Journal of Pediatric Nursing (2016) **31**, 422–429

# National Perspective of Health Outcomes of 8- to 11-Year-Old Children Born Prematurely and Their Full-Term Peers[1]

**Michelle M. Kelly PhD, CRNP***

*Villanova University, College of Nursing, Villanova, PA*

Received 28 August 2015; revised 19 January 2016; accepted 28 January 2016

**Key words:**
Children;
Premature;
Preterm;
Special health care needs;
Outcomes

**Purpose:** The specific aim of this study was to evaluate the health sequelae of preterm birth on children 8 to 11 years of age as compared to same age children born at term; selected variables include special health care needs, chronic conditions, and caregiver perception of health.
**Design/Methods:** A secondary data analysis was conducted to evaluate the health outcomes of children 8 to 11 years of age who were born prematurely compared to a sample of children born at term. The 2011/2012 National Survey of Children's Health (NSCH) is a nationally representative telephone interview survey of parents/caregivers of children 0 to 17 years of age. Preterm birth was determined by parent report of birth more than 3 weeks early.
**Results:** Utilizing the Children with Special Health Care Needs (CSHCN) Screener, 35% of children born prematurely, compared to 24% of children born at term were identified as having a special health care need. The 5 most prevalent conditions were the same in both groups of 8 to 11 year old children and in the larger total sample of children 2 to 17 years of age. However 82% of children born prematurely were described by parents as having excellent or very good health.
**Conclusions:** Premature birth places children at increased risk for conditions that impede the crucial activities of childhood (education, psychosocial development and play). These conditions may require both medications and increased health care services.
**Implications for Practice:** Understanding the relationship between preterm birth and ongoing health risks has the potential to inform the health care providers' ability to provide care that maximizes the potential of children born prematurely. Health care providers need to be cognizant of this risk, utilizing early screening and encouraging intervention and family supports.
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Since 2000, children born prematurely comprise 11–12% of the annual births in the United States (U.S.). Preterm birth is defined as birth before the completion of 37 weeks of gestation. During the last 15 years, a disproportionate, but stable percentage of preterm births occur at the later range of gestation; 8–9% of preterm births occur between 34 and 36 weeks gestation, and just 3.4–3.6% are born at less than 34 weeks gestation (Martin, Hamilton, Osterman, Curtin, & Mathews, 2015).

Despite advances in the care provided to women and neonates, preterm birth remains significant public health issue, with higher rates of significant neurodevelopmental comorbidities with decreasing gestational age (Institute of Medicine (IOM), 2007; Hornby & Woodwards, 2009; Jarjour, 2015). The health and educational needs of children born prematurely have the potential to significantly burden families and the U.S. health care system (IOM, 2007). The annual societal cost of preterm birth exceeds the term birth cost by in excess of $26.2 billion dollars (IOM, 2007). While a large

* Corresponding author: Michelle M. Kelly, PhD, CRNP.
*E-mail address:* Michelle.m.kelly@villanova.edu.

[1] The author declares no conflict of interest. No university or external funding was utilized for this research. The author acknowledges her colleagues at Villanova University for their continued unwavering support.

http://dx.doi.org/10.1016/j.pedn.2016.01.005
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portion of that cost includes initial medical care, the remainder includes early intervention services ($611 million), special education ($1.1 billion) and lost household and labor market productivity contributing $5.7 billion (IOM, 2007).

The specific aim of this study is to evaluate the health sequelae of preterm birth on children 8 to 11 years of age as compared to same age children born at term. Selected health variables include special health care needs, chronic conditions, and caregiver perception of health status. Special health care needs are defined as children who are at increased risk for or have a chronic physical, developmental, behavioral or emotional condition and who require health-related services beyond those required by children generally (Carle, Blumberg, & Poblenz, 2011; McPherson et al., 1998). Chronic conditions utilized in this study are those identified during the 2011/2012 National Survey of Children's Health (NSCH) and include those listed in Figure 1. Perceived health status is determined, in this study, as the parent/caregivers response to a single question from the 2011/2012 NSCH asking them to rate their child's health. Examination of the prevalence of special health care needs, the occurrence of chronic conditions, and caregiver ratings of health status in children born prematurely has the potential to provide insight into the experience of children born prematurely. Understanding the experience of children with special health care needs at the individual and population level allows for recognition and attenuation of risks and promotion of well-being (Bethell et al., 2014).

Taylor and colleagues (Taylor, Klein, Drotar, Schluchter, & Hack, 2006) reported that 38% of the sample of 219 children weighing less than 1000 grams at birth was in special education at 8 years of age, compared to the 11% of children born at normal birth weight. In a review of literature of children born extremely premature, those born less than 25 weeks gestation, Jarjour (2015) reports high rates of intellectual disability, cerebral palsy, moderate to severe neurodevelopmental impairment and long-term disability at school-age and young adulthood. Further, the review highlighted an increased diagnosis of autism/autism spectrum disorder (ASD) in children born less than 32 weeks gestation (Jarjour, 2015). Engle reports on infants born late preterm (LPT), between 34 to 36 weeks of gestation, concluding that they are at increased risk for low IQ scores (21% LPT vs. 12% term), developmental

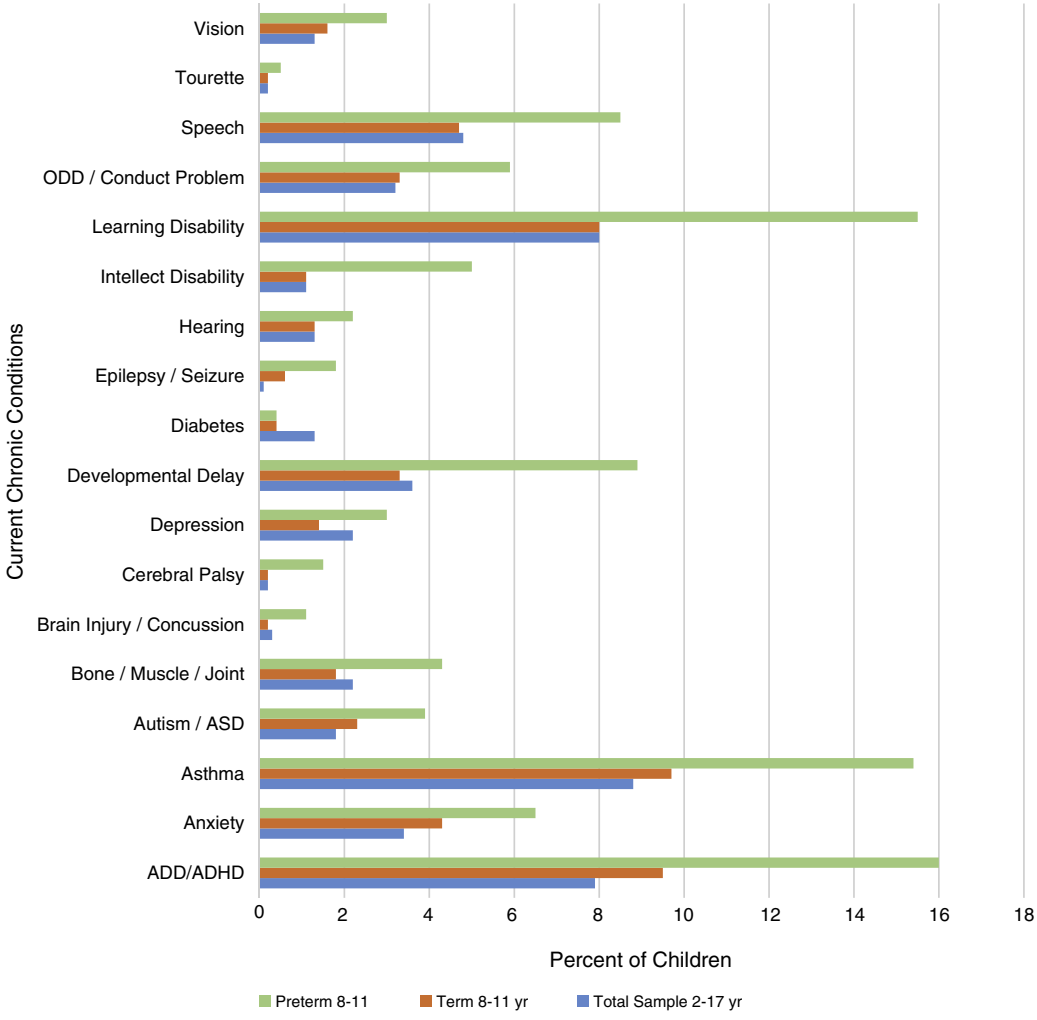


**Figure 1** 2011/2012 NSCH reported chronic conditions.

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