



محیط روانی عاطفی زندگی کودک و ایمونیتہ و بیماری عفونی

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دانشیار کودکان

- WASHINGTON (Reuters) - **Children in families facing chronic stress such as conflict between parents or violence in the home become sick more often than children under less stress**, according to a study published on Monday

Psychoneuroimmunology

- به بزرگسالان خود احترام کنید و نسبت به کودکان خویش ترحم و عطفیت نمایشید.
- کسی که به کودکان ما رحمت و محبت نکند و بزرگسالان را احترام ننماید، از ما نیست
- کودکان خود را به سبب گریه‌شان کتک نزنید.
- کودک هفت سال بازی می‌کند و....
- خداوند دوست دارد که میان فرزندانان عادلانه رفتار کنید، حتی در بوسیدن آنها
- هر کس فرزند خویش را شادمان کند، خداوند نیز در روز قیامت وی را شادمان می‌کند
- حق فرزند تو این است... در سرپرستی وی مسؤولیت داری که ادب او را نیکو کنی و به سوی پروردگارش رهنمون‌سازی و در فرمانبرداری از او، نسبت به وظایف تو و خودش، یاری‌اش دهی.
- هرگاه پدري با نگاه (مودت‌آمیز) خود فرزند خویش را مسرور کند، خداوند به او اجر آزاد کردن یک بنده را می‌دهد

- کسی که دختر بچه خود را شادمان کند مانند کسی است که بندهای را از فرزندان (حضرت) اسماعیل، آزاد کرده باشد، و آن کس که پسر بچه خود را مسرور و دیده او را روشن کند مانند کسی است که از خوف خدا گریسته باشد
- آن کس که نزد او کودکی است باید (در پرورش وی) کودکانه رفتار نماید.
- شایسته نیست آدمی به جد یا به شوخی دروغ بگوید و شایسته نیست کسی به فرزند خود وعده‌ای بدهد و به آن وفا ننماید.
- باصدای گریه شیرخوار در نماز دو رکعت آخر را بسرعت تمام کردند و در پاسخ سوال نماز گزاران از چرایی فرمودند: مگر صدای شیون و استغاثه کودک را نشنیدید.
- پنج چیز است که آنها را تا لحظه مرگ ترک نمی‌کنم؛ یکی از آنها سلام به کودکان است. «

• حضرت موسی(ع) به خدا عرض کرد: خدایا! برترین اعمال نزد تو کدام است؟ فرمود:
دوست داشتن کودکان؛ زیرا من آنها را بر فطرت توحیدی خویش آفریده ام و اگر آنها را
بمیرانم، به رحمت خود به بهشت وارد می کنم.»

• «أَكْرِمُوا أَوْلَادَكُمْ وَ أَحْسِنُوا آدَابَهُمْ يُغْفَرْ لَكُمْ؛ فرزندان خود را احترام کنید و آدابشان را
نیکو بگذارید که از رحمت الهی برخوردار شوید

• خداوند برای هیچ چیز به قدر تجاوز به حقوق زنان و کودکان غضب نمی کند

پیامبر ص فرمودند

- در پیشگاه خداوند تعالی نشستن مرد در کنار همسر خود از اعتکاف در این مسجد من محبوبتر است
- خدمت به خانواده را تنها کار انسان صدیق یا شهید یا مردی که خداوند خیر دنیا و آخرت را به او برساند می شمارد
- مردی که لقمه در دهان همسر خود می گذارد دارای اجر و ثواب است
- بهترین شما کسی است که نسبت به همسرش بیشتر نیکی کند و من بهترین شما نسبت به همسرم هستم
- کامل ترین ایمان از آن مومنی است که خوش خلق ترین مومن است و به خانواده اش از همه مهربانتر است
- مردی که بر بد اخلاقی همسرش شکیبایی کند خداوند پاداشی همچون پاداش ایوب که بر بلا شکیبای بود خواهد داد

Psychoneuroimmunology

Psychoneuroimmunology

- is the field that studies how psychological factors such as **stress influence the immune system and immune functioning.**
- It has been repeatedly demonstrated that **many kinds of stressors are associated with poor or weakened immune functioning** (Glaser & Kiecolt-Glaser, 2005; Kiecolt-Glaser, McGuire, Robles, & Glaser, 2002; Segerstrom & Miller, 2004).

stress weakens the immune system, people with high stress levels should be more likely to develop an illness compared to those under little stress.

- there is a tangible **physiological connection between the brain and the immune system.** محسوس
- For example, **the sympathetic nervous system innervates immune organs such as the thymus, bone marrow, spleen, and even lymph nodes**
- **One way they do this is by inhibiting the production of lymphocytes,** white blood cells that circulate in the body's fluids that are important **in the immune response** (Everly & Lating, 2002).

- Stress is the body's reaction to a condition such as physical and psychological threats or challenges.
- In humans, **the autonomic nervous system and the hypothalamic-pituitary-adrenal (HPA) axis are the two major systems that respond to stress** ([2](#)).
- Stressed patients have been found to have **consistent behavioral abnormalities (e.g., depressed mood and impaired sleep), along with neuroendocrine and sympathetic nervous system (SNS) dysregulations**

- In different studies, **depressed patients displayed elevated levels of central corticotropin-releasing hormone (CRH) in the central nervous system**, and this neuropeptide is involved in the integration of different types of stress response:
 - behavioral,
 - neural,
 - neuroendocrine and
 - **immune.**
- **High levels of CRH induce strong declines in innate and cellular immune responses and were related to changes in peripheral immunity**

- **stress slows down wound healing by impairing immune responses important to wound repair (Glaser & Kiecolt-Glaser, 2005).**

- **. The Central Nervous System (CNS) has a reciprocal relationship with the immune and endocrine systems, making them vulnerable to fluctuations in stress levels.**

How Stress Acts on the Immune System: The Endocrine Route

- Stress triggers the sympathetic nervous system to release hormones as a survival instinct. These hormones are produced by **the sympathetic-adrenal-medullary (SAM) axis and the hypothalamic-pituitary-adrenal (HPA) axis. The HPA axis is modulated by cytokines and feedback to the brain.**
- The SAM axis stimulates the release of **Epinephrine (Adrenaline) and Norepinephrine (Noradrenaline) as an immediate response to stress.** These hormones are catecholamines that work in tandem to produce the symptoms colloquially known as the 'fight or flight' response. **Norepinephrine is the main neurotransmitter for the sympathetic nervous system while Epinephrine is released from the adrenal glands situated above the kidneys.**

- **Epinephrine produces metabolic changes such as raised heart rate, blood pressure, and raised blood sugar levels.**
- **. Norepinephrine is typically responsible for cardiac tone and is active even during sleep**
- **However, when levels of Norepinephrine increase due to stress, it activates a response from the HPA axis.**

- The hypothalamus releases corticotrophin-releasing hormone (CRH), which induces the pituitary gland to release adrenocorticotrophic hormone (ACTH).
- **This hormone binds to the adrenal glands, causing the secretion of Cortisol and other glucocorticoids.**
- **Cortisol increases blood sugar levels and diverts the glucose to the muscles by suppressing systems deemed less important in the present situation; this includes the immune system.**

- **Immune System Suppression and Health Consequences**
- **Hormones alter the function of the immune system by directly binding to immune cell receptors or affecting brain chemistry through the negative feedback of cytokines.**
- This can **affect appetite and sleep**, producing more serious health effects such as **a reduced immune response to disease**. These immune consequences have been chronicled through multiple studies.

- Stressed groups demonstrated a **reduction in antibody and virus-specific T-cell responses.**
- **individuals under stress are not only at a higher risk of poor immune responses to infection but also to vaccinations.**
- **During these periods, individuals are at risk of poor immune responses to infections, wound recovery, and reduced immunity conferred from vaccinations.** In addition to this, the production of pro-inflammatory cytokines is increased, posing a tissue damage threat resulting from prolonged inflammation

Biological and behavioral mediators of the relationship between stress and immunity

- How does stress get “under the skin” to influence immunity?
- **Immune cells have receptors for neurotransmitters and hormones such as norepinephrine, epinephrine, and cortisol, which mobilize and traffic immune cells, ideally preparing the body to mount an immune response if needed [25].**
- Recent evidence shows that **immunological cells (e.g., lymphocytes) change their responsiveness to signaling from these neurotransmitters and hormones during stress [26].**
- However, immunological responses are biologically and energetically costly, and over time, **chronic stress produces negative systemic changes both in immune trafficking and in target tissues**

- The linkages between stress and immunity may be mediated by specific health behaviors, psychosocial factors, or both.
- For instance, **stress has been linked to being in troubled relationships, having negative or competitive social interactions, and feeling lonely,** which have each in turn been linked to increases in pro-inflammatory responses to stress [27-29].
- Other potential mediators, like getting good sleep, are increasingly being recognized as important pieces of the stress-immunity puzzle [30].
- **Even one night of total sleep deprivation was recently found to significantly increase neutrophil counts and decrease neutrophil function in healthy men** [31].

- **Psychological stress is known to affect immune function and to predict infectious disease susceptibility**
- **High sympathetic responders showed stress-induced increases in cytotoxic T cells numbers and a diminished mitogenic response to PHA, whereas low sympathetic reactors showed no stress-related change in immunity**
- **cortisol is associated with longer-term down regulation of cellular immune function [18], which may render biologically reactive individuals more susceptible to immune-mediated disease.**

Mechanisms involved in brain functioning and immune response

- **. The brain and the immune system** change, in different forms, functionally relevant messages, the main function being homeostasis. **These two systems communicate through complex chemical messengers** that can leave their specific anatomical locations
- Several substances in the category of chemical messengers [small molecules, such as **nitric oxide** or neuroendocrine peptides, such as **corticotrophin-releasing hormone (CRH)**; large proteins, including **cytokines and growth factors** with the respective receptors] also correlate these two systems

- **Two important pathways correlate the brain and the immune system:**
- **The [autonomic nervous system \(ANS\)](#)** through the direct neuronal circuits and the neuroendocrine pathway through the pituitary gland. ANS is mostly autonomous because its activities are not under direct conscious control.
- **ANS works by three components: the [sympathetic \(noradrenergic\) and parasympathetic \(cholinergic\) systems](#), which originate in the central nervous system (CNS) (cell bodies in the brainstem and spinal cord), and the enteric system, which is located in the wall of [the gastrointestinal tract \(9\)](#).**

- Studies underlined the role of inflammation in depression and have shown the **existence of neural connections with lymphoid tissue** . There are **lymphocyte receptors for various neurotransmitters in addition to acetylcholine and norepinephrine**. The area where, at the parasympathetic level, acetylcholine modulates several immune reactions through **the vagus nerve, the sympathetic nervous system can intervene in the T helper 1 and T helper 2 (TH1/TH2 which express different cytokine patterns) balance by stimulating the β -adrenergic receptor, for example** .

- **Chronic stress** has a ripple effect on the health of an individual.
- Stress diverts the metabolic resources of the body towards facing the source and repressing less immediate bodily functions.
- The **immune system is directly disrupted** by the endocrine response to stress.
- اثر شبیه موج ودامنه دار

- but **chronic, systemic** inflammation represents dysregulation of the immune system and **increases risk for chronic diseases, including atherosclerosis and frailty [4].**
- **Another consequence of chronic stress is activation of latent viruses.**
- **Latent virus activation can reflect the loss of immunological control over the virus, and frequent activation can cause wear-and-tear on the immune system [5].**

- Interestingly, these responses may not be the same for everyone. Those who have **experienced early adversity, for example, may be more likely to exhibit exaggerated immune reactions to stress** [6, 7]. Currently, the field is moving toward a greater understanding of who might be most at risk for chronic inflammation and other forms of immunological dysregulation, and why. This question is important not only for health, but also for longevity, as evidence suggests that the **immunological effects of chronic stress can advance cellular aging and shorten telomere length** [8].

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- **]. Chronic stress has been shown to enhance risk for developing autoimmune disease** [e.g., 43]. Individuals with autoimmune disease also appear to have difficulty down-regulating their immune responses after exposure to stressors. In MS, neuropeptides secreted under stress (e.g., corticotropin-releasing hormone) activate glial cells in the brain to release inflammatory molecules that result in brain inflammation and worsen MS pathology [44]. Similar immune activation and symptom exacerbation is evidenced in those with other autoimmune diseases [40]. Currently, possible mechanisms by which autoimmune diseases alter individual responses to stress are being explored. This knowledge may lead to interventions that decrease stress-induced immune responses and improve outcomes in autoimmune diseases.

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Conclusions and future directions

- Research on the immunological effects of stress has burgeoned over the past decade following Segerstrom and Miller's meta-analysis [1]. This research has explored new avenues, including the areas reviewed here, that show particular promise for illuminating the conditions under which stress impacts the immune system. Research on stressors occurring early (i.e., childhood and adolescence) and late (i.e., aging) in the lifespan have suggested that individuals exposed to **chronic stressors (e.g., abuse, caregiving) can exhibit immune dysregulation that may be persistent and severe.** Stressor qualities (e.g., type, timing) as well as individual characteristics that make individuals more or less susceptible to these effects are targets for future work.

Early life stress

- **Stress that occurs early in development (e.g., maltreatment, poverty, and other adverse experiences) has immunological consequences that can be observed both in the near and long term after the stressor occurs.**
- **Early life stress (ELS)** in children associates with immunological dysregulation, including **low basal levels of cytokines that control immune responses** [10].
- When immune cells were stimulated in vitro (e.g., with tetanus toxoid), those cells from children who experienced ELS produced **more pro-inflammatory cytokines** [10].

- Whereas much of the extant research focuses ON **maltreatment** or **poverty**, a recent study into the effects of a less-studied adversity, **bullying**, also suggests that **chronic peer victimization** predicts a steeper increase in **CRP from childhood into young adulthood** [11].
- EBV antibody levels in a younger adult sample were also found to differ based on the type, timing, and frequency of exposure to ELS. [12].

- Individuals exposed **to sexual abuse more than 10 times, as well as those physically abused starting between ages 3 and 5**, had elevated levels of **antibodies against EBV as adults, a signal of viral reactivation**

- **In adults, a meta-analysis of ELS and inflammation found a positive association between maltreatment and several inflammatory markers, with the most robust association for circulating CRP [13].** Recent work has investigated mechanisms linking ELS to immune alterations over time (e.g., self-control, adiposity, smoking, and stress; 14, 15] as well as examining inflammatory dysregulation as a pathway through which ELS affects adult disease prevalence and outcomes [16]. Finally, empirically based interventions to target immunological consequences of ELS are a necessary next step; recent evidence suggests the plausibility of such interventions to improve inflammatory profiles for youth raised in low-income families

-]. Research has suggested **that older adults are unable to terminate cortisol production in response to stress. Cortisol is ordinarily anti-inflammatory and contains the immune response, but chronic elevations can lead to the immune system becoming “resistant,” an accumulation of stress hormones, and increased production of inflammatory cytokines that further compromise the immune response** [18]. Older adults often have to provide long term care for an ailing spouse or partner.
- Caregiving has been implicated in significantly lower antibody and cell-mediated immune responses after vaccination [19, 20].
- Caregivers also experience **longer wound healing times, lower lymphocyte proliferation, increased proinflammatory cytokine levels, and more reactivation of latent viruses**

- An important direction in aging research involves an examination of telomeres. Telomere length has been used as a measure of biological aging and is associated with psychological, physiological, and social factors. Chronic stress is linked to shortened telomere length along with increased disease in older adults [22]. **Socioeconomic factors such as marital status and income have been linked with telomere length: those married for longer periods of time and who make more money are biologically younger than others in their cohort**

استرس توکسیک:

- تجارب مضر و ناسازگار ACE=adverse childhood experiences که برای هفته ها، ماهها یا حتی سالها طول بکشند
- مثل بد رفتاری ها با کودک **maltratment** ها از جمله)
 - بد رفتاری و
 - تجاوز جسمی روانی حقوقی و ضایع کردن)
 - **abuse** فیزیکی یا
 - هیجانی یا
 - جنسی .
- همچنین (غفلت و نادیده گرفتن احتیاجات کودک و
- ندیده گرفتن حضور کودک) **neglect**

WHO-Consequences of maltreatment

- **Child maltreatment has often severe short- and long-term physical, sexual and mental health consequences. These include injuries, including head injuries and severe disability, in particular in young children; post-traumatic stress, anxiety, depression, and sexually transmitted infections (STIs) including HIV.**
- Adolescent girls may face additional health issues, including gynaecological disorders and unwanted pregnancy.
- Child maltreatment can affect **cognitive and academic performance and is strongly associated with alcohol and drug abuse and smoking – key risk factors for noncommunicable diseases (NCDs) such as cardiovascular diseases and cancer.**

- **Maltreatment causes stress** that is associated with **disruption in early brain development**.
- **Extreme stress** can impair the development of the nervous and **immune systems**.
- Consequently, as adults, maltreated **children** are at increased risk for behavioural, physical and mental health problems such as:
 - **perpetrating or being a victim of violence**
 - **depression**
 - **smoking**
 - **obesity**
 - **high-risk sexual behaviours**
 - **unintended pregnancy**
 - **alcohol and drug misuse**.

- Violence against children is also a contributor to **inequalities in education.**
- Children who experienced any form of violence in childhood have a 13% greater likelihood of **not graduating from school.**
- Beyond **the health, social and educational consequences of child maltreatment, there is an economic impact, including costs of hospitalization, mental health treatment, child welfare, and longer-term health costs.**

Impact of violence

Violence against children has lifelong impacts on health and well-being of children, families, communities, and nations. Violence against children can:

- **Result in death.** Homicide, which often involves weapons such as knives and firearms, is among the top four causes of death in adolescents, with boys comprising over 80% of victims and perpetrators.
- **Lead to severe injuries.** For every homicide, there are **hundreds of predominantly male victims of youth violence** who sustain injuries because of physical fighting and assault

Impair brain and nervous system development

Exposure to violence at **an early age** can **impair**

- **brain development and**
- **damage other parts of the nervous system, as well as the**
- **endocrine,**
- **circulatory,**
- **musculoskeletal,**
- **reproductive,**
- **respiratory and**
- **immune systems, with lifelong consequences.** As such, violence against children can negatively affect
- **cognitive development and results in**
- **educational and**
- **vocational under-achievement.**

- **Result in negative coping and health risk behaviours.**
- Children exposed to violence and other adversities are substantially more likely to **smoke, misuse alcohol and drugs, and engage in high-risk sexual behaviour.**
- They also have higher rates of **anxiety, depression, other mental health problems and suicide.**

- **Lead to unintended pregnancies,**
- induced abortions,
- gynaecological problems, and
- sexually transmitted infections, including HIV.

- **Contribute to a wide range of non-communicable diseases** as children grow older. The increased risk for
 - **cardiovascular disease,**
 - **cancer,**
 - **diabetes, and**
 - **other health conditions** is largely due to the negative coping and health risk behaviours associated with violence.

- **Impact opportunities and future generations.** Children exposed to violence and other adversities are more likely to
- drop out of school,
- have difficulty finding and keeping a job,
- and are at heightened risk for
- later victimization and/or perpetration of interpersonal and self-directed violence,
- by which violence against children can affect **the**
- **next generation.**

Risk factors

Child

- It is important to emphasize that children are the victims and are never to blame for maltreatment. Characteristics of an individual child that may increase the likelihood of being maltreated include:
- being either **under four years old or an adolescent**
- being **unwanted, or failing to fulfil the expectations of parents**
- **having special needs, crying persistently or having abnormal physical features**
- having **an intellectual disability or neurological disorder**
- identifying as or being identified **as lesbian, gay, bisexual or transgender.**

Risk factors

Violence against children is a multifaceted problem with causes at the individual, close relationship, community and societal levels. Important risk factors are:

- **Individual level:**
- biological and personal aspects such as sex and age
- lower levels of education
- **low income**
- having a disability or mental health problems
- identifying as or being identified as lesbian, gay, bisexual or transgender
- harmful use of alcohol and drugs
- **a history of exposure to violence.**

Parent or caregiver

- Characteristics of a parent or caregiver that may increase the risk of child maltreatment include:
 - **difficulty bonding with a newborn**
 - not nurturing the child
 - having been **maltreated** themselves as a child
 - lacking awareness of **child development** or **having unrealistic expectations**
 - misusing **alcohol or drugs, including during pregnancy**
 - having low **self-esteem**
 - suffering from **poor impulse control**
 - having a mental or neurological disorder
 - being involved in **criminal activity**
 - experiencing **financial difficulties.**

Relationship

- Characteristics of the relationships within families or among intimate partners, friends and peers that may increase the risk of child maltreatment include:
 - **family breakdown or**
 - **violence between other family members**
 - **being isolated in the community or**
 - **lacking a support network**
 - **a breakdown of support in child rearing from the extended family.**

Close-relationship level:

- **lack of emotional bonding between children and parents or caregivers**
- **poor parenting practices**
- **family dysfunction and separation**
- being associated with **delinquent** peers
- **witnessing violence between parents or caregivers**
- early or forced marriage.

Community and societal factors

Characteristics of communities and societies that may increase the risk of child maltreatment include:

- **gender and social inequality;**
- **lack of adequate housing or services to support families and institutions;**
- **high levels of unemployment or poverty;**
- **the easy availability of alcohol and drugs;**
- **inadequate policies and programmes to prevent child maltreatment, child pornography, child prostitution and child labour;**
- **social and cultural norms that promote or glorify violence towards others, support the use of corporal punishment, demand rigid gender roles, or diminish the status of the child in parent–child relationships;**
- **social, economic, health and education policies that lead to poor living standards, or to socioeconomic inequality or instability.**

Community level:

- **poverty**
- high population density
- low social cohesion and transient populations
- easy access to alcohol and firearms
- high concentrations of gangs and illicit drug dealing.
- انسجام اجتماعی پایین و جمعیت گذرا
- دسترسی آسان به الکل و سلاح گرم
- جمعیت زیاد باندها و خرید و فروش غیرقانونی مواد مخدر.

Society level:

- social and gender norms that create a climate in which violence is normalized
- **health, economic, educational and social policies that maintain economic, gender and social inequalities**
- **absent or inadequate social protection**
- **post-conflict situations or natural disaster**
- **settings with weak governance and poor law enforcement.**

Types of violence against children

- Maltreatment (including violent punishment) involves physical, sexual and psychological/emotional violence; and neglect of infants, children and adolescents by parents, caregivers and other authority figures, most often in the home but also in settings such as schools and orphanages.

• بدرفتاری (از جمله مجازات خشونت آمیز) شامل خشونت فیزیکی، جنسی و روانی/عاطفی است. و غفلت و بی توجهی به شیرخواران، کودکان و نوجوانان توسط والدین، مراقبان و دیگر شخصیت‌های معتبر، اغلب در خانه، در محیط‌هایی مانند مدارس و پرورشگاه‌ها.

- Bullying (including cyber-bullying) is unwanted aggressive behaviour by another child or group of children who are neither siblings nor in a romantic relationship with the victim. It involves repeated physical, psychological or social harm, and often takes place in schools and other settings where children gather, and online.

• قلدری و زورگویی (از جمله قلدری سایبری) یک رفتار پرخاشگرانه ناخواسته توسط یک کودک دیگر یا گروهی از کودکان است که نه خواهر و برادر هستند و نه در رابطه عاشقانه با قربانی هستند. این شامل آسیب های جسمی، روانی یا اجتماعی مکرر است و اغلب در مدارس و سایر مکان هایی که کودکان در آن جمع می شوند و به صورت آنلاین رخ می دهد.

- **Youth violence is concentrated among children and young adults aged 10–29 years, occurs most often in community settings between acquaintances and strangers, includes bullying and physical assault with or without weapons (such as guns and knives), and may involve gang violence**

- خشونت جوانان در میان کودکان و بزرگسالان جوان بین 10 تا 29 سال متمرکز است، اغلب در محیط های اجتماعی بین آشنایان و غریبه ها رخ می دهد، شامل قلدری و حمله فیزیکی با یا بدون سلاح (مانند اسلحه و چاقو) و ممکن است شامل خشونت گروهی باشد

- Intimate partner violence (or domestic violence) involves physical, sexual and emotional violence by an intimate partner or ex-partner. Although males can also be victims, intimate partner violence disproportionately affects females. It commonly occurs against girls within child marriages and early/forced marriages. Among romantically involved but unmarried adolescents it is sometimes called “dating violence”.

- Sexual violence includes non-consensual completed or attempted sexual contact and acts of a sexual nature not involving contact (such as voyeurism or sexual harassment); acts of sexual trafficking committed against someone who is unable to consent or refuse; and online exploitation.

• خشونت جنسی شامل تماس جنسی بدون رضایت کامل یا تلاش برآن و اعمال عمل جنسی بدون تماس (مانند اطفاء شهوت بانگاہ یا آزار جنسی) است. قاچاق جنسی علیه کسی که قادر به رضایت یا امتناع نیست. و بهره برداری آنلاین

- Emotional or psychological violence includes restricting a child's movements, denigration, ridicule, threats and intimidation, discrimination, rejection and other non-physical forms of hostile treatment.

• خشونت عاطفی یا روانی شامل محدود کردن حرکات کودک، تحقیر، تمسخر، تهدید و ارباب، تبعیض، طرد و سایر اشکال غیر فیزیکی رفتار خصمانه است.

Good News

- **Social support was also identified to have an ameliorating effect on immune alterations**

- **Stress, immunity, and disease can affect each other in reciprocal ways, but these relationships can be moderated by life stage, other ecological pressures and goals, stressor duration, and protective factors such as good sleep**

- **Psychosocial interventions suggest an increased efficiency in decreasing inflammation and improving the function of the immune system**

- استرس توکسیک برای تکامل کودکان بد و مضر است ولی خبرخوب وجود مراقب بزرگسال خوب و محیط حمایت کننده است.

- Affective structures that are perceived to be stressful are accompanied by autonomic and neuroendocrine changes capable of influencing immune function and thus likely susceptibility to a variety of diseases ([24](#)). In contrast, **behavioral interventions that reduce anxiety or stress decrease the intensity or duration of neuroendocrine responses and thus achieve a balance of immune function that promotes well-being and health** ([25](#),[26](#))
- Studies show that there is **an important ability of psychosocial interventions to enhance immunity and improve immunity-related health outcomes.**
- These studies show that the processes of the **immune system are influenced by social, neurocognitive and behavioral factors**

در کشور و جامعه بشریت ریشه کن کنید هر ظلم به کودکان
وزنان را

• Dissemination of knowledge of the relationship between stress and the immune system is important to improve collective public health

• استرس توکسیک در بارداری و ترشح دانه‌های کورتیزول با خطر زایمان زودرس، کم‌وزنی و سایر عوارض همراه بوده بر تکامل ذهن و رفتار و حرکتی شیرخوار هم اثر دارد.

کودکان بیمار را دریابید

- NICU
- PICU
- SURGICAL WARD
- EMERGENCY
- OTHER WARDS
- Lab
- RADIOLOGY
- Dentistry

Healthcare Providers' Guide to Traumatic Stress in Ill or Injured Children

•••AFTER THE ABCs, CONSIDER THE DEFs

D

DISTRESS

- Assess and manage pain.
- Ask about fears and worries.
- Consider grief and loss.

E

EMOTIONAL SUPPORT

- Who and what does the patient need now?
- Barriers to mobilizing existing supports?

F

FAMILY

- Assess parents' or siblings' and others' distress.
- Gauge family stressors and resources.
- Address other needs (beyond medical).

کفاره صدمه به کودکان

- جاری شدن یک سانتیمتر خون کفاره اش دوشتر است(درمورد معلمی که باچوب به کف دست شاگردی بزند سوال شده).
- و ضربه به صورت سوال شده که سیلی و سرخ شدن یک ونیم مثقال طلا،
- کیودی 3مثقال طلا و
- سیاهی 6مثقال طلا.
- البته اندامها کمتر است.