

Article details: 2014-0011/13-1145.R1	
Title	Province-wide Incidence of Prenatal Alcohol Exposure in Prince Edward Island
Authors	Janet Bryanton, Joey Gareri, Diane Boswall, Mary McCarthy, Bonnie Fraser, Donna Walsh, Bridget Freeman, Gideon Koren, Kathy Bigsby
Reviewer 1	Simona Pichini
Institution	Istituto Superiore di Sanità
General comments	<p>This is an interesting, well designed and well described study on the incidence of prenatal exposure to alcohol in a specific Canadian Region.</p> <p>Some minor revisions can improve the submission.</p> <p>The authors should mention the fact that they could not pass a questionnaire to the pregnant women -due to anonymity of the study- nor they could recover some data from medical records. This could have been interesting to have sociodemographic information regarding positive and negative sample. So that women to whom best address information on alcohol use during pregnancy could have been focused. This is a study limitation that should be mentioned.</p> <p>Please include the following references: the first regarding under-reporting of drug use during pregnancy, the second revising biomarkers of prenatal exposure to alcohol.</p> <p>S. Pichini, C. Puig, P. Zuccaro, E. Marchei, M. Pellegrini, J. Murillo, O. Vall, R. Pacifici, O. Garcia-Algar Assessment of exposure to opiates and cocaine during pregnancy in a mediterranean city: preliminary results of the "Meconium Project" Forensic Sci Int 2005;153:59-65.</p> <p>X. Joya, B. Friguls, S. Ortigosa, E. Papaseit, S.E. Martínez, A. Manich, O. Garcia-Algar , R. Pacifici, O. Vall, S. Pichini. Determination of maternal-fetal biomarkers of prenatal exposure to ethanol: A review. J Pharm Biomed Anal. 2012;69:209-22.</p>
Reviewer 2	Luca Morini
Institution	University of Pavia, Italy, Department of Legal Medicine, Forensic and Pharmaco-Toxicological Science
General comments	<p>The authors described a very interesting project. They evaluated a huge amount of samples and results suggest that alcohol consumption during pregnancy is a great problem.</p> <p>All the study is based on FAEEs levels in meconium. As we know the use of only one biomarker could lead to an unknown number of false positive as well as false negative results. They did not submit any questionnaires to the women, as well as they did not evaluate other alcohol biomarkers, or else the same analytes in other matrices, such as keratin ones. Hence they should discuss more in depth the reason for this choice. In fact it is known from the literature that FAEEs in meconium are the most sensitive and specific markers to detect an intrauterine exposure to alcohol; however the combination with other markers could lead to more reliable data.</p>
Reviewer 3	Michael Rieder
Institution	Department of Clinical Pharmacology, Children's Hospital of Western Ontario
General comments	<p>The authors report on a one-year province-wide study of all live births in Prince Edward Island looking for evidence of foetal alcohol exposure. A 3% estimated rate was found</p> <p>This is a province-wide study and care was taken to capture essentially all (93%) live births, adding greatly to the strength of this study. The number of potential alcohol exposures is concerning and raises important issues of public policy</p> <p>There are a few areas that this reviewer would like clarified. A little bit about the demographics of PEI would be useful for the reader who is not from Atlantic Canada (or, for that matter, from Canada at all). As an example, just what percentage of Islanders are aboriginal? What percentage live in cities?</p> <p>The authors raise an appropriate caution as to interpretation of samples collected more than 24 hours after delivery.</p> <p>One issue that would be of interest is persistence, which is to say how long the FAEE are likely to stay in foetal meconium after alcohol exposure. As these are the produce of foetal metabolism, given that meconium prior to delivery is retained and given animal work in this area the presence of FAEE can imply alcohol consumption prior to the period immediately before delivery, a point that might be worth mentioning.</p> <p>Were there any changes in sample collection over the year of they study (i.e. did the sample collection rate change)? Given that the authors did collect 93% of all live births this may not be an issue.</p> <p>As a minor grammatical point, this reviewer does not like sentences that start with "Because".</p>
Author response	<p>The authors believe the findings of this study carry substantial potential impact in influencing physicians across Canada. While I am aware that multiple incidence studies on using meconium have been published; we believe this current study to be in essence a culmination of these prior efforts and quite unique by virtue of the scope and degree of inclusion that we achieved in assessing an entire provincial population.</p> <p>To re-iterate some points stated in our appeal letter: In 2011, the Public Health Agency of Canada convened a National FASD Prevalence Forum in Winnipeg calling for strategies to clearly identify the burden of FASD in Canada. This study is a major step in filling that knowledge gap and is deserving of a national medical audience. It is the only study ever conducted, worldwide, that has provided prenatal alcohol exposure assessment through population-based sampling in an entire provincial population.</p> <p>This study was conceived and carried out by this research team as a way to advance policy in a provincial medical</p>

community that believed prenatal exposure to alcohol was not an issue in their patient population. We have witnessed this theme of physicians believing that fetal alcohol spectrum disorder (FASD) is a problem for someone **else's patients repeated over and over in every jurisdiction where FASD has not been actively placed on the public health and medical agenda.**

Physicians in all other provinces should have access to this study and its findings so they may identify similar issues occurring in their home province. This study, evaluating an entire provincial population, clearly places FASD in the community of the reader. The application to medical practice is clear; **"alcohol consumption in pregnancy is occurring and it is occurring within your patient population."**

Thank you for your continued consideration of our manuscript.