The Effect of Vaginal Bleeding during Early Pregnancy on Preterm, Low Birth Weight and Small for Gestational Age Births

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INTRODUCTION

- Preterm delivery complicates approximately 12% of all pregnancies and is a major determinant of perinatal morbidity and infant mortality.
- In 2004, 8.1% of live births was low birth weight in the United States.
- Many pregnant women report experiencing vaginal bleeding during their pregnancy.
- Small for gestational age (SGA) babies are those whose birth weight lies below the 10th percentile for that gestational age. One third of babies born with a low birth weight are also small for gestational age.
- Previous reports show that first trimester vaginal bleeding is associated with a 2-fold increased risk of preterm delivery.
- However, few studies have attempted to evaluate risks of specific preterm delivery sub-types (e.g., spontaneous preterm labor, preterm premature rupture of membrane and medically induced preterm delivery).

OBJECTIVES

The purpose of our study was to examine the effects of vaginal bleeding during early pregnancy on risk of preterm delivery, low birth weight and small for gestational age (SGA) births. We also sought to assess risk of sub-types of preterm delivery in relation to vaginal bleeding.

METHODS

The OMEGA Study and Study Population:
- Participants were drawn from the Omega Study, a prospective cohort study of maternal dietary and other risk factors of adverse pregnancy outcomes.
- Participants received prenatal care in clinics affiliated with Swedish Medical Center and Tacoma General Hospital between December 1996 and October 2004.
- Participants took part in an hour-long interview in which trained research personnel used a structured questionnaire. Pregnancy outcome information was ascertained by reviewing medical records.

RESULTS

- 26% of women reported experiencing vaginal bleeding during the first or second trimester.
- Women who delivered preterm were older, reported having lower annual household income, and were heavier prior to the index pregnancy than women who delivered at term (Table 1).
- Any vaginal bleeding in first and second trimester was associated with a 1.57 fold increased risk of preterm delivery (95% CI: 1.18 – 2.11) and 1.52 fold increased risk of low birth weight (95% CI: 1.01 – 2.38). However, vaginal bleeding was not significantly associated with SGA (Table 2).
- Subgroup analysis (Table 3) revealed that vaginal bleeding was most strongly related with spontaneous preterm labor (OR=2.30) and weakly associated with both preterm premature rupture of membrane (OR=1.36) and medically induced preterm delivery (OR=1.32).
- As compared with women with no vaginal bleeding, those who bled during both the first and second trimesters had a 6.24 fold increased risk of spontaneous preterm labor; and 2-3 fold increase in risk of medically induced preterm delivery and preterm premature rupture of membrane, respectively (Table 4).

DISCUSSION

- Vaginal bleeding during both trimesters was more strongly associated with preterm delivery (OR=2.30, 95% CI: 1.31 – 4.24) than bleeding in either trimester alone. The results of this study, which overall associated vaginal bleeding with preterm delivery (OR=1.57) were well within the range of previous reported associations from study populations in the United States.
- Early collection of data excluded concerns about recall bias of vaginal bleeding. However, limitations of our study should be considered. Of particular concern was the absence of detailed complete information on gestational tract infection during the index pregnancy.
- The biological causes and mechanisms of vaginal bleeding are still unknown. More studies designed to test mechanistically the relationship between vaginal bleeding and preterm delivery are needed to allow conclusive linkage between vaginal bleeding and preterm delivery.
Risk of Preterm Delivery in Relation to Maternal Low Birth Weight

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Background

Low birth weight, a marker of fetal growth, is associated with adult-onset diseases such as hypertension, cardiovascular disease, stroke, and type 2 diabetes mellitus.

Numerous investigators have also documented associations between birth weight and a wide range of adverse reproductive health and pregnancy outcomes including altered ovarian function, reduced fertility, miscarriage, gestational diabetes mellitus, preclampsia, and other adverse events including infant low birth weight, cesarean delivery, and preterm delivery.

Several, but not all investigators have reported that women weighing less than 2,500 g at birth (i.e., low birth weight) have an increased risk of delivering preterm infants. For instance, BMI determined that maternal low birth weight was associated with a 2-fold increase in risk of preterm delivery. Most previous studies examined preterm delivery in aggregate, not distinguishing between preterm delivery preceded by spontaneous preterm labor, preterm premature rupture of membranes, and medically induced preterm delivery, or timing of preterm delivery.

Objective

We used data from a large cohort to evaluate the relation between maternal low birth weight and risk of preterm delivery. We characterized preterm delivery according to clinical presentation (i.e., spontaneous preterm labor, preterm premature rupture of membranes and medically induced) and by timing of delivery (moderate preterm delivery, delivery between 34-38 weeks, and very preterm delivery prior to 34 completed weeks gestation).

Materials and Methods

The Omega Study and Study Population: The population for the present analysis was drawn from the participants of the Omega Study.

Women participating in the study attended prenatal care clinics affiliated with Swedish Medical Center (Seattle) and Tacoma General Hospital (Tacoma), in Washington State (between December 1996 and October 2004).

Enrolled participants took part in an hour-long interview with trained research personnel who used a structured questionnaire to elicit health and reproductive information. Pregnancy outcome information was ascertained by reviewing medical records. All participants provided written informed consent.

During the study period, 3,896 eligible women were approached, and 3,000 (77%) agreed to participate. Excluded in this analysis were women who were lost to follow-up (N=152), women who experienced an abortion or fetal demise prior to 26 weeks of gestation (n=60), and those with multi-fetal pregnancies (N=110). A cohort of 2878 women remained for analysis.

Preterm Delivery, Maternal Low Birth Weight and Other Covariates: A total of 233 preterm delivery cases were identified, excluding in this analysis were women who did not have information concerning maternal birth weight. Using detailed information collected from medical records, we categorized preterm delivery cases according to three pathophysiologic groups (i.e., spontaneous preterm labor and delivery, preterm premature rupture of membranes, and medically induced preterm delivery). We also categorized preterm delivery cases according to gestational age at delivery (i.e., very preterm delivery and moderate preterm delivery).

Using a structured questionnaire, Covariates information collected from participants included socio-demographic characteristics, reproductive, behavioral and medical histories. Subjects were then classified as being low birth weight (yes/no). Pre-pregnancy body mass index was calculated, and women were classified as lean or overweight.

Statistical Analysis: Logistic-regression procedures were used to derive estimates of odds ratios (OR) and 95% confidence intervals (95% CI).

Table 1. Odds ratio (OR) and 95% confidence intervals (CI) of the association between maternal low birth weight and risk of preterm delivery, Seattle and Tacoma, WA, 1996-2004.

<table>
<thead>
<tr>
<th>Maternal low birth weight</th>
<th>Control (n=2,445)</th>
<th>Preterm Cases (n=233)</th>
<th>Adjusted OR* (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>185</td>
<td>7.6</td>
<td>24</td>
</tr>
<tr>
<td>No</td>
<td>1883</td>
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<tr>
<td>Missing</td>
<td>377</td>
<td>15.4</td>
<td>47</td>
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</tbody>
</table>

*Adjusted for maternal age (continuous), parity (yes/no), ethnicity (white, African American, other), pre-pregnancy body mass index.

Table 2. Odds ratio (OR) and 95% confidence intervals (CI) of the association between maternal low birth weight and preterm delivery risk according to subtypes, Seattle and Tacoma, WA, 1996-2004.

Table 3. Odds ratio (OR) and 95% confidence intervals (CI) of the association between maternal low birth weight and preterm delivery (PTD) risk according to severity, Seattle and Tacoma, WA, 1996-2004.

Table 4. Odds ratio (OR) and 95% confidence intervals (CI) of the independent and combined associations of maternal low birth weight and pre-pregnancy overweight status with and risk of preterm delivery, Seattle and Tacoma, WA, 1996-2004.

Results

Women weighing <2,500 g at birth were 1.54 times more likely to deliver preterm as compared with women who weighed ≥2,500 g at birth (95% CI, 0.97-2.44) after adjustments were made (Table 1).

Maternal low birth weight was most strongly associated with spontaneous preterm labor (OR=2.00, 95% CI, 1.33-3.09) (Table 2). A moderate association was noted for preterm premature rupture of membranes (OR=1.44, 95% CI, 0.67-3.09); and there was no evidence of an association between maternal low birth weight and risk of medically induced preterm delivery (OR=1.10, 95% CI, 0.43-2.82).

Women who were low birth weight were 1.94 times more likely to deliver very preterm as compared with women who were ≥2,500 g at birth (95% CI, 0.97-3.89) compared with women who did not have low birth weight and were lean before pregnancy comprised the referent group.

Low birth weight women who remained lean were 1.53 times more likely to deliver preterm (95% CI, 0.88-2.66). Low birth weight women who had previously delivered preterm were four times more likely to have a future preterm delivery. For these analyses we created indicator variables representing the four categories of maternal low birth weight and pre-pregnancy body mass index, and there was no evidence of an association between maternal low birth weight and risk of medically induced preterm delivery (OR=1.10, 95% CI, 0.43-2.82).

Discussion

Other authors have examined the association between maternal birth weight and risk of preterm delivery, and our results support these relationships seen previously.

Our study furthered knowledge in this field by providing significant implications for both mothers and their progeny. With regard to reproductive outcomes, women who had previously delivered preterm were four times more likely to have a future preterm delivery.

Our study supports the hypothesis that maternal low birth weight is a risk factor for preterm delivery, and these results provide significant implications for mothers and their offspring. Low birth weight has been shown to contribute to several chronic diseases in adulthood as well as reduced male and female reproductive functions, and therefore our conclusions from this study have implications for health and reproductive problems regardless of gender.
Prevalence and Risk Factors of Gender-Based Violence Committed by Male College Students in Awassa, Ethiopia

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Introduction and Objective:
In sub-Saharan Africa, gender-based violence has greater negative impacts on human development than elsewhere. And because of the high prevalence, limited access to legal services, insensitivity of law enforcement and limited constitutional efforts to address gender inequality, gender-based violence undermines achievement of the United Nation’s Millennium Development Goals.

Because few studies have focused on understanding risk factors for the perpetration of gender-based violence (physical or sexual abuse of a female intimate partner or non-partner). We conducted a cross-sectional study to determine the prevalence and risk factors for the perpetration of gender-based violence.

Methods:
• The study sample consisted of male undergraduate students from colleges in Awassa, Ethiopia.
• A total of 1,378 students completed a self-administered questionnaire which collected information on socio-demographic characteristics, lifestyle habits childhood experiences, and perpetration of gender-based violence during the current academic year.
• Multivariable logistic regression procedures were used to estimate odds ratios (OR) and 95% confidence intervals (95% CI).

Results (cont.):
• Rape of an intimate partner or non-partner during the current academic year was reported by 3.2% (95% CI 2.2-4.2%) of students.
• Unmarried students with female intimate partners were more likely than those without partners to be physically or sexually abusive to women (ORs ranged from 1.50 to 1.70).
• Alcohol consumption (OR=2.05; 95% CI 1.36-3.09), khat use [Catha edulis, a natural stimulant with amphetamine-like effects] (OR=1.99; 95% CI 1.04-3.80), combined use of alcohol and khat (OR=2.79; 95% CI 1.76-4.44), and witnessing parental violence as a child (OR=1.93; 95% CI 1.38-2.70) were risk factors for committing gender-based violent acts during the current academic year. Similar risk factors were identified when acts of physical and sexual violence were studied separately.

Conclusions:
Among those who admitted to perpetrating violent activities, 37.0% reported physically violent behavior only; 42.1% reported sexually violent behavior only; and 20.9% reported committing both physically and sexually violent acts against women during the current academic year. The pattern of overlapping violent behavior reported by male perpetrators corresponds with reports of physical and sexual abuse experienced by Ethiopian women. The risk of being physically or sexually violent was associated with marital status, witnessing parental violence as a child, alcohol and khat consumption. Our study demonstrates the necessity for greater integration of violence and substance abuse prevention efforts in addition to specifically targeting students who have witnessed family violence as youths and those with intimate partners.
Prevalence and Risk Factors of Gender Based Violence Among Female College Students in Awassa, Ethiopia

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Background

The UN defines gender-based violence as, “any act of gender based violence that results in physical, sexual, psychological harm or suffering to women, including threats or acts such as, coercion or durable deprivation of liberty, whether occurring in public or private.”

A 2005 WHO study reported that 59% of Ethiopia women who ever had a boyfriend or husband experienced sexual violence during their lifetime.

Some 44% of Ethiopian women experienced sexual violence within 12 month of the survey.

Objective

This cross-sectional study was conducted to determine the prevalence and identify risk factors of gender-based violence (physical and sexual abuse from intimate partners or non-partners) among female college students in Ethiopia.

Methods

Participants were undergraduate students from 17 departments in 9 colleges and universities in Awassa, Ethiopia.

Students completed a self-administered questionnaires designed to collect information on gender-based violence experiences (lifetime, since enrolling in college, and current academic year).

Logistic regression was used to estimate odds ratio (OR) with a 95% confidence interval (95% CI).

A total of 1330 surveys were included in the data analysis.

Results

PREVALENCE

Any Gender-Based Violence
- Lifetime: 59.9%
- Since enrolling in college: 46.1%
- Current academic year: 40.3%

Physical Violence
- Lifetime: 46.2%
- Since enrolling in college: 26.3%
- Current academic year: 22.5%

Sexual Violence
- Lifetime: 54.9%
- Since enrolling in college: 40.8%
- Current academic year: 35.3%

Risk Factors for Lifetime Violence
- Protestant religious affiliation (OR=1.8)
- Childhood rural residence (OR=1.4)
- Alcohol consumption (OR=1.7)
- Combined alcohol and khat (a natural stimulant) consumption (OR=1.8)
- Witnessed domestic violence as a child (OR=2.2)

Discussion

Sexual violence alone was far more prevalent than physical violence alone.

The overlap between physical and sexual violence was quite substantial, particularly during the college years.

Protestant religious affiliation, childhood rural residence, alcohol consumption, combined alcohol and khat consumption, and witnessing domestic violence as a child were risk factors of lifetime gender-based violence.

Similar risk factors were identified for experience with physical and sexual abuse.

Development of violence-related prevention and counseling interventions are warranted in college and university settings.

This research was supported in part by awards from the National Institutes of Health, National Center on Minority Health and Health Disparities (T37-MD001449)
Factors Related to Children’s Missed Therapy Visits at a Free Rehabilitation Clinic Serving Punta Arenas, Chile

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RESULTS

Background

In children with both physical and mental disabilities, early proper therapy regimens are essential to providing effective care has been identified as an important part of successful patients who schedule appointments and fail to keep them have the quality of care they receive. Previous studies have patient attributes that are good predictors of compliance with factors that have been investigated include patient characteristics of the medical encounter and the medical care delivery system (Neal, 2005).

In the region of Southern Chile known as Magallanes, non-attendance at therapy appointments is alarming. According to statistics gathered at El Centro de Rehabilitación, rates of attendance for children of ages twelve and younger during the time interval from June to August

Table 1. Demographic characteristics of patients at El Centro de Rehabilitación

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>&lt;50%</th>
<th>&gt;75%</th>
<th>Total</th>
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<tr>
<td>Caregiver Gender</td>
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<tr>
<td>Male</td>
<td>16 (72.7)</td>
<td>36 (73.5)</td>
<td>52 (69.1)</td>
</tr>
<tr>
<td>Female</td>
<td>6 (27.3)</td>
<td>15 (26.5)</td>
<td>21 (26.9)</td>
</tr>
<tr>
<td>Caregiver Age</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>&lt;35 years</td>
<td>36 (73.5)</td>
<td>21 (51.2)</td>
<td>57 (63.4)</td>
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<td>35 years and ≤ 45 years</td>
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<td>&gt;45 years</td>
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<td>4 (4.8)</td>
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<td>Less than 60,000 p</td>
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<tr>
<td>60,000-150,000 p</td>
<td>8 (18.4)</td>
<td>15 (30.6)</td>
<td>23 (26.8)</td>
</tr>
<tr>
<td>Greater than 150,000 p</td>
<td>5 (12.2)</td>
<td>5 (12.2)</td>
<td>10 (11.9)</td>
</tr>
</tbody>
</table>

DISCUSSION

Bivariate associations by attendance category show a difference in distribution of guardians by characteristic as well as attendance category and job-related factors (p=.06). For all attendance categories, transportation was found to be the factor that limited access to the clinic to the greatest extent, followed closely by clinic location. There were no significant differences in caregiver perceptions of clinic services. For all attendance categories, caregivers were least satisfied with the duration of individual therapy sessions. (Data not shown)

Results of logistic regression models evaluating associations between risk of poor attendance and survey responses are provided in Table 2. The logistic regression model evaluating the relationship between risk of poor attendance and demographic information shows that per capita income is significant to rates of attendance (p=.001). Although the association between attendance and caregiver education level was slightly attenuated after adjustment (p=.09), children living with caregivers who had at least some college were nearly two times as likely to be classified with good attendance (OR: 1.91, 95 % CI: 0.50-7.36) as compared to caregivers with less than an eighth grade education level.

Table 2. Logistic regression model evaluating associations between risk of poor attendance and survey responses

A greater understanding of factors that contribute to missed therapy visits is critical to improving clinic access for children receiving physical and occupational therapy in non-profit rehabilitation clinics in Punta Arenas, Chile.

MATERIALS AND METHOD

Between June 2005 and June 2006, 112 children with disabilities were seen regularly for therapy at Centro de Rehabilitación Clube de Lesmes Cruz del Sur, a non-profit clinic providing free therapy to persons with disabilities in Punta Arenas, Chile. The sample included children 12 years of age or younger who were scheduled regularly for therapy at the clinic that the parents were interviewed. The interview consisted of a questionnaire with closed ended questions. Inclusion criteria for participation was age 12 years or younger, who was scheduled regularly for therapy, and the attendance at the clinic that the parents were interviewed.

Further questions were asked concerning the quality of the clinic and the services it provided. Patients were classified into one of the three following categories based on standard deviations of mean values: poor attendance (less than 50 percent), average attendance (between 50 and 75 percent), or good attendance (greater than 75 percent). Informed consent for use of medical records and questionnaire was collected from all parents.

ACKNOWLEDGMENTS

This research was supported in part by awards from the National Institutes of Health, National Center on Minority Health and Health Disparities (T37-MD00149).

Thanks to the staff of El Centro de Rehabilitación for their support and assistance in this research, and to the patients they serve in their willingness to participate.

This is a draft of the complete manuscript, which is currently in preparation.
Depression in the Parents of Children with Specific Disabilities

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University of Washington1, Club de Leones Cruz del Sur 2

Background

- Parents of children with disabilities have been shown to suffer from stress and depression due to increased burden of care and this has been shown to be associated with an adverse effect on child development.
- Grandparent caregivers of children with intellectual and developmental delays receive less social support than do other family caregivers and they experience high levels of role strain, financial strain, and life disruption.
- It has been shown that depression among women is at least twice as great as compared to men in the United States.
- A majority of studies have focused on urban populations with depression rates that generalized over the entire country yet environmental factors and distribution of resources among regions in the same country vary greatly.

Goals

- To target risk factors and prevalence of depression in the caregivers of children with disabilities in Punta Arenas, Chile.
- Ultimately we will be able to present this information to the Ministry of Health to provide funds, resources and support to the families in the community.

Methods

1. Developed a questionnaire assessing depression using DSM-III criteria and addressing cultural and regional factors that may be related to it; closed and open-ended questions were asked in order to acquire unexpected feedback.
2. Conducted private interviews with recruited caregivers by telephone, during therapy visits, and by sending questionnaire forms home to parents with their children.
3. Risk factors were assessed using multiple logistic regression in unadjusted models and those adjusted for age, gender and education.

Future Studies

- Future studies could focus on the correlation between disability severities to predict depression over time.
- A group of women taking a proactive approach in the care received by their child formed a network of mothers who raised awareness of the needs that were not being met by the clinic. It would be relevant to study the effect of becoming more involved in the treatment of their child and depression levels.
- Employers may also play a role in the ability of parents to become more involved in the therapy received by their child. Studying whether the employers understand the importance of leaving work and how this effects depression may also help the clinic understand and help this population.

Dependent Variable

- Depressive symptoms: Probable Depression
- Total:
- N (All): 84
- N (%): 84
- N (%): 12
- N (%): 16
- N (%): 16

Demographics

<table>
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<tr>
<th>Characteristic</th>
<th>N (%)</th>
<th>N (%): 84</th>
<th>N (%): 12</th>
<th>N (%): 16</th>
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<td>Age (years)</td>
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<td>FONASA A</td>
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<td>4 (17)</td>
<td>3 (12)</td>
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<td>3 (12)</td>
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<td>Per Capita Income</td>
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<td>2 (12)</td>
<td>1 (12)</td>
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<td>Non-Humanitarian</td>
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<td>1 (1)</td>
<td>0 (0)</td>
<td>1 (1)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>Number of Children</td>
<td>One child</td>
<td>57 (67)</td>
<td>9 (16)</td>
<td>6 (16)</td>
<td>9 (16)</td>
</tr>
<tr>
<td>Two children</td>
<td>24 (28)</td>
<td>4 (17)</td>
<td>3 (12)</td>
<td>4 (17)</td>
<td>3 (12)</td>
</tr>
</tbody>
</table>

Risk Factors: Gender and Education

- To target risk factors for and prevalence of depression in the caregivers of children with disabilities in Punta Arenas, Chile.
- Ultimately we will be able to present this information to the Ministry of Health to provide funds, resources and support to the families in the community.

Future Studies

- Future studies could focus on the correlation between disability severities to predict depression over time.
- A group of women taking a proactive approach in the care received by their child formed a network of mothers who raised awareness of the needs that were not being met by the clinic. It would be relevant to study the effect of becoming more involved in the treatment of their child and depression levels.
- Employers may also play a role in the ability of parents to become more involved in the therapy received by their child. Studying whether the employers understand the importance of leaving work and how this effects depression may also help the clinic understand and help this population.

Acknowledgements

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Hábitos de Alimentación por Biberón y el Uso de Chupetes en Niños de Edad Preescolar de Patagonia, Chile  

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DEMOGRAPHICS AND FACTORS RELATED TO BOTTLE AND PACIFIER USE IN PATAGONIAN CHILDREN

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Male (N)</th>
<th>Female (N)</th>
<th>Total (N)</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age Start Bottle (Months)</td>
<td>4.9 (1.7)</td>
<td>10.2 (1.1)</td>
<td>6.4 (0.9)</td>
<td>0.06</td>
</tr>
<tr>
<td>Age Started Breasftfeeding</td>
<td>0.6 (0.1)</td>
<td>17.3 (11.5)</td>
<td>11.8 (1.1)</td>
<td>0.08</td>
</tr>
</tbody>
</table>

• Self-reported questionnaire was completed by parent/guardian about the child.
• Information included demographics and questions associated with early and current patterns of nutritional intake and pacifier use of the child including bottle-feeding and pacifier initiation and completion, bottle-feeding and pacifier habits, and the amount of time breast-feeding.
• A speech test was administered to the child at the pre-school along with an orofacial and dentofacial exam given by the Speech Therapist or Pediatrician.
• Coding of these outcomes is underway to analyze associations between bottle and pacifier use with adverse outcomes in speech in pre-school children.

THE INVESTIGATION DESIGN

The main goal of this study is to determine if extended bottle-feeding or pacifier use is associated with subsequent speech problems or pathologies in children. In these preliminary analyses, patterns of bottle-feeding and use of pacifiers were described as a preliminary data related to the primary hypothesis. It is anticipated that results of this study will help a community combat problems that may be preventable and add to the knowledge of the scientific community about a population that is under-studied.

STUDY OBJECTIVE

The length of time that an infant or child spends sucking, either for nutritive - breast or bottle-feeding- or nonnutritive - pacifiers and fingers- purposes, may later influence the development of the orofacial muscles and dentofacial structures. While both types of sucking are important for healthy development of a child, it is important that use of bottles and pacifiers be monitored for evaluation as factors related to oral pathology. The purpose of this study was to provide preliminary data on type and length of sucking behavior in pre-school children residing in Patagonia, Chile. Self-reported questionnaires were completed by 34 parents or caregivers of children ages 3-5 years attending preschools in Punta Arenas or Puerto Natales, Chile. In addition to demographics, information was collected on amount of time the child was breast fed, when bottle-feeding was initiated and stopped, and when pacifier use was initiated and stopped. These data will be used in a future evaluation to assess if bottle feeding or pacifier use are associated with speech pathology in Chilean children.

CONCLUSIONS

While pacifier use was not prevalent in Patagonian preschoolers, extended use of the bottle was common. Further analyses will determine if this is related to speech pathology in these children.

REFERENCES


ACKNOWLEDGEMENTS

This research was supported in part by awards from the National Institutes of Health, National Center on Minority Health and Health Disparities (T37-MD001449). Special thanks to Junta Nacional de Jardines Infantiles (JUNJI) Magallanes Region XII; Jardines Infantiles: Capucineta Roja, Bambi, and Las Charrán.
Perceptions of the Impact of Pesticide Exposure in Pedro Moncay County, Ecuador

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Fundacion Cimas del Ecuador, Quito, Ecuador

Background
With its favorable growing conditions, Ecuador’s Pedro Moncay county is quickly becoming a major center of floriculture development. Along with much needed employment, the cut flower industry has brought the technology of chemical pesticides to the Andean region. These pesticides have since been incorporated into nearly every aspect of agricultural activity with the payoff of increased production and an as of yet uncalculable health and environmental cost.

Determining the impact of this pesticide use has become increasingly urgent. Ecuador’s recently decentralized government municipalities has created locally empowered political bodies which have prioritized taking a comprehensive look at pesticide use in the region’s five parishes.

Methods
The preliminary phase of this study was conducted between June and August 2006 through a Participatory Action Research model, incorporating civil society as community co-researchers. Qualitative data related to the perceptions and knowledge of pesticide use in the local floriculture industry and agricultural activities was collected through collaboratively created research instruments.

Eight focus groups included of 10-17 individuals representing various sectors of the population were led by members of the Centro de Investigaciones de Medio Ambiente y Salud del Ecuador(CIMAS) research team. Interviews of key actors identified by co-researchers were composed of fifty two questions and took approximately an hour and a half to administer. All participant responses were digitally recorded, transcribed and the data collectively analyzed to inform the organization and priorities of a longer term toxicology study and identify possible interventions in the adverse impacts of pesticide exposure. National mortality databases were also examined to corroborate the qualitative data with statistical evidence.

Results
Every participant interviewed believed that pesticides had a negative effect on health. While interviewees named positive economic benefits of floriculture activity and home pesticide use, there was a clear understanding and concern about the negative impacts these activities were having on health, the environment and social organization of the region’s population.

The health effect most frequently reported were of poisonings, genetic malformations, and long term chronic effects such as cancer, particularly leukemia in children. Allergies, respiratory problems, and spontaneous abortions were reported by one third of the participants. Additional effects associated with pesticide exposure named include allergic reactions, skin infections, headaches, eye and vision problems, and tumors.

Conclusion
The use of pesticides in agriculture and floriculture activity is impacting the health and environment of Pedro Moncay in numerous ways. Future interventions into the adverse effects of pesticide use need to involve community members in development and implementation of solutions that address health, culture, education and corporate accountability.

Objectives
The objective of this study was to evaluate perceptions of the types and impacts of pesticide exposure on the health of the population of Pedro Moncay with the participation of local actors.

Discussion
Awareness of negative impacts and numerous pathways of pesticide exposure were articulated by the majority of participants, though none could name a specific pesticide. Nearly all respondents cited the floriculture industry as the primary source of pesticide exposure. Critiques of floriculture industry activities were focused on health and environmental impacts, naming them as issues to be prioritized in policy making. Social changes attributed to industry development were also named as impacting public health. The collectively identified goal of a community toxicology education and information center was named as a vehicle for addressing these issues.

This research was supported in part by awards from the National Institutes of Health, National Center on Minority Health and Health Disparities (T37-MD001449)
Depressive Symptoms Among Female College Students Experiencing Gender-Based Violence in Awassa, Ethiopia

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During the Current Academic Year, Awassa, Ethiopia, July 2006

Depressive Symptoms Among Female College Students Experiencing Gender-Based Violence in Awassa, Ethiopia

RESULTS

Compared with students who reported no experience with gender-based violence during the current academic year, those who experienced violence were single, alcohol consumers, khat users and were more likely to reside in rural area during childhood (Table 1).

Abused students had PHQ-9 scores that were 31.2% higher than non-abused students (mean ± standard error: 7.11 ± 0.27 versus 5.42 ± 0.21, p-value < 0.001) (Table 2). Compared with students who were not abused, those with any experience with gender-based violence were more likely to report mild (OR=1.34), moderate (OR=2.16), moderately severe (OR=2.20) and severe (OR=1.14) depressive symptoms.

Compared with students not abused, abused students experienced a 1.32-fold increased risk of mild depressive symptoms (OR=1.32, 95% CI 0.96-1.80); a 1.98-fold increased risk of moderate depressive symptoms (OR=1.98, 95% CI 1.39-2.82); and a 1.95-fold increased risk of moderately severe depressive symptoms (OR=1.95, 95% CI 1.20-3.17).

Compared with non-abused students those students who were both physically and sexually abused experienced a 2.26-fold increased risk of mild depressive symptoms (OR=2.26, 95% CI 1.24-4.12); a 2.75-fold increased risk of moderate depressive symptoms (OR=2.75, 95% CI 1.41-5.38); and a 4.32-fold increased risk of moderately severe depressive symptoms (OR=4.32, 95% CI 2.00-9.31), and a 4.19-fold increased risk of severe depressive symptoms (OR=4.19, 95% CI 1.01-17.43).

Students exposed to gender-based violence were more likely to have mild, moderate and moderately severe symptoms of depression compared with non-abused students.

Risks were particularly pronounced for those students who experienced both physical and sexual abuse.

Our findings, consistent with previous studies, extend the literature to reflect experiences of Ethiopian women and support the thesis that women’s mental health status is adversely affected by exposure to gender-based violence.

This research was supported in part by awards from the National Institutes of Health, National Center on Minority Health and Health Disparities (T37-MD001449).

Table 1. Socio-demographic and Lifestyle Characteristics of 1,102 Female College Students, According to Gender-Based Violence Exposure During the Current Academic Year, Awassa, Ethiopia, July 2006

Table 2. Odds Ratio (OR) and 95% Confidence Intervals (CI) of Depressive Symptoms in Relation to Gender-Based Violence Among 1,102 Female College Students, Awassa, Ethiopia, July 2006

Table 3. Adjusted Odds Ratio (OR) and 95% Confidence Intervals (CI) of Depressive Symptoms in Relation to Type of Gender-Based Violence

DISCUSSION

A total of 1,102 undergraduate students from 17 departments from private and public colleges in Awassa, Ethiopia participated in the study.

A self-administered questionnaire was used to collect information on exposure to gender-based violence during the current academic year. Information concerning socio-demographic and lifestyle characteristics was also collected.

Depression and depressive symptoms were evaluated using a nine-item depression module of the Patient Health Questionnaire (PHQ-9).

Logistic regression procedures were used to estimate multivariable adjusted odds ratios (OR) and 95% confidence intervals (95% CI).

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