GUEST EDITORIAL:

THE S.E.L.F 4 HEALTH™ MODEL: SHIFTING THE PARADIGM FROM REACTIVE SICK CARE MODEL TO A PROACTIVE HEALTH MODEL

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ABSTRACT

The modern healthcare system nowadays is largely operated on a reactive sick care model. One that focuses on treatment of diseases rather than prevention or their potential reversal. This approach has a limited impact on reducing the disease burden but imposes significant healthcare expenditure. The proactive health approach on the other hand focuses on prevention and health promotion through healthy lifestyle interventions. The S.E.L.F 4 Health™ is a holistic model aimed at promoting good health and wellbeing, preventing illnesses and aiding in reversing chronic diseases. It emphasizes on the four fundamental pillars including sleep, exercise, lifestyle and food. It urges the health systems, policymakers and communities to consider wellness as an active and lifelong process. Adopting this model can result in healthier people, stronger societies, and a more resilient global healthcare system.

KEYWORDS

Healthy lifestyle, Sleep hygiene, Physical activity, Nutrition, Chronic disease

The modern medical system largely operates on a sick care model which is reactive and kicks into action when patients get sick only to mitigate damage such as treating diseases and injuries after they occur. This includes interventions like medications, surgeries and therapies. Sick care is essential for managing acute conditions and emergencies, however, it does not address the underlying causes of disease. Long term diseases such as depression, diabetes, dementia, Polycystic Ovary Syndrome (PCOS), heart diseases, and nonalcoholic fatty liver disease (NAFLD) and other illnesses are increasingly prevalent and remain largely uncured, despite advancements in modern medicine and technology.

The costs of relying heavily on sick care are enormous. The U.S alone spent $216 billion on stroke and heart diseases annually. Sick care demands substantial resources including highly trained professionals, advanced medical equipment and costly infrastructure etc[1]. Despite advancements in modern medicine including new drugs, state-of-the-art hospitals, skilled healthcare professionals and cutting-edge technology, the 'sick care' system consistently falls short in providing a solution to address underlying factors contributing to illness as chronic diseases remain widespread and uncured[2] (Table 1).

Table 1

Trends in the Prevalence of Chronic Diseases[3-8]

Chronic Diseases	Initial Year	Latest Year	

	Year	Estimated Prevalence (Millions)	Year	Estimated Prevalence (Millions)	% Increase (from Initial to Latest Year)
Depression	**1990**	172	**2017**	258	50%
Alzheimer's	**1990**	20	**2020**	55	175%
Diabetes	**1990**	200	**2022**	830	315%
Dementia	**1990**	4	**2021**	8	100%
NAFLD	**1990**	561	**2019**	1235	120%
PCOS	**1990**	12	**2021**	18	50%

In contrast to the sick care, healthcare (often referred to as well-care) is a proactive approach, aiming to prevent illness and promote overall wellbeing. It emphasizes healthy behaviors like effective physical activity, healthy diets, lifestyle modifications and restorative sleep. This approach seeks to empower individuals to create good health and also reverse illness.

In this context, Dr. Zakiuddin Ahmed has developed the S.E.L.F 4 Health™ Model which is a unique and comprehensive model aimed at promoting health and wellbeing, preventing illnesses and aid in reversing chronic diseases. It emphasizes the following four fundamental pillars (Figure 1):

1. Sleep
2. Exercise
3. Lifestyle

4. Food

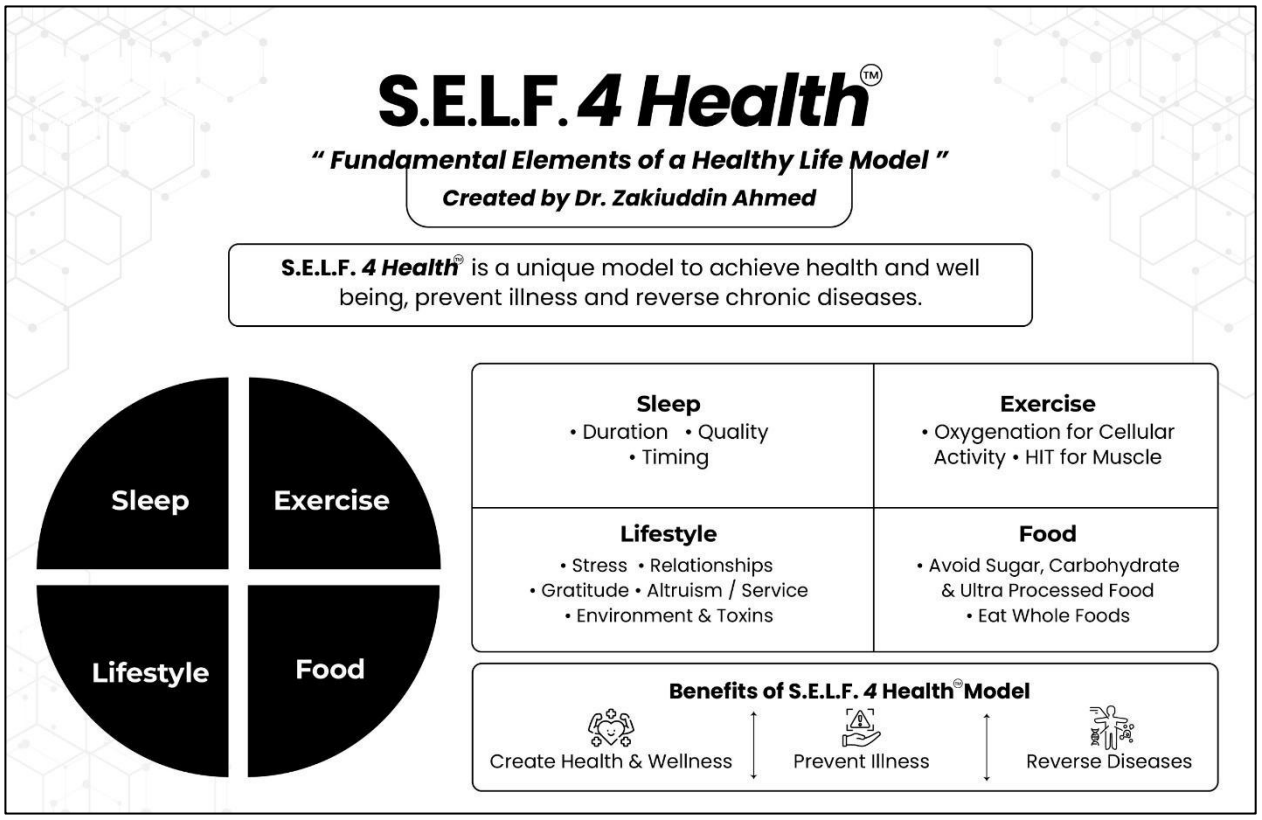

Figure 1: The S.E.L.F 4 Health™ Model

Sleep is essential for the physical and mental health of human beings. It is a periodic biological state which is regulated by a homeostatic process. For good health and wellbeing, the role of a good sleep is important. While duration of sleep is mostly emphasized, scientific evidence suggests that sleep duration, quality and timing are all essential elements of healthy sleep[9]. Epidemiological studies have indicated that poor sleep has also been associated with a higher risk of memory impairment, poorer cognitive function, anxiety and depression. In addition to this, people suffering from insomnia are 10 to 17 times more likely to experience anxiety and depression, as compared with those without insomnia. Scientific evidence also suggests that poor sleep is also associated with several other mental problems including eating disorders, post-traumatic stress, delusions and hallucinations[10].

Individual sleep requirements may vary based on various factors such as age, certain health conditions, pregnancy and medications etc. However, for the average adult, it is recommended by the American Academy of Sleep Medicine (AASM) and Sleep Research Society (SRS) to have 7 or more hours of sleep each night for good health and wellbeing. The National Sleep Foundation recommends a sleep of 7 to 9 hours for adults and 7 to 8 hours for older adults[9].

Exercise plays a fundamental role in preventing chronic diseases such as obesity, cancer, depression, diabetes, hypertension and heart diseases. Brisk walk improves mental health along with cardiovascular health, strengthens core muscles and enhances balance. High Intensity Training (HIT) builds muscle mass which in turn supports better posture and stability, ultimately contributing to the ability to stand and move with power. Both these physical activities also burn calories and improve metabolism, contributing to overall health and wellbeing. The WHO has recently

updated its Physical Activity and Sedentary Behavior Guidelines which recommend performing approximately 150 to 300 minutes of moderate intensity exercise or 70 to 150 minutes of HIT weekly to attain significant health benefits. Scientific evidence has shown that people who meet these weekly targets have a lower risk of depression as compared with inactive individuals. Even physical activity below the recommended duration has been shown to reduce the risk of depression and positively impact mental wellbeing. Compared with inactive adults, individuals who perform half of the recommended amount of exercise have an 18% lower risk of depression[11]. In addition, regular physical activity lowers the risk of dementia by 28% and Alzheimer's disease by 45%[12].

Lifestyle is influenced by behavioral and environmental factors, both of which play a crucial role in health. Behavioral factors such as altruism, benevolence and healthy relationships are particularly important for mental and physical well-being[13]. Altruistic emotions and behaviors, benevolence and positive relationships are strongly linked to increased well-being, happiness and longevity. These factors enhance both mental health by reducing anxiety and depression, and physical health through stress reduction and protection against premature aging[13]. Similarly, when a body experiences continuous stress, it produces cortisol leading to episodes of high blood pressure, anxiety, depression and uncontrolled diabetes. Environmental factors and external toxins play a significant role in increasing the prevalence of chronic diseases. According to WHO, environmental risk factors including physical, chemical, biological and lifestyle/work-related elements account for 23% of deaths with 2/3rd attributed to NCDs. Workers in industries such as construction, manufacturing and agriculture may encounter hazardous substances like asbestos, lead, mercury and pesticides. For instance, asbestos exposure is associated with lung cancer and asbestosis while lead exposure can lead to neurological impairments such as schizophrenia and depression. Prolonged exposure to physical agents like noise, vibration and radiation can contribute to cardiovascular diseases (CVD)[14]. On the other hand, plastics, particularly in utensils and food containers, can leach toxic flame retardants (e.g., decaBDE), phthalates and Bisphenol A (BPA). These are linked to hormone disruption, developmental and reproductive problems, asthma and various cancers. Moreover, Micro plastics can also cause DNA damage, oxidative stress and inflammation increasing the risk of heart attacks, strokes and autoimmune disorders. Commonly used household items such as perfumed aerosols and scented candles release volatile organic compounds while personal grooming products like cosmetics contains various chemicals, both of which are harmful for health.

Food is the most important pillar of the S.E.L.F 4 Health^{TM} Model that acts as a double edge sword. Food can be both medicine as well as poison. It plays a crucial role in preventing, treating, and even reversing many chronic diseases like CVD, depression, diabetes and Alzheimer's. Large amounts of highly processed dietary sugars create sugar spikes in the blood leading to brain fog. A poor diet, characterized by an abundance of dietary sugar (especially fructose) and ultra-processed foods (UPFs), is now considered a primary contributor to morbidity and mortality across the globe. Excessive intake of fructose has been linked to chronic diseases like NAFLD through multiple biological pathways. Consumption of fructose in higher quantities can cause mitochondrial dysfunction, oxidative stress and neuro

inflammation which alter brain function and lead to mood disorders including depression. It also alters metabolic functions like insulin sensitivity leading to diabetes and PCOs. Similarly, UPFs contains refined carbohydrates, high fructose content, unhealthy fats and artificial additives. These foods cause imbalances in the gut microbiome which is an important component of brain-gut axis that affects cognitive function and mood. UPFs are also associated with a higher risk of NCDs as they promote oxidative stress and inflammation. Protecting individuals from harmful foods requires informed choices and a commitment to nourishment through balanced nutrition. A healthy diet should include polyphenol rich foods such as blueberries, strawberries, almonds, walnuts and olives, unrefined carbohydrates including whole grains, legumes, fruits and vegetables and DHA/omega-3 fatty acids which are found in salmon, tuna and other similar fish[15]. The most beneficial foods for optimal brain health include berries especially blueberries, nuts particularly walnuts and omega 3 fatty acids. While, whole foods rich in fiber promotes gut health which enriches the gut microbiomes leading to improved health on both cellular and functional levels.

The S.E.L.F 4 Health™ Model is a transformative approach to healthcare that prioritizes prevention, sustainability and reversal of chronic diseases over reactive interventions. This model provides an evidence-based framework that addresses the physical and mental determinants of health by focusing on the foundational pillars of Sleep, Exercise, Lifestyle and Food. In an era where chronic diseases continue to rise despite technological and pharmaceutical advancements, it is imperative to shift the paradigm from sick care to proactive health. In addition to emphasizing individual accountability, the S.E.L.F 4 Health™ Model calls upon health systems, policymakers and communities to rethink and consider wellness as an active, lifelong process. Adopting this model can result in healthier people, stronger societies and a more resilient global healthcare system.

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