

The VLBW infant are probably **the most vulnerable patients in our health care systems** due to that their brain and nervous system are in the most active phase of development and consequently they have a very immature autonomic and stress regulation. Under often very challenging circumstances, it is our obligation as caregivers to provide the best conditions as possible for these systems to develop properly.

In addition we also have to support the processes of bonding and attachment between parents and infant – processes that are so crucial for the long-term health and development of the child.

In a Global perspective the neonatal mortality of VLBW infants in Low Income Countries is shockingly high, in many areas over 50%. For survivors - even in High Income Countries - there are worrying reports on long-term effects of extreme prematurity but please **do not despair**. On Saturday's workshop we heard of strong indications that developmental interventions such as immediate SSC could significantly increase survival and today we will hear about

developmentally supportive care interventions both during the hospital period as well as after hospital discharge that improve longterm development for survivors.

During the first minutes to first weeks of life of a VLBW infant, developmentally supportive care focus very much on supporting the regulation of the vital functions of the infant such as heart rate and respiratory rate, circulation and body temperature.

Parallel to supportive actions to maintain autonomic stability, the objective of developmentally supportive care is to create conditions under which the brain continuously can mature: create and maintain adequate neuronal connections, express or suppress adequate parts of the genome by epigenetic mechanisms and consequently develop means for more complicated human functions such as stress regulation and ability of social interaction.

The key concept of all effective interventions are to support and enhance the ability to read and understand the behaviour of the immature infant and consequently form a foundation for attuned and sensitive interactions with the parents or other caregivers where the adult continuously adjusts his/her interactions to the infant's changing needs for support. If the degree and intensity of the support and stimulation such as social interactions or proposed activities are well attuned to the infant's physiological status and neurobehavioral competence, it enhances the child's information processing and abilities to explore and adequately interact with the world around him.

The basis of developmentally supportive care interventions is the recognition that the newborn infant is a human being in his or her own right, and letting the careproviders be guided by the current needs of the individual infant and family. On the individual level, care and intervention based on the infant's own behaviour makes sense from a biological and ethical point of view but, as we will hear today,

there are also significant economic savings to be made for the society as a whole by developmentally supportive care.