

Similarities in ‘concepts’ between staff working in a NICU

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Background: In a complex environment such as the NICU, decision support aids need to take account of the optimal performance ability of decision-makers of varying types and levels of responsibility. Card sorting experiments were performed as part of the initial phase of a project, called NEONATE, with the aim to elicit these differences prior to developing decision support tools. They were performed using “patient descriptor” and “clinical action” words. **Methods:** 32 staff (8 each of senior and junior doctors and nurses) participated in the experiments. The card-sorts data were analysed using conventional cluster analysis to produce dendrograms. **Results:** The patterns that emerged were remarkably similar between the various groups of staff excepting junior doctors in “descriptor” sorts and junior nurses in “action” sorts. In the former there appeared to be little discernment in the elements of elimination, infant posture, tone and movement and sleep wake states. In the latter, junior nurses were unable to separate out the various components of assessment from delivery of care. More subtle differences in a group content were principally associated with refinement of a descriptor/action or perceived linkage between 2 or more features (table 1). **Conclusions:** The differences in practitioner experience as well as role and expected performance were demonstrated by these card sort experiments. How this affects infant outcome needs to be assessed and decision support aids developed accordingly.

Table 1 An example of “descriptor sorts”

Junior doctors sorts = 1	Junior nurses sorts = 4	Senior nurses sorts = 4	Senior doctors sorts = 5
Cry, abnormal neurological features, tone, sleep wake state & activity	Cry	Cry	Cry
	Tone	Abnormal neurological features & tone	Abnormal neurological features & tone
	Sleep/wake & expression & abnormal neurological features	Sleep/wake & expression	Sleep/wake
	All activity & abnormal neurological features	All activity	Abnormal activity
			Normal activity & facial expression

It is clear from the dendrograms that the various groups of staff within the NICU interpret and categorise data differently. The grouping of data appeared to be associated with particular professional practice. For example the actions related to artificial ventilation were, in general, grouped the same for senior and junior nurses; senior doctors had a similar group but omitted the management of the ventilator humidifier - this was grouped with issues of equipment safety. Like senior doctors, junior doctors similarly clustered actions related to artificial ventilation but in their minds, humidifier management and equipment safety were associated with routine nursing care. These variations in representation may correspond to differences in knowledge and or professional role and responsibilities.