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**A Future Perspective: Is Society Interested in Avoiding the 21st Century Plague?**

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##### ABSTRACT

**Boone T.** A Future Perspective: Is Society Interested in Avoiding the 21st Century Plague? **JEMonline**2017;2(4):1-8. This paper begins with several questions that need answers. Is the science in the recent 20 yrs sufficient to produce a change in the lifestyle of Americans and individuals throughout the world? Are we becoming skeptical of the quality of science, since research fraud is huge throughout the scientific community? If it isn’t research and science that bring about change in society’s lifestyle, then who is responsible for bringing about healthcare change? Now that ASEP Board Certified Exercise Physiologists are recognized as healthcare professionals, what will they do different? How is the accredited curriculum different from the education of other healthcare professions? Will they run upon the same road blocks? How many adults understand why they should leave their comfortable chairs to walk a mile a day? The answer is not many adults engage in physical activity, which is an indication that something has to change. The collaboration between exercise physiologists and their clients is critical to understanding why regular exercise must be a health priority. Motivating the client is a major part of advancing the client’s involvement in exercise medicine. Exercise physiologists are poised as healthcare professionals committed to the American Society of Exercise Physiologists. The organization provides professional leadership for exercise physiologists in their advancement of exercise medicine to improve the client’s health and well-being.

**Key Words:** ASEP Board Certified Exercise Physiologists, Chronic Diseases, Exercise Prescription

**INTRODUCTION**

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| **Physical activity levels of people throughout society have decreased to the point that when you see someone exercising, you stop and stare just as you would at a zoo when looking at a strange animal.** |

This paper begins with several questions that need answers sooner rather than later. While it is common knowledge that non-communicable diseases in the United States result in early death and disability of men and women of all ages, is the science in the recent 20 yrs sufficient to produce a change in the lifestyle of Americans and individuals throughout the world? Perhaps, more to the point, if it is the responsibility of researchers to help promote change, how is that done? Is it simply through the process of publishing research papers? Or, is it the responsibility of the researchers to work with the healthcare professions in creating a healthier society? If so, what are the healthcare professions doing to support the expertise of other healthcare professionals? Will the research papers, organizations, and professional meetings be sufficient to produce significant change in how people live? Will regular exercise become an everyday expectation, much like brushing your teeth in the morning before going to work? Or, is society becoming increasingly skeptical of the quality of science, especially since research fraud is huge throughout the scientific community (1,2)?

On the hand, if science can exist apart from changing the bad habits of society, is it likely that science is powerful unto itself as purposefully created information that is less meaningful and interesting to society than generally believed. Perhaps, if it isn’t research and science that bring about change in society’s lifestyle, then who is responsible for bringing about healthcare change? Does that responsibility exist solely with the local medical doctors and their interaction with patients? While it is reasonable to believe the healthcare professionals at all levels can help a person understand and implement positive lifestyle changes, the process of sustaining the changed lifestyle is increasingly recognized as a personal responsibility of the individual. Thus, this thinking begs the question, “Is society at the individual level interested in doing what is necessary to avoid the negative effects of the 21st century plague?”

That is the question, isn’t it? Is your friend with hypertension sitting by you at work or the overweight person across the room in a restaurant interested in a way of life that is different from how he or she is presently living? If so, will they do what is necessary to lose 30 or 130 pounds of fat, such as cut back on the calories and start an exercise program and stay with it? Hence, the bottom line is a dark future for all of us. If society isn’t interested in doing what is necessary to live a healthier lifestyle to decrease the incidence of disease and/or disability, it doesn’t matter how qualified healthcare professionals may be to prescribe exercise medicine. Also, this point of view raises two additional questions. Now that ASEP Board Certified Exercise Physiologists are increasingly being recognized as credible healthcare professionals, what will they do different from the common talk of using exercise medicine to decrease the prevalence of chronic diseases? In what way is the ASEP accredited curriculum different from the education of other healthcare professions? Will they run upon the same road blocks? Or, will they find answers to engaging clients in a meaningful analysis of why changing lifestyle is in their best interest. Answers to these questions should help in understanding the emphasis on exercise medicine will decrease heart disease and cancer, which presently represents about 70% of the deaths in Americans every year (3).

**CHRONIC DISEASES VS BEHAVIOR CHOICES**

Exercise, diet, and smoking are the primary behavioral choices that ultimately define the lifestyle of individuals throughout the world. In fact, more than half of the adults (56%) in the United States are not physically active (4). Engrossed in sedentary behaviors, they appear to be very comfortable with their extra body weight, small muscle size and strength, and overall poor physiological capacity. They may even understand that their lack of physical activity is a major contributor to the 4th leading cause of death worldwide. But, so what, look around you, who is interested in exercising? The short answer is not many adults, especially if they could transform their lives by consuming a drug from the local pharmacy. Yes, there may be a pill that delivers the same benefits as regular exercise. It could be the answer to spending hours in the gym. You can hear the couch potatoes and stressed-out adults of all ages and gender asking, “Where do I get the pill?” If asked, “Why do you want the pill?” They will say, “I don’t like exercising, and I wasn’t good at sports growing up.” So, what is the answer?

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| **The lack of regular exercise is a risk factor for the development of several chronic diseases.** |

It sounds too good to be true, but what if the academic researchers and the pharmacological sciences actually produce a pill that builds muscles and increase a person’s cardiorespiratory capacity? What if? Personally, it is reasonable to conclude that no one will exercise, not even the small percent of active adults who are doing so today. After all, many adults are already thinking, “Why should I believe the exercise research? Really, do you actually believe moderate intensity regular exercise improves cognitive function of adults aged 50 and older? Do you?” Well, yes, Board Certified Exercise Physiologists think so. They are committed to the belief that regular exercise can stave off cognitive decline as well as prevent and treat chronic diseases (4). They are healthcare providers with a strong scientific background to work with clients in prescribing exercise that is specific to the client’s mental and/or physiological conditions, lifestyle, and/or disease condition.

ASEP Board Certified Exercise Physiologists have the academic and research background to explain the connection between exercise and mind-body changes and research findings, such as by Lee et al. (5) who compared 13,000 runners with 42,000 non-runners over a 15-yr period. Their findings indicate that the runners had a 30% decrease in mortality and a 45% decrease in cardiovascular mortality and, on average, an increase in life expectancy of 3 yrs for mortality and 4.1 yrs for cardiovascular mortality. A very important point that was highlighted by one of the authors, Dr. Steven N. Blair, is that with aging walking is essentially as good as running in producing a lot of benefit (6).

But, here again, how many aging adults understand why they should leave their comfortable chairs to walk a mile or two a day? The answer is not many adults engage in physical activity, whether it is walking around the block or it is regular exercise that includes jogging and/or lifting weights, which is an indication that something has to change. One could assume that many adults are waiting for the pill that delivers exercise in a tablet. After all, the majority of the people are not comfortable with identifying stressors in their lives much less engaging in a conversation to decrease the number of headaches they live with throughout the weeks and months of stressful work and living. Instead, they reach for several more aspirin to relieve the pain, especially since their understanding is that it might also help reduce the risk of a heart attack.

Although regular exercise is now acknowledged as a public health priority, the transition from the comfortable and physically inactive lifestyle to the physically active lifestyle isn’t a priority of the majority of young people and/or adults of all ages (7,8). Society comes across as not being interested in the 21st Century Plague? Perhaps, what is needed to move exercise medicine to the mainstream of healthcare is a new way to think about how healthcare professionals interact with their clients and/or patients? From the ASEP perspective, the answer lies with Board Certified Exercise Physiologists who are in position to apply exercise physiology concepts and ideas on behalf of not only justifying the health values of regular exercise as a credible form of exercise medicine, but also to encourage clients to think creatively and systematically about their inevitable health issues.

**THE EXERCISE MEDICINE PRESCRIPTION**

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| **Exercise medicine decreases the risk of heart disease, high blood pressure, cancer, type 2 diabetes, arthritis, and osteoporosis.** |

The collaboration between exercise physiologists and their clients is critical to understanding why regular exercise must be a health priority. Thus, motivating the client is a major part of advancing the client’s involvement in exercise medicine. It is also the means to expanding the client’s interest in exercise medicine to help correct for a poor diet, physical inactivity, and a diminished quality of health from smoking and, perhaps, drinking too much alcohol too often. The exercise medicine prescription takes into consideration the necessity of helping the client understand the physiological reasons why exercise is important rather than simply saying “get some exercise”. The latter approach has not worked even though the evidence for the positive benefits of regular exercise for health reasons has been shared in many journals, meetings, and organizations for many decades.

The ASEP Board Certified Exercise Physiologist’s responsibility is to raise the client’s personal awareness and responsibility in dealing with personal healthcare issues that result from physical inactivity, and to help develop the mental framework and strategy for the prevention and control of non-communicable diseases (9). In other words, to address exercise medicine with a client as a matter of personal and/or family health urgency, it is imperative that the Board Certified Exercise Physiologist sets aside a dedicated time period to discuss the basics of the physiological changes that result from prescribing exercise medicine. This approach is crucial to building the client’s intellectual capacity and emotional infrastructure to embrace regular exercise and the implementation of the exercise medicine prescription. It is a plan that will make a substantial difference in validating exercise as medicine and helping the stressed-out adults deal more effectively with integrating exercise into their lifestyle. This consultative approach and integration will also help to ensure the client’s commitment and sustainability to improve stamina, burn fat, and feel healthier. Rather than “hitting the wall” at the end of every work day to get things done faster and better than the co-worker sitting next to you, the improvement in endurance capacity is likely to be viewed as being remarkably healthy.

Looking ahead, the exercise pill should not be an actual “one more pill” on top of the 3 to 6 pills the average person takes daily, but rather a safe and engaging client conversation with an ASEP Board Certified Exercise Physiologist. In fact, to encourage the use of another pill when the United States is spending more than $350 billion annually on prescription drugs (10) doesn’t make sense. The cheaper and much safer alternative is an exercise prescription individualized by an ASEP exercise physiologist on behalf of his or her client. Not only will the client experience the benefits of a much stronger body from a disciplined adherence to the exercise medicine prescription, but he or she will also appreciate the positive healing power of regular exercise to improve memory, sleep patterns, sexual performance, and much more (4). Critical and timely communication between the exercise physiologist and client is the means to helping the morbidly obese and/or the middle-aged person who has never acknowledged the value in exercising to “get with an exercise program for a better life” and to “commit staying with it”.

**LEADERSHIP AND PROFESSIONALISM**

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| **There are many reasons why the ASEP Board Certified Exercise Physiologist is the #1 choice in prescribing exercise medicine to prevent cognitive degenerative and muscle wasting.** |

The fact that regular exercise has not been firmly rooted in public health is partly due to the lack of leadership and professionalism in several different healthcare professions, including exercise physiology (11,12).Today, however, with the help of the ASEP organization and its professional infrastructure, the leadership provides a platform for exchange of ideas and experiences to incentivize behaviors to improve the health and well-being of society. Moreover, the ASEP leadership is interested in helping individuals of all ages and gender to identify credible exercise physiology professionals to safely prescribe exercise medicine. In part, that is the reason why the leadership developed the Board Certification for ASEP exercise physiologists who know how to identify and disseminate the right physiological content that defines an acceptable exercise physiology practice. Thus, the profession of exercise physiology is poise to establish itself as a vitally important healthcare profession that is committed to the American Society of Exercise Physiologists. The organization provides professional leadership for exercise physiologists in their advancement of exercise medicine to improve the client’s health and well-being (13). After all, the ~3 trillion spent annually in treating chronic diseases isn’t working (14), especially since the majority of the population is overweight or obese due to physical inactivity, over-eating, and drinking too much.

Strikingly, the question remains, “Will society avoid the 21st Century Plaque?” Perhaps it will with the right help that includes a different perspective in applying the exercise prescription. Although already touched upon, it is important to highlight several important points. First, exercise medicine can improve physical and mental health as well as a client’s muscle strength and aerobic capacity. But, aside from working out and sweating, exercise physiologists should share with the client some of the basic health promotion benefits of how different types of exercises influence skeletal muscles. The conversation does not have to be complicated such as when talking about the individual steps of oxidative versus glycolytic cellular mechanisms. And, yet clients should have a general idea of the energy systems used during exercise, especially with respect to different intensity, frequency, and duration of an exercise medicine prescription and the role each plays in influencing the basic metabolic responses of different issues. Second, it is important that clients have an understanding of the differences between anaerobic and aerobic exercise and the role of each exercise medicine prescription in strength gains that are helpful for older adults and/or individuals with disuse or wasting of the muscular system (15). After all, ultimately, the future of a client’s health and well-being is fundamentally his or her responsibility to “go for it” and give it all they have got.

**FINAL THOUGHTS**

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| **When exercise medicine is safely prescribed by a credible healthcare professional, you can expect a reduction in all-cause mortality and reductions in cholesterol, triglyceride, and low-density lipoprotein levels as well as an increase high-density lipoprotein levels.** |

In closing, to address several of the questions presented at the beginning of this paper: “Is science sufficient to produce a change in the lifestyle of Americans”? The short answer is “No” But, the fact that science acts as a guide is helpful just as speed limit signs help in controlling how fast cars are driven. There will always be a large percentage of individuals who will turn a blind eye to the scientific studies that show a correlation between disease and fitness. Similarly, what are the necessary steps to get healthcare professions to work together in helping to create a healthier society? The short answer is this: Rather than doing everything we can to empower “just our professional future” (however important), the more we reach out to other healthcare professions, we encourage working together, assisting each other, and educating each other and our clients in the assessment, application, and monitoring of individualized exercise medicine prescriptions. Understandably, while each profession will have and should have its own unique approach to working with its clients and/or patients, no single profession owns society’s responsibility to healthcare.

As to the society’s “everyday expectation” that everyone will acknowledge that he or she is responsible for exercising, once again the short answer is “No”. Life is too complicated, too challenging, and too self-centered (often with unsound if not misguided thinking) to prevent, alleviate, or treat disease and/or disability on a daily or even every other day prescription of exercise medicine. The fact is that each of us is a copy of everyone else. Yes, we are human beings with more similarities than dissimilarities, but nonetheless we are incredibly different from each other in how we think, what we read, and why we either exercise or not. The fact that two-thirds of the population is overweight or obese is a function of life, living, and our adopted lifestyle.

Lastly, we within ASEP believe that it is possible to penetrate these barriers by clarifying for our clients what the measurable physiological variables mean and how certain regression equations can be used to educate and gauge health outcomes as well as the educational impact on their health and longevity. In the end, it is more than obvious that each one of us is unique in how we react to life, its ups and downs, and our personal responsibility to do what is necessary to live a healthier lifestyle. Thus, while the list of reasons for bad habits and the resulting thinking that is necessary to avoid health problems is a huge challenge (16), it is possible to impress upon our minds healthier habits of life and living.

What things soever ye desire, when ye pray believe that ye receive them, and ye shall have them.

-- Mark 11:24

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**REFERENCES**

1. Freeman M. Most western scientific medical research is fraudulent. ***Waking Times.*** 2015. (Online). http://www.wakingtimes.com/2015/08/07/most-western-scientific-medical-research-is-fraudulent/
2. Walia A. One of the most important scientists in the work: “Most cancer research is largely a fraud”. ***Collective Evolution.*** (Online). http://www.collective-evolution.Com/ 2015/05/11/one-of-the-most-important-scientists-in-the-world-most-cancer-research-is-largely-a-fraud/
3. Gerteis J, Izrael D, Deitz D, et al. ***Multiple Chronic Conditions Chartbook. AHRQ Publications No. Q14-0038.*** Rockville, MD: Agency for Healthcare Research and Quality, 2014.
4. Boone T. ***ASEP’s Exercise Medicine Text for Exercise Physiologists.*** Bentham Science Publishers.
5. Lee DC, Pate RR, Lavie CJ, Sui X, Church TS, Blair SN. Leisure-time running reduces all-cause and cardiovascular mortality risk. ***J Am Coll Cardiol.*** 2014;64:472-481.
6. Lavie CJ, Blair SN. A prescription to move: Giving exercise its due. ***Medscape.*** (Online). http://www.medscape.com/viewarticle/837344#vp\_1
7. Thompson PD, Buchner D, Pina IL, et al. Exercise and physical activity in the prevention and treatment of atherosclerotic cardiovascular disease: A statement from the council on clinical cardiology (Subcommittee on Exercise, Rehabilitation, and Prevention) and the Council on Nutrition, Physical Activity, and Metabolism (Subcommittee on Physical Activity). ***Circu.*** 2003;107(24):3109-3116.
8. Cornelissen VA, Fagard RH, Coeckelberghs E, et al. Impact of resistance training on blood pressure and other cardiovascular risk factors: A meta-analysis of randomized, controlled trials. ***Hypertens.*** 2011;58(5):950-958.
9. Boone T. ***Introduction to Exercise Physiology.*** Burlington, MA: Jones & Bartlett Publishing, 2014.
10. Metzl JD. The Exercise Cure. ***Slate.com*** (Online). http://www.slate.com/articles/health\_ and\_science/medical\_examiner/2013/12/exercise\_to\_prevent\_cure\_or\_treat\_disease\_cancer\_heart\_disease\_inflammation.html
11. Boone T. Exercise physiology, professionalism, and healthcare. ***PEPonline.*** 2013;16(6): 1-16.
12. Boone T. A new healthcare profession: Exercise physiology. ***PEPonline.*** 2015;18(3):1-12.
13. Boone T. The exercise physiologist’s “prescription pill” is exercise. ***PEPonline.*** 2009. (Online). https://www.asep.org/asep/asep/TheExercisePill.pdf
14. Zimmerman M. Can this surprising “miracle drug” treat anything? Research and this doctor say yes. ***Women’s Health Mag.*** (Online). http://www.womenshealthmag.com/ fitness /jordan-metzl
15. Zierath JR, Walberg-Henriksson H. Looking ahead perspective: Where will the future of exercise biology take us? ***Cell Metab.*** 2015;22:25-30.
16. Boone T. ***The Power Within: The Integration of Faith and Purposeful Self-Care in the 21st Century.*** Bloomington, IN: Author House, 2002.

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