

I chuckled when I read Lady Gaga's comments on msn.com the other day, "I'll sleep when I am dead". It certainly was not the first time I have heard this line. It also seems to be the consensus of those expert, sleep deprived multi-taskers who complete super human feats on a daily basis while the rest of us watch them with awestruck envy. I can confirm this was also the general motto of my medical residency program (although that may have now changed). As a survivor of the three year marathon sleep deprivation boot camp, I often recall those nights wandering aimlessly in the corridors of the VA Hospital wishing I was in a state of 'celestial sleep'. What the 'so much to do and so little time' advocates may not realize is that sleep is an essential part of maintaining both health and sanity. It ranks right up there with food, water, and oxygen. Clearly, Lady Gaga's youthful physiology may have thus far protected her from the adverse health and mental (questionable) consequences of chronic sleep deprivation. However, this temporary blissful state of 'indestructibility' will inevitably be replaced with depressed mood, memory disturbances, and an overall lack of sense of well being. In fact, insomnia has been shown to have a detrimental effect on health-related quality of life to the same degree as chronic disorders such as depression and congestive heart failure.

Sleep disturbances are a universal problem affecting nearly 30% of the world's population. The National Center on Sleep Disorders Research reports that 70 million Americans suffer from some form of insomnia such as delayed sleep onset, recurrent nighttime awakenings, early morning arousal, inadequate durations of sleep, and other disruptions of normal sleep. Commonly identified predisposing factors are genetic background, medical illnesses (such as chronic pain and mood disorders), food allergies, hormone imbalances, prescription medications, drugs (alcohol, stimulants, etc), and irregular sleep patterns. However, the most consistently identifiable risk factors are female gender, advanced age, and depressed mood. *Psychophysiological* insomnia, whereby the matters of the mind control the body's stress response, has also been found to strongly predispose individuals to insomnia. Not surprisingly, how one perceives, assimilates, and reacts to their psychological and environmental stressors has a profound impact on not only their sleep patterns but also on many other aspects of their health.

Although finances and family matters are often cited as primary stressors, *job stress* rounds out the top three. In fact, due to the extensive economic and medical ramifications of job stress and its adverse effects on sleep, extensive research has been done to explore potential solutions. Studies have shown the annual direct and indirect economic impact in the U.S. labor force to be a staggering \$100 billion dollars. Individuals at highest risk for developing insomnia secondary to job stress include those who perform shift work or have inconsistent work schedules, those exposed to harassment or "bullying", those who lack control over their work environment, and those who work long hours. Occupations cited as being the most stressful are those in civil service (firefighters, policemen), medical services, and public relations (executives, administrative assistants). Computer analysts, dieticians, and mathematicians have apparently chosen the least stressful jobs.

Numerous adverse consequences have been observed in sleep deprived employees. They are much more likely to experience work related accidents and injuries and are more error prone. Furthermore, their rate of absenteeism is far greater than their non-insomniac counterparts. Subjectively, they often report difficulties with concentration and job performance, poor self esteem, less job satisfaction, and

less efficiency at work. In 2009, the *Journal of Clinical Psychiatry* published a study in which approximately 17,000 employees with insomnia were compared to 282,000 control employees. The study found the annual mean incremental costs were \$2053 greater for employees with insomnia than those with normal sleep patterns (specific increments: medical \$751, drug \$735, sick leave \$208, short-term disability \$179, long-term disability \$10, and workers' compensation \$170). This large study also found that Employees with insomnia missed a mean of 3.10 more workdays annually than those without insomnia.

The health consequences of insomnia are equally daunting. Nearly all medical conditions are more prevalent, are more costly, and result in a greater utilization of medical services in employees with insomnia compared to those without. Numerous studies have found correlations between sleep disturbances and mood disorders (particularly depression), high blood pressure, cardiovascular disease, diabetes, stroke, chronic pain syndromes, and substance abuse. Some studies also find chronic insomnia increases the risk of premature death. Unfortunately, the side effects of 'temporary cures' for insomnia offer no solutions. Although older and potentially more dangerous drugs (i.e. Valium) are gradually being replaced by newer, 'safer' drugs such as Ambien, even these newer medications pose risks including memory loss, falls, road accidents, hallucinations, delusions, and drug dependence. Studies have also found sleeping pill users to have higher rates of all cause death.

The recommended treatment for insomnia is to identify the underlying cause and reserve prescription medications unless absolutely necessary. So the next time you are lying awake at 2:00 am, ask yourself one question...Is your job killing you?