The Myth that is Healthier than Ever

In July of 2014, Aaron Silver left his home to take his dog out on a run. Aaron was 28 years old at the time, and in perfect health. During the run however, Aaron collapsed to the ground from cardiac arrest, and was pronounced dead at the scene. Once his body was examined, it was concluded that Aaron had died from an overdose of Flintstone Chewable Vitamins (JP). His family was in shock. His mother later spoke on the incident, “Aaron was the kinda guy who would do something like that. If he had a headache, he’d take twice as many Advil to make sure it went away twice as fast. It was just his nature” (JP). Aaron had made the mistake of assuming that taking extra vitamins would make him extra healthy. He had only taken four times the recommended amount, but it was still enough to take his life.

Although incidents like this have occurred many times before, these incidents should not imply that overdosing on any supplement is guaranteed to be lethal. Most vitamin supplements are harmless, and there are benefits to taking certain supplements in particular situations. However, supplement usage has become so mainstream that the majority of the public has forgotten their intended purpose. Many people have fallen victim to such misconceptions as the idea that vitamin supplements can cure everything, or that more is always better. These myths are further perpetuated by advertisements for “miracle weight-loss pills” and supplements that make you stronger in every imaginable way. It is becoming increasingly difficult to tell fact apart from fiction, leaving people confused as to what additional supplements they should and
should not be taking. The number one rule is to always talk to your doctor before taking any dietary supplements. Unfortunately, over the years people have been led to believe that supplements are harmless, and should be purchased from a local drug store whenever a consumer feels like it. This widely held belief has resulted in Americans spending billions of dollars on supplements, most of which are useless. With the dietary supplement industry being so enormous, and the myths of these supplements being so deeply-rooted in the minds of the public, it is critical that we examine how this came to be. This research will shed light onto the ways in which the usage of vitamin supplements has spread so quickly, and has endured for so long.

In his book titled *Do You Believe in Magic? The Sense and Nonsense of Alternative Medicine*, author Paul A. Offit describes how a man named Linus Pauling was responsible for starting the supplement health craze. Linus Pauling was an incredibly well-known chemist, whose work earned him two Nobel Prizes. In 1931, Pauling received the first of these prizes for his paper titled *The Nature of the Chemical Bond*, in which he shed new light upon the process of electron sharing between atoms (Offit). Pauling was only thirty years old at the time of receiving this first Nobel Prize. In 1962, Pauling was awarded with his second prize for his work as a peace activist (Offit). In addition to this, Linus Pauling had been elected into the National Academy of Sciences, and was presented with the National Medal of Science and the Medal for Merit. Pauling was even included on the cover of *Time* magazine’s “Men of the Year” edition in 1961, where he received high praise for his work as a scientist. All of these achievements earned Linus Pauling great respect within the scientific community, as well as tremendous fame (Offit).

It wasn’t long after Pauling’s second Nobel Prize that his work would change in a dramatic way. When Linus Pauling was sixty-five years old, he received a recommendation from a biochemist that taking 3,000 milligrams of Vitamin C every day would help Pauling live
at least twenty-five years longer (Offit). Pauling took this advice, and noticed many positive benefits as a result of the extra Vitamin C. Over time, Pauling began taking significantly higher doses of Vitamin C, up to 18,000 milligrams per day (Offit). Pauling became obsessed with the usefulness of Vitamin C supplements; it became is life’s mission to share his experiences with the world. Pauling wrote a bestselling book titled *Vitamin C and the Common Cold* in 1970, in which he argued that daily Vitamin C supplementation would eliminate the common cold.

Over time, Pauling’s claims became even more extreme. In 1971, Pauling stated that cancer deaths could be reduced by as much as 10% with the use of Vitamin C (Offit). Several years later, he argued that Vitamin C would increase life expectancy to be between 100 and 110 years. He even claimed that when combined with other vitamin supplements, Vitamin C could cure nearly every disease, from kidney failure to AIDS (Offit). As Pauling made more and more outrageous claims, the scientific community lost all respect for him and revoked his credibility. However, the possibilities of vitamin supplements were beyond exciting for the media and the public. People began asking their doctors for vitamin C in order to help them with any diseases they were suffering from. Pauling continued to encourage supplement use until his death in 1994. He died to prostate cancer at the age of 93 (Offit).

Time and time again, Linus Pauling’s claims have been disproven by rigorous scientific studies. For example, a study was conducted in 1979 to test Linus Pauling’s theory that Vitamin C supplements could benefit cancer patients (Creagan). After conducting a double blind study with 150 advanced cancer patients, no difference in symptoms or survival was noticed between those who received Vitamin C supplements or placebos (Creagan). In 2005, a scientific review compared 55 placebo-controlled studies from the past 65 years that dealt with the effect Vitamin C supplements had on the common cold (Douglas et al.). After comparing this data from tens of
thousands of subjects, the conclusion was drawn that Vitamin C lacked any effect on the severity or duration of the common cold, except under a few very specific circumstances (Douglas et al.). Another scientific review conducted in 2012 compared seventy-eight trials with nearly 300,000 subjects, and found no evidence supporting the use of antioxidant supplements to help in the prevention of disease (Bjelakovic). In fact, it was determined that beta-carotene, Vitamin E, and large doses of Vitamin A could even increase mortality when consumed (Bjelakovic).

It is incredibly important that we remember the actual purpose of vitamin supplements when analyzing the radical claims made by people such as Linus Pauling. A person should only use dietary supplements if they are not getting vital nutrients from their diet. However, the vast majority of people would not benefit from supplements. For example, since most individuals receive the optimal amount of Vitamin C from their diet, they should not take additional supplements increase the possibility of negative health effects (Dasgupta and Klein 282). Even if a person would benefit from dietary supplements, the supplements should only be taken under the supervision of a medical professional. Nevertheless, there is a general misunderstanding among the public about when it is appropriate to take vitamin supplements. Many people believe that dietary supplements are safe to be taken for any reason, and will always result in health benefits. This misconception is mainly caused by three factors: false media claims, misleading advertisements, and a mentality among the public that more is always better.

The media is one of the greatest causes for the perpetuation of myths concerning health and dietary supplements. Today, television programs such as *The Dr. Oz Show* receive 2.9 million daily viewers on average (Korownyk et al.). Unfortunately, many of the medical shows provide misleading or contradictory advice to viewers. However, all of the claims made by programs such as *The Dr. Oz Show* are presented as fact, which can lead to viewers drawing
false conclusions about health and remedies. A study conducted in 2014 randomly selected recommendations from 40 episodes of *The Dr. Oz Show* and the talk show *The Doctors* in order to test how many were supported by scientific evidence (Korownyk et al.). The study concluded that about half of the recommendations made on each show either had no supporting evidence, or were proven wrong by scientific study (Korownyk et al.). This is very concerning, considering the fact that these shows may be the sole source of medical information for many people. On *The Dr. Oz Show*, Dr. Oz has recommended many different supplements be taken daily in order to improve overall health. These recommendations may cause people to purchase vitamin supplements for themselves with the assumption that they must be safe because a doctor recommended them.

Dr. Oz is very similar to Linus Pauling in the way that they are both seen by the public as professionals and trusted sources. However, it is essential that people not misplace their trust in either of them. Although they appear knowledgeable in their respective fields, having Linus Pauling or Dr. Oz make a claim does not instantly validate the claim as true. When dealing with any kind of expert, you must not blindly accept all of their claims as fact, and you must instead do research to determine if their claims can be confirmed by other sources. Unfortunately, this is not something that the general public would typically spend time on. Most people would rather find a show or a celebrity that they trust, and accept anything that sounds convincing enough. Even more unfortunate is the fact that other media sources will take these claims and continue to spread them as fact. For example, the *Today* show had Dr. Andrew Weil on the show in 2005 to discuss the use of dietary supplements (Weil). Dr. Weil proceeded to endorse all kinds of vitamin supplements, even referencing a study from the Linus Pauling Institute while
recommending that everyone take 200 to 500 milligrams of Vitamin C each day (Weil). This happens far too frequently, thus causing the continued spread of medical myths.

Advertisements for vitamin supplements are also responsible for leading to the spread of misinformation. Due to government regulations of supplement companies being relaxed in recent years, advertisements have become significantly more misleading. On its website, the U.S. Food and Drug Administration states that companies are responsible for verifying the accurateness of their claims about their dietary supplements ("Questions and Answers on Dietary Supplements"). The FDA even elaborates that, "a firm does not have to provide FDA with the evidence it relies on to substantiate safety or effectiveness before or after it markets its products" ("Questions and Answers on Dietary Supplements"). With such little regulation, it makes it easy for companies to get away with making false claims or unsafe products. Consumers can put themselves at risk when they lack a clear understanding of the legitimate benefits and side effects of the supplements they take.

These companies have found many creative ways to work around the restrictions that the FDA does put on them. One example that highlights some of these sneaky techniques is the advertising campaign of Centrum in 1997. In the June edition of the *Journal of the American Dietetic Association*, a Centrum advertisement claimed that, "Statistics show that 9 out of 10 Americans don't get all the nutrients they need from what they eat, and, in fact, are missing out on important vitamins and minerals" (Barrett). This statistic is based on a survey that only asked participants if they had eaten the recommended amount of fruits and vegetables on one particular day (Barrett). This is incredibly misleading: not only can vitamins and minerals be received from foods other than fruits and vegetables, but a person's eating habits on a single day don't necessarily reflect their overall nutrition. The advertisement also stated, "Centrum can help
bridge the gap between what your patients should eat and what they actually do eat” (Barrett). This assertion may easily deceive a reader into believing that Centrum should be used when dieting in order to avoid eating too much, which is completely false. We can see from advertisements like this that companies will try to push the envelope of FDA regulations, and fool consumers with false claims.

The public also shares in the blame for the misuse of dietary supplements. There is a general mentality that if something is good for you, having more is always better. This mentality is applied to personal health far too often. Unlike over-the-counter drugs, which most people are aware can be dangerous when overdosed, people are not generally knowledgeable of the potential dangers of vitamin supplements. This may be in part due to the fact that dietary supplements can be purchased with no hassle from any drug store or general store. In addition to this, vitamins are always thought of as good things that our bodies need to survive. While this is true, it in no way means that they should be taken in any quantity at any time. This problem is also not helped by the fact that supplements are often made to look and taste like candy. Supplements can be made to be chewable, sugary, fruity, and chocolaty, all in an effort to appeal to the consumer. With the appearance of candy, it can be hard for people to consider the major health effects that supplements can have, and how important it is to only take them with a doctor’s permission.

This phenomenon is incredibly similar to the alternative medicine technique of oxygen therapy. In an article by Harriett Hall titled Oxygen Is Good – Even When It’s Not There, Hall describes how oxygen has been marketed and sold as a health supplement. She interprets the mentality of the public when she explains, “The rationale, apparently, is that oxygen is required to support life; therefore more oxygen should make you more healthy” (Hall 112). Hall even
describes how Dr. Andrew Weil (the same doctor that came on the *Today* show to discuss vitamin supplements) would tell patients suffering from chronic fatigue to request oxygen from their doctors. Even though scientists continued to prove that oxygen therapies are not effective in treating anything, there was no way to convince any of the true believers (Hall 113). As simple as it is to test blood oxygen levels, many people would just continue to assume that having extra oxygen in their bodies is helping them in some way. Even with the potential dangers of some of the oxygen therapies that were proposed, people had a hard time believing that anything as natural as oxygen could possibly harm them (Hall 113).

This is the same is it is with vitamin supplements. Oxygen and vitamins are both essential for survival. However, that doesn’t mean that having extra will improve health in any way. Just as how people get all of the oxygen they need from breathing, people get all of the vitamins they need from food. Only under very specific circumstances would a person ever need to supplement for a deficiency in either of these things, and it should always be with the permission of an actual health professional. It is a shame that this is not better known. Just like oxygen therapy, misuse of dietary supplements has its own set of consequences. Not only can overdosing on some vitamin supplements lead to health issues, but vitamin supplements can also lead to people foregoing treatments for diseases, and wasting money on products that are not helping them at all.

Consulting a health professional before taking vitamin supplements is incredibly important, because failing to do so can result in misuse of supplements. Overdosing on dietary supplements such as Vitamin A, Vitamin D, and iron can have harmful consequences, especially when taken before or after surgery (“Dietary Supplements: What You Need to Know”). Supplements also pose a danger when combined with medications or other supplements
("Dietary Supplements: What You Need to Know"). In addition to this, people who choose to take vitamin supplements in hopes of curing their disease may be harmed by avoiding proper treatment. In total, dietary supplements result in over 20,000 emergency room visits every year (O’Connor).

In addition to the physical dangers brought by vitamin supplements, there are financial concerns. The dietary supplement industry generates $32 billion dollars every year (O’Connor). However, much of the money spent by consumers is being wasted on products that are not benefiting them in any way. Misleading advertisements can cause consumers to believe that they will receive extra benefit from taking supplements. However, it is incredibly easy to receive the recommended amount of vitamins with a proper diet, and supplements should only be taken by those with a severe vitamin deficiency (Dasgupta and Klein 290). Researchers also suffer a financial burden due to dietary supplements. In a scientific review written by Vikram Sinai Talaulikar and Isaac T. Manyonda, it is argued that the myths pertaining to dietary supplements have cost large amounts of research money. Talaulikar and Manyonda explain the problem with continuing to explore the possibility of vitamin supplements curing diseases as they elaborate:

We do appreciate that research studies with negative findings add to the existing knowledge on the subject and that they are critical for acceptance/refusal of novel healthcare interventions. Nevertheless, the propagation of the same fundamental flaw of assuming benefit from intervention has cost huge amounts of precious research resources. The need of the hour is for robust laboratory scientific research to explore new routes of administration or doses of novel antioxidants, before any more large trials are planned for future. (Talaulikar and Manyonda)
The health craze that has resulted from vitamin supplements is just as ridiculous as any other debunked alternative medicine method used today. There are true believers who spread the myths and will not be convinced by reason. Advertisements plant false information in the minds of the public, thus creating a dangerous mentality that you can’t have too much of a good thing. The only difference between dietary supplements and other types of alternative medicine is how mainstream supplements have become. Since supplements have proven to be useful in under some specific circumstances, people have generalized this to mean that all supplements are helpful. With major proponents such as Linus Pauling and Dr. Oz, believers seem to have all of the evidence they need to support the use of supplements. However, it is essential that we see past these false claims, and not accept everything said by a person of authority as fact. Otherwise, we could end up dangerously misinformed. Just as Aaron Silver passed away from something as seemingly harmless as Flintstone Vitamins, so too could we suffer heavily from our mistaken beliefs as we strive to improve our health.
Works Cited


