Chapter 12 Handout

SUPPLEMENT 12.1 RESEARCH FOCUS: CAN PRENATAL MALNUTRITION CAUSE SCHIZOPHRENIA? (HANDOUT A)

Schizophrenia is often associated with structural brain abnormalities (Andreason et al., 1994). This finding suggests that one cause of schizophrenia could involve a defect in brain development. Since poor prenatal nutrition has been implicated as a cause of other kinds of defective brain development (DeLong, 1993), Ezra Susser and colleagues (1996) wanted to know if poor prenatal nutrition could increase the likelihood of developing schizophrenia later in life.

To explore this matter, Susser and colleagues examined records from the “Dutch Hunger Winter.” During World War II, a Nazi blockade caused a severe famine in the western Netherlands, lasting from October 1944 until liberation in May 1945. For Susser and colleagues, records from this famine provided a unique opportunity to study the effects of malnutrition. This famine was unusual in that it was short-lived and had clearly defined starting and ending points. In addition, excellent records on food rations allowed precise determination of exactly who got how much food during the famine. Finally, similarly meticulous health records thereafter allowed comprehensive measures of health outcomes for people in the years after the famine.

Susser and colleagues examined food-rationing records of the Dutch Hunger Winter famine, pinpointing births from mothers who were severely malnourished, moderately malnourished, or not affected at all by the famine. They further restricted the malnourished samples to births from conceptions during the height of the famine period and from mothers who were malnourished during at least the first trimester of pregnancy. The researchers also examined records from the Dutch national psychiatry registry. This database maintains records of over 90 percent of all psychiatric admissions in the Netherlands. Using registry data for the period of 1970 through 1992, researchers used the World Health Organization’s International Classification of Diseases criteria to identify admissions for schizophrenia for subjects between the ages of twenty-four through forty-eight.

The results of the analysis showed that people subjected to extreme prenatal malnutrition were twice as likely to develop schizophrenia when compared to the people subjected to either moderate or no prenatal malnutrition. Importantly, people exposed to either extreme or moderate prenatal malnutrition were not any more likely to develop any other psychiatric disorder than were people not exposed to prenatal malnutrition.

References and Resources


SUPPLEMENT 12.1 RESEARCH FOCUS: CAN PRENATAL MALNUTRITION CAUSE SCHIZOPHRENIA? (HANDOUT B)

QUESTIONS FOR ANALYSIS
1. What question were Susser and colleagues (1996) investigating?
2. Why were the researchers interested in investigating this question?
3. What type of research method was used in this study?
4. What exactly was measured?
5. What conclusions are reasonable from the study data?
6. What was a strength of this study?
7. Suggest another way prenatal links to schizophrenia could be studied.
8. Suggest something that should be investigated in future studies in this area.