Use of psychotropic drugs during pregnancy

A report of the international co-operative drug use in pregnancy (DUP) study

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Summary. Drug Use in Pregnancy (DUP) is an international epidemiological survey of drug use in pregnancy conducted from 1988 to 1990 in 148 maternity wards, representing the general delivery practices of 22 countries. Data on exposure of pregnant women to psychotropic drugs, the indications for their use and their correlation with maternal characteristics are reported.

Of the 14,778 women interviewed, 520 (3.5%) reported 562 courses of psychotropic drugs. Benzodiazepines (BDZ) accounted for the greatest number of the exposures (444/520 women); neuroleptics and antidepressants were prescribed to tiny minorities of women (83 and 17 respectively), mostly in those few countries where the overall prevalence of use of those drugs was highest. Throughout the majority of the other countries, overall rates were in the low range and were rather heterogeneous. With the exception of small clusters of “unexpected” indications, prescriptions of BDZ were found to be consistent with the target symptoms of anxiety and insomnia; chronic use was reported in 31/444 women. The study was not targeted to the detection of malformations; no suspected clustering was found, however, among the 130 women exposed during the first trimester of pregnancy.

The collaborative network now established provides a framework for periodically replicated surveillance to monitor the evolution of this field of knowledge and care in order to provide reliable information for women and society.

Key words: Pregnancy, methodological, Psychotropic drugs; drug utilisation
A total of 14,778 women from 148 maternity wards in 22 countries in four continents was enrolled over the same duration of index periods during 1988–1990. Europe represented the highest final population (10,258 from 121 wards), followed by Asia (2,602 women from 14 wards), Central and South America (1,078 women from 7 hospitals), and Africa (840 women from six hospitals). In each participating country a clinical pharmacology unit and/or an obstetrics department acted as the reference centre for a group of volunteer hospitals representing various levels of care. The reference centre used randomisation techniques to ensure that the study population was closely representative of the health care offered in hospitals in that country. The numbers of deliveries enrolled by each unit varied considerably, with the majority (14 countries) accounting for more than 1.5 per 1000 annual births in the country (at least 10% of the annual births in each participating hospital). Ireland, Costa Rica, Japan, Sri Lanka, United Kingdom, Brazil, Ghana and India enrolled less than 1.0 per 1000 annual births. According to a method which has been shown to be reliable for recall of pregnancy-related events, including drug exposure [21], the randomly selected women were interviewed in the first week after delivery by trained medical and/or paramedical personnel, on the basis of a standardised, structured questionnaire, focusing on education, quality of care during pregnancy (timing and number of health checks, morbidity), smoking and drinking habits, and drug consumption. Cross-check questions (on specific “drug” exposure vs indications/problems requiring drugs) were asked for each trimester and overall to help recall: for each affirmative response to a drug question, the brand name of the prescribed or self-chosen product and the indication was requested. Information obtained from the questionnaires was supplemented with data from hospital records about obstetric history, present delivery (mode, plurality and gestational age) and information about the babies (sex, body weight, Apgar score, malformations, and other major pathological events).

To estimate how representative were, the collected data the rates for a few general variables for each country, such as contraception, mode of delivery, malformations at birth and breastfeeding, were compared with data collected by the representative unit from other general variables for each country, such as contraception, mode of delivery, malformations at birth and breastfeeding, were compared with data collected by the representative unit from other participating countries. Close agreement was found within individual hospitals, but considerable, with the majority (14 countries) accounting for more than 1.5 per 1000 annual births in the country (at least 10% of the annual births in each participating hospital). Ireland, Costa Rica, Japan, Sri Lanka, United Kingdom, Brazil, Ghana and India enrolled less than 1.0 per 1000 annual births. According to a method which has been shown to be reliable for recall of pregnancy-related events, including drug exposure [21], the randomly selected women were interviewed in the first week after delivery by trained medical and/or paramedical personnel, on the basis of a standardised, structured questionnaire, focusing on education, quality of care during pregnancy (timing and number of health checks, morbidity), smoking and drinking habits, and drug consumption. Cross-check questions (on specific “drug” exposure vs indications/problems requiring drugs) were asked for each trimester and overall to help recall: for each affirmative response to a drug question, the brand name of the prescribed or self-chosen product and the indication was requested. Information obtained from the questionnaires was supplemented with data from hospital records about obstetric history, present delivery (mode, plurality and gestational age) and information about the babies (sex, body weight, Apgar score, malformations, and other major pathological events).

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The drug products were centrally coded, after careful cross-checking of their contents with the national coordinators, according to the International Pharmaceutical Research Group classifications [22], with marginal adjustments for any products coming from one or the other market. In this report we have analysed all drug prescriptions classified as “psihotropics”, namely benzodiazepines, antidepressants and neuroleptics.

According to the pre-defined aim of the DUP protocol, data are presented a) first as they relate to the total sample as one population (“women delivering in hospital”), b) then, as they represent the heterogeneity of the cultural and care settings in individual countries, or geographically and historically homogeneous groups of countries.