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Neonatal exposure to HIV and early interventions to promote functioning.

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UKZN INSPIRING GREATNESS

HIV exposed Newborns

- Inferior orienting and abnormal reflexes on the Brazelton Scale
 - May be precursors to later visual-spatial difficulties, hypertonicity and hyperreflexia documented in many studies

(Scafidi and Field, 1997)
- Inferior scores in habituation, motor, range of state, autonomic stability, excitability, stress behaviours
 - Generalised, pervasive influence of HIV on newborn behaviour

(Scafidi and Field, 1995)

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- HIV exposure in utero and in the postnatal period affects development of the immune system and other organ systems
 - Increased risk for infection
 - Preterm or Low Birth Weight, growth stunting.
 - May predispose child to poorer health, obesity, chronic disease and cognitive dysfunction

(Sugandhi et al, 2014)

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- Newborns of HIV infected mothers have been shown to have more feeding difficulties, specifically with regurgitating food, slowed feeding and vomiting
 - Higher proportion of seizures

(Salihu, August, Aliyu, Stanley, Weldeselasse, Mbah, 2011)

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- Fetal echocardiography has suggested that fetuses of mothers who are HIV-positive have increased right and left ventricular wall thickness, irrespective of the HIV status of the fetus
 - Not greater incidence than general population
 - Confounded by maternal factors: malnutrition, coexisting infection, drug/alcohol use

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- Perinatal ARV use considered safe.
 - Continued monitoring for adverse neurodevelopmental outcomes in older children is warranted. (Patricia A Sirois, Yanling Huo, Paige L Williams, Kathleen Malee, Patricia A Garvie, Betsy Kammerer, Kenneth Rich, Russell B Van Dyke, Molly L Nozyce, 2013)

Maternal Mental Health

- High rates of antenatal depression have been reported in developing countries, with more than a third of women sampled in South Africa presenting with severe depressive symptoms during their pregnancy
(Mannikum & Burns, 2012)
- Similar levels of depression have been reported among HIV positive and negative women
(Mfyusi & Mahabeer, 2000 IN Brandt, 2009)
- The presence of antenatal depression carries a risk of adverse effects to the developing fetus, including low birth weight, preterm delivery and infant behavioural problems
(Evans, Heron, Patel & Wiles, 2007)

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- Moderate anxiety during pregnancy alters the infants orientation and self regulation
 - Could lead to later attachment, behavioural and developmental problems

(Hernandez-Martinez et al, 2008)

- Infants born to depressed mothers are compromised at birth, and continue to show dysregulation over the first month of life

(Hart, Field and Nearing, 1998).

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- Shown to be more aroused and less attentive than infants born to non-depressed mothers.

(Hernandez-Reif, Field, Diego & Ruddock, 2006).

- More irritable, less consolable and more excitable.
- Less reactive to and displayed less vocal distress to the cry of another infant.

(Aaron Jones, 2011)

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- Exposure to HIV may contribute to developing delays and failure to thrive as early as the newborn period in the absence of compensatory treatment provided by extra stimulation.

Intervention to promote optimal functioning

- **Massage therapy improves behaviour in neonates born to HIV + mothers**
 - Tactile-kinesthetic stimulation
 - More optimal score changes on NBAS in habituation, motor, range of state, autonomic stability, excitability and stress behaviours.
 - Increased weight gain.
 - Deterioration of HIV exposed newborns can possibly be attenuated by the use of massage therapy

(Scafidi and Field, 1996)

- **Environment**

- Improved attention to child's early development and psychosocial needs may prevent developmental delays

(Sugandhi et al, 2014)

- Aaron Jones, Nancy. Delayed reactive cries demonstrate emotional and physiological dysregulation in newborns of depressed mothers. *Biological Psychology* 89 (2012) 374-381
- Brandt, Rene. The mental health of people living with HIV/AIDS in Africa: a systematic review. *African Journal of AIDS research* 2009, 8(2):123-133
- Evans J, Heron J, Patel PR, Wiles N. Depressive symptoms during pregnancy and low birth weight at term. *British Journal of Psychiatry* 2007;191:84-85. [<http://dx.doi.org/10.1192/bjp.bp.105.016568>]
- Hernandez-Reif, Maria,. Field, Tiffany,. Diego, Miguel,. Ruddock, Maxine. Greater Arousal and less face/voice stimuli by neonates of depressed mothers on the Brazelton Neonatal Behavioural Assessment Scale. *Infant Behavior & Development* 29(2006)594-598.
- Manikkam, L., Burns, JK,. Antenatal depression and its risk factors: An urban prevalence study in KwaZulu-Natal. *The South African Medical Journal*. 2012; 102(12):940-944. DOI:10.7196/SAMJ.6009
- Scafidi, Frank; Field,Tiffany. Brief Report: HIV-Exposed Newborns Show Inferior Orienting and Abnormal Reflexes on the Brazelton Scale . *Journal of Pediatric Psychology*, Vol. 22, No. 1, 1997. pp. 105-112
- Hernandez-Martinez, Carmen, Arija Victoria, Balaguer Albert. Do the emotional states of pregnant women affect neonatal behaviour ? *Early Human Development*, nov 2008, vol 84 issue 11, p745-750

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- Hornberger, L. K., Lipshultz, S. E., Easley, K. A., Colan, S. D., Schwartz, M., Kaplan, S., et al. (2000). Cardiac structure and function in fetuses of mothers infected with HIV: The prospective P2C2 HIV multicenter study. *American Heart Journal*, 140, 575-584.