

Hormonal Evaluation of 'Responsibility' as American Health Agonist

Kohle Torgenson

Abstract

Over the past twenty years, North American health has taken a slow turn towards disaster. The rounded corners that define the American waistline have recently gained notice, and portents of pulmonary disease have become popular cause for alarm. At the heart of these health concerns is the phantom of stress, which is noted frequently as a cause of health failure in its many forms. This study identifies and addresses "responsibility" as an unacknowledged growing threat to American health and the single greatest cause of stress and stress-related illness.

Introduction

American health has been maligned for the past two decades, and continues to slip into a state of disrepair. Increasing numbers of American children fight diabetes every year. Obesity, a growing health risk in America, seems to ignore the standard social boundaries that isolate the males from the females, the rich from the poor, and the young from the old. Meanwhile, heart disease, respiratory ailments, and rheumatic afflictions abound across the North American continent. Health officials point eager fingers at the fast food industry, television, computer gaming, and general negligence for the failing health of North Americans.

A known connection between pathogenic disease and anxiety has been established (Millichek, 1999), indicating a close relationship between

neurotic expression and infectious disease. The control and elimination of anxiety has thus been determined to be a crucial step in the control and cessation of illness.

In this study, the connection between a sense of responsibility and anxiety will be determined in a typical, stress-inducing situation as simulated and assessed through radioimmunoassay analysis of blood plasma obtained through a catheter, by searching for cortisol, a hormone known to be linked to stress.

Method

Three male subjects (Strommen, 2003), A, B and C, aged 20-25 were selected for peak physical strength and agility from a pool of sixty athletes seeking an alternate position on the U.S. Pan American Games four by one hundred

meter men's racing team. The three male participants completed a medical assessment that determined each to be of sound mind and body. A fifty-word adjective association diagnostic (Trick, 2001) designed to assess stress levels was used at five different times: upon learning of their acceptance into the program, at the time of catheter insertion, two minutes after catheter insertion, one minute prior to the race, and one minute after the race. Three different levels of stress were simulated by employing the following scientifically justified fabrications of fact: runner A was informed that he had already been assured of a spot on the Pan Am team; runner B was told that his position on the team depended on his running ability with the catheter in place; and runner C was lead to believe that a one million dollar bet had been placed on him by an undisclosed shoe sponsor—who incidently “expected good things” from him. The subjects ran the race, with catheter held in place by surgical tape, down a standard Olympic-sized racetrack. Only one heat of the race was run. Serum cortisol levels were assayed using a validated commercial radioimmunoassay kit.

Results

Upon induction into the study, runners were determined to be “excited, hopeful, dedicated, and overjoyed” (personal communication) to have the opportunity to participate in the stress study and vie for the chance to be part of the Pan American track and field team. The runners’ baseline plasma levels were extracted using a catheter, which appeared to increase the subjects anxiety level to “uncomfortable, awkward, and curious” (personal communication). Baseline cortisol concentrations for all runners ranged between 30-40 $\mu\text{g}/\text{dl}$, well within the standard range for young male athletes. Following a two-minute “breather,” subjects were determined to be “comfortable, excited, and prepared” (personal communication). Runner A, upon being told he had already been assured a spot on the team, was determined to have the lowest stress level, with his serum cortisol level measured at 34 $\mu\text{g}/\text{dl}$ prior to the race, and at 33 $\mu\text{g}/\text{dl}$ after the race and reported to be “calm, cool, confident, and satisfied” (personal communication) both before and after the race. Runner B, believing that his position on the team was

Table 1. Positive Correlation of Responsibility to Anxiety

Runners	Relative Responsibility	Serum Cortisol Concentration ($\mu\text{g}/\text{dl}$)			Relative Anxiety Level
		At Catheter Insertion	Pre Race	Post Race	
A	Low	32	34	33	Low
B	High	35	42	51	High
C	Very High	31	61	55	Very High

dependent on his performance in the race, recorded a high serum cortisol level at 42 $\mu\text{g}/\text{dl}$ prior to the race and claimed to be “worried, concerned, and irritated” (personal communication). Runner B displayed a serum cortisol concentration of 51 $\mu\text{g}/\text{dl}$ after the race, and felt “perplexed, confused, and pained” (personal communication). Runner C, who was convinced that his position on the team was in jeopardy, and that the money of a potential sponsor was at stake, showed excessive serum cortisol levels prior to racing at 61 $\mu\text{g}/\text{dl}$. He said he was “stressed, anxious, and nauseous” (personal communication). After the race, runner C showed decreased serum cortisol level at 55 $\mu\text{g}/\text{dl}$ and the adjectives used to describe his mental state were “exhausted, disappointed, and disturbed” (personal communication).

Runner B was the first to cross the finish line, with runner C following quickly thereafter. Runner A was the last to cross the finish line, but also appeared to be in the best of spirits and did not show any obvious signs of discomfort. Runners B and C both contracted urinary infections, which were thankfully treatable through a ten-day regimen of mild antibiotics.

Conclusions

Responsibility in its many forms is a powerful motivator in our society and is taught as a tool of social control in schools, churches and in families. But responsibility, which is frequently lauded as a social good, positively correlates with anxiety. It would seem that persons who feel responsible for

future outcomes have more stress and are more prone to injury and disease. This study clearly indicates that responsibility should be moderated whenever possible. One reasonable strategy that has already been implemented by Belgian lawmakers requires people whose jobs are considered “positions of responsibility” (personal communication) to alternate roles with people who are able to avoid the deleterious effects of responsibility and provide responsibility vacations for persons of stress. This system includes the temporary hiring of the homeless or mentally ill to fill in for police officers, air-traffic controllers and nurses every Friday, providing a longer respite from the anxiety of being “too responsible.” Legislation similar to the so-called “Freaky Friday” law is presently being considered by many jurisdictions throughout Europe, and implementation is expected within the next few years.

References

- Millichek, A. (1999). Neurotic impact on disease in post-vasectomized males. *American Journal of the Willingly Impotent* 3(5), 24–46.
- Strommen, J. (2003). *The rule of three: A technical application of the new math*. Saskatoon, Canada: The Scientist.
- Trick, B. (2001). Adjectives as a window to mental health. *Elderly Mental Wellness Weekly* 2(12), 63–72.