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Nutritional pharmacology of Taurine in pediatric nursing and healthcare

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There is no dietary requirement for taurine, since the body can make it out of vitamin B6 and the amino acids methionine and cysteine. Taurine found in high concentration levels in various tissues of humans, including in the nervous system and muscles, taurine is one of the most abundant amino acid derivatives in the body. It is thought to help regulate heartbeat, maintain cell membranes, and affect the release of neurotransmitters (chemicals that carry signals between nerve cells) in the brain. Deficiencies occasionally occur in vegetarians, whose diets may not provide the building blocks for making taurine, one of the building blocks of proteins. Taurine conjugates with bile acids to form bile salts that are needed for fatty acid absorption. Although glycine can also conjugate with bile acids, taurine conjugates predominate in human milk fed preterm infants during early infancy. Taurine insufficiency is associated with impaired bile acid secretion, reduced absorption of fat and fat-soluble vitamins (particularly vitamin D), abnormal hepatic function, and hepatic cholestasis associated with prolonged administration of parenteral nutrition in preterm infants. Evidence exists that taurine has important roles in intestinal fat absorption, hepatic function, and auditory and visual development in preterm or low birth weight infants. Observational data suggest that relative taurine deficiency during the neonatal period is associated with adverse long-term neurodevelopmental outcomes in preterm infants. Taurine is also reported to improve maturation of ABER in pre-term infants and has a role in osmoregulation of CNS and may act as neuroinhibitor. Taurine is the most abundant free amino acid in breast milk in the human. Indeed, it is reported that the cows' milk samples were relatively low in taurine compared to the breast milk samples of human. Also it suggested that taurine plays an important role in learning. Therefore, we suggest that taurine supplementation for preterm or low birth weight infants on growth and development should be taken in considerations.

Biography

Nasim Al-Sebai is a pediatric surgeon, anatomist, researcher and lecturer and has graduated from Faculty of Medicine - Aleppo University. He has done the Pediatric Surgery Residency Training in Syria from Aleppo University Hospital - Faculty of Medicine where she got the Master degree in Surgery - Pediatric Surgery, and this followed by Master of Science degree in Human Anatomy from the Anatomy Department - Aleppo University. He is currently working as an Anatomy lecturer in the College of Medical & Health Sciences in Emirates College of Technology, Abu Dhabi. He has worked in UAE over the last years in both clinical and faculty positions. He is actively involved in clinical research and academic publications.

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