A pilot study to evaluate health visitor assessments of mother-infant interactions

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Research aim:

- To examine health visitor assessments of mother-infant interactions, in order to evaluate the processes by which health visitors identify problems around infant and maternal mental health.

Background

- Mother-infant bonding is a key factor in child health and well being.
- Early interventions to improve M-I relationships can be effective (Barlow and Svanberg, 2009).
- Evidence from neurobiological studies on brain development.
- Health visitors have contact with all new mothers.
- HVs well placed to detect problems in the development of the M-I relationship (NICE, 2006; DH, 2009) and mobilise support/intervention.

Objectives

- To examine the processes by which health visitors identify problems in mother-infant relationships in the post-natal period in relation to other measures.
- To determine the parameters by which health visitors arrive at judgments about mother-infant interactions.
- To explore which parameters are most important in determining the accuracy of health visitors' assessments of mother-infant interactions as determined by agreement with objective measures.

Design

- Two phase pilot study
- Ethics approval – SHSC (12/08), NRES (3/9)
- Study conducted in two sites
- Mothers recruited in PCT ‘A’
- Health visitors recruited from PCT ‘B’
- Research governance approval – ‘B’ (1/09) and ‘A’ (3/09)

Recruitment

Phase 1: Observation of mother-infant interactions & completion of self-report questionnaires

- HVs in PCT ‘A’ invited to distribute information pack about the project to all first time parents at NBV.
- 24 mothers and infants (6-8 weeks) to be recruited.
- Mothers who agreed – invited to Brookes Baby lab observation laboratory.

Data collection

Phase 1: Observation of mother-infant interactions & completion of self-report questionnaire

- Mum and baby welcomed to Baby lab.
- Written informed consent.
- Mother completed brief self-report questionnaires - HADs (Zigmond and Snaith, 1983) & MORS My Baby Scale (Oates and Gervai, 2003), demographic data and answered brief background questions.
- Mother interaction with baby videoed for 20 minutes i.e. care routines, feeding and play activities.

Data analysis

Phase 1: Video observation data M-I interactions

- 17 mothers and infants.
- Content of mother's speech – frequency of mother-led/child-led conversational topics (Harris, Jones & Grant, 1983)
- Mother-infant physical contact
- Rating of quality of the interaction, including maternal sensitivity and intrusiveness and infant engagement

(Murray et al, 1996)

Recruitment

Phase 2: Assessment of mother-infant interactions by health visitors.

- 12 health visitors recruited from Site B to take part
- HVs approached at a professional development workshop for team leaders.
- Team leaders distributed information sheets about this study to HV colleagues at their bases.
- HV asked to complete HV Reply Slips and return in SAE.

Data collection

Phase 2: Assessment of M-I interactions by HVs

- Health visitors attended the University.
- Written informed consent.
- HVs were asked to view and rate 9 short ‘3 minute’ clips from the filmed M-I interactions.
    - No concerns; all aspects of interaction are positive
    - Some concern; one aspect of the interaction is not positive
    - Serious concern; more than one aspect of interaction is not positive
- HVs provided with background information about each case.
- Post assessment interview with each HV to explore bases on which HVs are making their assessments
- Ranking of the 9 clips

Set up for HV interviews

Analysis on-going:

- We have conducted a detailed analysis of the video-recorded observational data.
- HV ratings of each M-I interaction are being compared with data derived from the analyses of the video-recorded M-I interactions and questionnaire data.
- Using statistical methods to examine the relationships between the various measures.
- Qualitative analysis of the interviews.

Time spent in health visiting practice:

Case	**Years in HV practice**
HV 31	29
HV 32	16
HV 33	15
HV 34	12
HV 35	4
HV 36	24
HV 37	24
HV 38	25
HV 39	22
HV 40	32
HV 41	7
HV 41	0

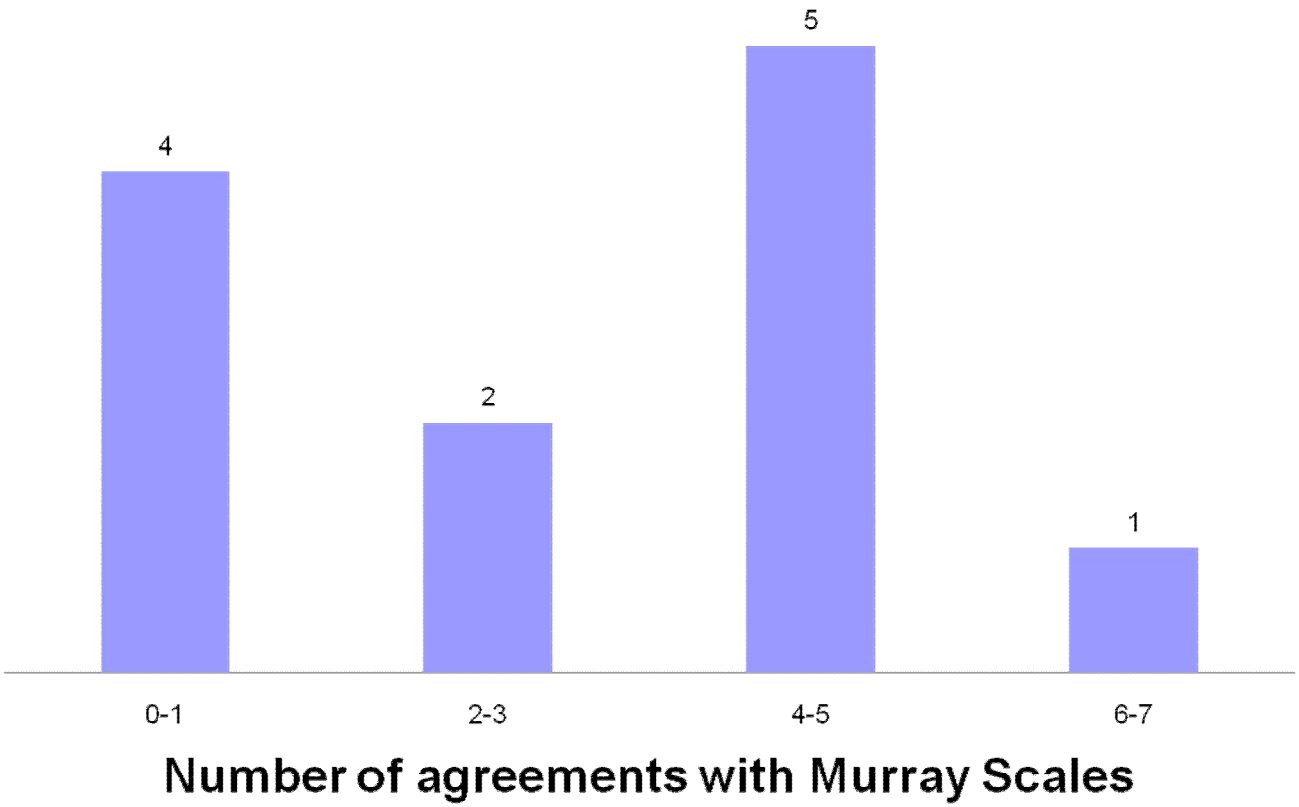
HV and Murray ratings

Mother	Health Visitor													
	HV31	HV32	HV33	HV34	HV35	HV36	HV37	HV38	HV39	HV40	HV41	HV42	Average	Murray
BT101	L	L	M	L	L	M	L	M	L	M	M	M	L/M	M
BT104	L	L	L	L	M	L	L	L	M	L	L	M	L/M	L
BT105	M/H	M	H	M	H	H	M	M	M/H	M	H	H	M/H	H
BT106	L	L	L	L	L	L	L	L	L	L	L	L	L	M
BT107	L	L	L	L	M	M	M	M	M	M	M	M	M	H
BT108	L	L	M	L	L	L	L	L	L	L	L	L	L	L
BT109	M	M	L	L	M	L	L	L	M	L	M	L	L/M	L
BT110	M	M	H	L	M	M	M	M	M	H	H	H	M/H	H
BT113	L	M	L	L	M	H	L	L	H	M	L	L	M/L	M

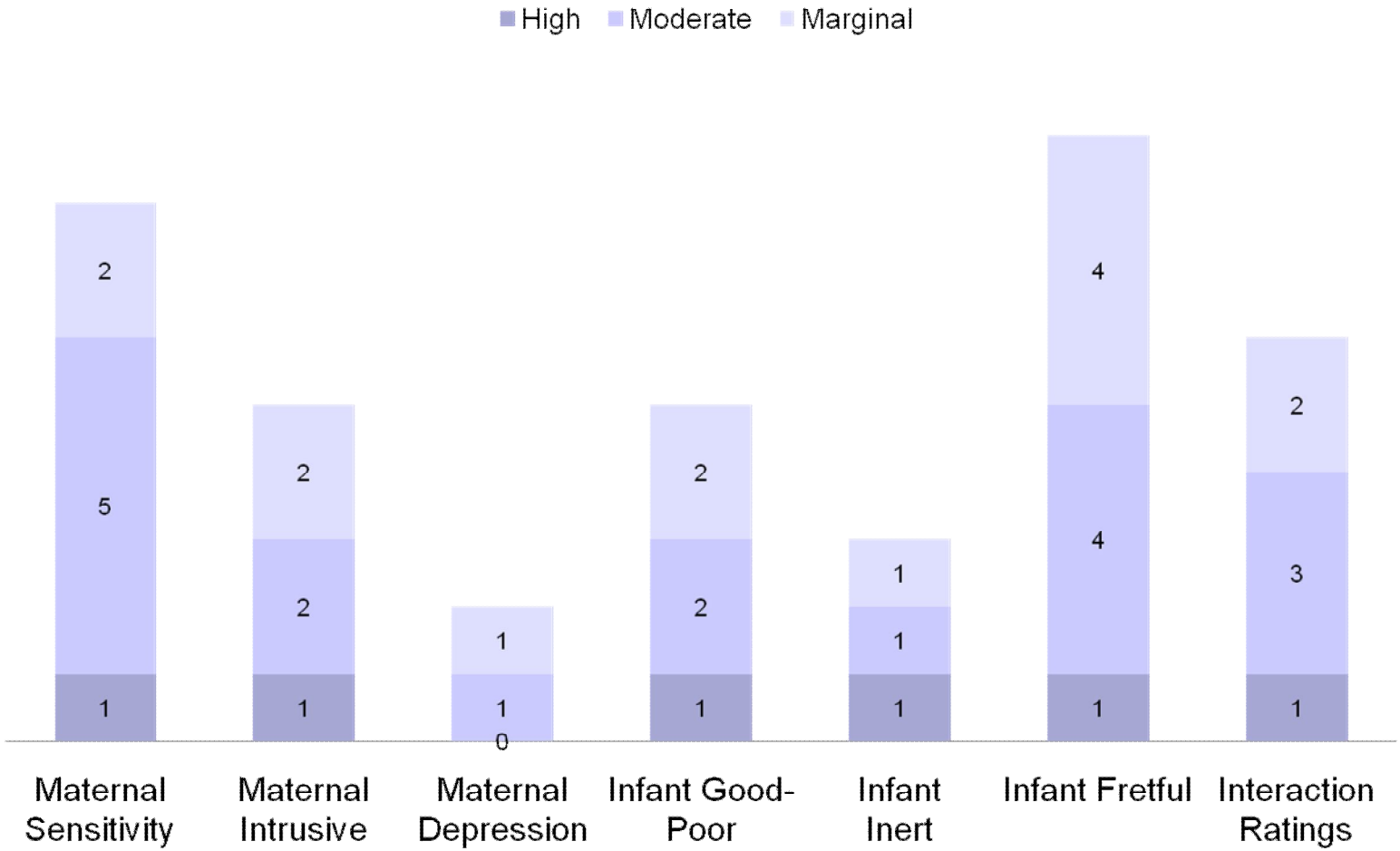
Murray Scales
(adapted from Murray et al. 1996)

- Mother ratings
  - Sensitivity (warmth, responsiveness, sensitivity)
  - Intrusion (intrusive behaviour and speech)
  - Sign of Depression (demeanour, posture)
- Infant ratings
  - Good-Poor (attention, communication)
  - Inert (engaged, lively)
  - Fretful (non-fretful)
- Interaction rating

Number of Health Visitors showing agreement with Murray Scales



Correlations between Health Visitor ratings and Murray Scales



Mother focus:

- HV33: “She was loving, she was caring, she was happy to sit there and just talk to her baby….”
- HV32: “She’s talking, lots of variation in the tone of her voice and she’s… pre-empting what she’s going to do.”
- HV39: “I just thought mum looked a little bit tired and emotional to start with…”

Baby focus:

- HV35: “That was a tired baby that wanted to go to sleep.”

Relationship focus:

- HV37: “So the interaction between the two was very nice, she responded when he made a sound, she made a similar sound back and talked throughout which was really pleasing to see.

- HV42: “So no sort of intimate connection between the two during that episode.”

- HV38: “She’s quite close to him, and he was vocalising beautifully, he was copying mum….I found myself smiling watching them so it came across as quite a positive, um, positive relationship.”

Health visitors' descriptions of the video clips as they relate to mother, baby and relationship factors :

- Mother focussed – 46% (50/108)
- Baby focussed – 1% (1/108)
- Relationship focussed – 53% (57/108)

Why is the study important?

- It will help to unpack the processes by which HVs currently identify problems in the M-I relationship.
- We intend to develop practice guidance for health visitors to use when making assessments of M-I relationships.
- It is intended that this research will lead to the production of training materials that will inform future HV/public health nurse training nationally.
- We intend this study to provide important ground work for further research in this area.

Thank you for listening.

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