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Study: Prenatal multivitamins prevent wide range of serious birth defects

Ottawa – A new study released by the Journal of Obstetrics and Gynaecology of Canada (JOGC) has found that taking prenatal multivitamins fortified with folic acid can reduce the risk of a wide range of serious birth defects, including cardiovascular and limb defects, cleft palate, oral cleft, congenital hydrocephalus, and urinary tract anomalies.

“Clearly, this information is very important for any woman looking to give her baby the healthiest start possible,” said **Dr. Gideon Koren, the study’s principal investigator and director of the Motherisk Program at Toronto’s Hospital for Sick Children**. “And with as many as one out of every 33 children in Canada being born with a serious congenital birth defect, this information has the power to make a big difference in the lives of many people.”

Entitled *Prenatal Multivitamin Supplementation and Rates of Congenital Anomalies: a Meta Analysis*, the study examined the findings of 41 other research publications exploring the effects of multivitamin supplementation before conception and during the first trimester. The study is the first systematic review of the evidence linking multivitamins to reduced risk of birth defects other than neural tube defects. The study did not find links between the multivitamins and the prevention of Down syndrome, pyloric stenosis, undescended testis, or hypospadias.

In 2005, an estimated 150,000 babies were born with birth defects in North America.¹ In addition to the serious health and social consequences of people born with these illnesses, the economic costs associated with birth defects is extremely high. While many congenital birth defects can be attributed to genetic, inheritance or environmental factors, in 40-60% of all cases the cause is unexplained.²

“We’ve known for over a decade that taking folic acid before and during pregnancy can help prevent neural tube defects, but in general there’s still a lot we don’t know about what causes birth defects and how we can prevent them,” said **Dr. Donald Davis, President of the Society of Obstetricians and Gynaecologists of Canada (SOGC)**. “This study fills a gap in that we can now

offer women some concrete advice. We can say, 'look, this is one way you can help prevent these.'

As the new study examined multivitamins containing folic acid in general, additional research is needed to determine which specific vitamin(s) provide which protective effects, and to determine how much of the protective effects is attributable specifically to folic acid.

One area in which the study could have potential implications is Canada's food fortification program. Since 1998, Canada has required that certain foods, such as flours and bread, be enriched with folic acid to help prevent congenital neural tube defects. Should additional research show that other vitamins can also prevent birth defects, this information could affect future decisions about fortification requirements.

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About the JOGC

Administered by the Society of Obstetricians and Gynaecologists of Canada (SOGC), the Journal of Obstetrics and Gynaecology Canada (JOGC) is Canada's peer-reviewed journal of obstetrics, gynaecology, and women's health. Each monthly issue contains original research articles, reviews, case reports, commentaries, and editorials on all aspects of reproductive health. JOGC is the original publication source of evidence-based clinical guidelines, committee opinions, and policy statements that derive from standing or ad hoc committees of the Society of Obstetricians and Gynaecologists of Canada. JOGC is included in the National Library of Medicine's MEDLINE database, and abstracts from JOGC are accessible on PubMed.

About Dr. Gideon Koren

Dr. Koren is the founder and director of the Motherisk Program and a professor of Pediatrics, pharmacology, pharmacy and medicine. He is a staff pediatrician at The Hospital for Sick Children in Toronto and the author/co-author of hundreds of scientific articles, book chapters and abstracts. He is a member of numerous professional societies.

In 1999 he received the Irving Sunshine Award (awarded by the International Association of Therapeutic Drug Monitoring & Clinical Toxicology), and in 1997 he received the prestigious Rawls-Palmer Award. Both awards were for outstanding contributions to clinical toxicology.

In March 2000 Dr. Koren received the Medical Research Council of Canada's Senior Scientist award for his work in Population Health Sciences, and in September 2003 he was awarded the Pippenger Award for outstanding achievement by the International Association for Therapeutic Drug Monitoring and Clinical Toxicology.

Dr. Koren is founder of the FACE (Fetal Alcohol Canadian Expertise) Network and the peer reviewed Journal of FAS International. In 2004 Dr. Koren was appointed as the Ivey Chair in Molecular Toxicology at the University of Western Ontario. He is creating a Canadian Network of Human Toxicology.

About Dr. Donald Davis, 63rd President of the Society of Obstetricians and Gynaecologists of Canada (SOGC)

Dr. Donald Davis is the 63rd President of the Society of Obstetricians and Gynaecologists of Canada (SOGC). Dr. Davis is an Assistant Clinical Professor in the Department of Obstetrics and Gynaecology at the University of Calgary. He is also a practicing obstetrician/gynaecologist in his hometown Medicine Hat, where he has been providing care at Medicine Hat's Medical Arts Centre and the Medicine Hat Regional Hospital since 1978. Dr. Davis is the SOGC's 2005-2006 President-Elect, and SOGC President for the 2006-2007 term.

Dr. Davis received his medical degree from the University of Alberta in 1973 and completed his residency training in Obstetrics and Gynaecology at Louisiana State University and at Edmonton's University Hospital from 1974-1978.

References

¹March of Dimes, Birth Defects, Available at: http://www.marchofdimes.com/pnhec/4439_1206.asp Accessed September 1, 2005

²Health Canada. Congenital Anomalies in Canada — A Perinatal Health Report, 2002. Ottawa: Minister of Public Works and Government Services Canada, 2002. http://www.phac-aspc.gc.ca/publicat/cac-acc02/pdf/cac2002_e.pdf