Biological Setting Events and Hormonal Cycling

Biological Setting Events and Reproductive Health

The term **Setting Events** is used in behavioral psychology literature and refers to factors that may change the motives of a behavior or consequences of a behavior. **Biological Setting Events** (BSEs) are a subset of Setting Events and are biologically-based. Examples of BSEs are illness, pain, and medication effects (Carr, Smith, Giacin, Whelan, & Pancari, 2003). For example, the presence of a headache (a BSE) may influence the extent to which a task demand (such as a physical exercise routine) is perceived as aversive. This stronger aversion to the task demand may make a person more likely to engage in behavior which results in escaping the task demand, or the behavior may become more exaggerated. Studies have linked problem behavior (such as self-injurious behavior, prolonged screaming, and aggressiveness) to the biological setting events of ear infection (O'Reilly, 1997), constipation (Lekkas & Lentino, 1978), menses (Taylor, Rush, Hetrick, & Sandman, 1993), and menstrual discomfort (Carr et al., 2003).

These research findings underscore the need to perform an in-depth assessment of an individual's health, as well as a functional assessment of behavior, when problem behavior presents. With regard to reproductive health, if problem behaviors can be linked to dysmenorrhea or endometriosis, both very common disorders, measures taken to alleviate discomfort or hormonal fluctuations associated with these conditions may improve behavior. In addition, behavior support strategies such as providing non-contingent access to reinforcement and providing non-pharmaceutical, palliative medical intervention (e.g., encouraging the individual to rest or use a heating pad on the affected area) may be helpful (Carr et al., 2003). A professional with experience in positive behavioral support can provide assistance to families and medical professionals in developing a plan to identify and cope with the biological setting event and subsequent behavior (Carr, Reeve, & Magito-McLaughlin, 1996).

Primary Care Providers have the ability to advocate for and to provide necessary medical assessment and recommendations to identify possible biological setting events/behavior. For individuals who experience communication barriers, behavior ('acting out') may be the primary means of communicating pain. Therefore, the primary care provider may provide valuable insight into the potential causes of problematic behavior. See the Resource Document on the Importance of Nonverbal Communication for more information.

Hormonal Cycling, Mood, and Behavior

Mood can be affected by levels of sex hormones throughout the menstrual cycle. In some individuals, menstrually-related hormonal changes can produce serious alterations in mood, as well as physical symptoms, most notably in the case of Premenstrual Syndrome (PMS) and Premenstrual Dysphoric Disorder (PMDD). Epidemiology studies have demonstrated that as many as 75% of women experience a variety of psychological and physiological symptoms associated with the premenstrual phase of the cycle. A much smaller number (between 3%-8%) of cycling women report very severe premenstrual symptoms which produce impairments in their ability to function at work and at home (Buderi, Li Wan Po, & Dornan, 1994). The occurrence of premenstrual syndromes points to an influence of sex hormones on mood and behavior. This relationship is supported by evidence (Steiner, 2000; Saunders & Hawton, 2006) from animal studies involving ovarian steroids, stress, behavior, and serotonergic neuronal activity.

Although over 100 symptoms are associated with PMS, the most common symptoms include dysphoria, anxiety, restlessness, affective lability, irritability, fatigue, headaches, bloating, breast tenderness, lower back pain, changes in appetite, and sleep changes. Women with intellectual disabilities may have difficulty communicating the presence of these symptoms, particularly if they are nonverbal. Behavioral communication may be the primary way that a woman with a significant intellectual disability expresses her discomfort. Therefore, a woman may exhibit changes in behavior such as crying, screaming, self-injurious behavior, or even aggressive behavior. It is critical that service providers, family members, mental health professionals, and primary care providers be aware that these changes in behavior may be associated with PMS, PMDD, or a hormone-related exacerbation of a medical or psychiatric disorder. Medication, non-pharmaceutic intervention, environmental modifications, and/or behavioral support may be indicated to manage behavioral difficulties and mood alterations associated with PMS or PMDD (Steiner, 2000).

Individual women vary in regard to whether they experience premenstrual symptoms and to what degree. Consideration of and/or screening for potentially pre-existing psychiatric or medical disorders are necessary before any therapeutic regimen is considered. Premenstrual symptoms may present independently from a distinct

psychiatric or medical disorder - or existing disorders may be exacerbated by hormonal fluctuations occurring during the premenstrual phase of the cycle.

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