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EARNEST

EARly Nutrition programming- long term follow up of Efficacy and Safety Trials and integrated epidemiological, genetic, animal, consumer and economic research

Instrument: Integrated Project

Thematic Priority 5.4.3.1: Food Quality and Safety

Final public report on activity 2.5.2

Title of activity: Distributions of dietary and non-dietary information collected in DNBC and MoBa

Period covered from 15.04.2005 to 14.10.2010

Start date of project: 15.04.2005 Duration: 5,5 Years

Organisation Name of Lead Contractor for this report: Danish Epidemiology Science Centre, Statens Serum Institut (now: Centre for Fetal Programming, Statens Serum Institut)

Objectives
To explore distributions of dietary and non-dietary information collected in DNBC and MoBa.

Tasks
It was necessary to harmonise variable definitions. Particularly it was necessary to standardise food group definitions used in the two cohorts. Further it was necessary to pool selected variables extracted from both databases.

Results
It is assumed that the reader has basic knowledge regarding the cohorts.

Conventional comparisons

Social characteristics: Characterisation as to socioeconomic groups and urbanisation degree of residence area showed markedly different patterns across the two cohorts. MoBa women had substantially higher representations in the socioeconomic categories 'high' (20.9% v. 9.5%), 'medium' (36.9% v. 28.6%), and 'skilled' (23.2% v.18.7%), and substantially lower representations in the categories 'unskilled' (6.3% v. 21.3%) and 'unemployed' (2.7% v. 10.2%) compared to DNBC women, whereas proportions of 'students' were very similar (around 11% in both cohorts).

Constitutional characteristics: Distributions of maternal age, parity and civil status at birth differed only slightly between the two cohorts. The age distribution was slightly broader in MoBa than DNBC, with 1.4% and 0.9% below 20 and 13.1% and 9.9% above 35 and 1.6 and 1.0 above 40 years in MoBa compared to DNBC. For both cohorts, around 53-54% had no children and 14-15% had two children or more when entering the cohort with the index pregnancy and around 2% were single women in both cohorts. As regards weight for height, the BMI distributions were remarkably similar, with a slight shift towards higher BMI groups in MoBa than DNBC; 3.1% and 4.4% were below 18.5, and 9.6% and 7.9% were 30 or above and 2.6% and 2.1% were 35 or above in MoBa and DNBC, respectively.

Selected lifestyle characteristics: MoBa women were substantially less likely to smoke and use alcohol in pregnancy, with 91.5% and 74.8% non-smokers, 2.9% and 12.7% occasional smokers, and 5.6% and 12.5% daily smokers in MoBa and DNBC respectively; and 88.4% and 42.5% reporting using alcohol in MoBa and DNBC, respectively. MoBa women used less dietary supplements, with 17.6% nonusers in MoBa and 5.8% in DNBC. There were fewer vegetarians in MoBa, 0.4% v. 1.2%. MoBa women consumed much less organic foods, with 1.9% and 6.8% reporting consuming organic foods frequently and 52.2% and 11.8% reporting consuming organic foods very rarely or never in MoBa and DNBC, respectively.

Estimated intakes of food: Apart from juice (which was 174g/d in both groups of women), MoBa and DNBC women differed significantly with respect to all food groups examined. The following foods were higher in MoBa women compared to DNBC women: Vegetables (relative difference 45%, absolute difference 53g/d), vegetables fruit (81%, 126g/d), nuts (28%, 0.5g/d), fish (39%, 10g/d), rice (141%, 16g/d), pasta (74%, 11g/d), white bread (42%, 36g/d), yoghurt (81%, 43%), oil (44%, 0.7g/d), dressing (296%, 14g/d), tea (16%, 25g/d), light soft drinks (157%, 85g/d), water (13%, 137g/d), dessert (133%, 60g/d), snack (253%, 10g/d). Whereas the following foods were lower in MoBa women compared to DNBC

women: Legumes (47%, 5g/d), potatoes (65%, 81g/d), French fries (3%, .2g/d), meat (20%, 22g/d), egg (27%, 4g/d), breakfast cereals (4%, 1g/d), whole grain products (29%, 43g/d), high fat milk (47%, 22g/d), low fat milk (39%, 192g/d), butter (54%, 4g/d), cheese (26%, 8g/d), margarine (45%, 9g/d), coffee (28%, 40g/d), sugar soft drinks (19%, 38g/d), chocolate milk (58%, 24g/d), alcohol (94%, 22g/d).

Comparisons using Principal component analyses (PCA)

Social, constitutional, and selected lifestyle characteristics: We superimpose the main principal components from two independent principal component analysis models describing the socio demographic pattern of Denmark and Norway. We saw that the pattern is reproducible from country to country. The variables were positioned closely in the loading plot, revealing the overall same correlation structure for the main systematic variation. Although the proportion of women within each category differ from country to country the pattern of habits, age, social status etc. were the same. E.g. a non smoker in Denmark is similar to a non smoker in Norway as regards these characteristics.

Conclusions

First, the data structures of MoBA and DNBC are compatible enough to undertake detailed comparisons across the two cohort databases.

Second, the two groups of women share many basic characteristics, such as age, parity, civil status and BMI.

Third, they did differ with respect to socio-economic status and urbanisation degree of area of residence. We have tried to harmonise the definitions applied; but still differences in definition may remain and this will be scrutinised further.

Forth, there were remarkably fewer women who smoked and used alcohol in MoBa compared to DNCB.

Fifth, there were clear differences in specific dietary patterns. For instance, fish, vegetables, and fruit were lower in DNBC compared to MoBA, whereas whole grain products, milk and butter were higher in DNBC.

Sixth, PCA analyses showed that the structures of non-dietary covariates were very similar in the two cohorts.

A more in depth analyses is in progress.