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Research has consistently demonstrated that children born of mothers who consumed large quantities of alcohol during pregnancy face definitive and irreversible effects, including growth deficiency, anomalies of brain structure and function, mental retardation, and abnormalities of the head and face (Popova et al., 2016).

The findings of research examining the link between fetal harm and prenatal use of illicit drugs such as heroin, cocaine, and marijuana have been more equivocal. One potential outcome of opiate abuse, however, is **neonatal abstinence syndrome (NAS)**. NAS refers to a constellation of drug withdrawal symptoms, such as irritability, restlessness, tremors, weight loss, and poor feeding and sleep patterns, shortly after birth due to drug exposure in utero (D. Wilson & Shiffman, 2015). Although NAS is treatable, there is some evidence of longer-term effects of opioid abuse including risk for cognitive and motor delays through the preschool years (Holbrook & Nguyen, 2015; Hunt, Tzioumi, Collins, & Jeffery, 2008). Studies of maternal use of cocaine demonstrate similar outcomes suggestive of withdrawal in addition to direct impacts on birth weight and head size (Keegan, Parva, Finnegan, Gerson, & Belden, 2010; Shankaran et al., 2007). There is also evidence that prenatal cocaine exposure is associated with arousal, attention, and response inhibition as well as behavioral problems, at least through age 7 (e.g., Bada et al., 2007; Behnke & Smith, 2013). The possible long-term impact of prenatal exposure to these substances is less clear.

Studying the relationships between prenatal drug exposure and negative developmental outcome is fraught with challenges and contributes to the difficulty in interpreting research findings. The quantity of the substance that pregnant women consume and the timing of consumption (i.e., during first, second, or third trimester), for example, may determine whether any negative effects manifest in their infants. Maternal drug use also often occurs in association with poly drug use and poor maternal nutrition, so it is difficult to determine which variable is responsible for negative developmental outcomes. Results of such studies are also difficult to interpret when researchers do not consider the influence of environment on infants' development subsequent to birth. Recent research findings suggest that the postnatal environment influences the developmental outcomes of drug-exposed infants. Characteristics of a drug-exposed infant's environment that contribute to negative developmental outcomes include high levels of parental stress, continued parental substance abuse, and postnatal drug exposure (Keegan et al., 2010). For example, a child may be exposed to cigarette or marijuana smoke in utero as well as in the environment after birth when the mother continues to smoke.

In response to the problem of prenatal drug exposure, many have called for drug testing of newborns, asserting that such testing could identify infants at risk for developmental problems. Several problems are associated with infant drug screening, however. Drawbacks to both universal testing (testing of all newborn infants) and targeted testing (testing of specific groups of infants identified as high risk) include financial costs, potential avoidance of medical care by pregnant drug users, limited ability of some tests to detect certain substances, and the potential for discriminatory screening practices (Anthony et al., 2010; Burke, 2007; Ondersma, Simpson, Brestan, & Ward, 2000). The overwhelming majority of newborn infants exposed to drugs and alcohol prenatally are not tested (Anthony et al., 2010; S. Christian, 2004).