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GUEST EDITORIAL

Protection from late life depression

The frequency of late life depression is estimated to be low relative to the frequency in young adulthood and middle age, as documented in many community-based epidemiological studies from Western populations. We first reported such a low-frequency in 1980 (though we did not compare the frequency of late life depression with that earlier in life) (Blazer and Williams, 1980). Since that time, many community-based studies have documented this lower frequency (Blazer *et al.*, 1994; Kessler *et al.*, 2003; Hasin *et al.*, 2005). Yet a review of the origins of late life depression at first glance may suggest that older persons are at significant increased risk compared to adults in young adulthood and mid-life (Blazer, 2003; Blazer and Hybels, 2005).

This has been a paradox to me for decades, one that is not fully explained. Older persons should be at greater risk for depression given biological factors such as the increased frequency of vascular lesions leading to subcortical ischemic changes, which have been documented primarily through magnetic resonance imaging (Taylor *et al.*, 2003). To the degree that late life depression is genetically determined, there is no reason to believe that older persons are at less risk for genetic influences (Krishnan, 2002). Neurotransmitter dysfunction, such as under activity of serotonergic neurotransmission, has been the focus of much study of the pathophysiology in younger adults. Studies of the elderly, however, do not support any hypothesis that older people improve neurotransmission that would protect against depression (Sheline *et al.*, 2002). Anatomical and physiological changes associated with endocrine abnormalities, especially hypersecretion of cortisol over long periods of time, do not appear to protect the older person but rather gradually increase the risk for depression, though the evidence is limited (Sapolsky, 1996).

Late life depression is frequent in hospitalized older adults and among older adults living in long-term care facilities (Koenig *et al.*, 1988; Parmelee *et al.*, 1989). In addition, physicians often encounter depression in late life deriving from comorbidity with medical and neurocognitive disorders such as cardiovascular disease and Alzheimer's disease (Kraaij *et al.*, 2002; Olin *et al.*, 2002). Nevertheless, many episodes of depression, even severe depression, occur in community samples across the lifecycle with no obvious medical or neurocognitive correlates. How do we explain the relative low frequency of late life depression in community populations given many biological and neurocognitive factors which may increase the propensity to develop depression? Though this may not be the complete answer, I would suggest that older person who are cognitively intact and relatively free of medical illness may have acquired protective factors which buffer biological risk for late life depression (Blazer and Hybels, 2005). That is, older persons are in some ways protected from developing depression if they are healthy and maintain cognitive function.

Without presenting a comprehensive description of such factors, I describe three psychological/social factors which may protect older persons in comparison to younger adults from developing depression. First, Laura Carstensen proposed the socio-emotional selectivity theory to explain differences in the perceived experience of events by age. According to this theory, the perception by the elderly of how many years are remaining in life influences their perception of current experiences (Carstensen *et al.*, 2000). Younger adults, who have much to learn and relatively long futures, find themselves motivated to focus upon the future even if this focus requires emotional well-being to be suppressed (delayed gratification). Older adults, in contrast, perceive that they have lived longer than they have yet to live and therefore de-emphasize future planning and prioritize goals which are emotionally meaningful in the present. For example, younger adults may visit a beautiful natural phenomena, such as the Grand Canyon in the U.S.A., yet find themselves at the time worried about the cost of reaching this tourist attraction, thinking about impending stressors in the workplace, worrying about the future of their children given the way they are behaving, and so forth. Older persons, in contrast, tend to "selectively optimize" the positive in the experience, forgetting future difficulties which may arise and problems which may be encountered, even resulting from making the trip itself. They enjoy the view!

Second, though debated, older adults are thought to acquire increased wisdom with aging. Wisdom for most physicians is a nebulous concept, not empirical and therefore not assessable to them during clinical encounters. Baltes and Staudinger

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(2000) studied wisdom and suggested five criteria that can be evaluated and which partially define wisdom. These include: rich factual knowledge (cumulative with age); rich procedural knowledge (knowledge which permits the development of a strategy for addressing a problem, perhaps a problem as simple as negotiating the repair of a malfunctioning toilet); life span contextualization (putting one's life into a coherent narrative, or as Erick Erickson suggested developing integrity (Erikson and Kivnick, 1986)); relativism of values and life priorities (older persons often become more tolerant of differences in society); and the recognition and management of uncertainty (older persons have faced enough unexpected events that they are in some ways prepared when the unexpected occurs).

Finally, older adults are less likely to experience and often can better manage some stressful life events which we know to be associated with depression. Intuitively, we believe that the older person is besieged by events which can lead to depression, such as medical illnesses, impairments in sensory organs such as hearing loss and visual impairment, and loss of a spouse or sibling to death. What we frequently forget is that the older person's experiences, though highly stressful, are in large part anticipated. These are what have been called "on time" events (Glaser and Strauss, 1968). In contrast, younger people experience events which can be equally devastating as those more commonly experienced in late life. For example, in a study we performed a generation ago, significant difficulty with the law (i.e. something more severe than a traffic violation) was reported by a surprisingly high percentage of younger adults (9%) compared to less than 1% among older adults (Hughes *et al.*, 1988). In addition, divorce and job loss are much more frequent among younger persons than older persons. For a younger person who experiences the death of a spouse or sibling, the event is generally unexpected (off time) and therefore more difficult to accept. Of course, many of these tragic events across the lifecycle are never totally accepted. Nevertheless, older people tend to rehearse certain events: imagining how one would manage a loss is not unusual. For example, an older woman may frequently rehearse in her mind how she would manage if her husband died, such as managing financial and living arrangements (even discussing these with her husband).

Mental health workers are inclined to look for risk of disorders regardless of age. Given the plethora of risk for late life depression, we find it easy to focus upon these risks. Yet a balanced perspective will augment our ability to treat our patients effectively and so must include an understanding of protective as well as risk factors for late life depression. Many times, we find ourselves surprised when one of our older patients adapts to a stressor more effectively than we could ever imagine.

Conflict of interest

None.

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