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Developmental differences between pre-term and full-term 18 month olds

Brown, Diana

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ABSTRACT

As the medical world advances, there is an ever increasing survival rate of children that are born prematurely and of a low birth weight. For this reason more and more research is being done to investigate the consequences of being born pre-term and underweight. Research has shown that children who are born prematurely may show signs of developmental delay later on in life (Johnson, 2007). Motor development has been shown to be more affected by prematurity than any other causative factor of prematurity (Goyen and Lui, 2002).

The main aim of the study was to establish the differences in global development between pre-term and full-term infants at eighteen months.

The Bayley Scales of Infant Development II (BSID II) were used to determine performance in both the pre-term and the full-term group. These results were statistically analysed in greater detail in the mental and the motor section. The Mental and Psychomotor Developmental Indices (MDI and PDI) of the BSID II were used to determine the extent of the mental and motor delays in this sample.

The Household Economic and Social Status Index (HESSI) was used in order to ascertain if the socioeconomic status of a family had any bearing on the development of the child in both the mental and the motor categories. This was statistically analysed. The socio-economic factors assessed in this study did not show any statistical significance but did confirm that these children come from similar backgrounds.

The results of this study showed that there is a delay in the pre-term group when compared with the full-term group. The mean MDI for the full-term group was 105.25, this is compared with the pre-term group of 81.9, which is statistically significant ($p<0.001$). The PDI for the full-term group showed a mean score of 109.6. The mean score for the pre-term group was 86.8. This also showed a statistical significance ($p<0.001$).

The pre-term infants in this study showed a significant delay both in the mental and the motor domains. The cognitive delays may be linked to an under-developed corpus callosum due to the premature birth. The motor delays may be caused due to a decreased motor control and developmental dyspraxia.

Infants that are born prematurely are at a higher risk to suffer from developmental delays in the cognitive, language and the motor developmental domains. This study confirms what has been found in previous studies showing cognitive development to be the developmental domain most affected by prematurity. The results of this study are important as they support policy change to ensure that these children are followed-up to allow the at-risk children to reach their full potential.