



"Fight or Flight" in Hospital

(Illness Related) Stress and its Effects on Learning

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Introduction:

Equipped with a stress-response-system which favoured the survival of the fittest during the Stone Age, human beings are ill prepared for the stressors of today (noise, pollution, time pressure, demanding brain tasks, high expectations in schools and at work, violence...). These stressors trigger stress reactions which can – if too often done – lead to an allostatic overload (McEwen, 2007) or chronic stress (also known as distress). Its consequences are medical conditions such as depression, burnout, indigestion, diabetes, cancer, allergies, cardio-vascular disease and autoimmune illnesses.

Issue:

Landolt et al. (2004) found out that 15 – 20% of all children who had been in hospital because of a traffic accident showed symptoms of a posttraumatic stress disorder. Children in hospital are stressed just by the fact of being in hospital. Treatments can be experienced as mistreatments, even as violence, against body and soul. If chronically ill from very early in life, children are often traumatised.

Early exposure to distress (which can already start in mother's womb) triggers an altered brain development. Most affected are the limbic system, the prefrontal cortex, the hippocampus and the corpus callosum.

Distress can affect learning throughout a person's lifespan. A too high level of acetylcholine and cortisone during sleep prevent us from reaching the delta sleep, during which the hippocampus shifts its contents (what we have memorised and experienced during the day) into the neocortex (long term memory) (Born & Kraft, 2004).

Furthermore, stress hormones can cause a mental blank in an exam situation.

Stress has an inverted U-shaped effect on learning: Too much, or too little, stress hinders learning.

Consequences:

Knowing these facts, we have to consider how we approach the chronically ill children as hospital teachers. "Safe (needle free) areas" and time spans for stress free learning and playing sessions are crucial. Hospital teachers have to be reliable, attentive, supporting and positive in order to enable the child to "dive" into activities which enhance the self efficacy belief (Bandura, 1997) and allow a "flow" (Csikszentmihályi) or a "polarisation of attention" (Montessori), therefore activities, which are chosen out of intrinsic motivation and are leading to a so called "shower of dopamine".

Conclusion: Chronic stress makes people stupid, depressive, obese and ill. Our task as a multi-disciplinary team around the chronically ill child and especially as hospital teachers is - if possible - to avoid or at least reduce stress and to support a development as healthy as possible.