

Appendix method: Procedure of the National Free Preconception Health Examination Project (NFPHEP)

Recruitment and baseline

All the reproductive couples who planned to conceive in the next 6 months were encouraged to participate in the NFPHEP. Baseline information, included demographic characteristics (age, educational level, occupation, ethnicity, migration and address of residence), history of chronic disease (hypertension, diabetes, heart disease, epilepsy, thyroid disease, chronic nephritis, anaemia, cancer and psychiatric diseases), history of pregnancy (gravidity and parity) and history of adverse pregnancy outcomes (preterm birth, miscarriage, induced abortion, stillbirth and birth defect), lifestyle (maternal active smoking, passive smoking, alcohol consumption and husband smoking), were collected by trained local community staff with a structured questionnaire. Clinical professionals from the local authorized medical institutions then did physical examinations and collected blood samples. Body weight, height and blood pressure were measured by calibrated instruments and standard specifications. Fasting peripheral venous blood samples (not eating anything for at least 8 hours) were collected with the tube containing a rapidly effective glycolysis inhibitor, and immediately taken back for measurement in accredited laboratories that are affiliated to local authorized medical institutions.^{1,2}

FSG concentration was measured within two hours of collecting the blood samples. All the biochemistry analyser and the corresponding reagents kits used for FSG concentrations measurement were certified by the China Food and Drug Administration.^{2,3} The Centre of Clinical Laboratories for Quality Inspection and Detection of Guangdong Institute of Family Planning Science and Technology was responsible for external quality assessment semi-annually and for quality control.⁴ Interclass correlation coefficients expressing between-

person variance as a percentage of the total variance, obtained by analysis of replicate pairs of samples drawn at baseline from all the counties involved were all higher than 0.98 for FSG concentration.¹

Follow up

After the pre-pregnancy physical examinations, all the participants were followed up by trained local community staff by telephone every two months to determine whether they had conceived successfully. Local community staff interviewed the participants face to face or by telephone within three months after conception, recording their last menstrual period, active smoking, alcohol consumption, and husband smoking during the early stage of the pregnancy. Mothers were also interviewed face to face or by telephone within six weeks of delivery to collect information on the hospital where they gave birth. Local community staff then collected data from the medical records at the reference hospital regarding pregnancy outcomes, including current pregnancy outcomes (normal birth, preterm birth, miscarriage, induced abortion, stillbirth or birth defect), gestational age (weeks), birth weight (grams) and neonatal information (singleton or multiple births).^{1,2} All of these baseline data and follow up data were entered into the web-based data collection system, and transferred to Guangdong Institute of Family Planning Science and Technology where they were cleaned, complied and de-identified. The endpoint of this study was to observe the pregnancy outcomes of the participated mothers and the study was terminated on 31st December 2017.

Reference

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