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Health Behavioural and Social Risks in Obstetrics

Effect on Pregnancy Outcome

Doctoral dissertation

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ABSTRACT

Prior studies on pregnancy and social (unmarried status, unemployment, non-attendance at antenatal care) and health behavioural (induced abortions, overweight, young maternal age) risks have shown associations with adverse pregnancy outcomes, such as preterm birth, foetal growth restriction and perinatal deaths. The magnitude of these risks has been different depending on the society and accessibility of maternity care. Also differences in representativeness of populations and in controlling of confounding factors have made the literature inconclusive. In Finland maternity care is exceptionally easy to access and linked with the possibility to receive maternity benefits. Thus, it is attended by virtually the entire pregnant population, which may reduce the effect of adverse social circumstances.

The subjects of the present study belong to the pregnant population treated at Kuopio University Hospital in 1989-2001. The study population consisted of mothers with singletons and births with major malformations were excluded. The total number of participants in different studies varied from 23,613 to 26,967. Of the pregnancies 8235 were outside marriage, in 5976 pregnancies either or both parents were unemployed,185 mothers were under 18 years old, 3388 mothers were overweight and 1880 obese, 2719 women had a history of induced abortion and 477 women had under-attended antenatal care. Maternal risk factors were assessed by comprehensive self-administered questionnaires at 20 weeks of pregnancy, and the data were complemented by interview. Information on pregnancy complications, pregnancy outcome and the neonatal period was electronically filed as a part of clinical work. Odds ratios (OR: s) with 95 % confidence intervals were calculated by logistic regression to estimate the effect of each variable on pregnancy outcome.

Clinically important risks for adverse pregnancy outcome were found. Compared with married women, unmarried and cohabiting had a slightly increased risk of preterm birth, OR 1.15 (95 % CI 1.03-1.28), of infant admission to the neonatal intensive care unit (NICU) OR 1.15 (95 % CI 1.05-1.27) and of small for gestational age infants (SGA) OR 1.11 (95 % CI 1.02-1.22). The risk of SGA was higher in single women (OR 1.29 [95 % CI 1.09-1.54]). Unemployment of the mother was associated with SGA (OR of 1.26 [95 % CI 1.12-1.42]), especially in families where both parents were unemployed (OR 1.43 [95 % CI 1.18-1.73]). The newborns of obese women (BMI $\geq$30 kg/m^2) had an increased risk of perinatal death (OR 2.19 [95% CI 1.33-3.62]), infant admission to the NICU (OR 1.38 [95 % CI 1.17-1.61]) and low Apgar score (OR 1.64 [95 % CI 1.22-2.28]). Even the infants of overweight women had an increased risk of admission to the NICU (OR of 1.20 [95 % CI 1.06-1.37]) and low Apgar score (OR 1.54 [95 % CI 1.20-1.98]). In all, 1,0 % of the women excluding themselves from maternity care had high risks of preterm birth (OR 3.79 [95 % CI 2.72-5.27]), intrauterine foetal death (OR 3.02 [95 % CI 1.20-7.57]) and low Apgar score (OR 4.50 [95 % CI 2.92-6.96]). Teenage women appeared to have favourable pregnancy outcomes. Accordingly, prior pregnancy terminations were not associated with adverse pregnancy outcomes.

Social and health behavioural risks are notable even in conditions of high-quality maternity care attended by 99% of the pregnant population. Obese women might benefit from preventive measures. The increasing trend of obesity is an important, preventable public health issue also in the field of obstetrics. Weight loss to a BMI under 30 would bring substantial advantages to obstetric outcome. Women who do not attend antenatal care or have other social or behavioural risks deserve close surveillance of the pregnancy and support in issues related to motherhood.

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