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A comparative study to determine nursing staff attitudes towards daily allocation of quiet time before and after implementation

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Abstract A study was undertaken to establish nursing staff attitudes towards quiet time, both before and after implementation of a daily programme consisting of 2 h of quiet time a day on the Neonatal Intensive Care Unit (NICU). Quiet time was defined as a 2 h period of time each day where lights were dimmed and incubators covered, noise reduced, and routine procedures postponed. Questionnaires were given to all members of the nursing team, namely qualified nurses, midwives and nursery nurses, all with permanent positions on the NICU. Following the first data collection from initial questionnaires, the intervention of a daily allocation of 2 h of quiet time was implemented for 6 weeks. During the intervention staff were given letters, and posters were put up around the unit explaining the concept of quiet time and what measures staff should be employing during this time. Questionnaires were repeated following this intervention. The results were analysed using SPSS and found that some statements had differences in attitude prior to and following implementation. From anecdotal conversations it was found that staff were compliant with and welcomed implementing quiet time and that parents were interested in aiding the implementation.

Introduction

The ITU patient is exposed to a variety of stressors present in the environment, one of which being sensory overload (Gunnel and Helstrom, 1995; Appleton, 1997). It has long been recognised that the preterm infant is subjected to a hazardous environment (Wilcox, 1995; Blackburn, 1996; Jack, 2000; Aita and Snider, 2003; Levy et al., 2003). This environment encompasses continuous bright lights, loud unpredictable noise, and noxious tactile stimulation (Gunnel and Helstrom, 1995). Due to the nature of intensive care, the environment

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is technologically advanced, but with this provides excessive lighting and noise. Neonates are also subject to large amounts of handling both by carers and their families. The increasing technology has increased the number of intrusive procedures that have to be carried out regularly (Appleton, 1997). Appleton (1997) found that although parents contribute largely to the amount of handling an infant receives, this does not seem to cause the infant distress, unlike routine nursing and medical care. Pohlman and Beardslee (1987) noted that over 50% of contact for neonates was for intrusive nursing activities, bombarding infants with noxious stimuli. This adverse handling in addition to the noise and lighting can have detrimental effects on the developing neonate (Appleton, 1997; Khan, 2003). It is thought that excess light can cause distress, physiological instability and state change (Bowen et al., 1992). Noise contributes to changes in cerebral blood flow, physiological changes and sleep disturbances (Philbin, 2000; Levy et al., 2003). Strauch et al. (1993) demonstrated that noise disrupts sleep patterns essential to the infant for neurological development. The study undertaken by Levy et al. (2003) measured noise levels in different care level units. They used a between group design to measure noise levels in a number of level two and level three units. The results indicated that the higher level units, providing more critical care had higher noise levels. This was thought to be due to increased numbers of infants, but after statistical correction this was not proven. Conclusions from this American study indicate that the most fragile, vulnerable infants are experiencing damaging noise levels. Levy et al. (2003) suggest further research into the cause of increased noise in level three units, to allow measures to be introduced to reduce this damaging noise level.

Wilcox (1995) conducted a study comparing babies nursed in a standard environment with those nursed in a sensitive environment. Her findings, although the sample was too small for statistical significance, show a rise in heart rate, jerky movements and apnoea in infants at times of stress, and the stress response can be seen with sudden noise, light and handling. This indicates the need for further research into a sensitive environment for neonates.

It has been suggested by a number of authors that care should be clustered for the neonate, to allow a prolonged recovery period (Redman, 1994; Sparshott, 1997). Symon (1995) undertook a small scale study using video to monitor handling rates of preterm neonates. It was found that there was a discrepancy between staff perceptions of handling rates and actual handling rates. As the study was small, the results are tentative, but indicative of scope for further investigation.

Zahr and Balian (1995) undertook a study documenting the effects of routine procedures and noise on preterm infants in the NICU. The study looked at 55 infants in three university hospitals. The infants' physiological and behavioural responses were recorded at intervals during the day, as were nursing activities and noise events. The study showed that nursing interventions and noise resulted in significant changes in behavioural and physiological responses of infants. These responses indicate that nursing interventions should be scheduled individually and obtrusive interventions be limited. The authors indicate the need for further research to examine long-term outcomes of nursing interventions and noise levels in the NICU. As this study is American, and units are managed differently in the UK, it would be of benefit to replicate the study in the UK. This would allow the findings to be generalised to units in the UK.

The literature clearly implies that the environment can have detrimental effects on the developing neonate. Literature frequently discusses the concept of developmental care. Adequate rest periods are an essential component of this concept, allowing for deep and undisturbed sleep (Helen and Gavey, 2002). It has also been cited by many that nurses need to be aware of the environment and its potential for detrimental effects in the developing neonate (Appleton, 1997; Boxwell, 2000).

It has not been proven conclusively by research, but many authors suggest that infants receiving developmental care respond positively with physical, physiological and possible psychological markers (Blackburn, 1998; Helen and Gavey, 2002).

This study aimed to identify nursing staff attitudes to one aspect of the Neonatal Unit environment, namely quiet times, to identify any perceived benefits and problems they envisage. The goal of the study was to inform nursing education and the management of change to enhance evidence based practice, as Appleton (1997) highlights the lack of research data examining the effects of the environment on preterm infants in the UK. Appleton (1997) suggests that units in the UK are smaller and styled differently than those in the USA, where there is research data available, indicating a gap in existing research.

The particular area under investigation in this comparative study was nursing staff attitudes towards daily allocation of quiet time before and