

12-2011

Knowledge of the Effects of Alcohol on Fetal Development Among Women of Childbearing Age.

Mary Bales

East Tennessee State University

Follow this and additional works at: <https://dc.etsu.edu/honors>



Part of the [Maternal, Child Health and Neonatal Nursing Commons](#)

Recommended Citation

Bales, Mary, "Knowledge of the Effects of Alcohol on Fetal Development Among Women of Childbearing Age." (2011). *Undergraduate Honors Theses*. Paper 22. <https://dc.etsu.edu/honors/22>

This Honors Thesis - Open Access is brought to you for free and open access by the Student Works at Digital Commons @ East Tennessee State University. It has been accepted for inclusion in Undergraduate Honors Theses by an authorized administrator of Digital Commons @ East Tennessee State University. For more information, please contact digilib@etsu.edu.

**KNOWLEDGE OF THE EFFECTS OF ALCOHOL ON FETAL DEVELOPMENT
AMONG WOMEN OF CHILDBEARING AGE**

Thesis submitted in partial fulfillment of Honors

By

Mary Bales
The Honors College
Midway Honors Scholars Program
East Tennessee State University

November 10, 2011

Dr. Amy Swango-Wilson, PhD, Faculty Mentor

Dr. Robert Pack, PhD, Faculty Reader

Kimberly Sell, MSN, RN Faculty Reader

Abstract

While Fetal Alcohol Syndrome Disorder is a recognized problem with alcohol ingestion during the formation of facial features, Fetal Alcohol Spectrum Disorders are not as widely recognized. These disorders result from exposure to alcohol throughout pregnancy when the brain and nervous system are developing. The resulting disorders include attention deficit disorders, social disorders, inappropriate behaviors, learning disorders, and intellectual disability. The incidence of children with alcohol-related disorders is increasing as evidenced by children needing special services in the educational systems. It is unknown how much alcohol ingestion is safe during pregnancy or how genetic factors are involved in the development of these disorders. Women often get conflicting information from the media and other resources about safe levels of alcohol consumption during pregnancy. Abstinence of alcohol ingestion is the only known prevention of such intellectual disorders. It is hypothesized that women of childbearing age may not be knowledgeable of the relationship between drinking and the implications of alcohol exposure on fetal development.

The purpose of this research is to determine what women of childbearing age know about alcohol consumption during pregnancy and if there is a knowledge deficit that exists among women of a certain age or women that use specific resources for health information. The researcher surveyed 40 female students at East Tennessee State University by using true or false questions concerning alcohol consumption related to fetal development in order to determine if a knowledge deficit exists. Based on the findings, it may be determined if women of childbearing age need educational materials from a reliable source.

Introduction

Alcohol consumption is a legal, socially acceptable activity among women of childbearing age that often takes place without consideration of a possible pregnancy. Frequent drinkers may be unaware they are pregnant until after weeks of gestation, which can lead to harmful effects on the developing fetus. The incidence of children with alcohol-related birth defects and developmental disabilities is increasing, even though it is preventable. This suggests that women of childbearing age may not be knowledgeable of the relation between drinking and the implications of alcohol exposure on the fetus.

The effects of prenatal alcohol exposure and basic diagnostic features were not described until 1973. "In 1981, the U.S. Surgeon General issued a public health advisory warning that alcohol use during pregnancy could cause birth defects" (Riikonen, 1994). Studies on prenatal alcohol-related effects to date are typically conducted to determine the actual physiological causes, characteristics, and diagnostic guidelines for distinct patterns of malformations or developmental disabilities associated with fetal alcohol exposure. Most studies conclude that more work must be done towards prevention, but few identify if more research must be done to determine if the problem lies in an education deficit.

The Delivery Interview Program at the Boston Hospital for Women Division of the Brigham and Women's Hospital obtained data in 1982 "by interviewing 12,440 women after their delivery and by reviewing their medical records" to determine how many of them consumed alcohol during pregnancy (Marbury, 1983). Out of the 12,440 women interviewed, 2,824 of them consumed alcohol during pregnancy. Ninety-two of the women reported drinking 14 or more drinks per week, 266 reported drinking 7-13 drinks per week, 753 reported drinking 3-6 per week, and 1713 reported drinking 1-2 drinks per week. "Out of those who reported any alcohol consumption, 65 percent drank beer or wine, 12 percent drank hard liquor, and 23

percent drank all types” (Marbury, 1983). These results give reason to believe that almost 25 percent of the women interviewed may not have sufficient knowledge of the effects of alcohol on fetal development.

The American College of Obstetricians and Gynecologists conducted a survey in 1998 of 604 obstetrician-gynecologists to ask “about their alcohol screening practices, their opinions about the level of use that puts women at risk of particular adverse outcomes, and their counseling and referral practices for pregnant women who drink moderately” (Hollander, 2000). Fifty percent of the participants offer information or advice to all pregnant women, while 36% “raise the issue if they know or suspect that a patient uses alcohol” (Hollander, 2000). Forty-six to fifty-six percent of the participants “think that some alcohol consumption poses no risk to the possibility of a woman having a spontaneous abortion or of bearing an infant with a central nervous system impairment, birth defects or fetal alcohol syndrome” (Hollander, 2000). These significant findings give reason to believe that not all healthcare providers give the proper education or advice to women, which further contributes to a knowledge deficit among those of childbearing age.

Objective

Based on the lack of studies to assess what women know about alcohol consumption during pregnancy, a knowledge deficit among women of childbearing age may exist. The purpose of this study is to determine whether women of childbearing age have received the proper educational resources and health advice to prevent prenatal alcohol-related effects.

Healthcare providers commonly ask about drinking behaviors while collecting a patient’s health history, but are only required to give health advice at their discretion. Are healthcare providers effectively communicating with women about the risks of alcohol exposure to a fetus

during pregnancy? Are women knowledgeable of where to find factual health advice as well as educational materials? Do women know about the risks of drinking alcohol during pregnancy? This study seeks to answer these questions in order to best determine if lack of knowledge or poor sources of information may be contributing to the rise in alcohol-related defects in children.

Methods and Materials

Research for this study was conducted through printed surveys that were available to all female East Tennessee State University students in the Culp Center on campus on March 14, 2011 from 12:00 p.m. to 4:00 p.m. The surveys were provided at the Information Desk in the Culp Center. There were flyers on the desk that gave a brief description of the intentions of the survey and assurance that the responses will remain anonymous and confidential. The students filled out a survey at their own discretion and the surveys were stored in an envelope so that they were not seen by other respondents or the researcher.

The survey began with questions on demographics such as age, highest level of education, class, whether or not they live on campus, and where their health information comes from such as magazines, physician, internet, reference books, family and friends, and television. The survey also included true or false questions that will determine their knowledge of the effects of alcohol on fetal development. The content of the questions covered Fetal Alcohol Spectrum Disorders, alcohol consumption during pregnancy, and prevention of alcohol-related birth defects.

The data was analyzed by age, highest level of education, and methods of seeking health information to determine if there is a specific age that a knowledge deficit exists most commonly in or if the problem lies in health information source.

Figure 1. Survey

Survey Questions- True or False

1. The placenta protects the baby from any alcohol the mother drinks.
2. A can of beer, a glass of wine, a shot of hard liquor, and a wine cooler all contain different amounts of alcohol.
3. Alcohol enters the bloodstream almost immediately, so the fetus gets as much alcohol as the mother.
4. Binge drinking a few times during pregnancy is safer than consistently having one or two drinks a day.
5. Drinking alcohol has the same effect on every pregnancy.
6. Drinking wine during the last month of pregnancy will not harm the fetus because development is almost complete.
7. Some intellectual/learning disorders in children are caused by exposure to alcohol before birth.
8. Drinking before breastfeeding is safe as long as you wait 1 hour after consumption.
9. The fetus can metabolize alcohol, so it has the same effects on the fetus as it would an adult.
10. Drinking during pregnancy only causes low birth weight, and sometimes Fetal Alcohol Syndrome.

Demographics

Age: 18-22, 23-27, 28-32, 33-37, 38-42, 42-46, 46 and above

Education: Highest level of education completed

Living on or off campus

Gender

Class- freshman, sophomore, junior, senior

Health Information- Where do you get information?

Physician

Internet- which website?

Reference books

Magazines

Family/Friends

Television

Other

Data Collected

The surveys were left at the Information Desk in Culp Center for students to take at their choosing. There were 40 responses from anonymous female students that were placed in an envelope in order to maintain confidentiality. The researcher did not see any responses or completed surveys. The responses were stored in a locked cabinet by East Tennessee State University College of Nursing. This study was approved by the East Tennessee State University Institutional Review Board.

Analysis

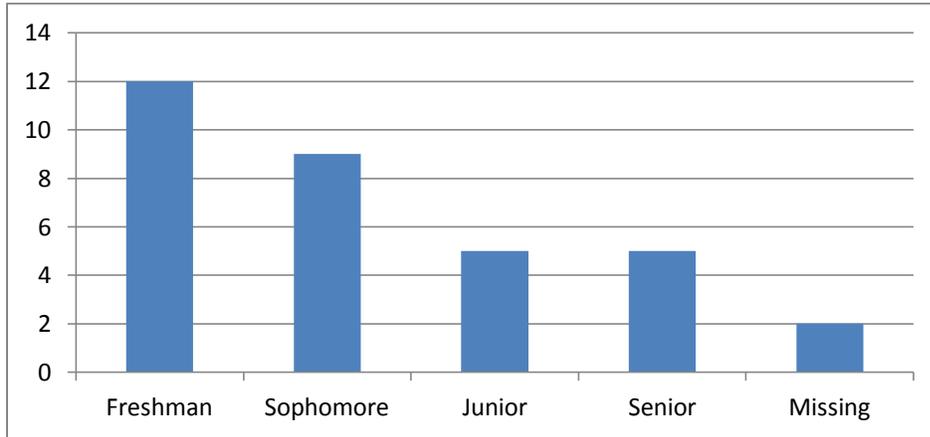
The findings were first analyzed by whether or not students of all ages got each of the ten questions correct. The findings were then analyzed to see whether that student lived on or off campus, their highest level of education, their class, their age, and where they typically get their health information. The findings were later analyzed by the students' age category in order to determine if there was a particular age that appeared to answer questions incorrectly more often. The questions that more than 70% of students got correct were not considered indicative of a knowledge deficit based on academic pass/fail scores and will not be discussed.

Results

From the 40 responses, 33 students were age 18-22, 2 students were age 23-27, 2 students were age 33-37, 1 student was age 38-42, and 2 students were age 43 and above. The findings showed that 1 student's highest level of education was a GED, 37 students have a high school diploma, and 2 students did not provide information on their highest level of education. Students ages 18-22 had 19 students living on campus, 12 living off campus, and 2 students that did not provide information. All other aged students lived off campus and 1 student age 33-37 did not

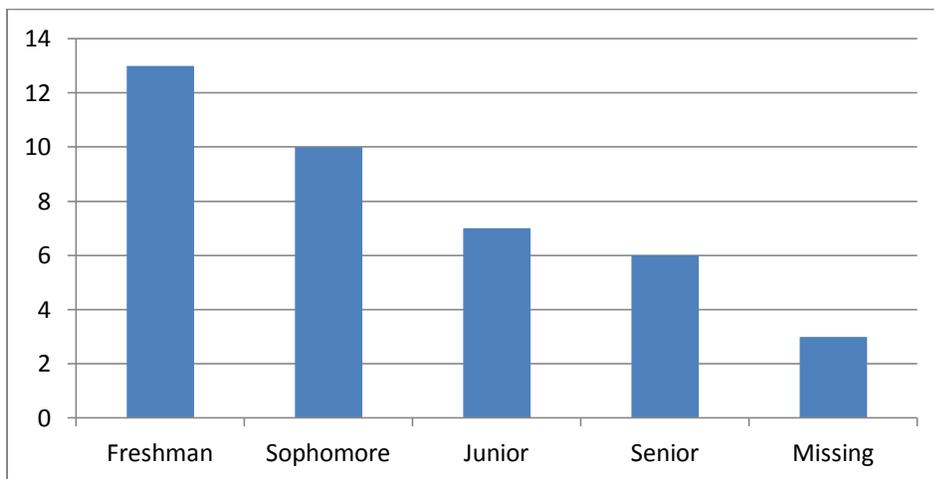
provide information. Out of the 33 students ages 18-22, 12 were freshmen, 9 were sophomores, 5 were juniors, 5 were seniors, and 2 did not provide information.

Figure 2. Class for Student's Ages 18-22



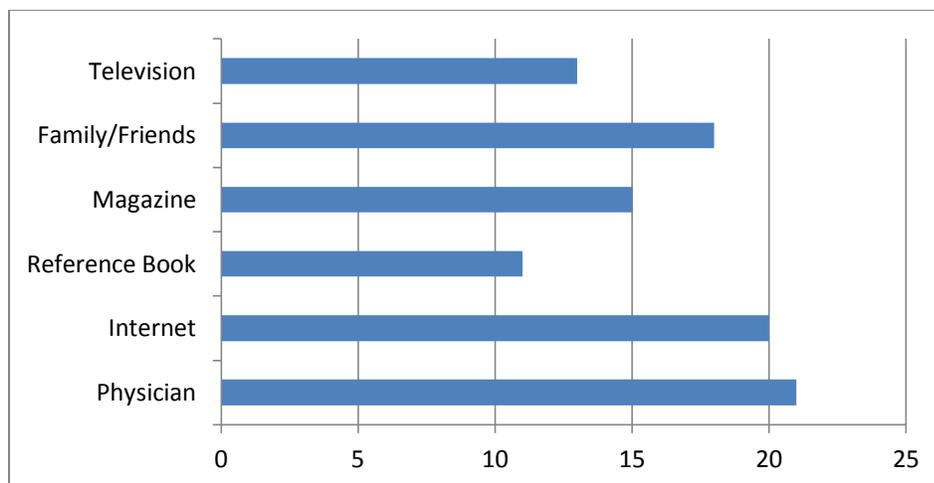
Out of the 2 students ages 23-27, one was a freshman and the other was a junior. Out of the 2 students ages 33-37, one was a senior and the other did not provide information. The student age 38-42 was a junior. Out of the 2 students ages 43 and above, one was a sophomore and the other was a senior.

Figure 3. Class for Students of All Ages



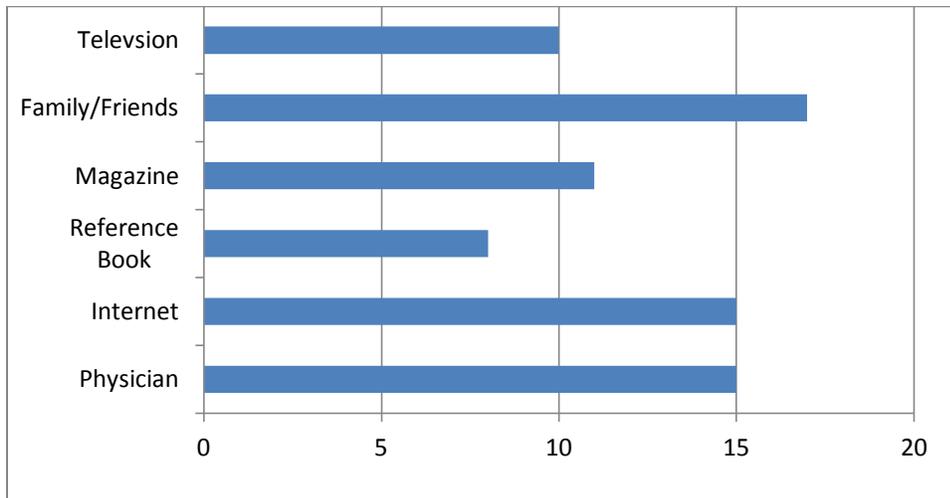
The findings showed that many of the students answered multiple sources for where they get their health information. The data was again analyzed overall and then by ages 18-22. Physician and internet were answered as a resource for all ages. Out of all the students, there were 13 responses for television, 18 responses for family/friends, 15 responses for magazine, 11 responses for reference book, 20 responses for internet, and 21 responses for physician.

Figure 4. Health Information Sources for All Ages



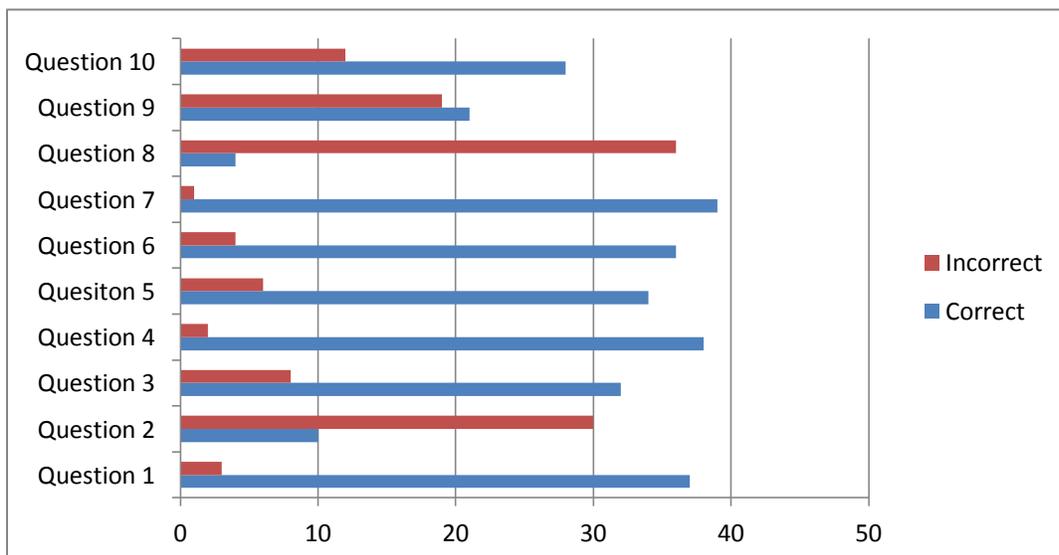
The findings for responses from ages 18-22 showed 10 responses for television, 17 responses for family/friends, 11 responses for magazine, 8 responses for reference book, 15 responses for internet, and 15 responses for physician.

Figure 5. Health Information Sources for Ages 18-22



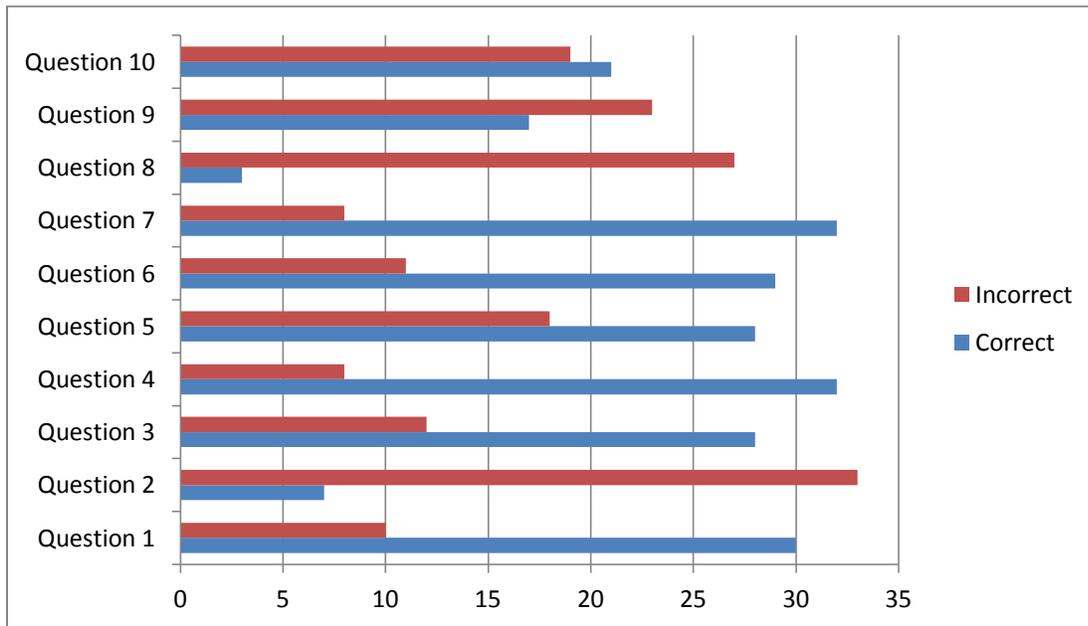
The findings showed that there were 4 questions out of the 10 that students seemed to answer incorrectly. Questions 2, 8, 9, and 10 were answered correctly less than 70% of the time. Question 2 was answered correctly by 10 students out of 40. Question 8 was answered correctly by 4 students out of 40. Question 9 was answered correctly by 21 students out of 40. Question 10 was answered correctly by 28 students out of 40.

Figure 6. Question Responses From All Ages



The findings indicated that most of the students who took the survey were age 18-22. The researcher decided to analyze results for this particular age category because the number of responses is too limited to be considered significant. The findings showed that questions 2, 8, 9, and 10 were most commonly answered incorrectly. Question 2 was answered correctly by 7 students. Question 8 was answered correctly by 3 students. Question 9 was answered correctly by 17 students. Question 10 was answered correctly by 21 students. There was one student that was age 18-22 and answered all questions correctly. This student was the only participant to answer all questions correctly. This student lives off campus and only gets her health information from a physician.

Figure 7. Question Responses from ages 18-22



Discussion

Based on the few existing studies of women's knowledge of alcohol-related effects during pregnancy, there is a need to research this issue more thoroughly. More research is needed to determine what areas of information on alcohol consumption during pregnancy are most commonly misunderstood or associated with common misconceptions. Another alternative would be to survey more women outside the ages of 18-22 in order to see if a similar knowledge deficit exists among women of other ages or just within certain content of information regarding alcohol consumption during pregnancy.

Researchers should explore the amount of education related to this topic that women of childbearing age have in order to determine if there is a relationship between the amount of education and scoring of surveys. This study was not designed to determine which educational interventions would be most effective. Further research should answer the questions: Do women of childbearing age that show a knowledge deficit use unreliable sources for health information? Is there a specific age that a knowledge deficit exists in? Is a respondent more likely to show a knowledge deficit if they have received less formal education than others? After surveying more women of childbearing age, further research will determine what factors prove to be instrumental in knowledge on this particular topic.

Limitations

There were some limitations involved in this study that limit what the researcher can conclude from the data. The sample size is small and the sampling is of convenience. There are only 10 questions in the survey in order to determine if a knowledge deficit exists, which limits determining how much women of childbearing age know outside of the questions asked about this particular topic. The surveys were mostly answered by participants ages 18-22. This leaves

very little to be determined from responses from older women. The study was offered to only ETSU students.

Conclusion

Women of childbearing age can benefit from education on the harmful effects of alcohol consumption during pregnancy. Providing educational materials for women of childbearing age may clear up common misconceptions and create a better understanding on how alcohol can affect fetal development. Physicians and nurses can be influential in educating women of childbearing age. Healthcare professionals can be a reliable source for health information, as well as a resource for providing interventional planning or programs for their patients. Education will provide women of childbearing age with the knowledge required to make the decision to abstain from drinking during a suspected or known pregnancy in order to prevent harmful effects on fetal development and reduce the number of children born with alcohol related birth defects or spectrum disorders.

Works Cited

- Hollander, D. (2000). Pregnancy and Alcohol: Many Obstetrician-Gynecologists Are Unsure About Risks or How to Assess Women's Use. *Family Planning Perspectives* , 32, 308-310.
- Marbury, M. S. (1983). The Association of Alcohol Consumption with Outcome of Pregnancy. *American Journal of Public Health* , 73, 1165-1168.
- Riikonen, R. (1994). Difference in susceptibility to teratogenic effects of alcohol in discordant twins exposed to alcohol during the second half of gestation. *Pediatric Neurol* , 11, 332-336.