acute fetal distress         |                                 |

A. Continuous data (actual value)

B. Ordinal data (Present=1; Absent=0; Missing=blank)

Table 2. — *Data base management and utilization scheme.*

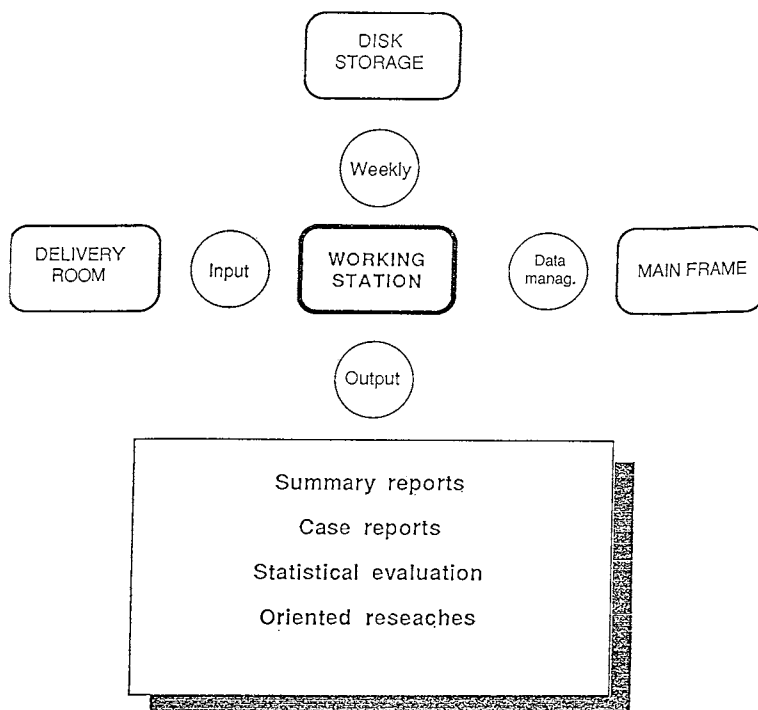
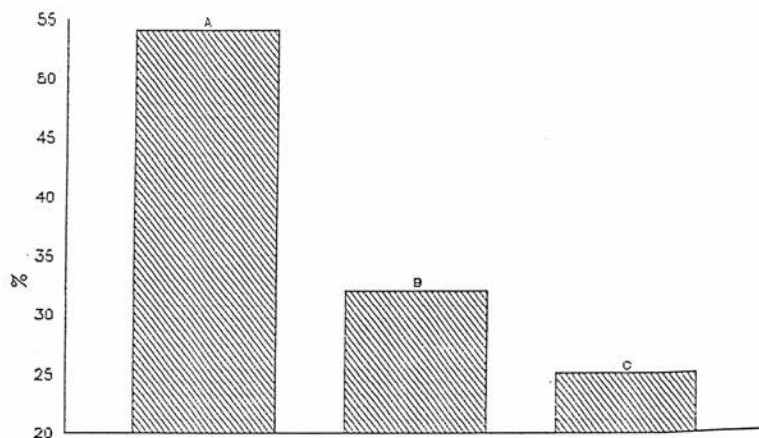
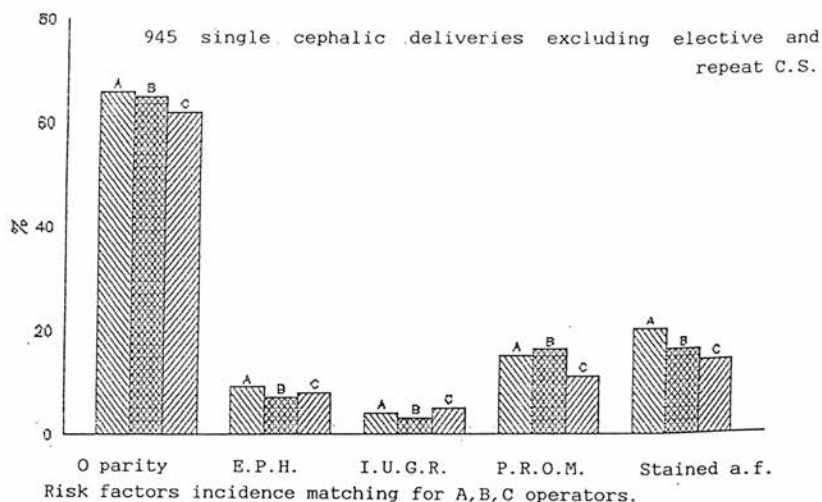


Table 3. — Obstetrical risk and management matching between A, B, C operators.



Matching of C.S. rates for A,B,C operators.

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