CHAPTER N0.

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Biology of Chronic Diseases Beyond the Germ Theory: Integrated Insights

SAIMA SOMAL[1], RIAZ HUSSAIN[2], HAMZA TANVEER[1], MUHAMMAD SAUD[1], MUHAMMAD ASIF SAEED[1], MUHAMMAD ASFAND SAEED[1], AFRASIAB NASIM[1], MUHAMMAD ARIF ZAFAR[1*]

[1]Department of Clinical Studies, Pir Mehr Ali Shah Arid Agriculture University, Rawalpindi, Pakistan
[2]Department of Veterinary Biomedical Sciences, Pir Mehr Ali Shah Arid Agriculture University, Rawalpindi, Pakistan
[*]Corresponding author: dr.mazafar@uaar.edu.pk

Summary: Chronic Illnesses are those conditions that are long lasting and need constant care and management. These conditions affect people's quality of life and are now becoming a major health concern across the globe while also putting a strain on healthcare systems worldwide. Chronic conditions like COPD, hypertension and diabetes require constant care and ongoing management, and if ignored, they can lead to serious health issues. A holistic health approach, by recognizing the link between physical, mental, emotional and spiritual well-being, can help manage chronic conditions quite effectively. Making a few lifestyle changes by incorporating a balanced diet, physical activity, regulation of stress and sleep management is also important to prevent and manage chronic illnesses. In the development of modern healthcare, germ theory has played a major role in identifying microorganisms as a primary cause and source of illness. Holistic health views individuals as a whole and considers wellness as a balance between mind, body and spirit. It offers a combined approach to managing illness. Patient centered care considers the preferences and needs of patients, and also encourages their participation in treatments, showing positive health results.

Keywords: Chronic illnesses, Holistic Health, Germ Theory

INTRODUCTION

Illnesses or conditions that typically persist for about a year or more with an inability to be cured completely are characterized as chronic illnesses (Dowrick et al., 2005; Jonathan, 2018). These include a variety of conditions ranging from manageable complaints like backache to more serious ones such as Chronic obstructive pulmonary disease (COPD) and diabetes etc. Though there are many chronic illnesses that can be effectively managed and treated, they often give rise to different acute health issues and problems that may cut short one's lifespan, hence becoming a major death and disability cause around the world (Rothman & Wagner, 2003; Jonathan, 2018). People who suffer from chronic conditions have to live a challenging life which in turn impacts the quality of life. Although all chronic conditions do not lead to disability, symptoms may deter the patient from performing even basic everyday tasks, making everyday life challenging for them. The management for chronic conditions usually requires continuous medical care along with some lifestyle changes and regular checkups to maintain normality in daily life (Michie et al., 2003; Rothman & Wagner, 2003).

Major differences have been recorded in the onset, duration and management strategies of chronic illnesses and acute conditions with distinct patient experiences. Generally, a gradual onset is there in chronic conditions which develop over a span of months or even years, making the symptoms less noticeable initially (Charmaz, 2000). On the other hand, acute conditions have a sudden onset, typically without a warning and often accompanying intense symptoms that require immediate medical attention (Mishel, 1997). A heart attack is one of the examples of acute conditions that require prompt medical attention while conditions like diabetes, due to their long-lasting nature, demand continuous management. Complex and long-term strategies are involved in the management of chronic illnesses that include regular monitoring, some lifestyle changes and regular checkups with the health care professionals (Mishel, 1997; Charmaz, 2000). Unlike acute conditions, which require rigorous but brief treatment that aims towards rapid resolution and can be managed or cured in a shorter time frame (Rinnenburger, 2021). Moreover, while the acute conditions generally do reverse within a limited duration, chronic conditions may continue indefinitely, leading towards health deterioration over time (Charmaz, 2000; Rinnenburger, 2021).

OVERVIEW OF GERM THEORY

The germ theory of disease primarily changed the understanding of the illness by identifying the microorganisms or "germs" as the main agent responsible for causing diseases (Gaynes, 2023; Carlsson & Råberg, 2024). Microorganisms are an integral part of this world and every day, we come across billions of them, yet every one of us does not get sick. Before the acceptance of germ theory, the predominant belief of swift generation of disease misled people into thinking that the disease arose from unfavorable and foul air and environmental conditions. This was debunked by the evidence provided by the pioneers like Louis Pasteur and Robert Koch. In 1860s, Pasteur's revolutionizing experiments verified that

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germs could be transmitted among individuals and were very much capable of causing diseases, thereby transitioning the focus from miasma theory to the pathogens as the cause of illness (Gaynes, 2023; Carlsson & Råberg, 2024). This substantial shift resulted in a scientific model that could be studied and verified, advancing into the field of medical research resulting in better hygiene practices, vaccine developments and progressions in public health dealings (Gaynes, 2023).

Understanding Holistic Health

There is often no distinct line between health and sickness. The development of a disease starts long before its symptoms start being evident (Tomljenovic, 2014; Schramme, 2023). WHO defines health as a complete wellbeing that includes physical, mental and social aspects and not just the absence of disease (Schramme, 2023). Holistic health is also a similar approach to well-being that considers a person as a whole encompassing the physical, mental, social, emotional as well as spiritual facets. This is a multidimensional approach which is illustrated through various techniques like meditation, yoga, acupuncture etc. which not only tackles physical health problems but also fosters spiritual and emotional development. In a conventional healthcare system, a targeted treatment approach is followed which aims towards specific symptoms or a disease whereas in holistic approach, the root cause of the imbalance is seek out thereby enhancing the overall health and avoiding the disease (Ventegodt et al., 2005). Moreover, holistic health allows one to participate actively while healing, stressing upon the lifestyle choices that include diet, stress management and exercising on a regular basis as vital health components (Hawks, 2004; Ventegodt et al., 2005). Holistic approach promotes and inspires people to lead a more balanced and meaningful life by integrating different medical approaches ranging from herbal therapies and essential oils to exercise and mindfulness (Ventegodt et al., 2005; Kustiyati et al., 2024).

The holistic health model shows how the mind, body and spirit are in a deep connection with each other. It draws attention towards the importance of balanced care, which means that when the elements of mind, body and spirit work together, it leads to one's overall wellness and a more satisfied life. This perception concedes that psychological, physical and spiritual health are not at all separate but are actually interdependent aspects that affect each other in various subtle ways (Hawks, 2004). For example, a person's physical health is impacted by their emotions and thoughts like anxiety and stress can cause physical issues through mechanisms that cause increase in inflammation or weakened immune response; similarly, one's physical health can also be influenced by their emotional and mental well-being (Steele, 2020). Holistic health practices which include techniques of mindfulness, physical activities, breathing and spiritual exercises have been proven to be helpful at deeper levels of wellness. Furthermore, the increasing acceptance and popularity of holistic health methods in modern medicine indicates a change towards acknowledging the importance of treating the person as a whole rather than just a physical symptom or disease (Kaushik et al., 2024). Eventually when holistic health practices are adopted, improved health and wellbeing is observed; helping people to understand the connectivity of the mind, body and spirit to an improved living quality (Hawks, 2004; Kaushik et al., 2024).

CHRONIC ILLNESSES AND LIFESTYLE DETERMINANTS

In today's day and age, chronic illnesses have become a prevailing public health issue. Chronic conditions become persistent and along with affecting the lives of the people suffering with them, they also put a huge burden on the healthcare systems, along with major socioeconomic outcomes. Healthcare professionals, experts and researchers strongly stress upon the need for a holistic, patient centric approach that also goes beyond the traditional medicines to address the complex nature of the chronic issues. At the heart of this approach lies the idea that for any individual one's lifestyle choices play a key role to avoid and manage the chronic problems (Grady & Gough, 2014). This idea highlights the role of factors like diet and nutrition, stress management, physical activity and exercise, social connections etc., and considers them a central main feature for the development and progression of many health problems. To efficiently implement this holistic approach into traditional medical practice, healthcare providers must devise and implement an all-inclusive plan that would consider the individual's requirements, preferences and objectives, while also holding on to the research on the impact that lifestyle interventions have upon the health outcomes (Sadiq, 2023).

Diet and Nutrition

Diet and Nutrition play a pivotal role in the prevention and management of any disease. Multiple studies that have been conducted on diet have shown results that following a healthy dietary lifestyle, for example, the Mediterranean diet etc. is linked to a significant decrease in the risk of various diseases that include heart diseases, Type 2 diabetes, hypertension and some types of cancers as well (Shang et al., 2023; Sadiq, 2023). This association can be ascribed to the fact that a diet that is rich in nutrients, plant based can help to alleviate the inflammation, improve metabolic function and provide support to the overall physiological functions; all of which are highly significant and crucial for the management of chronic illnesses (Shang et al., 2023).

Physical Activity

Physical activity is one of the major players in the management and prevention of chronic illnesses and presents a diverse approach to health. For people already struggling with chronic issues, if they regularly engage in physical activities, experience a significant reduction in symptoms and an overall improved quality of life (Deuster, 1996; Booth et al., 2000; Nunan et al., 2013). Studies have shown that regular stretching and light exercise not only has a positive effect on one's mental health, it also helps in easing the physical symptoms of the illness along with addressing the issues like depression and anxiety which usually comes along with chronic diseases (Booth et al., 2000; Booth et al., 2012). The link between physical activity and improvement in chronic illness is furthermore strengthened by its ability to improve

functional capacity, which is an important factor for improving the quality of life and maintaining independence (Booth et al., 2000). Moreover, research also proves that adopting lifestyle changes by including increased physical activity and exercise helps slow down the progression of disease like Type 2 diabetes and cardiac issues to a great extent, highlighting the importance of an active lifestyle (Booth et al., 2012). Furthermore, a combination of physical activity with a nutrient rich diet produces a powerful and positive effect that increases the benefits for the overall health of the individual and well-being (Ignarro, 2007).

Stress Management and Sleep Patterns

Along with a balanced nutrient rich diet and regular physical activity, managing stress and regulating a proper sleeping pattern are other fundamental elements to consider for the reduction in the symptoms and effects of chronic conditions. Where effective stress management improves an individual's overall health and well-being, adequate sleep has also been observed to reduce the risks of diseases like cardiac issues, diabetes, obesity and multiple other chronic illnesses (Hyyppä & Kronholm, 1989; Abe & Abe, 2019). Such illnesses can also increase and worsen due to chronic stress, making it important for the patients to find and adopt ways that would help them in a sustainable way to manage their stress levels (Baum et al., 1995; Garrido et al., 2011). Engaging and adopting activities like meditation, yoga, deep breathing etc not only helps in the reduction of stress but also plays a great role in improving the quality of life (Baum et al., 1995; Garrido et al., 2001). An intricate relationship between sleep and immunity also exists which means that it cannot only intensify the progression of the already existing diseases but the individuals with insufficient and disturbed sleep are also at high risk of developing immune related issues like IBD (inflammatory bowel disease) (Ditmer et al., 2021). It has been proven through research that people who experience poor sleep quality are more likely to develop chronic inflammatory conditions like arthritis and hypertension, indicating a major impact that sleep can have on an overall health (Hernández et al., 2022). Having a quality sleep may result in decreased risks that are associated with chronic illnesses therefore, dealing with sleep disturbances with a right and accurate diagnosis and appropriate treatment is very important. Better sleep quality when combined with proper stress management and other healthy and holistic lifestyle factors, helps in the development of a cohesive approach that supports a good health and overall wellness (Baum et al., 1995; Garrido et al., 2011; Ditmer et al., 2021; Hernandez et al., 2022).

PATIENT CENTERED CARE AND MANAGEMENT OF CHRONIC ILLNESSES

Patient centered care means putting the patient and their needs first. This changes how the chronic illnesses are managed. In a patient centered care, it is made sure that the patient feels respected, cared for, supported and involved throughout their journey towards better health (Graffigna et al., 2015). In this approach, the patient's needs and preferences are focused which results in higher patient satisfaction levels along with strengthened trust levels in the plan of treatment. When patients are actively involved in the process, they not only feel valued and respected but are more likely to follow the instructions and prescriptions provided by their doctors. They also become regular for follow up checkups, which results in a better progress in their healing journey (Graffigna et al., 2015). The patients who build a deeper and meaningful connections with their health care providers are more likely to follow their treatment plan, which is a key element in this relationship (Wolf et al., 2008).

Moreover, in patient centric care, it is made sure that a clear and transparent communication is made about the plan of treatment which helps patients to develop a better understanding leading towards positive results (Wolf et al., 2008; Ngorsuraches et al., 2018). When support from the family and surrounding community is included, this approach builds a comprehensive and balanced plan to deal with the complex aspects of chronic illnesses, ultimately leading towards an improved care and quality of life for then patients (Wolf et al., 2008; Mirzaei et al., 2013). Hence, a patient centered approach prioritizes the patients' needs in a way that not only raises a supportive environment but also aligns with the holistic aspect by addressing the physical and mental wellness, which is important for an effective management of chronic conditions (Koch, 2013).

COMMUNITY HEALTH AND PUBLIC POLICIES

Chronic illnesses are increasingly becoming a challenge to public health policy as the number continues to rise globally. Over the last 20 years, the number of people who got affected by chronic conditions has steadily increased by 7 to 8 million every 5 years. Chronic diseases like diabetes and cancer not just take over the healthcare sector but also are a one of a major reason of death (Holman, 2020). Additionally, the economic impact of managing these issues is urging the policy makers to reevaluate the allocation of resources and funding to deal with this rising issue. Moreover, the ways that healthcare organizations classify and define chronic illnesses can make it more confusing and harder to develop effective plans and strategies for managing and preventing these conditions (Hacker, 2024).

INTEGRATIVE MEDICINE, HOLISTIC HEALTH AND CONVENTIONAL MEDICINE

Integrative medicine has a holistic approach which focuses on treating the person as a whole rather than focusing just on specific physical symptoms or diseases which is different from the conventional medicine which has a narrow focus. The central idea of this approach is the teamwork collaboration between the patient and their health care provider, where they both work together to a common goal that is to discover the underlying causes behind the health issues (Ng et al., 2016). Integrative medicine tends to use natural options which are less invasive and encourage a team partnership between patients and their physicians which respects and include the patient's values and belief system for their overall betterment (Gannotta et al., 2018). This style of treatment identifies and acknowledges the importance of emotional and spiritual needs for healing; hence the physician devises a plan that is tailored

to the patient's needs (Kotsirilos et al., 2011). Moreover, to create a stronger bond between mind and body the techniques like acupuncture and mind – body therapies are also encouraged. As the field of integrative medicine grows along with growing public awareness, it has developed as a new medical specialty as not only a mode of treatment but a complete all-inclusive philosophy that seeks out the patient empowerment along with overall wellness (Gannotta et al., 2018).

CONCLUSION

Chronic conditions are now increasing worldwide as an important health issue that is placing a huge strain on health care systems and economies while also affecting the individuals greatly. The holistic health model focuses on the connection between the mind, body and spirit. This is a n approach that believes in treating the symptoms of the disease while also considering the overall health of the patient by placing their needs first. The holistic health model is also important in prevention and management of the chronic conditions because it brings together the other lifestyle factors like diet and nutrition, stress control and regulation, physical activity and sleep management etc. This approach also connects well with the growing awareness of patient centered care and also encourages the joint efforts made by the patients and their physicians together to create a plan of treatment that is tailored to address each person's unique needs. As the medical sector continues to grow, integrative medicine provides a pathway to a more customized and effective care by blending together the conventional treatments with holistic approaches. Along with the ongoing research, rising public awareness and supportive public health policies, a holistic model which incorporates various aspects of health and wellness can reshape the ways to manage chronic conditions, making it more sustainable and empowering for the people all over the world.

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