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Allostasis and Allostatic Load: Woman Abuse and Chronic Illness

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Allostasis and Allostatic Load: Woman Abuse and Chronic Illness

Adversity, stress and trauma are tied to a range of long-term, chronic health conditions.¹ In an effort to understand this seemingly complex relationship, two concepts are worth exploring in detail: allostasis and allostatic load.

Allostasis and Allostatic Load: The body's response to stress

The human body is capable of coping, or maintaining stability, during changes in the external environment. For example, when we encounter a stressful situation, like physical abuse, the brain signals the sympathetic nervous system to release a number of stress hormones such as adrenaline and cortisol -- a reaction typically referred to as the fight-or-flight response – in order to cope.

Adrenaline elevates our blood pressure and increases our heart rate, providing us with the necessary energy to protect ourselves or run away from a perceived threat.

Cortisol, on the other hand, helps conserve this energy by suppressing bodily systems deemed unnecessary, during a fight-or-flight situation. For instance, the immune, reproductive and digestive systems may be suppressed.

This adaptive response to stress is known as allostasis, and it comes with a very heavy price. Prolonged exposure to stressors, like abuse or its painful memories, can prevent the fight-or-flight response from switching off.

Failure to minimize or stop allostatic activity can lead to serious long-term health consequences. This is known as allostatic load. Over time, an increased production of stress hormones can wear down the body, keeping it in an unstable or weakened state. When this happens, the body is more susceptible to adverse health conditions such as cardiovascular disease, chronic pain, pregnancy complications, PTSD and anxiety.

Research suggests that chronic health implications associated with physical abuse are 'dose-dependent.' This means that the severity, frequency and duration of the abuse is linked to the extent of the injury and/or illness experienced.

Key messages

Violence against women is a violation of a woman's human rights and is rooted in gender inequality. We know that every woman experiences violence differently and that each person's experience is affected by many factors such as sex, race, age, ability, ethnicity, faith, sexual orientation and gender identity, and income level. In fact, all domains of a woman's life can be affected by abuse. Often the connection between the abuse a woman experienced and later health problems is lost. Increasing

¹ Health Canada, *Mental Health – Coping with stress*, <http://www.hc-sc.gc.ca/hl-vs/jyh-vsv/life-vie/stress-eng.php> (August 2007)

awareness of the potential long term health effects of abuse as it relates to allostatic load, will aid in early identification and prevention efforts. This may save lives and greatly reduce health impacts such as:

- Asthma, irritable bowel syndrome and diabetes;²
- PTSD, depression, anxiety, suicidal ideation and suicidal behaviour;³
- Unintended pregnancy, gynecological disorders, unsafe abortion, STI and HIV.⁴

Definitions:

Allostasis is defined as a dynamic regulatory process wherein homeostatic control and balance is maintained by an active process of adaptation during exposure to physical and behavioural stressors.¹

Allostatic load is defined as the consequence of wear-and-tear on the body and brain promoting ill health, involving not only the consequences of stressful experiences themselves, but also the alterations in lifestyle that result from a state of chronic stress.¹

² Centers for Disease Control and Prevention (CDC), *Public Health Rounds*, Office of the Director, (June 19, 2012)

³ Centers for Disease Control and Prevention (CDC), *Public Health Rounds*, Office of the Director, (June 19, 2012)

⁴ Centers for Disease Control and Prevention (CDC), *Public Health Rounds*, Office of the Director, (June 19, 2012)