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Course Outline
Epi 744: Pediatric and Perinatal Epidemiology
Fall 2006
Tuesdays, 10:00 – 11:50
GCR 432

Instructor: Carolyn D. Drews-Botsch, Ph.D.
727-5725
GCR 436
Office Hours: Thursdays 11-12 or by appointment

Objectives: This course is a survey course which will review the current state of knowledge about a variety of pediatric and perinatal conditions. The first half of the course will focus on Perinatal conditions. The second half will focus on conditions in childhood. The course will also review methodologic concepts in epidemiology and their application to the study of conditions occurring during development. At the end of the course, each student should be able to:

- (1) Discuss the descriptive epidemiology of a variety of pediatric and perinatal conditions,
- (2) Critically review the epidemiologic literature pertaining to these outcomes, and
- (3) Understand the important sources of bias and imprecision arising in epidemiologic studies of these outcomes.

Format: The course is taught as a doctoral-level seminar focusing on lectures and discussion by students, the professor and invited experts in the area. The course will meet two hours per week. Most sessions will follow the following format

- i. The first hour will be dedicated to a didactic presentation of the epidemiology of a specific pediatric or perinatal outcome, and epidemiologic issues specific to studying that outcome.
- ii. The lecture will be followed by a discussion and critical review of a recent research article dealing with that outcome. The discussion will be led by one, or more, of the class members.

Course Requirements:

- (10%) Class Participation
 - Class Attendance
 - Completion of the assigned reading prior to class
 - Participation in class discussions
- (15%) Completion of Weekly Literature Reviews
 - These will be graded on the following scale: 0 – Not turned in, 1 – turned in late or poorly thought through, 2 - Adequate
- (25%) Critical review of a recent epidemiologic research paper to be selected by the student
 - no more than 2 double-spaced pages
 - the original article MUST be attached to the final paper
- (25%) Oral presentation of the result of the epidemiologic research paper
 - no more than 15 minutes
 - followed by 5 minute question and answer session
- (25%) Completion of take-home midterm

Grading:

Final grades will be based on the highest score attained by a student in the class using the following curve:

90-100% = A
87.5-89% = A-/B+
80-87.5% = B
77.5-89%= B-

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70-77% = C
<70% = F

Text: There is no assigned textbook for this class.

- For a resource in reviewing literature, I recommend: Pyrczak F. Evaluating Research in Academic Journals. Pyrczak Publishing, Los Angeles, Ca, 1999.
- However, you may find a good pediatric (e.g., Rudolph's Pediatrics) or obstetric (e.g., William's Obstetrics) textbook useful as a reference.
- In addition, the following epidemiology books may provide useful background material:
 - Pless IB (Ed.). The epidemiology of childhood disorders. Oxford University Press, 1994.
 - Barron SL, Thomson AM (Eds.); Obstetrical Epidemiology. Academic Press, 1983.
 - Bracken MB (Ed.); Perinatal Epidemiology. Oxford University Press, 1984.
 - Keily M (Ed.); Reproductive and Perinatal Epidemiology. CRC Press, 1991.

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Tentative Course Schedule:

Date	Topic	Assignments	Lecturer
9/5	Course Overview Quick Tour: Reproductive Physiology Epidemiologic methods in studying Pediatric and Perinatal Outcomes	http://embryo.soad.umich.edu/carnStages/carnStages.html http://www.med.upenn.edu/meded/public/berp/overview/BV_1.html?11 http://www.visembryo.com/baby/hp.html Hernan MA et al (2002). Causal Knowledge as a Prerequisite for Confounding Evaluation: An Application to Birth Defects Epidemiology. <i>Am J Epidemiol</i> 155(2):176-184. Savitz DA. Hertz-Picciotto I. Poole C. Olshan AF. Epidemiologic measures of the course and outcome of pregnancy. <i>Epidemiologic Reviews</i> . 24(2):91-101, 2002	Drews
9/12	Continue: Epidemiologic Methods Reviewing the Medical Literature	Background: Pyrczak F. Evaluating research in academic Journals. (<i>Use as a reference</i>). Read pp 95-98, 103-114. Williams JK (2001). Understanding evidence-based medicine: A primer. <i>Am J Obstet Gynecol</i> 185:275-78. Glasziou P, Vandenbroucke J, Iain Chalmers I (2004): Assessing the quality of Research. <i>BMJ</i> 328:39-41. Discussion: Wolff CG, Schroeder DG, Young MW. Effect of improved housing on illness in children under 5 years old in northern Malawi: A Cross-Sectional Study. <i>BMJ</i> 2001. 322:1209-1212.	Drews
9/19	Spontaneous Abortions	Background: Wilcox AJ. Weinberg CR. O'Connor JF. Baird DD. Schlatterer JP. Canfield RE. Armstrong EG. Nisula BC. Incidence of early loss of pregnancy. <i>New England Journal of Medicine</i> . 319(4):189-94, 1988 Jul 28 A. García-Enguídanos, M. E. Calle, J. Valero, S. Luna and V. Domínguez-Rojas. Risk factors in miscarriage: a review. <i>European Journal of Obstetrics & Gynecology and Reproductive Biology</i> , Volume 102, Issue 2, Pages 111-119 (10 May 2002). Discussion: Slama R. Werwatz A. Boutou O. Ducot B. Spira A. Hardle W. Does male age affect the risk of spontaneous abortion? An approach using semiparametric regression. <i>American Journal of Epidemiology</i> . 157(9):815-24, 2003 May 1.	Drews

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9/26	Congenital Anomalies: Focus on Down Syndrome and Neural Tube Defects	Background: Correa-Villasenor A et al. The Metropolitan Atlanta Congenital Defects Program: 35 years of birth defects surveillance at the centers for disease control and prevention Discussion: Rasmussen SA et al. Survival in infants with Down Syndrome, Metropolitan Atlanta, 1979-1988. <i>J Pediatr</i> 2006;148:806-12.	Oakley
10/3	Infant Mortality	Background: Infant Mortality Statistics from the 2001 Period Linked Birth/Infant Death Data Set. <i>National Vital Statistics</i> 2003. 52(2). Bradley PJ. What can we learn from the birth maternal child health system. <i>MCN</i> 2003. 28(3):192-198. Discussion: Kramer MS et al. The Contribution of Mild and Moderate Preterm Birth to Infant Mortality. <i>JAMA</i> . 2000;284:843-849.	Drews
10/10	Fall Break		
10/17	Pediatric Injuries	Background: Rivara FP. Prevention of Injuries to Children and Adolescents. <i>Inj Prev</i> 2002;8:iv5-iv8 Hambridge et al. <i>Pediatrics</i> 2002, 109(4)559. Discussion: Macpherson AK et al. Impact of Mandatory Helmet Legislation on Bicycle-Related Head Injuries in Children: A Population-Based Study. <i>PEDIATRICS</i> Vol. 110 No. 5 November 2002, pp. e60	Dellinger
10/24	Child Maltreatment	Midterm Handed out Background: Dowd M et al. Epidemiology and prevention of childhood injuries, <i>Critical Care Med</i> . 2002, 30:11. Discussion: Bjornstig et al.	Leeb
10/31	Review of Midterm Scientific Presentations	Midterm Due	
11/7	Sudden Infant Death Syndrome	Background: Beckwith. Defining the Sudden Infant Death Syndrome. <i>Arch Pediatr</i> 2003; 152:286-290. Discussion: Tappin et al. Bedsharing, Roomsharing and the Sudden Infant Death Syndrome. <i>J Pediatr</i> 2005;147:32-7.	Drews

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11/14	Adverse Pregnancy Outcomes: Overview, Importance, Long-term Consequences	<p>Background: Savitz DA, et al. Concordance among measures of pregnancy outcome based on fetal size and duration of gestation.</p> <p>Discussion: Rayco-Solon et al. Differential effects of seasonality on preterm birth and intrauterine growth restriction in rural Africans. The American journal of clinical nutrition 2005;81(1):134 -139.</p> <p>TBD</p>	Drews
11/21	The Fetal Origins Hypothesis		Stein
11/28	Epidemiology of Cognitive Impairment	<p>Background: Basini FJ et al. Mental Retardation: A symptom and a syndrome. To Appear <u>Comprehensive Textbook of Child and Adolescent Disorders</u>. www.uab.edu</p> <p>Yeargin-Allsopp M et al. The epidemiology of developmental disabilities. In press.</p> <p>Discussion: Jeliffe-Pawlowski L et al. Risks for severe mental retardation occurring in isolation and with other developmental disabilities. American journal of medical genetics 2005.36(2):152 -157</p>	Drews
12/5	Epidemiology of Autism	<p>Background: Rutter M. Incidence of autism spectrum disorders: Changes over time and their meaning. Acta pædiatrica 2005; 94(1)2 -15.</p> <p>Discussion: Larsson et al. Risk factors for autism: perinatal factors, parental psychiatric history, and socioeconomic status. American journal of epidemiology 2005; 161(10): 916-26 + 926.</p>	Drews
12/12	Student Presentations	Final Projects Due	Class