



Strong children and adolescents: healthy nation! *About Early Life Stress and Prevention*

The 2019 Rotterdam EUSUHM Declaration on youth health care in Europe

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We, the representatives of the member organisations of the European Union for School and University Health and Medicine (EUSUHM), participating in the 20th European Congress of EUSUHM, entitled ‘Changing contexts: influencing youth and their surroundings’ in Rotterdam, Netherlands, from 11–13 September 2019, recognize that: To prevent physical and mental illnesses later in life, Youth Health Care (YHC) is committed to detecting and reducing chronic stress during childhood development, referred to as Early Life Stress.

Stress is necessary, chronic stress is harmful

Stress is a necessary response to a challenge or a threat (stressor) that could disturb our internal balance. In that way, stress is functional and even a necessity for the growth and development of children and adolescents. Stress is the ‘Spice of Life’, as Selye wrote already 70 years ago [1]. However, if the stress system is activated repeatedly and never gets the chance to settle, chronic stress will arise. Chronic stress is a prolonged and/or high degree of severe stress that has a serious impact on a person’s physical and psychological health throughout his or her life [2–4]. This impact is reflected in the high prevalence of physical and mental illnesses during a person’s lifetime such as the increasing number of medically unexplained somatic symptoms, suicides, addictions and child abuse and thereby increased healthcare and social costs [5].

The authors have written this article in their role as representatives of the members of EUSUHM.

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Early Life Stress

Chronic stress during growing up is also called Early Life Stress (ELS). The relationship between ELS and negative health outcomes is explained by the significant impact of ELS on the development of the neurophysiological stress networks. The impact of this occurs at a cellular level (epigenetics), which partly explains the transgenerational transfer [6, 7]. It is a biomedical explanation for the relationship between adverse life exposure whilst growing up and the long-term risk of complex diseases and poor health including transgenerational transmission. Due to the rapid growth and development of the child’s brain during the early years (The ‘first thousand days’: from conception until the age of two) and during adolescence, these periods are recognized as the most sensitive to chronic stress affecting the brain [8].

Youth Health Care and Early Life Stress

Recent research shows that adverse life exposures such as poor feeding and poverty [9], child abuse and neglect [10], physical and mental illnesses in parents, school absenteeism and bullying [11, 12], (summarised as stressful parenting situations and environmental stress) are recognized as factors related to ELS [13–15]. Moreover, digitization, social media and performance pressure are becoming more important stressors for adolescents [16].

The impact of ELS is not only determined by the child’s developmental phase, but also by

1. The stressor itself through its severity, frequency, original source and underlying mechanism [17, 18].
2. The social environment through its sensitivity and responsiveness, and the mentalizing capacity of parents and caretakers [19–21].
3. The child’s resilience [22–28].



Influencing these factors in order to prevent and reduce (the negative effects of) ELS is a challenge to YHC. As recognized by Frederick Douglass in 1885: 'It is easier to build strong children than to repair broken men'. This statement certainly applies to the effects of ELS on the health and well-being of our future generations.

Statement 1: YHC is committed to early identify ELS

ELS and its consequences can be prevented by influencing the severity, frequency, original source and underlying mechanism of the stressor [17, 18]. Therefore, YHC is committed to identifying stressful parenting and upbringing situations and the environmental stressors as early as possible, especially during the two most-sensitive periods: the first thousand days and adolescence. Therefore, YHC should be involved early in the care of the unborn child, through cooperating with all health care providers involved in pregnancy and childbirth, including general practitioners, obstetricians, maternity care and gynaecologists. Care for pregnant women should include medical care for the mother and child as well as determining and analysing factors that cause or have already caused stress for parents. Furthermore, the transfer from obstetric care to youth health care for the child and parents should be optimized. In adolescence, YHC should collaborate closely with schools in the prevention and early identification of new stressors, such as absenteeism, bullying, digitization, social media and performance pressure, and in delivering effective interventions.

Statement 2: YHC is committed to preventing ELS by promoting the mentalizing capability of parents

Mentalizing is the ability to 'tune in' to the thoughts and feelings of another and is vital for the development of effective and secure parent-child relationships [29]. With regard to parents, mentalizing translates as understanding their child's behavior and responding accordingly. Being able to mentalize is a key factor in preventing children from becoming subjected to chronic stress [19]. The extent to which parents are able to master mentalization is crucially influenced by their own experiences in early childhood. Deficiencies in this area create a cycle of transgenerational transfer of insecure attachment and chronic stress, intervention in this process is critical [20, 21]. This is the responsibility not only of parents and caretakers, but of society as a whole. Therefore, YHC is committed to focusing attention on the quality of parenting and specifically the mentalizing capability of parents and where needed, to utilise effective methods of parental support.

Statement 3: YHC is committed to promoting resilience

Mental resilience is the ability to maintain or regain mental health in the face of serious difficulties. Resilient people can effectively deal with stress, preventing stress from becoming chronic and damaging to health [30]. Mental resilience is created by teaching children and young people to cope with the challenges of daily life (such as failure and performance stress) and by teaching them to understand emotions and related physical complaints. Therefore, YHC should contribute to making our future generations sufficiently resilient by using effective methods to boost resilience, that are appropriate and available in the child's own environment.

Statement 4: YHC is committed to putting ELS on the national agenda of all European countries

Because ELS has an individual and population-based effect on child development and health, it is imperative that it becomes a priority target. It is crucially important to investigate how ELS can be identified early, how best to protect the population from the effects of ELS and what are the optimal interventions. YHC is committed to putting ELS on the political and scientific agenda of European countries.

Member organisations of the European Union for School and University Health and Medicine (EU-SUHM) (September 2019) are:

- Association of Youth Health Care Doctors Netherlands; www.ajnjeugdartsen.nl
- Association of Dutch Youth Health Care nurses Netherlands; <https://mgz.venvn.nl/Vakgroepen/Jeugdverpleegkundigen>
- Croatian Society for School and University Medicine; www.hlz.hr
- Federal Association of Physicians of German Public Health Departments; www.bvoegd.de
- Finnish Association of School and Adolescent Medicine SKOOPPI; www.skooppi.fi
- Finnish student health service, FSHS; www.ythhs.fi
- Flemish Scientific Society for Youth Health Care; www.vwvj.be
- Foundation for School Healthcare in Tallinn, Estonia; www.kth.ee
- József Fodor Society of School Health, Hungary; www.fjit.hu
- Medical Officers of Schools Association, United Kingdom; www.mosa.org.uk
- Russian Society for School and University Health and Medicine; www.roshumz.com
- Slovenian Society for School and University Medicine; www.szd.si/sekcije/pediatrija/ssam
- Society of School Physicians of Austria; www.schulaerzte.at

- Swiss Association of Specialists in School Medical Service; www.scolarmed.ch/index.php/de

References

1. Selye H. *Stress without distress*. New York: Signet; 1975.
2. Shonkoff JP, Garner AS, Committee on Psychosocial Aspects of Child and Family Health, & Committee on Early Childhood, Adoption, and Dependent Care. The lifelong effects of early childhood adversity and toxic stress. *Pediatrics*. 2012;129:e232–46.
3. McEwen BS. Redefining neuroendocrinology: epigenetics of brain-body communication over the life course. *Front Neuroendocrinol*. 2018;4:8–30.
4. National Scientific Council on the Developing Child. Excessive stress disrupts the architecture of the developing brain. Working Paper 3. 2014.
5. Middlebrooks JS, Audage NC. The effects of childhood stress on health across the lifespan. Atlanta: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control; 2008.
6. McEwen BS. Central role of the brain in stress and adaptation: allostasis, biological embedding, and cumulative change. In: Fink G, editor. *Stress: concepts, cognition, emotion, and behavior*. Handbook of stress vol. 1. Amsterdam: Academic Press; 2017.
7. Shalev I, Moffit TE, Sugden K, Williams B, Houts RM, Danese A, et al. Exposure to violence during childhood is associated with telomere erosion from 5 to 10 years of age: longitudinal study. *Mol Psychiatry*. 2013;18:576–81.
8. Britto PR, Lye SJ, Proulx K, Yousafza AK, Matthews SG, Vaivada T. The early childhood development interventions review group, for the lancet early childhood development series steering committee. Nurturing care: promoting early childhood development. *Lancet*. 2017;389:91–102.
9. Roseboom T. *De eerste 100 dagen*. Utrecht: De Tijdstroom; 2018.
10. Shonkoff JP, Garner AS. Committee on psychosocial aspects of child and family health, committee on early childhood, adoption, and dependent care. The lifelong effects of early childhood adversity and toxic stress. *Pediatrics*. 2012;129:e232–46.
11. Smyth E. Pupil performance, absenteeism and school dropout: a multi-dimensional analysis. *Sch Eff Sch Improv*. 1999;10:480–502.
12. Morrow AS, Villodas MT. Direct and indirect pathways from adverse childhood experiences to high school dropout among high-risk adolescents. *J Res Adolesc*. 2018;28:327–41.
13. Pasco Fearon RM, Groh AM, Bakermans-Kranenburg MJ, van IJzendoorn MH, Roisman GI. Attachment and developmental psychopathology. In: Cicchetti D, editor. *Developmental Psychology*. New York: Wiley; 2016. pp. 325–85.
14. Kok R, Thijssen S, Bakermans-Kranenburg MJ, Jaddoe VWV, Verhulst FC, White T, et al. Normal variation in early parental sensitivity predicts child structural brain development. *J Am Acad Child Adolesc Psychiatry*. 2015;54:824–31.
15. Turecki G, Meaney MJ. Effects of the social environment and stress on glucocorticoid receptor gene methylation: a systematic review. *Biol Psychiatry*. 2016;79(2):87–96.
16. Stevens G, van Dorsselaer S, Boer M, de Roos S, Duinhof E, ter Bogt T, et al. *HBSC 2017: gezondheid en welzijn van jongeren in Nederland*. Utrecht: Universiteit Utrecht; 2018.
17. Kavanaugh B, Holler K, Selke G. A neuropsychological profile of childhood maltreatment within an adolescent inpatient sample. *Appl Neuropsychol Child*. 2015;4(1):9–19.
18. De Bellis MD, Zisk A. The biological effects of childhood trauma. *Child Adolesc Psychiatr Clin N Am*. 2014;23(2):185–222.
19. Gunnar MR, Brodersen L, Nachmias M, Buss K, Rigatuso J. Stress reactivity and attachment security. *Dev Psychobiol*. 1996;29(3):191–204.
20. Zeegers MAJ, Colonesi C, Stams GJM, Meins E. Mind matters: a meta-analysis on parental mentalization and sensitivity as predictors of infant-parent attachment. *Psychol Bull*. 2017;143(12):1245–72.
21. Zeegers MAJ, de Vente W, Nikolić M, Majdandžić M, Bögels SM, Colonesi C. Mothers' and fathers' mind-mindedness influences physiological emotion regulation of infants across the first year of life. *Dev Sci*. 2018;21(6):e12689.
22. van IJzendoorn MH. *Opvoeding over de grens. Gehechtheid, trauma en veerkracht*. Meppel: Boom; 2008.
23. Alvord MK, Grados JJ. Enhancing resilience in children: a proactive approach. *Prof Psychol*. 2005;36(3):238–45.
24. Arslan G. Psychological maltreatment, emotional and behavioral problems in adolescents: the mediating role of resilience and self-esteem. *Child Abuse Negl*. 2016;52:200–9.
25. Dumont M, Provost MA. Resilience in adolescents: protective role of social support, coping strategies, self-esteem, and social activities on experience of stress and depression. *J Youth Adolesc*. 1999;28(3):343–63.
26. Luthar SS. Resilience at an early age and its impact on child psychosocial development. In: Masten AS, Tremblay RE, Barr RG, Peters R, editors. *Encyclopedia on early childhood development*. 2nd ed. Montreal: Centre of Excellence for Early Childhood Development; 2013. pp. 1–5.
27. Luthar SS, Crossman EJ, Small PJ. Resilience and adversity. In: Lerner RM, Lamb ME, editors. *Handbook of child psychology and developmental science*. 7th ed. New York: Wiley; 2015. pp. 247–86.
28. Tiet QQ, Bird HR, Davies M, Hoven C, Cohen P, Jensen PS, et al. Adverse life events and resilience. *J Am Acad Child Adolesc Psychiatry*. 1998;37(11):1191–200.
29. Fonagy P, Gergely G, Jurist EL, Target M. *Affect regulation, mentalization and the development of the self*. New York: Other Press; 2002.
30. Center on the Developing Child at Harvard University. *From best practices to breakthrough impacts: a science-based approach to building a more promising future for young children and families*. Cambridge: Center on the Developing Child; 2016.