NATURE, PREVALENCE AND DETERMINANTS OF PERINATAL MENTAL HEALTH PROBLEMS AMONG WOMEN IN RESOURCE-CONSTRAINED COUNTRIES

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A formal partnership between:

MONASH University
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Jean Hailes
FOR WOMEN'S HEALTH

SAFE MOTHERHOOD AND MAKING PREGNANCY SAFER INITIATIVES

- Reproductive choice
- Nutritional status
- Co-incidental infectious diseases
- Information needs
- Access to services
- Training and skill of health workers

EARLY OBSERVATIONS

Traité de la folie des femmes enceintes, des nouvelles accouchées et des nourrices

Treatise on insanity in pregnant, newly delivered and lactating women

(Louis-Victor Marcé, 1858)

Puerperal insanity

(Robert Gooch, 1859)

CHILDBEARING AND MENTAL HEALTH PROBLEMS AMONG WOMEN

- Epidemiology of 'parapartum mental illness' (Paffenberger, 1964)
- 'Atypical depression' following childbirth (Pitt, 1968);
- Subsequent major focus of research: >150,000 academic papers, lay accounts and resources;
- Debates about:
  - Depression alone or other disorders?
  - Specific to pregnancy and the postpartum period?
  - Period of increased risk for poor mental health?
  - Nature and mechanisms of adverse consequences for children?

PUERPERAL OR POSTPARTUM PSYCHOSIS

- Incidence of 1 – 2: 1000
- Characterized by:
  - Acute onset;
  - Extreme affective variation, with mania and elation as well as sadness;
  - Thought disorder;
  - Delusions;
  - Hallucinations;
  - Disturbed behaviour;
  - Confusion.
- Little international variation in prevalence.

MOST COMMON PERINATAL MENTAL HEALTH PROBLEMS

DEPRESSION

Characterised by the persistent presence for at least two weeks of cognitive and affective symptoms including:

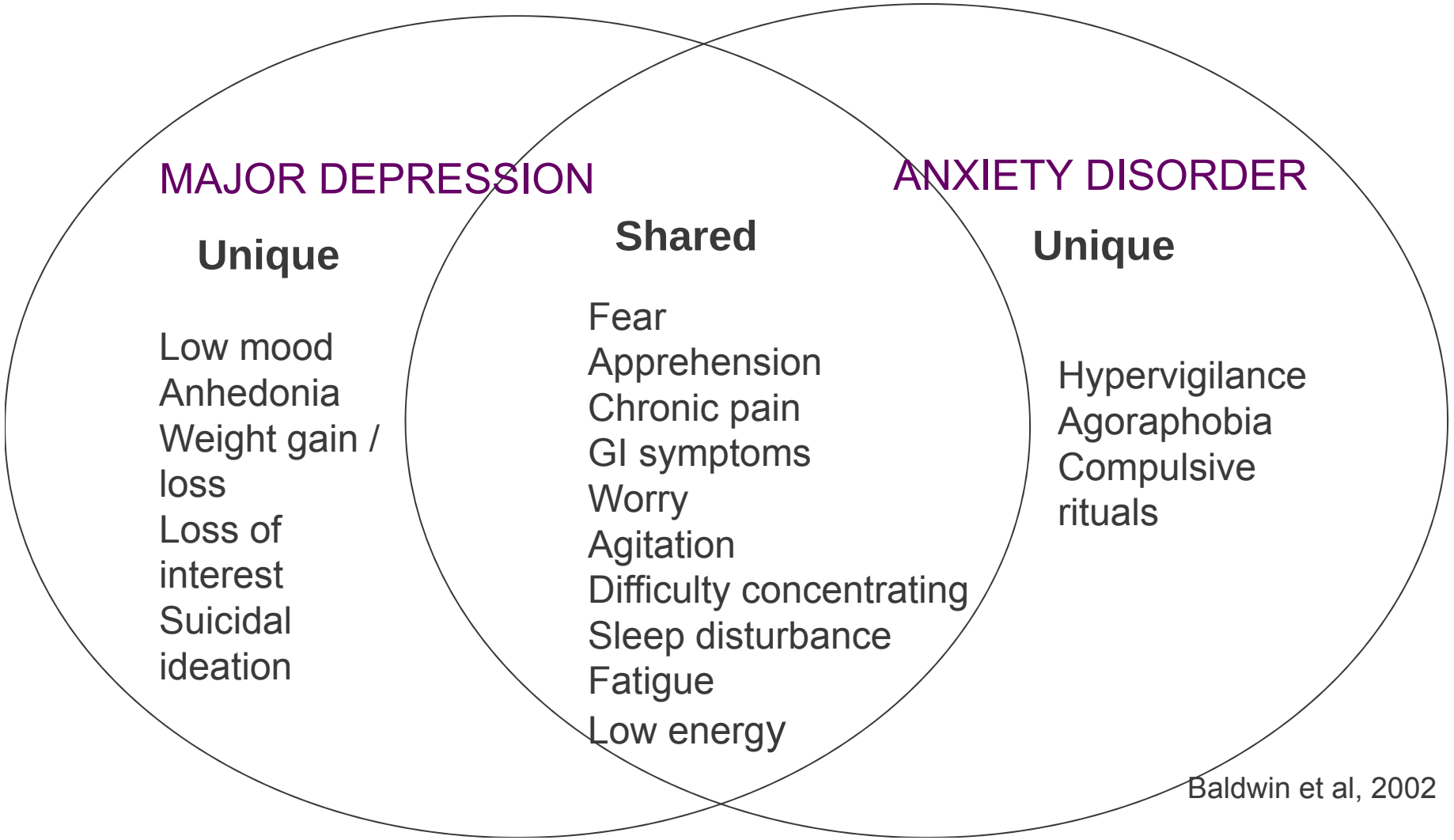
Low mood	Anhedonia
Irritability	Elevated anxiety
Impaired concentration	Self criticism
Guilt	Social withdrawal
Despondency	Changes in appetite ➔ weight loss or gain

MOST COMMON PERINATAL MENTAL HEALTH PROBLEMS

ANXIETY (Acute and episodic or persistent)

Cognitive and physiological symptoms

Worry	Trembling or shaking	Shortness of breath
Apprehension or sense of dread	Palpitations or accelerated heart rate	Chest pain or discomfort
Confusion	Numbing or tingling sensations	Feeling of choking
Reduced clarity of thinking	Nausea	Dizziness
Altered perceptions	Chills or hot flushes	Sweating



Baldwin et al, 2002

[PERINATAL] COMMON MENTAL DISORDERS

- Non-psychotic ‘common mental disorders’, for example depressive, anxiety, adjustment and somatoform disorders, which compromise day-to-day functioning;
- ‘Perinatal common mental disorders’

Goldberg D, Huxley P. *Common Mental Disorders: A Biosocial Model*. London: 1992

PREVALENCE OF PERINATAL COMMON MENTAL DISORDERS in HIGH-INCOME COUNTRIES

- Self-report measures yield symptom scores rather than diagnoses;
- Variation in sampling, measures, cut-off scores, period of ascertainment and whether point or interval prevalence is ascertained;
- Limited precision and comparability;

Women: <u>Pregnancy</u>

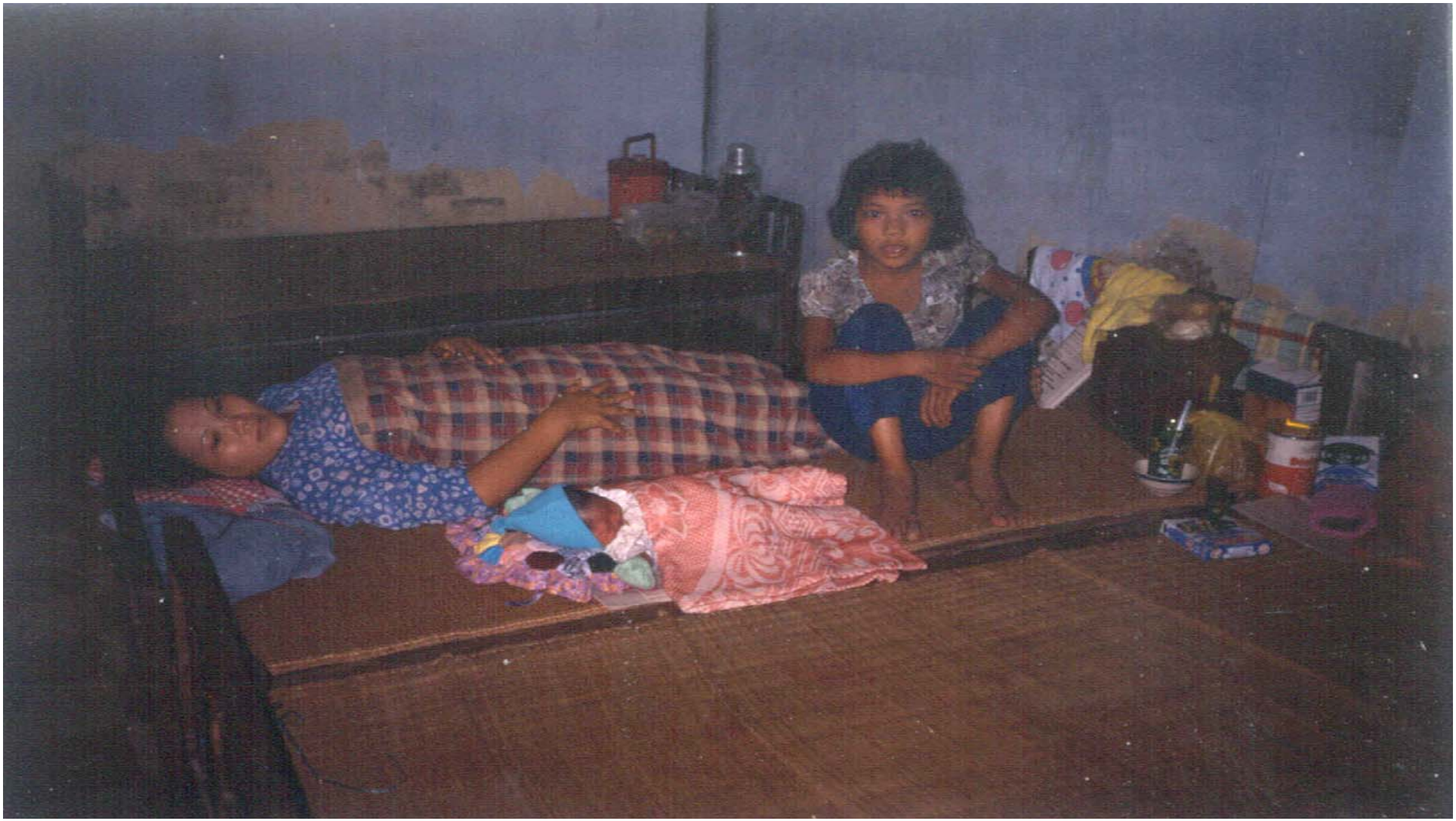
- Depression: 7.4% (T1), 12.8% (T2), 12.0% (T3) (Bennett et al, 2004)
- Anxiety: 10.4% - 16.2% (Matthey et al, 2003)

<u>Postpartum:</u>

- Depression: 6.8% (Woolhouse et al, 2012) to 20.7% (Webster et al, 2001)
- Anxiety: ≈ 10% in the first six months postpartum (Fisher et al, 2010)

<u>Perinatal depression among women in high-income countries</u>:

- ± 10% of pregnant women
- ± 13% of mothers of infants (Hendrick, 1998; O'Hara and Swain, 1996)



SCIENCE, TRADITIONAL CARE AND PERINATAL MENTAL HEALTH

Women who live in low- and lower-middle income countries experience traditional ritualized care after birth including:

- Mandated periods of rest;
- Honoured status;
- Increased practical support and freedom from household and income-generating work;
- Social seclusion;
- Gift giving and prescribed foods

- These protect mental health and therefore;
- They do not experience perinatal mental disorders.

Stern and Kruckman, 1983; Howard, 1993

PREVALENCE OF PERINATAL COMMON MENTAL DISORDERS AMONG WOMEN IN LOW AND LOWER MIDDLE INCOME COUNTRIES: A SYSTEMATIC REVIEW

Most published since 2000:

- 13 studies about antenatal CMD from 9 countries;
- No evidence from 103 / 112 (92%) LALMI countries;
- 34 studies about postnatal CMD from 17 countries;
- No evidence from 95 / 112 (85%) LALMI countries;
- Diverse methods and endpoints;
- Mental health problems in pregnant women and mothers of newborns detectable in all studies;
- Study settings contribute to selection biases;

Fisher, Cabral de Mello, Patel, Rahman, Tran, Holton, Holmes, *Bulletin of the World Health Organization*, 2012

PREVALENCE OF PERINATAL COMMON MENTAL DISORDERS AMONG WOMEN IN RESOURCE-CONSTRAINED COUNTRIES

	Total N (number of studies)	Range of prevalence	Weighted mean prevalence	95% CI
Pregnancy CMD (all studies)	**5774 (13)**	**5.2-32.9**	**15.9**	**15.0–16.8**
Tertiary hospitals	2190 (5)	5.2-14.4	10.3	10.1-10.4
Provincial or district health services	1526 (5)	8.3-32.9	17.8	17.4-18.3
Community	2058 (3)	12.0-33.0	19.7	19.2-20.1
Postnatal CMD (all studies)	**11,581 (34)**	**4.9-59.4**	**19.8**	**19.2-20.6**
Tertiary hospitals	3600 (11)	9.1-27.2	13.6	13.5-13.8
Tertiary hospital and community clinic(s)	2876 (7)	4.9-32.9	18.9	18.7-19.3
Provincial or district health services	3999 (12)	6.1-35.5	20.4	20.1-20.8
Community	1106 (4)	28.0-59.4	39.4	38.6-40.3

RISK FACTORS FOR PERINATAL CMD AMONG WOMEN IN RESOURCE-CONSTRAINED COUNTRIES

- **Socio economic disadvantage** (OR range: 2.1–13.2) : adolescent; religious or ethnic minority group; rural rather than an urban area; hunger in previous month, unable to pay for essential health care; low-income; holding a ‘poor card’;
- **Quality of relationship with the intimate partner** (OR range: 2.0–9.4): unsupportive, rejecting the pregnancy; polygamy; alcoholism;
- **Family violence** (OR range 2.11–6.75): criticism, coercion, intimate partner violence, worse if the baby is a girl than a boy;
- **Quality of family relationships** (OR range 2.1–4.4): critical mother-in-law, geographic separation from own mother;
- **Reproductive health** (OR range: 1.6–8.8): unwanted or unintended pregnancy; previous stillbirth; coincidental illness; premature birth; caesarean birth
- **Past history of mental health problems** (OR range 5.1–5.6)

PROTECTIVE FACTORS FOR PERINATAL CMD AMONG WOMEN INRESOURCE-CONSTRAINED COUNTRIES

- **Education** (RR 0.5; p=0.03) ;
- **Employment** (OR: 0.64; 95% CI: 0.4–1.0) including income security while away from the workforce to care for an infant;
- Provision of **structured direct care** by a trusted person, preferably a woman's own mother (OR: 0.4; 95% CI: 0.3–0.6) ;
- **Confiding affectionate relationship** with the intimate partner (OR: 0.52; 95% CI: 0.3–0.9).

Fisher J, Cabral de Mello M, Patel V, Rahman A, Tran T, Holton S, Holmes W. Prevalence and determinants of common perinatal mental disorders in women in low- and lower-middle-income countries: a systematic review. *Bull World Health Organ* 2012;90(2):139G-49G.

MENTAL HEALTH AND MATERNAL MORTALITY

- Suicide rates are underestimated because maternal mortality data is restricted to the first 42 days after childbirth
- British Centre for Maternal and Child Enquiries (2006 – 2008) 0.57 deaths by suicide per 100,000 maternities; but
- increased to 1.27 per 100,000 if increased to first six postpartum months (Cantwell et al, 2011)

MENTAL HEALTH AND MATERNAL MORTALITY

Limited data from low and middle income countries;

- In Haryana, India, 20% of 219 deaths among 9894 women who had given birth in rural areas, in 1992, were due to suicide or accidental burns. (Lal et al, 1995)
- At Maputo Central Hospital, Mozambique, 9 of 27 (33%) postpartum deaths (1991–1995) not attributable to pregnancy or coincidental illness were by suicide, 7 of these in women aged less than 25 years. (Granja et al, 2002)

MENTAL HEALTH AND MATERNAL MORTALITY

- In Viet Nam, verbal autopsies of all maternal deaths in seven provinces (2000 – 2001) found that overall 8%, but in some provinces 16.5% were by suicide, with problematic 'community behaviours towards women' a contributing factor. (WHO WPRO 2005)
- In Nepal, the Department of Health Services examined maternal deaths 1998 – 2008 in 8 districts and found that while there was an overall reduction in deaths from 539 to 229 per 100,000 live births, suicide was the leading cause, accounting for 16%. (Karki, 2011)
- Recent systematic review: wide regional variation in suicide and injuries as causes of pregnancy-related deaths, requires definitional clarity (Fuhr et al, Lancet Psychiatry, 2014)

CONSEQUENCES OF PERINATAL CMD FOR SELF-CARE

Iodine status in late pregnancy and psychosocial determinants of iodized salt use in rural northern Viet Nam

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Objective To establish iodine status among pregnant women in rural northern Viet Nam and explore psychosocial predictors of the use of iodized salt in their households.

Methods This prospective study included pregnant women registered in health stations in randomly-selected communes in Ha Nam province. At recruitment (< 20 weeks of gestation), sociodemographic factors, reproductive health, intimate partner relationship, family violence, symptoms of common mental disorders and use of micronutrient supplements were assessed. During a second assessment (> 28 weeks of gestation) a urine specimen was collected to measure urinary iodine concentration (UIC) and iodized salt use was assessed. Predictors were explored through univariable analyses and multivariable linear and logistic regression.

Findings The 413 pregnant women who provided data for this study had a median UIC of 70 µg/l; nearly 83% had a UIC lower than the 150 µg/l recommended by the World Health Organization; only 73.6% reported using iodized salt in any form in their households. Iodized salt use was lower among nulliparous women (odds ratio, OR: 0.56; 95% confidence interval, CI: 0.32–0.96); less educated women (OR: 0.34; 95% CI: 0.16–0.71); factory workers or small-scale traders (OR: 0.52; 95% CI: 0.31–0.86), government workers (OR: 0.35; 95% CI: 0.13–0.89) and women with common mental disorders at recruitment (OR: 0.61; 95% CI: 0.38–0.98).

Conclusion The decline in the use of iodized salt in Viet Nam since the National Iodine Deficiency Disorders Control Programme was suspended in 2005 has placed pregnant women and their infants in rural areas at risk of iodine deficiency disorders.

Bulletin of the World Health Organization, 2011; 89: 813 - 820

HOW PREGNANCY CMD MIGHT INFLUENCE EARLY CHILDHOOD DEVELOPMENT

Through three possible mechanisms:

- less likely to use pregnancy health care;
- increasing stress-related hormones including cortisol;
- co-occurrence with worse physical health, poor nutrition, substance abuse.

These may affect fetal development, birth outcomes, and have lasting effects on early childhood development

BIRTH OUTCOMES AND EARLY CHILDHOOD DEVELOPMENT AFTER EXPOSURE TO PREGNANCY CMD

Birth outcomes:

- Increased rate of premature birth (RR=2.3, Rondo et al 2003)
- Increased risk of low birth weight (<2,500 grams) (RR=1.9, Rahman et al 2007);

Early childhood development:

- Increased risks for underweight, stunting (Rahman et al 2004);
- Poorer cognitive development (Bergman et al 2010, Tran et al, 2013),
- Poorer motor development (Tran et al, 2014)
- Behavioural and emotional problems in pre-school children (O'Connor et al 2002).

Most lacked consideration of macro and micronutrient deficiencies

HOW POSTPARTUM CMD CAN INFLUENCE EARLY CHILDHOOD DEVELOPMENT

- Day-to-day interactions between primary caregivers and babies influence the infant's neurological, cognitive, emotional and social development;
- Effective care involves a mutually rewarding and affectionate relationship with the infant;
- Caregiver sensitivity and responsiveness involve observing infant cues, interpreting what these indicate, and acting consistently, contingently and effectively in response;
- Higher maternal sensitivity is associated with more secure infant to parent emotional attachment;
- Higher maternal responsivity is associated with higher infant cognitive ability and lower rates of behaviour problems in preschool children.

Agarwal et al, 1992; Murray and Cooper, 1996; Valenzuela, 1997; Posada et al, 1999; Richter et al, 2000 and 2004; Tomlinson et al, 2005; Eshel et al, 2006.

MATERNAL POSTNATAL CMD AND INFANT HEALTH AND DEVELOPMENT

In resource-constrained settings maternal postnatal depression has been linked directly to:

- higher rates of stunting in infants and toddlers,
- higher rates of diarrhoeal diseases, infectious illness and hospital admission,
- lower completion of recommended schedules of immunization, and
- poorer cognitive and social-emotional development among infants.

(Patel et al 2003; Rahman et al, 2003; 2004 and 2007; Tran et al 2013, 2014; Fisher et al 2015,)

SUMMARY AND CONCLUSIONS

- Perinatal common mental disorders are prevalent among women in resource-constrained settings;
- Few have access to any form of mental health care;
- Women with PCMD are less likely when all other factors are controlled to be participating fully in health care and health promoting practices;

SUMMARY AND CONCLUSIONS

Co-occur with:

- Macro- and micronutrient deficiencies;
- Socioeconomic disadvantage;
- Exposure to violence;

Are associated with:

- Lack of sensitive and responsive care
- Lack of cognitive stimulation

SUMMARY AND CONCLUSIONS

Infants of women with CMD are at risk for:

- Poorer growth and health;
- Compromised cognitive, social-emotional and motor development.

ADDRESSING MATERNAL MENTAL HEALTH IN RESOURCE-CONSTRAINED SETTINGS

- Mental health problems can be identified in women in resource-constrained settings;
- Women and infants are in touch with health services and integrated interventions are most likely to be acceptable and accessible;
- Care for the woman in her life context so that she can care for her very young children;
- Community development to promote awareness of these relationships and local solutions;