

STRESS IN THE WORK PLACE

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Invited lecture at the 12th Leadership Forum of the Nigerian Association of Petroleum
Explorationists

March 17, 2013

Let me start by thanking the Executive Committee of this Association as well as the Chairman of the Local Organizing Committee, Professor Olayinka Idowu for the invitation to give this breakfast talk. I am mindful of the fact that, since most of you are in the lucrative petroleum industry, you are unlikely to have much to do with extreme stress. Perhaps you are only interested in this sort of talk for some your colleagues who are daily facing the hassles of academic life.

In actual fact, what you have asked me to speak on is probably what any adult Nigerian can speak authoritatively on. No Nigerian requires an expert to tell them about stress since they live it every day. Nevertheless, you have asked me to speak on the specific topic of Stress in the Work Place and to do so from, perhaps, a more professionally informed basis. I will therefore attempt to do so while trying at the same time not to bore you with too many medical jargons.

So, let us start by defining stress

In medical language, stress is the process of adaptation that takes place in the body when a person confronts a novel experience. In common day-to-day language, stress is used to describe experiences that are challenging, either emotionally or physically. We shall use the term interchangeably in both ways as long as understanding is not compromised.

Stress may be acute, such as the experience of major life events or events requiring “fight or flight”. It may also be chronic. Chronic stress typically involves cumulative effects of minor day-to-day events. The health consequences of acute but transient stress are largely different from those of enduring or persistent stress. Events that are sudden or unpredictable are certainly very potent stressors. Many people rightly regard Nigeria as very stressful place to live. Our unreliable social services were bad enough. But now, the situation is made worse by the precarious security conditions in most parts of the country either from the threat of armed robbers, kidnapers, and in recent times that of armed terrorists of various kinds. Depending on our situation in life or where we reside, most more Nigerians are constantly encountering either acute or chronic stress in their daily life.

Our encounters with stress

However, wherever one lives, we encounter stress every day. Stress is a living experience. To be alive is to experience stress. But as I will explain later, our body is equipped to deal with normal daily hassles and stresses. What it cannot deal with is excessive stress. Even then, stress is in the eye of the beholder. What is stressful for one person is not necessarily so for another. Stressful events are often deemed to be so when they are perceived to be either threatening to life, well-being, or emotional security. However, it is probably not difficult to see that some events are likely to be stressful for most people. Most people will find the death of a loved one or a serious personal injury or illness as stressful. The fact of the matter is that any event which demands an adaptive response or that challenges the individual to make attempts at readjustment is a stressor.

Workplace stress

The work environment is multi-dimensional, with various components including physical, psychosocial and organizational. It therefore has all the attributes to make it either a pleasant environment for its members or a noxious place for their health. Because of its importance to productivity and economic growth, the health consequences of what goes on in the workplace have become a major area of study in many countries around the world. In the US, for example, it is estimated that work-related illnesses account for about 49,000 deaths annually. The specific attributes of the work environment that may affect the health of the worker include the culture of the workplace, organizational policies and practices such as long hours of work, whether the job involves shift schedule, hazardous chemical, physical and biological exposures, the physical and psychological demands of the job, the relative control over what one does at work, the work schedule, the rewards attached to the job, and the level of support one gets from others. So, while some of the many work-related deaths that occur are due to occupational injuries, many more are due to illnesses that result from work-related stresses.

Workplace stress is often of the chronic variety. Two specific forms of psychosocial stressors are now commonly recognized. One is a lack of balance between job demands and job control. This results from a situation in which a job makes high

demands physically or emotionally but offers low control. The condition has been described as job strain. The other specific stressor is effort-reward imbalance which describes a situation in which a job requires high efforts but provides low rewards, leading to what can be termed as a negative trade-off between perceived “costs” and “gains” on the job. In essence, Effort-Reward Imbalance refers to the reciprocity between efforts spent and rewards received. The reward may be in different forms: for example esteem and appreciation from colleagues and management, job security, financial compensation, and promotion possibilities. As one might expect, this lack of appropriate contractual reciprocity is more likely in situations where people have no alternative choice in the labor market or where they are exposed to heavy completion.

The physiology of stress: how the body confronts a new experience

What takes place in the body when one confronts a new experience or perturbation is primarily a series of physiologic processes whose main purpose is to protect the organism, to ensure that the body deals with the experience or perturbation successfully and to return the body back to normality. Changes in the body as a result of stress are meant to be adaptive and it is a paradox that they often result in ill-health.

When a new experience is presented to us, our brain interprets the experience as either threatening or non-threatening. This interpretation is of course influenced by many factors, including our knowledge, constitution, character, as well as the way in which the experience is encountered. So, while the brain of one person may see an experience as threatening, the brain of another person may interpret the same experience differently. Anyway, depending on the interpretation the body gives to the experience, it determines what behavioural and physiologic response it will mobilise the body to produce. While the hypothalamus and the brain stem, that is the lower parts of the brain, are responsible for autonomic and neuro-endocrine responses such as quickening of the heartbeat, mobilization of the body for action, the higher brain areas will provide us with crucial memory that may be relevant to interpreting the experience and for decision making and may also set off feelings of anxiety, and so on.

In essence, what the brain does is to turn on what are known as allostatic systems. As succinctly put by McEwen, these systems allow us to respond to our physical states (e.g. awake, standing, etc.) and cope with noise, crowding, isolation, danger, and microbial and parasitic infections. Allostatic systems turn on when the challenge is present and off when the threat is over. It can also be turned on in anticipation of a threat!

In order for us to understand how a system that is designed to be adaptive, to help us confront and deal with threats become the origin of several disorders, it is important for us to understand the basic working of the system.

How the allostatic systems work

Allostatic systems consist principally of the sympathetic nervous system and the hypothalamus-pituitary-adrenal (HPA) axis. When these systems are activated, a cascade of activities leads to the release of hormones called catecholamines from nerves and from adrenal medulla as well as cortisol from adrenal cortex. These hormones produce adaptive changes in the cells and tissues of the body in response to the threat. So, they get us to be more ready to take action, the eyes become more focussed, the muscles ready for action, and the brain more alert. They increase the activities of our immune system such that invading pathogens are confronted. In general, they mobilize the resources necessary to fight off the threat or to tackle the challenge. When the job is done, the system regulates itself so that the release of the hormones is shut off and the body becomes relaxed again.

So, how does stress cause diseases

The system which we have described is adaptive. It prepares our body to ward off danger. However, it can break down or can overshoot under certain conditions. Such conditions include frequent or persistent exposure to stressful situations or when repeated exposure to stressors does not lead to improved coping ability. That is, when practice does not make perfect. Illness may also result when persistent exposure to prolonged stress leads to the wearing out of the allostatic system such that it becomes unable to produce the usual adaptive response. All of these situations can be described as indicating the occurrence of allostatic load.

When any of these happens, the result may be the excessive production of hormones which can be damaging to the body. For example, the excessive production of glucocorticoid hormone may damage the hippocampus in the brain. Once the hippocampus becomes damaged, the normal adaptive response from one of the allostatic systems to stress malfunctions, unable to shut off. Normally, it is the hippocampus that produces the hormone that tells the body that the stress is over and the body should return to normal. So, when it is no longer able to do this, the body continues to produce hormones to tackle the threat. The excessive production of these chemicals results in various damages to body tissues and organs.

In a situation of acute stress, our immune response is enhanced so that the challenge of a pathogen or an aberrant cell that is threatening to become the beginning of a cancerous tumor is confronted. But, when the body produces the immune response when it is not needed, the enhanced immune response can turn against normal body tissues, leading to autoimmune diseases in which the immune system destroys body organs. It is like the body turning against itself. Conversely, under chronic stress, the immune response can become overworked and exhausted, becoming unable to respond to external challenges of infection. That is, chronic stress can suppress immunity making the individual more susceptible not only to various infections but also to some cancers.

The Consequences of Workplace Stress

In the most part, the consequences of workplace stress are no different from the consequences of other stressful events. Most commonly are symptoms such as sleep problems (including insomnia and non-restful sleep), poor concentration, pains (especially headaches), gastrointestinal problems, tiredness, menstrual deregulation and emotional instability that may manifest as hostility, irritability, and explosive anger. Workplace stress could also lead to ill-health by increasing the occurrence of lifestyle risk factors such as smoking, high alcohol consumption, unhealthy dietary habits and sedentary behaviours.

There are nevertheless some more specific disorders that are linked to workplace stress. Job strain, that is, the imbalance between job demand and job control is a risk factor for hypertension while the perceived imbalance between effort and reward

has been linked to a higher incidence of cardiovascular disorders such as heart attacks and stroke. Among the more common mental health consequences are depression and anxiety disorders.

Of course, as already indicated, persistent or chronic stress could also result in other problems such as drug or alcohol abuse. Many people recognize their own peculiar symptoms or constellation of symptoms when they are under stress and can therefore take appropriate action to reduce the intensity of the stress.

Who is at risk for stress-induced ill health?

As I have indicated, stress is often in the eye of the beholder. In any case, the level and type of stress we can cope with before having negative consequences differ from one person to the other, but it is probably true to say that everyone has their breaking point. Among the factors that make some people more vulnerable to the deleterious effects of stress are personality, early life experience, including some experiences in childhood, and genetic factors. Personality and experience are important because a major factor in whether an experience will be stressful or not is the subjective interpretation we give to it. Our constitution and our experience play an important part in that interpretation. In regard to childhood experiences, there is another reason for their importance. There is evidence that the experience of severe adversity, especially that of abuse, in childhood may lead to persistent hyperactivity in the hypothalamic-pituitary-adrenal axis and autonomic nervous system leading to higher vulnerability to the negative consequences of stress in adulthood. That is people who have experience of severe childhood adversity may have an hyperactive allostatic system. Such individuals are more likely to develop depressive and anxiety symptoms as well as a range of chronic physical disorders later in life.

Childhood experiences and genetic factors are generally distal factors that occur many years before and which we carry with us everywhere we go. But some proximal factors can either heighten the effects of these distal factors or reduce their impact. One prominent proximal factor in this category is social support. Persons who lack supportive social network, either consisting of members of their family, their friends, people in their church or at the workplace, may have considerably higher risk experiencing the negative consequences of stress.

Other factors that may exacerbate the effects of chronic stress include smoking and excessive alcohol consumption.

On the contrary, there are factors that can protect us against the health consequences of chronic stress. These include moderate physical exercise and, as may already have become clear, the availability of supportive social network. The latter is a particularly important factor. Luckily, it is something we can build and nourish.

Managing stress

How do we control stress or cope with it? There are basic things that can help us reduce the negative effects of stress: These include:

- **Self-Observation:** Keeping track of what happens on a day-to-day basis and how you react to it is a very useful process of stress identification. Some people keep a diary to record their important experiences and how they handle them, thereby providing them an opportunity to reflect later and learn from their own mistakes. Self observation has the potential to help individuals see the appropriateness or otherwise of their coping skills as well as the failure or success of such skills.
- **Time management:** In the workplace, one of the very potent ways to avoid severe stress is to manage time properly. We need to learn how to allocate our time to take care of more important demands over trivial ones.
- **Problem Solving:** When confronted with a problem, one can do the following: 1) Identify the aspects of the problem that are particularly problematic, 2) Develop a list of alternative solutions by focusing on the problem, 3) Select the best of the alternatives, and 4) Implement the solution.
- **Relaxation:** Relaxation provides the opposite effect in the body to the one generated by stress. It reduces muscle tension, reduces overall level of autonomic arousal, and clears the head for more rational appraisal of a situation and for better coping responses. In order to do it effectively, people often need some form of training on how to practice relaxation exercise. One of the goals of such training is to help the person learn how to use the learned skills not only at home but also when confronted with stressful situations.

- **Social support:** We all need people to turn to in times of personal problem. Having trusted friends that we can confide in or belonging to a supportive group may serve the purpose of helping us to prevent stress or to cope with it when it develops. Social network and support can be provided in church, in social clubs, at the workplace, or within the family. Wherever it is obtained, the presence of social network and support is a powerful way to avoid some of the deleterious effects of stress.
- **Earl treatment:** It is important to seek treatment early as soon as signs of illness emerge. That is, it is important not to be in denial. Sometimes, the early signs that things are not going right are noticed by family members or friends or workmates. It is important to listen to them.

The importance of early treatment is demonstrated by research that has shown that when companies provide accessible and comprehensive health care for their workers and encourage them to use the facility, there is a demonstrated gain in productivity and return on investment. With early treatment, absenteeism is reduced, workers' quality of live and morale are improved and the result is better work performance. Of course, creating a workplace environment that reduces the possibility of severe stress has to be a part of any approach designed to improve the health of the workers.

In ending, let me remind us that no living person can avoid stress. Fortunately, our body has the resources to handle daily stress and hassles. Unfortunately, those resources can become overworked or exhausted with severe stressful experiences. Therefore, what we strive to do is avoid the more harmful stressful events, when we can, and learn to cope when with them we cannot. When this fails, we need to deal with the health effects when our coping skills do not prevent the occurrence of the negative consequences of stress.

Once again, many thanks for the invitation to share these views with you.