Alcohol and Drug Screening of Newborns: Would Women Consent?

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Abstract

Objectives: To examine the conditions under which mothers would consent to alcohol and drug screening of their infants, and to identify predictors of screening consent.

Methods: A cross-sectional survey was administered in person by trained research assistants on the postpartum units of three hospitals in a large Canadian urban centre over four months. The survey was administered to 1509 mothers (78.4% of those eligible) who were fluent in English and had given birth within the preceding 48 hours.

Results: Mothers indicated that they would consent to screening of their newborn (1369/1460, 93.8%), and thought all mothers should consent if infants at risk would be more likely to receive effective treatment (1440/1476, 97.6%). Respondents believed that they would consent to screening if they were provided the following information: what would happen if the infant sample was positive for prenatal exposure (1431/1476, 97%); who would have access to the information (1377/1476, 93.4%); how effective medical care would be for the child (1435/1476, 97.4%); and the likelihood that a baby with a positive screen would have a problem (1444/1476, 98.1%). Self-reported alcohol use did not decrease willingness to consent. In a multivariate model, belief that universal screening would not make women feel discriminated against was a significant predictor of consent (adjusted OR 5.9; 95% CI 3.3–10.6).

Conclusion: Mothers would support a universal newborn alcohol and drug screening program if there was evidence that screening could lead to effective treatment for the mother and baby, and if appropriate resources were available.

Résumé

Objectifs : Examiner les conditions en vertu desquelles les mères consentiraient à la tenue d'un dépistage visant l'alcool et les drogues chez leur nouveau-né, et identifier les facteurs prédictifs du consentement au dépistage.

Méthodes : Un sondage transversal a été administré en personne, par des adjoints à la recherche formés, auprès des unités postpartum de trois hôpitaux d'un important centre urbain canadien, et ce, sur une période de quatre mois. Ce sondage a été administré à 1 509 mères (78,4 % des candidates admissibles) qui étaient en mesure de parler anglais avec aisance et qui avaient accouché dans les 48 heures précédentes.

Résultats : Les mères ont indiqué qu'elles consentiraient au dépistage de leur nouveau-né (1 369/1 460, 93,8 %) et estimaient que toutes les mères devraient y consentir, puisque les nouveau-nés exposés à des risques seraient alors plus susceptibles de bénéficier d'un traitement efficace (1 440/1 476, 97,6 %). Les répondantes estimaient qu'elles consentiraient au dépistage si on leur offrait les renseignements suivants : les conséquences de l'obtention d'un résultat positif quant à l'exposition prénatale du nouveau-né (1 431/1 476, 97 %); l'identité des personnes qui auraient accès à cette information (1 377/1 476, 93,4 %); l'efficacité des soins médicaux qui seraient alors offerts au nouveau-né (1 435/1 476, 97,4 %); et la probabilité selon laquelle un nouveau-né obtenant un résultat positif au dépistage pourrait en venir à connaître des problèmes (1 444/1 476, 98,1 %). L'autosignalement de la consommation d'alcool n'entraînait pas une baisse de la volonté de consentir au dépistage. Dans le cadre d'un modèle multivarié, l'opinion selon laquelle les femmes n'auraient pas l'impression de faire l'objet de discrimination si l'on avait recours au dépistage universel constituait un facteur prédictif considérable du consentement (RC corrigé, 5,9; IC à 95 %, 3,3–10,6).

Conclusion : Les mères appuieraient un programme universel de dépistage visant l'alcool et les drogues chez les nouveau-nés, si les données indiquaient que le dépistage pourrait mener à l'offre d'un traitement efficace à la mère et à l'enfant, et si les ressources appropriées étaient disponibles.

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INTRODUCTION

Current guidelines in North America advise that women who are pregnant or trying to conceive should abstain from alcohol, drugs, and tobacco.[1–4] However, alcohol use in the first trimester is reported in 12% to 60% of women, use of illegal drugs in the month before delivery is reported in up to 5% to 8.8% of women, and tobacco use by 13% to

25% of women.[5–7] Maternal alcohol use during pregnancy can lead to fetal alcohol spectrum disorder (FASD), the most common group of non-genetic birth defects with major medical, economic, and social impact.[8–11] Prenatal drug exposure can result in permanent health problems including developmental delay.[12,13] Prenatal tobacco use is a risk factor for intrauterine growth restriction.[6] Early diagnosis and intervention can reduce the risk of some exposure-related disabilities.[14,15]

Maternal and neonatal characteristics including prenatal visits, neonatal behaviour, and birth weight identify some infants but do not reliably identify all exposed infants.[5,9,16,17] In addition, the prevalence of alcohol and drug use exceeds that identified through self-report or targeted screening.[18–21] To address the issue of under-identification of substance-exposed infants, the analysis of infant biomarkers has recently been considered.[22–29] These tests may identify children at risk for deficits much earlier than previously possible and assist in targeting interventions. Targeted urinalysis of newborns for drug metabolites is already used in some regions.[30–32] In the absence of a universal screening program, however, it is unclear under what circumstances screening should be performed, how and when testing is performed, how results should be used, whether informed consent from a mother is required, and whether it is ethical to obtain a neonatal sample without consent when it identifies maternal behaviour (i.e., *de facto* test of mother). There is considerable variation between existing programs with regard to these aspects.[30–32] In addition, there is the potential for discrimination with the use of targeted alcohol and drug screening.[19,30,32]

According to the World Health Organization, a screening program should ideally meet certain criteria.[33] One criterion is that the target population finds the program acceptable.[33] To date, research has not examined issues related to acceptability, including consent, for alcohol and drug screening. The purpose of this study was to examine (1) the conditions under which postpartum women in an urban centre would consent to alcohol and drug screening of their infant, (2) whether self-reported prenatal alcohol use affected willingness to consent, and (3) the characteristics of women who would consent.

MATERIALS AND METHODS

Focus groups were convened to obtain insight into women's opinions and beliefs about newborn alcohol and drug screening, and to develop relevant hypotheses. Themes from these groups were categorized according to the Health Belief Model (HBM), which was developed to help understand the acceptance of health promotion and screening strategies.[34,35] The questionnaire was developed around the HBM elements of perceived susceptibility, severity, threat, benefits, and barriers. Questionnaire wording was kept as similar as possible to that used by focus group participants. The questionnaire presented several scenarios with different consequences for a positive drug or alcohol screen, and asked women to indicate their agreement with screening on a 5-point Likert scale (i.e., strongly agree to strongly disagree). Questions about demographic variables, perinatal variables, and alcohol use during pregnancy were included, as was the T-ACE, a standardized alcohol use screening questionnaire.[36] The questionnaire was pilot tested with 40 postpartum women and revised to resolve unclear wording. On the basis of feedback from these women, questions related to a subject's prenatal street drug use were dropped from the questionnaire.

The 20-minute questionnaire was administered by trained research assistants to all eligible, consenting women admitted to a postpartum unit in the Calgary Health Region (CHR) over a four-month period (July 2003–October 2003). Women were identified from postpartum unit admission logs and approached regarding participation in the survey. Exclusion criteria were age under 18; having a language barrier; being discharged prior to being approached to participate; presence of serious maternal or neonatal complications; being in protective custody; or apprehension of the infant. Written informed consent was obtained for the anonymous questionnaires. The study received ethical approval from the Conjoint Medical Bioethics Committee of the University of Calgary and Calgary Health Region.

Data were entered and analyzed in SPSS for Windows 14.0 (SPSS Inc., Chicago IL). Univariate descriptive statistics were used to describe participants. Bivariate analysis (chi-square tests for categorical variables and Student *t* test for continuous variables) was used to analyze willingness to consent by self-reported alcohol use, demographic and lifestyle characteristics. All tests were two-sided, and an alpha level of 0.05 or less was considered statistically significant. A logistic regression model was created using forward selection method to describe the independent characteristics of women who would consent compared with those who would not consent. Confounding and interaction variables were evaluated. Variables were entered into the model building process in the following order: lifestyle, information women would need, likely outcome of a screening program, and demographic predictors. Adjusted odds ratios and 95% confidence intervals were calculated.

We hypothesized that there would be differences in willingness to consent based on self-reported alcohol use. Using an estimate of a difference in willingness to consent of 15% between those who report alcohol use and those who do