“ROLE OF NOSOPHOBIA ON ORTHOREXIA NERVOSA AND HEALTH RELATED QUALITY OF LIFE :A CROSS- SECTIONAL STUDY”

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A THESIS SUBMITTED IN PARTIAL FULFILMENT OF

THE REQUIREMENTS FOR THE DEGREE OF

MASTER OF PHILOPSOPHY

In **Applied Psychology**

To

DEPARTMENT OF APPLIED PSYCHOLOGY
FACULTY OF SOCIAL SCIENCES

NATIONAL UNIVERSITY OF MODERN LANGUAGES, ISLAMABAD

NATIONAL UNIVERSITY OF MODERN LANGUAGES FACULTY OF SOCIAL SCIENCES

THESIS AND DEFENSE APPROVAL FORM

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Submitted by me for fulfillment of MPhil degree , this thesis is my original work, it's not published or submitted earlier. Ethical guidelines were followed for the thesis .

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ABSTRACT

Title:Role of Nosophobia on Orthorexia Nervosa and Health Related Quality of Life :A Cross- Sectional Study

Obsession with healthy eating has been increased in past few years all across the world. The study explores the relationship between Nosophobia, Orthorexia Nervosa and Health Related Quality of Life . Fear of sickness is influencing individuals to eat healthy only which is affecting their Health related Quality of Life. The participants of the study was adults age range 20-45 years. Convenience sampling from Rawalpindi and Islamabad. Confidentiality of participants was assured. Quantitative research method was used, Statistical analysis was performed using SPSS .Nosophobia acted as a mediator between Orthorexia Nervosa and Health Related Quality of Life. The study highlights that Nosophobia is leading towards Orthorexia Nervosa among adults. The findings of the study is helpful in the field of clinical psychology as it can develop better insight for Nosophobia, Orthorexia nervosa and Health Related Quality of Life. Study can also help for development of better diagnostic tools.

Keywords: Obsession, Nosophobia, Orthorexia Nervosa, Health Related Quality of Life, clinical psychology.

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LIST OF ABBREVIATIONS

ON	Orthorexia Nervosa
ORTO-15	Donini ORTO-15
IAS-26	Illness Attitude Scale
WHO QOL Brief-27	WHO Quality of Life Scale Brief
HRQOL	Health Related Quality of Life
DSM-V	Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition

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ACKNOWLEDGEMENT

In the name of Allah, the most merciful and beneficent

First I am deeply thankful to **Allah Almighty** , The Merciful for completion of my thesis.I would like to express my gratitude to everyone who have supported my during my thesis especially my parents and brother, who have always supported me .Their love and support was a strong motivation for pursuing my dreams.

I extend my sincere thanks to my research supervisor , Dr. Ulfat Nisa and my co-supervisor Ms. Iqra Tariq for her support,guidance and expertise, feedback and encouragement during research work.Her mentorship and dedication have influenced my work. I am truly grateful for her guidance, commitment and patience during my academic growth.

I would like to thank all participants who participated in the study and shared their experiences. Thank you all of being part of my journey .Your support has been valuable for completion of thesis.

DEDICATED TO MY BELOVED PARENTS

MAY ALLAH ALMIGHTY BLESS THEM

Chapter 1

INTRODUCTION

The study aims to study the impact of Orthorexia Nervosa on Nosophobia and Health-Related Quality of Life. It seeks to understand how these factors affect individuals' the psychological and physical health. The objective of this study is to explore the role of Orthorexia Nervosa, which is not classified as a disorder in DSM-5 but is influencing people's lives. A preoccupation with strict and healthful dietary practices may lead to psychological damage. A disease which is disguised as a virtue (Bratman & Knight , 2000).The mediating role of Nosophobia will be explored; data collection will be done by using convenience sampling to explore Orthorexia Nervosa, Nosophobia, and Health-Related Quality of Life. This study will help develop better intervention plans. My study will help in building awareness in Pakistan.

As a researcher who studies the intricate interactions between psychological variables and quality of life, I want to look at the connection between Nosophobia, Orthorexia Nervosa (ON), and Health Related Quality of Life , Nosophobia, or the extreme fear of being sick, and Orthorexia Nervosa, which is characterized by an obsession with eating "pure" or healthful foods, are psychological disorders that seem to have similar underlying mechanisms that stem from health-related fears. Nosophobia is also categorized as a medical related phobia which means fear of some medical diseases (Dorwart, 2023).

My study aims to comprehend the interdependencies among these diseases and how they affect Health Related Quality Of Life. Despite being frequently seen as a dedication to eating healthily, Orthorexia Nervosa can develop into a pathological behavior marked by severe dietary restrictions, social isolation, and psychological discomfort. Significant declines in both mental and physical health may result from these conditions. Likewise, Nosophobia intensifies health-related anxieties, resulting in increased alertness, avoidance tactics, and disturbances in day-to-day activities. Health related quality of life deals with normal functioning of life which tells how

health is effecting quality of life (Wilson & Cleary, 1995) .According to my hypothesis, there is a reciprocal relationship between Orthorexia Nervosa and Nosophobia, with increased health concerns in people potentially causing or reinforcing orthorexic inclinations and vice versa. This interaction probably lowers social engagement and increases stress, which lowers Health Related Quality of Life. By examining the interactions between these conditions and finding putative mediators including emotional distress, cognitive biases, and coping mechanisms, my research seeks to clarify these linkages using empirical data.

1.1 Statement of the Problem

Two of these include Orthorexia Nervosa (ON) that is current mental health concern given as an unhealthy obsession with correct nutrition and Nosophobia, an irrational fear of getting sick. Two of these disorders are marked by poor functioning, maladaptive behaviors, and increased levels of anxiety and hence, have an impact in Health Related Quality Of Life. Orthorexia Nervosa is an obsessive fear about eating healthy foods was coined by Bratman (Bratman, 1997). While Orthorexia Nervosa encourages a person to stick to a healthy and nutritional free diet and nutritional anorexia ensues, Nosophobia enhances the health anxiety and health phobia therefore a cycle of distress is championed. Although they have gained increased awareness in recent years and within today's health-oriented environments, the relationship between these diseases and their combined effects on patients' Health Related Quality Of Life remains relatively understudied in the literature. This gap is especially salient in Eastern societies because cultural norms and beliefs regarding the sociocultural environment can create an impact on such diabetes and its effects. Meeting this gap can enhance theoretical knowledge which is helpful in culturally appropriate interventions with an aim of reducing the negative impact of depression on the Health Related Quality Of Life.

1.2 Orthorexia Nervosa

An intense obsession with eating only foods that are deemed healthy, pure, or natural characterizes Orthorexia Nervosa. (Bratman & Knight, 2000). The word "orthos," which means "accurate, straight, right, valid, or correct," and the word "orexis," which means "hunger or appetite," have been combined to form the "Orthorexia"(Bratman, 1997). Orthorexia nervosa occurs when an individual becomes fixated on consuming quality rather than quantity. A love of eating well can become a pattern of rigorous diets; victims grow so focused on sticking to a "pure" diet that mainly consists of raw vegetables and grains that meal planning and preparation become their lives work and interfere with their regular activities (Donini et al, 2022). This disturbing behavior is not yet classified as a disorder in DSM-5(Varga et al & Van Furth, 2013). Food is free from all artificial flavors and chemicals (Fidan et al, 2010).If any individual is obsessed with healthy food for a long period of time ,it can have some effects like stressing about food which is not overcooked or over processed , and taking precautions to prevent food from getting unhygienic (Dunn & Bratman , 2016).Today, people adjust to the terms healthy dieting and exercising, thus, purchasing food has become an difficult process. Indeed, eating a proper diet is necessary for good health; however obesity diseases that are linked to binge eating or skinny diseases because of a desire for clean eating can be a type of a disease that has a specific name Orthorexia Nervosa (ON).

Unlike Anorexia Nervosa, Bulimia Nervosa, Avoidant/ Restrictive Food Intake Disorder or Other Specified Eating Disorders, Orthorexia Nervosa is not categorized as a distinct disorder in the Diagnostic and Statistical Manual of Mental Disorders (DSM-V). However, it differs from these disorders by one’s ability to choose what they eat but has similarities in that it includes strict rules regarding food intake, significant concern with food, and restricted social interaction (Koven & Abry, 2015). This one simply differs in that it emphasizes food quality over food quantity. Orthorexics tend to spend lots of time on meal planning, sourcing foods, and avoiding

seemingly “unclean” foods which over time; their bodies suffer nutrient deficiencies; they develop mood disorders, and cannot integrate into society properly (Cena et al, 2019). Definition for eating healthy food can vary from person to person, it can be less calories in food or low amount of salt and sugar in preparing of food, and some can say they don’t eat packaged poison(He et al., 2021). Some people said this that their Orthorexic behavior was due to personal life stress or any other severe mental condition; they are mostly unaware of their sickness. Emotional problems and stress can cause Orthorexia Nervosa (Barnes & Caltabiano, 2017; Greetfeld et al., 2021 & Hayes et al., 2017). Sometimes they don’t realize about being Orthorexic other people identify it when they show strict diet plans Less information regarding Orthorexia Nervosa are common in all eating disorders , if there is no insight developed so it can’t be treated , not able to diagnose about Orthorexia Nervosa is also common in other Feeding and Eating disorders (Bratman, 1997).

Atchison (2022), concluded that mostly people were having strict clean diet because they want to achieve goals regarding fitness and slim body figure, that’s why it’s difficult to differentiate between Anorexia Nervosa and Orthorexia Nervosa to find out the logic behind these restricted diets.

Even as the science of Orthorexia Nervosa has risen in profile, there has been scant scholarly investigation of prevalence, risk factors, and consequences that relate to the disorder. Some of today’s common research recommendations point to increased susceptibility of the following groups to Orthorexia Nervosa development: health professionals, athletic individuals and those involved in activity related to fitness and wellness (Mc Comb & Mills, 2019). There are also mentioned some psychological characteristics that can precede its development such as perfectionism, obsessive-compulsive tendencies and finally social pressure (Strahler, 2019).The present research intended to understand the nature of Orthorexia Nervosa, possible psychological and sociocultural antecedents of it and its effects on health and well-being of the people.

Therefore, the present speculation offers to make a significant contribution to such diagnostic criteria as well as to the treatment of this new emergent phenomenon.Orthorexia Nervosa merits further research because it is society's negative outcome of seeking health. Improved knowledge of this condition will assist in countering the concepts of good health, and a healthy diet with the existing existence of psychological problems related to the eating habits and patterns.

Currently there is heightened public scrutiny of healthy eating and exercise hence people more alert to the consequences of improper food selection. As necessary as the consumption of proper nutrition is for the body, an unhealthy obsession with the kinds of foods that are considered "pure" or "right" in their nutritive value and the principals of their preparation can lead to a condition termed by some as Orthorexia Nervosa (ON) although it is being debated whether it qualifies to be a pathology or not. Orthorexia nervosa was introduced by Bratman in (1997), as a pathological preoccupation with the correctness of one's diet, specifically a intense and rigid concern with the purity of foods.

One point to remember is that Orthorexia Nervosa is not included in the DSM-5 as a separate eating disorder alongside anorexia nervosa and bulimia nervosa. Also, it shares the same symptoms where the person adheres to strict diets or refrains from consuming some types of food, feels to anxious about food and lives secluded (Koven & Abry, 2015). Instead, it's more about eating better and not eating more. People with Orthorexia Nervosa experience obsessive selection of the nutrient and clean foods, knowledge of the food sources of a nutrient rich food, and food avoidance of "less pure" foods; thereby, these people are actually malnourished, emotionally distressed, and disabled to social function (Cena et al., 2019).

Recently described, Orthorexia Nervosa has been associated with poor research in regard to its prevalence, its causes, and its consequences. In terms of the present research, it is assumed that a variety of people, for instance, health care workers, sportspersons and other people with involvement in bodies associated with fitness are prone to orthorexic behaviors (McComb &

Mills, 2019). According to Strahler (2019), genetic predisposition together with other conditions including perfectionism, obsessive compulsive symptoms and the cultural pressure may also bring about onset. A study was conducted by McComb and Mills in (2019), the results proved that People want to control everything due to anxiety that's why they do some rituals for their food and are obsessed with eating only " pure diet ".

It can be said that the anxiety is at unconscious level and people don't have awareness regarding the cause of anxiety and why they adopt perfectionist behavior. Exposure to unhealthy life style and environment are associated with orthorexic behaviors (Kiss-Leizer & Rigó, 2018 ; Kiss- Leizer et al., 2019 & McComb & Mills, 2019). A research was conducted by Kiss-Leizer and Rigo in (2019), on 739 participants, the results concluded that people with higher orthorexic tendencies were associated with reduced autonomy, higher levels of anxiety and harm avoidance. Due to decreased autonomy they were indulged in compulsive behaviors.Total 85 % of panel said that such eating habits may cause low body weight, main cause of low body weight can be due to imbalanced diet which are connected with Orthorexia Nervosa (Brytek-Matera et al ., 2020; Godefroy et al ., 2020 & Oberle et al ., 2017).

Most people follow vegan diet, some are eating only meat , the study concluded that people had more orthorexic behaviors who were following vegan and vegetarian diet as compared to omnivorous diet because they don't want to hurt animals that's why they were adopting vegan diet . Orthorexia Nervosa is positively related with health and healing process (Barthels et al., 2019 ; Brytek-Matera et al). It's not necessary whether a person is using social media and he/she is adopting pure diet, there can be some underlying facts which were leading to eat pure food only . It also depends on the content which is binge watched by the user (Donini et al ., 2022).The purpose of this research proposal is to determine the current existence of Orthorexia Nervosa its psychological and sociocultural antecedents and consequence on the health and well- being of those who suffer from it. The study aims to help fill this knowledge gap

in order to identify diagnosis and management of this emerging problem.One reason why Orthorexia Nervosa must be considered is because people are falling victim to the societal drive toward health standardization. They believe gaining more insight into this condition will help pave the way for better telling of health propagandists regarding ways to raise awareness as they continue touting the benefits of eating healthily — while also not neglecting this disease's psychological aspect.

The society today is more focused on a healthy diet and exercise, which has been the reason of knowing and caring with what we eat. Whether it is necessary to surround oneself in a constant bombardment of food news and photos, filled wall instagrams, incredible meal preparations behind bars, whole food shop mentality, or heavily processed, cooked in sticks, and roasted hundreds of degrees Fahrenheit, is all too much. The disease was named Orthorexia Nervosa by Bratman (1997) who defines it as a pathological obsession of eating healthy food to the detriment of (Bratman, 1997).

Lastly note that currently, Orthorexia Nervosa is not recognized as a bona fide diagnosis classified in the DSM-5. While it doesn’t completely match, it does relate to these disorders to some extent; including restricted eating, fear of food, and avoiding contact with others (Koven & Abry, 2015). Similarity is that it is a diet but difference is that it is a diet for quality not the quantity. As the Orthorexia Nervosa suffers become more and more rigorous on meal planning, food sourcing, and abjured pure food the probability of the occurrence of Orthorexia Nervosa suffers is high; hence nutritional droughts, mood disorders, and social dysfunction (Cena et al., 2019).Despite the emergence of the idea of Orthorexia Nervosa, we have yet limited data regarding incidence, risk factors, and consequences. According to the present research, individuals in the health care professional, athlete and fitness and exercise pursuit groups are the most at risk of developing orthorexic attitudes (McComb & Mills, 2019).

Also psychological factors such as perfectionism, obsessive compulsive traits and having the expectation of society (Strahler, 2019) are thought to be responsible for the onset of Anorexia Nervosa.The purpose of this research is to determine the orthorexic discussion, the psychological and sociocultural aspects thereof, and how such consequences may affect a person's physical and psychological well- being. This is the research aim towards contributing to the identification of diagnosis and management of this pressing emerging problem in this regard.Thus, Orthorexia Nervosa is important as a research area because it illustrates the potentially negative effects of medical concern.

This will help to develop a more balanced approach to healthy diets and side effects from this situation for individual's psychological well- being.Social media influences and promotes new and healthy products. Increase in life threatening diseases for example, diabetes, cholesterol. A Middleclass person follows the rules of elite people to adjust in society. People eating vegan and pure diet considers themselves as modern. After COVID -19 the world has become germ phobic so people likes to eat healthy.Portrayal of expensive vegan diet on TV, news and social media .New generation as a trend of going to gym for workouts .Age and weight can be a factor, awareness about food because people with Orthorexia Nervosa loves to spend time on researching about calories of food. People calculate calories of food as a fashion, cultural and societal pressure.

1.3 Diagnostic Criteria

The diagnostic criteria given for Orthorexia Nervosa is (Donini et al.,2005):

Criterion A: An obsession with consuming "healthy foods," with particular attention to meal composition and quality. (A minimum of two of the following.)

1 . Eating a diet that is nutritionally unbalanced because of ingrained notions of food "purity."

2 . An obsession with consuming unclean or unhealthy meals and concerns about how food composition and quality affect one's physical or mental well-being or both.

3 . Strict abstinence from foods the patient deems "unhealthy," including those that contain fat, preservatives, food additives, animal products, or other substances the subject deems unhealthy.

4 . For non-food professionals, spending inordinate amounts of time (three or more hours a day) researching, purchasing, and cooking particular food kinds according to their perceived quality of food.

5. Guilt and anxiety often arise from consuming meals that are considered "unhealthy" or "impure

6. An intolerance for the dietary beliefs of others.

7. Spending too much money on food compared to one's income because of the perceived composition and quality.

Criterion B: Either of the following causes the obsessional fixation to become detrimental:

1. Physical health problems brought on by nutritional imbalances, such as malnutrition brought on by an unbalanced diet.

2 . The patient's views about "healthy" eating are the focus of obsessive thoughts and practices that cause severe distress or hinder social, intellectual, or vocational functioning.

Criteria C. The disturbance is not just a worsening of symptoms found in schizophrenia, obsessive-compulsive disorder, or another psychotic condition.

Criteria D. The individual's behaviors cannot be more adequately explained by another condition.

Some other factors can also develop Orthorexia Nervosa; a study reported that mostly sportsmen and people performing extreme exercises can contribute 7.9 % of developing it, Narcissist characteristics with extreme need for control and people having idealistic thoughts regarding their personalities were at 92.9 % ratio of developing Orthorexia Nervosa. Extreme

exposure to thin body pictures , promotion of hour glass figure can contribute to Orthorexia Nervosa , sometimes impaired emotional attitudes are leading cause for Orthorexia Nervosa (Donini et al., 2022). It is noted that long durations of Orthorexia Nervosa can impair an individual's psychological health due to nutritional concerns in food preparation (Barnes & Caltabiano, 2017 ;Hayes et al ., 2017). Faulty assumptions and irrational belief system can be another factor for causing Orthorexia Nervosa (Depa et al, 2016).

It's not overly concern for body image , the duration for Orthorexia Nervosa is 6 months, they are more concerned for quality of food rather the amount of food they consume .It is associated with paranoia, schizophrenia and somatoform disorder . Nonetheless, in the Eastern world where food consumption is frequently associated with culture and religion Orthorexia Nervosa and its occurrence is not well explained. There is very little research done in these areas, thus, it is not fully understood how cultural factors might affect the formation and manifestation of orthorexic behaviors (Varga et al, 2013).

1.4 Nosophobia

The name Nosophobia, also known as fear of sickness, comes from the Greek "nosos," which means disease, and "phobos," which means dread. The word itself describes what it signifies, which is an unreasonable fear of acquiring a dangerous illness (Milosviec & McCabe ,2015).Nosophobia is a fear of contracting a serious and life threatening disease (Jhanwar et al., 2020; Szczurek et al., 2021).

Elements such as having experienced a severe illness as a child, having a family history of a significant disease, or seeing .The following are significant risk factors for developing Nosophobia; losing a loved one to a terrible sickness, having someone close to them suffer from a life-threatening condition, and other genetic and hereditary causes of anxiety in the familial gene. Dizziness, nausea, difficulty falling or staying asleep, perspiration, palpitations in the heart,

avoidance of locations thought to be disease-causing, persistent search for symptoms, and anxiety and obsession over regular bodily functions are common symptoms .

When major health issues spread throughout your community, it's normal to have some concern. However, nosophobics may experience crippling anxiety that interferes with their daily lives. For instance, a person suffering from an illness anxiety disorder may be concerned that a brain tumor is the cause of their headache. If a person has Nosophobia, they may be anxious about getting a brain tumor all the time, even in the absence of any symptoms. Watching news related to harmful diseases and a past history of diseases can have a risk, Nosophobia is not added in DSM-V. Antidepressants and psychotherapy are used for treatments of Nososphobia (Raypole ,2019).

1.5 Diagnostic criteria

Following are the diagnostic criteria For Nosophobia (Dorwart , 2024).

Criteria A. Some symptoms can differentiate Nosophobia from other phobias

Criteria B. Individuals won't fear of other diseases as they already believe that they have a serious disease which is life threatening.

Criteria C. There are frequent episodes of anxiety attacks .

Criteria D. Individuals will avoid the dreadful illness. For example they will believe that they have developed a serious illness which has high mortality rate like cancer, Ebola and AIDS. But they will still try to avoid it.

Criteria E. Fear of getting sick can cause problem in daily functioning such as school, work or at home.

Criteria F. Symptoms as lack of sleep and panic attacks for six months duration ,it can cause significant impairment.

1.6 Health Related Quality of Life

Health Related Quality of Life is a combination of quality of life and health.

Those factors of one's own perception of wellbeing that are connected to or impacted by illness or treatment (Torrance, 1987). The idea of "quality of life" broadly refers to how a person assesses the "goodness" of various elements of their existence. These assessments take into account a person's temperament, emotional responses to life's events, sense of fulfillment and happiness, and contentment in one's professional and interpersonal connections (Diener et al, 1999).A person's view of their place in life within the culture and value systems in which they reside, as well as in respect to their objectives, standards, expectations, and worries, is referred to as their quality of life (WHO,2020).

Health Related Quality of Life is a multidimensional construct and includes the psychosocial and health related aspects of possible wellbeing that are impacted by an individual's health. It is to represent a subjective evaluation considering how health conditions and their management manifest themselves in one's daily activity and in overall quality of life as expressed by people (Wilson & Cleary 1995). Unlike general quality of life, Health Related Quality of Life is uniquely tied to the relationship between health and well -being, providing an overarching method for evaluating how diseases and medical and psychological interventions impact quality of life (Ferrans et al, 2005).

In recent decades, patient centered healthcare has remarkably elevated the importance of Health Related Quality of Life. This approach acknowledges that standard clinical measures, like lab tests or imaging, may miss what people with chronic illnesses, mental health conditions, or a number of other health challenges undergo every day (Cella et al, 2012). For this reason, Health Related Quality Of Life has become a necessary tool to understand not only the broad impact of health conditions on peoples' lives but also the need to tailor interventions to meet specific needs.

Factors of which socio demographic variables, cultural contexts and psychological constructs are all part of Health related quality of life are highly complex interplay. As an example, health related psychological conditions,. Orthorexia Nervosa and Nosophobia, may significantly reduce Health Related Quality of Life by creating anxiety, deranging daily routines and weakening social relationships. Molecular health, with its beliefs of diagnosis, nutrition, and genetics, has led us to maladaptive behaviors and emotional distress that further decreases Health related quality of life (Alberts et al., 2020; Kelley et al., 2019).

In addition, health perceptions are heavily influenced by the cultural and societal environmental norms, from which perception further influences how individuals will experience and report their stated Health related quality of life (Testa & Simonson, 1996).The aim of this study is to explore potential relationships between psychological conditions and Health related quality of life in particular in Orthorexia Nervosa and Nosophobia. It undertakes an examination of these interactions in order to add to our understanding of how psychological and behavioral factors influence well-being and thus inform development of holistic, culturally sensitive health interventions.

Chapter 2

LITERATURE REVIEW

2.1 Orthorexia nervosa

More studies should be done on Orthorexia Nervosa to determine whether it is a disorder or if it is relatable to previous disorders (Costa et al., 2017).The scientific community has neglected Orthorexia Nervosa ; people face psychological issues when their food quality is disturbed. They can develop guilt. Food infractions may give rise to a need for self-punishment, which takes the form of an even stricter diet or purification through purportedly purifying fasts. People can isolate themselves. People might take a morally superior position regarding their eating habits, making them unable to engage with those different from them. Orthorexia Nervosa and other eating disorders, such as anorexia nervosa, have similar traits as in both disorders; individuals like to set a goal, but both lack insight. It is also similar to (OCD) Obsessive-Compulsive Disorder, and recurrent thoughts regarding food. Orthorexia Nervosa should be differentiated from Obsessive compulsive disorder (OCD) because it has some other symptoms (Brytek et al., 2015)

They follow some rituals, such as planning food and fearing that contaminated food can cause them illness. The reason for disordered eating is the primary distinction between Orthorexia and anorexia. With anorexia, people change their eating habits in an attempt to reduce weight because they are obsessed with their bodies and fear becoming fat. People with anorexia hide their behaviors, whereas orthorexics eat in front of everyone. The main distinction between Orthorexia and OCD is that the substance of obsessions in Orthorexia is viewed as ego-syntonic as opposed to ego-dystonic It also shares some characteristics with Obsessive-compulsive personality disorder, such as perfectionism, devotion, and rigid thinking patterns. Even if there are not many reliable empirical studies on this subject, Orthorexia Nervosa may indicate a more

severe psychopathology, such as a psychotic spectrum disorder. There is currently only one case study available of an adult lady whose orthorexic eating patterns were indicative of schizophrenia's prodromal phase. Psychologists working with patients have said that Orthorexia Nervosa deserves more attention, and more research should be done on it (Nancy & Alexander, 2015).

The idea of experimenting with new foods and attending food-related social events became unsettling events, leading people to stick to routine diets and enforce self-isolation (Tragantzopoulou & Giannouli, 2024). Another study concluded that some individuals can have comorbidity with Autism Spectrum Disorder (ASD) and Obsessive Compulsive Disorder (OCD) (Huke , 2013; Pini et al., 2016 & Strahler & Stark 2020).

Not everyone has knowledge about healthy and rich diet so people follow different recipes in order to stay healthy, due to limited knowledge about nutritious diet there can be Orthorexic tendencies (Atchison & Zickgraf, 2022 ; Zickgraf & Barrada, 2021). Whenever the diet is not followed it can lead to social isolation, poor food choices and they indulge themselves in self-hating behaviors. Sometimes eating clean diet can develop a sense of spirituality among people (CARTWRIGHT, 2004; Kinz et al ., 2006).

Higher levels of Orthorexia Nervosa symptoms are reported among single people, possibly due to a greater focus on self-presentation and physical appearance (Koven & Abry, 2015).Research suggests that Orthorexia Nervosa prevalence may be higher in divorced individuals, possibly due to stress-induced dietary rigidity or attempts to regain control over their health (Dunn, Gibbs & Bratman, 2017). Living in a health conscious community can also cause Orthorexia Nervosa. Sometimes adopting fitness obsession can negatively impact mental health (Bóna, 2018).

Orthorexia Nervosa can influence a person to control others eating habits and food items . It can include fixation with controlling spouse, siblings ,parents and friends diet. They can

impose strict rules even if they have positive intentions but still it can cause significant distress among loved ones (Cuzzolaro & Donini, 2016).

Among Polish female students with Orthorexia Nervosa, a high obsession with eating the right food was not linked to an unfavorable body-self relationship. Factors included high body region (parts) satisfaction, low fitness orientation, low overweight obsession, and low attractiveness orientation. It was observed that there was no correlation between the focus on healthy food and certain aspects of body image among male students (Donini, Hale, Krupa Matera & Poggiogalle 2015). Prevalence of Orthorexia Nervosa was less than as compared to other eating disorders like anorexia and bulimia nervosa among US sample (Dunn.et al .,2016).

Orthorexia Nervosa can impair one's occupational life (Costa et al ., 2016 & Varga et al., 2013) . While less studied, Orthorexia Nervosa in men could impact fertility through deficiencies in zinc, vitamin D, and essential fatty acids, all of which are crucial for sperm health .A strong association exists between Orthorexia Nervosa and excessive gym activity, particularly among individuals involved in bodybuilding and fitness culture. Those who frequently visit the gym may develop an obsession with "clean eating" as part of their training regimen (Kiss-Leizer & Rigó, 2019). Gym-going men may develop Orthorexia Nervosa like behaviors as part of a rigid fitness regimen, particularly when influenced by social media and fitness trends . People who play sports a lot are obsessed to control their body figure that's why they indulge in physical exercises .Too much fixation with staying healthy can impair normal functioning of people (Kiss-Leizer et al., 2019).

A study investigated the relationship between Orthorexia Nervosa and gastrointestinal syndrome. If a person is constantly suffering from digestion issues, nausea, bowl syndrome may force a person to eat clean food only. The extreme obsession due to medical condition can impact overall mental well -being of a person and social withdrawal (Gajdos et al., 2021) .They studied about Orthorexia Nervosa , eating in both males and females. It affects a person's mind.

Study proved that increase in Orthorexia Nervosa was causing decrease in eating competence .There was significant difference in both males and females (Rodgers et al., 2021).

Causes of Orthorexia Nervosa and Anorexia Nervosa can be due to parental practices and food pickiness a history of eating disorders (Gorwood et al .,2016).OCD and Orthorexia Nervosa share some similarities like getting anxious when things and food are not perfect (Dunn & Bratman, 2016). It has also some similarity with Obsessive compulsive personality disorder focusing on small details, they have some rules and rituals (Koven & Abrey , 2015). History of other Feeding and Eating disorders can lead to extreme control over cognitions and they are linked to Orthorexia Nervosa (Kinzl et al., 2006) .

A European study was conducted concluded that Orthorexia Nervosa differs from Avoidant/Food restrictive disorder because food intake is not aversive but due to pathological healthy eating drives (Sunn & Bratman, 2016).Orthorexia Nervosa can lead towards malnutrition (Scarff, 2017). Individuals focuses on processing and source of food , how the food was cooked does the food has all qualities mentioned on the ingredients list is it overcooked is it nutritious all these questions arises in the mind (Donini et al., 2004) . Food intake can be in specific slots in free time people will study about food quality and nutrition (Bratman & Knight, 2000). A study concluded that some traumatic events can also manifest eating disorders (Darling et al., 2020).

Eating healthy food is not a problem but extreme obsession and spending time on healthy food can be dysfunctional for people, In some regions of world groups of people go for vegetarian diet not because of obsession with healthy food because their environment hence more studies are required for Orthorexia Nervosa (Çiçekoğlu & Tunçay, 2018). Those people are at risk of developing Orthorexia Nervosa who have a lot of knowledge about food and nutrition (Fidan et al., 2010). Committing food transgressions can lead towards guilt and sad behavior, eating healthy food can also lead towards social isolation (Mathieu, 2005). Orthorexia nervosa seeks to emphasize that individuals' dietary choices are focused on health and well-being, rather

than being influenced by concerns about body weight (Dr. Liji Thomas, 2019). While there are no negative memories associated with food, there is a mindset that fosters rigid dietary habits. Dietary patterns so it's different from avoidant /restrictive food intake disorder (Dunn & Bratman, 2016).

Orthorexia Nervosa can lead towards psychosis. A case study was done on a patient 28-year-old male. He had constipation, malnutrition, and testosterone deficiency. He was treated for an eating disorder and also had a family history of psychological illnesses. He stated he wanted to lose weight through several techniques and also introduced his own protein shakes recipe, which contained rich iron; he was obsessed with the intake of multivitamins every morning and evening is was diagnosed with OCD, disorganized psychosis, delusional beliefs regarding pure diet, his case was related with Orthorexia Nervosa (Moroze et al, 2015).

One study suggested that women are more prone towards orthorexic tendencies as compared to men (Strahler, 2019). Orthorexia Nervosa is still a comparatively less studied phenomenon even as it gains more attention, especially in non-Western cultures. The vast majority of the previous research has been conducted among Western populations, whose cultural attitudes towards diet and fitness trends have been described in detail (Cena et al, 2019). A research was conducted by Tremelling et al. (2017), it was about cultural trends in USA , Orthorexia Nervosa was identified in different nutrition's , medical and health care professional, gym trainers and yoga instructors the total ratio was 49 % who were more concerned about health , food items food making process.

The scarcity of research on Orthorexia Nervosa in Eastern societies complicates the task of recognizing vulnerable groups and elaborating appropriate assessment measures and treatments. Current research indicates that social factors, including the increasing importance of the Western concept of healthy living, may be the driving force behind the development of orthorexic symptoms in Eastern cultures (Strahler, 2019). However, more research work is

required to examine these dynamics and the effect of conventional dietary culture and habits on the disease.

Surała et al. (2020), studies examine the prevalence and determinant of Orthorexia Nervosa (ON) behaviors in elite athletes and provide insights into the particular challenges they face. The authors note that because they are so obsessed with diet and performance optimization, elite athletes are at greater risk for developing Orthorexia Nervosa. Traits associated with rigid dietary rules, perfectionism and a concern for health and physical appearance were found to be associated with Orthorexia Nervosa.

The study determines several determinants of Orthorexia Nervosa behavior in athletes, such as the pressure to keep up their peak level of physical condition, societal expectation, and the influence of sports specific nutritional guidelines. The worst hit were aesthetic and weight category sports, the stock in trade of which often involves body weight and composition. The study also outlines how psychological traits, like obsessive compulsive tendencies, and anxiety can intensify Orthorexia Nervosa behaviors.

Surała et al. (2020), find that while such diet is of value for athletic performance, healthy eating and disordered eating overlap. The findings underscore the need for educating coaches and nutritionists and athletes about how to prevent the development of Orthorexia Nervosa. Interventions that address these behaviors early may design approaches to nutrition and overall well-being that support athletic performance, but not at the expense of nutrition or well -being. In a scoping review of Orthorexia Nervosa (ON) implication in gastroenterology.

Tuck et al. (2022), described the possible influence of Orthorexia Nervosa in terms of impacts in the nutritional and gastrointestinal health as well as the practice. The review emphasizes that Orthorexia Nervosa, defined by the zoonotic obsession with healthy eating, may have a direct adverse impact on dietary patterns with restriction that may increase or mimic the symptoms of gastrointestinal disorders, including irritable bowel syndrome (IBS) and functional

dyspepsia.Gastroenterologists expressed growing concern as to the overlap between Orthorexia Nervosa and dietary management for gastrointestinal conditions and the authors discuss this overlap. For example, elimination diets that people commonly follow to treat IBS or food sensitivities can actually unwittingly trigger disordered eating behaviors in those at risk. The review also points out that on the behaviors often lead to nutritional deficiencies, social isolation, and psychological distress and exacerbate the management of preexisting gastrointestinal conditions.

Tuck et al. (2022), ask for healthcare professionals to become more aware of and educated about therapeutic dietary practices and disordered eating. They argue for a multidisciplinary approach including dietitians, psychologists, gastroenterologists and the like to provide holistic care to at risk patients with Orthorexia Nervosa. The paper ends with a call for further research into the development of screening tools and interventions specific to the gastroenterology setting.

In a case report with much compelling evidence, Park et al. (2022), describe the immune-inflammatory cascade seen in a 39 year old female patient with Orthorexia nervosa (ON) where she develops a series of severe medical complications, including hyponatremia, subcutaneous emphysema, pneumomediastinum, pneumothorax and pancytopenia. The disease is characterized by the patient's extreme dieting and dietary restriction, consuming 'pure' and 'healthy' foods, eventually to a point of chronic malnutrition, critical physiological imbalances.The report in case report describes how the patient presented dyspnea, chest pain and generalized weakness. Imaging studies showed subcutaneous emphysema, pneumomediastinum, and pneumothorax, laboratory studies demonstrated severe hyponatremia, and pancytopenia. And these complications were a result of her pushing herself to great extremes with food — excessive vomiting and prolonged malnutrition. Initial reporting of the patient’s case highlighted the challenges of diagnosing Orthorexia Nervosa in clinical settings, as even with life threatening

nature of her condition she initially denied any psychological issues.The authors highlight the need for a multidisciplinary approach (medical stabilization, psychological intervention) to managing. Given this case, Orthorexia Nervosa should be recognized as a certainly dangerous condition, which may lead to a life threatening complications and the first recognition of this condition by health professionals should be early.

Sifakaki et al. (2022), in the (DORA) Disordered Eating in Rheumatoid Arthritis study examine the prevalence and characteristics of Orthorexia Nervosa (ON) behavior in individuals with the rheumatoid arthritis (RA) in relation to the co-occurrence of chronic illness and disordered eating. Patients with rheumatoid arthritis are especially prone to Orthorexia Nervosa due to their preoccupation with eating for inflammatory control and disease progression, the study shows.Different factors can lead to Orthorexia Nervosa it can be due to life style , perfectionist attitude, cultural difference , Individuals can show high level of control over food items . Orthorexia Nervosa can be developed more in younger people due to social media.

More researches are required as it's difficult to tell a difference between the clinical and non-clinical behaviors .Psycho education is very important for developing insight for in a client so, through counseling and psycho education can help individuals who are facing clean eating only because Orthorexia Nervosa can cause severe issues. When an individual fails to achieve an ideal body mass so they are considered as failures mostly this is promoted in western countries (Popkin, 2003).

That's why it's important to do more researches on Orthorexia Nervosa as it can manifest into serious problems (Łucka et al., 2024). People living in western culture are more prone towards Healthy eating obsession (Sedlak et al ., 2019). Body dysmorphic disorder and ideal body figure for instance males wants to build more muscles and they are always worried about their body (Mącik & Kowalska- Dąbrowska, 2014).

A study was conducted on doctors and paramedic staff nurses as they face stressors daily in life because of surgery and treatments so they can also develop a habit of extreme clean diet Orthorexia Nervosa, the results show that they showed anxiety level as compared to others and they were more prone to Orthorexia Nervosa (Yilmazel, 2021). Other experimental studies have concluded that prevalence of Othorexia Nervosa was more in medical professionals and nutritionists, researches on Orthorxeia Nervosa conclude that most people follow strict diet regardless of their countries whether the research was conducted at European country or US (Reynolds & McMahon, 2019).

Orthorexia Nervosa was more growing in young adults, Teenagers following selective eating which includes only pure food (Gkiouleka et al., 2022). They avoid artificial techniques of food preparing and remove artificial ingredients in the food (Brytek-Matera et al., 2015). The main life objective for people with Orthorexia Nervosa is to maintain their clean and pure diet by calories balancing which can be linked to other eating disorders Anorexia Nervosa and Bulimia Nervosa (Costa et al., 2017).

Overly obsession with food, Health and social factors are disturbed by both Orthorexia nervosa and other Feeding and eating disorders. Increase and decrease in weight, rigid behaviors and bio psychosocial dimensions which are common in both disorders (Bratmann,1997; CARTWRIGHT, 2004). A research concluded that sometimes Orthorexia Nervosa was less in low educated people and it was less in highly educated people , it can be said that it varies in both education level (Arsoug et al ., 2008; Donini et al ., 2005) .

In last few years social media trends are emerged among youngsters and effecting their mental health teenagers are reading articles on eating disorders which is causing depression ,anxiety among them because they eat what they watch (Huang, 2010).

They have developed the ideal images for their bodies (Campaioli et al., 2017;Levine & Murnen, 2009). Internet has become a primary source for disordered eating. In this era mostly

teenagers are dissatisfied with their body figure (Radovic et al., 2016 ; Shaw et al., 2004). Social media usage has set a trend among young teenagers to have pure ad clean eating habits only (Barnes & Caltabiano, 2016). Even few factors regarding Orthorexia Nervosa is causing increase in risk (McCartney, 2016).

A study was conducted by Turner & Lefevre in (2017), on Orthorexia Nervosa , the study concluded that nearly 49 % of people who were using frequently social media apps like instagram were more prone to develop Orthorexia Nervosa , just because they were following some famous influencers , the more time they spent on social media and watching their content they were not happy about their food and life style Higher Instagram use is associated with increased symptoms of Orthorexia Nervosa, which is prevalent in the healthy eating community, without any other social media platform having the same impact. Twitter revealed a marginally favorable correlation with symptoms of Orthorexia Nervosa in preliminary analyses. Age and BMI were not related to Orthorexia Nervosa.

However, this research suggests that while a healthy dietary change can often help to manage your RA, the substantially obsessive and restrictive practices which characterize Orthorexia Nervosa lead to potential nutritional imbalance, social isolation and an increase in psychological distress. Those with an ON tendency were more likely to practice extreme dietary regimens, and pathologically do so, based on unverified health information or self-prescribed diets. However, these behaviors may increase already difficult challenges of RA management by decreasing the amount of necessary nutrients consumed, as well as impairing overall quality of life.

The authors recommend raising the awareness among the healthcare providers of the risk of Orthorexia Nervosa in RA patients. While they insist on having a balanced form of dietary advice, which emphasizes practice of evidenced based nutritional advice, but the same time they take concerns around disordered eating into account. The study concludes by recommending

additional research to develop targeted interventions aimed at mitigating the Orthorexia Nervosa risk this population, and improve both physical and mental health outcomes.

This research seeks to fill these gaps by exploring Orthorexia Nervosa in an Eastern culture, in relation to its prevalence, risk factors, and mental health consequences. Thus, it aims at enhancing the understanding of this relatively new experience, and enhancing the development of diagnostic classifications and treatment options.Orthorexia nervosa is especially important to discuss as it reveals the possible adverse effects of excessive dietary practices for the sake of the proper nutrition. Knowledge of its expression in various cultures is crucial in the prevention of the imbalance of health and wellbeing.

2.2 Nosophobia

Nosophobia is not diagnosed as a disorder in Diagnostic and statistical manual -5 (DSM-V) but it has some similarity with illness anxiety disorder , it has different symptoms like fear of getting extremely ill ,sleeplessness, vomit , they develop irrational fear of contracting a disease thinking about it can cause panic attacks and increase in heartbeat. Those who have knowledge about diseases are at risk of developing it . Nosophobia can be genetically passed on having history of different anxiety disorders. Research has told this that people having access to healthcare facilities and different socio economic status are at a risk of developing it (American Psychiatric Association, 2013).

A history of illness can lead towards Nosophobia (Alberts et al., 2014). People who were exposed to trauma can develop Nosophobia, which can include death or suffering of a loved one (Garcia ., 2017). A cross-sectional descriptive survey that examined, Nosophobia, and hypochondriasis prevalence. Findings from 182 individuals who reported having hypochondriasis and Nosophobia revealed that it was rather greater than in men in women.

157 individuals indicated a poor inclination to seek medical attention. Conclusions showed that age and the practice of seeking medical attention were related to Nosophobia and hypochondriasis (Okoi & Etim, 2021).

A study was conducted at Baghdad Iran where patients with cough sore throat symptoms were chosen ,these are the signs on corona virus (COVID-19).Patients were dissatisfied with reviewing from one doctor as fear of disease COVID-19 was the basic motive of people this was due to anxiety of patients (Abbood et al., 2024). There are not any symptoms of diseases in Nosophobia but people have fear they can develop any disease while in Illness anxiety disorder people believe that they have a severe disorder from minor symptoms getting anxious for developing a disease is similar in both (Sherif et al ., 2023).

The main difference between Nosophobia and health related anxiety is the attention to a specific focus as in Nosophobia a person feels extreme distress to potential fatal sickness (Jhanwar et al ., 2020 ; Szczurek et al., 2021). In past Nosophobia was confused with Illness Anxiety disorder , they are different from one another for instance if a person sneezes he/ she believes that they have flu or Corona virus but in Nosophobia a person has no physical ailment or any sneezing yet he/she will still think that they are going to have corona Virus .So the main difference can be absence of physical or psychological symptoms (Raypole, 2019).

When a person has anxiety about his/her sickness they get regular checkups but in Nosophobia people will avoid the symptoms but still they will have anxiety attacks about being sick. Past history of family sickness can develop Nosophobia in future generations, if a person was sick in their childhood so they can develop fear of getting sick again in future. Some other mental illness like obsessive compulsive disorder (OCD), dysthymia and generalized anxiety disorder (GAD) can comorbid with Nosophobia. Anxiety attacks can be triggered by watching or listening news regarding pandemics (Dorwart, 2024). Nosophobia can be developed by reading or listening about serious illness on social media or news, nowadays there are a lot of articles

regarding serious illness (N K, 2024). Perceptions about getting extremely sick can be associated with self-made concepts (Rafy et al., 2004).

A study by Abou shoq et al. (2022), was conducted on the psychology department students , results revealed that had lower scores in terms of having Nosophobia . Psychology students had less belief in treatment because the thoughts about sickness symptoms can become a hurdle in their productivity; They had coping mechanisms which helped them thinking rationally because they were closely working with trauma and disorders. Pain and developing an undiagnosed serious illness was more among psychology students as compared to other group (Butcher et al, 2014). Causes of specific phobias can be due to childhood trauma (Laura, 2023; Medlineplus).

People having Nosophobia will be reluctant to go to hospital due to fear but hypochondriasis people will visit different hospitals. Nosophobia can be treated with Cognitive Behavior Therapy (CBT), hypnotherapy and medicines like anti-anxiety and anti-depressants (Raypole .,2019).Disease phobia, otherwise called Nosophobia is a sort of dread related with an extreme fear of breaking out an ailment. Individuals with Nosophobia tend to misperceive small bodily sensations, or harmless symptoms as signs of serious diseases, which then causes them to become anxious and distressed (Asmundson et al, 2010).

Unlike hypochondriasis, which entails a general fear of illness without specification, Nosophobia centers on a particular disease for which the person is fearful, e.g., cancer, AIDS, or heart disease. The effects of this condition can also impact severely on a person's quality of life and may affect their emotional well -being, social contacts and day to day functioning (Abramowitz & Braddock, 2008). In Nosophobia an individual is totally obsessed with minor changes within body, he/she will get terrified if their body show any symptoms related to a dangerous disease. They can also exaggerate their signs and symptoms (Dyrbye et al, 2006).

Nosophobia can lead to compulsive behaviors for instance people will match symptoms through online websites and wash their hands frequently. They will avoid places like clinics and hospitals because seeing someone sick can trigger anxiety. Understanding underlying causes of Nosophobia is very important because not everyone is capable of dealing with stressors. Seeking therapy can help in building emotional resilience (Tranceform , 2025). Specific phobias can be treated through anti-depressants and anti-anxiety medicines (NIMH, 2022). Nosophobia was also associated with Body Dysmorphic Disorder (ICD-10).

There could be many different origins of Nosophobia – psychological, biological, and sociocultural. Individuals with Nosophobia may be in particular sensitive to bodily sensations and prone to catastrophize them (Abramowitz et al., 2007). This fear may also develop through sociocultural influences including exposure to alarming health information via media, or through personal experiences with illness (Millar, 2003).Furthermore, Nosophobia is common among people with perfectionistic or obsessive compulsive tracts which are disposed towards extra health monitoring and reassurance seeking behaviors (Wheaton et al., 2010). Researches have proved that some personality traits such as psychological flexibility, conspiracy theories, altruistic behavior and neuroticism can lead to health concerns among people (Kucukkarapinar et al., 2022; Landi et al., 2020; Pérez-Mengual et al., 2021) .

Although much has been done to research Nosophobia in Western societies, the prevalence and expression of the disorder in Eastern societies is still limited. In more traditional societies, where health is derived from a combination of traditional medicine, coupled with spirituality, and a communal life style, Nosophobia may be expressed differently. For example, cultural stigmas about disease, for example a stigma about mental illness, tuberculosis, or the like; or conceptions of health and illness based on religion may lead to fear of disease (Kirmayer & Bhugra, 2009). These are certainly unique cultural factors, but little empirical research into conditions such as Nosophobia exists for non-Western cultures. Seeking reassurances from

different health care professionals to maintain their own health but this can lead to extreme stress in daily life (American Psychiatric Association, 2013; Kucukkarapinar et al., 2022 ; Le J et al .,2022) .

Individuals are extremely obsessed that they can get sick, sometimes it effects the human body but in some cases it can effect it at mild levels only. The person who has Nosophobia will be health conscious. Two major therapies can help for treatment of Nosophobia that is Cognitive Behavioral therapy (CBT) and Exposure therapy. Cognitive Behavioral Therapy can help for irrational cognitions and fear among patients. In exposure therapy patients are asked to study about that specific disease .Medicines like beta – blockers can help to reduce the symptoms of anxiety incase if a patient has a rise blood pressure because he/she thinks that he has a specific disease so it can help in this condition. Sedatives like benzodiazepines can be also used but not for a long time (Raypole, 2019).

When a person grows older in age he/she develops a certain fear of getting sickness and isolation from family (Awang et al., 2017). Fear of sickness brings death anxiety among people .Which can directly impact one's life physically and psychologically (Iverach et al., 2014). Most people are scared of getting chronic illness such as cancer (WHO, 2015).Other fear of diseases for example memory loss , dementia are common in older age (LADITKA et al., 2011).

Ageing can increase fear related to onset of many life threatening diseases cardiovascular diseases, Alzheimer's disease and physical disability (Phillips & Ferguson, 2012). People can get terrified of places they are living, can their family members get sick , infection can spread easily all these fears are causing mental illness among people due to Nosophobia (Kaya, 2020) .

During COVID-19 individuals who were medical professionals were seeking reassurance from different doctors this was because of the pandemic fear it was contagious and dreadful so fear of getting sickness was developed in them with increased levels of anxiety. they were so

scared that even a minor symptom triggered their anxiety they have got COVID-19 and they can die (Blakey et al., 2017 ; Chou et al ., 2019 ; Lee J et al ., 2022).

A study was conducted on pregnant women during pandemic on anxiety levels and potential risk . Pregnant women were more vulnerable to different diseases as compared to other people the fear and anxiety of catching a contagious disease was higher among them (Amerio et al ., 2020 ; Liu et al., 2020) . According to Potential Risk Theory there was increase in risk and fear due to pandemic (Karimi-Zarchi et al., 2020; Schaller , 2011).

Whenever there is fear and anxiety prevailing the individual becomes more prone to develop more psychological illness like depression and extreme stress (Leung et al., 2005). Women who gave birth during pandemic they were more prone to stress and anxiety about getting sick (Rogers et al ., 2020). Several questions raised during disease outbreak by pregnant women will their fetus survive or can they deliver a healthy baby , they were so terrified because a newborn is vulnerable to diseases .They were also concerned about their health (Brooks et al .,2020; Huang et al .,2020).

Due to Nosophobia individuals were indulged in some rituals such as cleaning of house to avoid germs , avoid eating food from outside due to fear of contamination (Thome et al., 2020). That's why more researches must be done on Nosophobia to identify it's underlying cause (Dercum, 2019) . People can show palpitations, sweating; increase heart beat whenever they are exposed to such diseases (Croskerry et al., 2017). People were afraid that they will die because of Corona virus which impacted their mental well- being (Aliyev & Aliyev, 2021) . Feelings of helplessness and Depression prevails in Nosophobia , sudden loss of appetite and low weight , It can affect their sexual desires for example they lose interest in their partners/ spouse. Sometimes symptoms like feeling dizzy, severe pain in body ,headache and nausea are common in Nosophobia (Staff, 2023).

The goal of this study is to fill this gap by studying the prevalence, psychological substrates and cultural determinants of Nosophobia in an eastern context. It aims at contributing to the global comprehension of Nosophobia, and offering ideas in the creation of culturally sensitive therapeutic interventions.Research in the area of Nosophobia is a very important area for research because it shows how psychological vulnerabilities and sociocultural factors combine to influence the kinds of fears individuals have about the state of their health. This condition has to be understood across the diverse cultural settings in order to promote the mental health and well being in our increasingly interconnected human world.

2.3 Health Related Quality of Life

Health Related Quality of Life has been examined extensively in Western countries and its multidimensional nature is well understood. Health related quality of life is considered by the World Health Organization (WHO) as a very important indicator of total health, with both a physical and a mental component, and a social element (WHO, 2020).

In their study researcher found that depression specifically effects the Health related quality of life in both physical and mental health domains. The findings show that depression degrades functional impairments, social interchange and all around well-being to a great extent. Finally, the study also reveals that depressive severity is strongly related to the degree of reduction on Health Related Quality of Life (Gaynes et al., 2002). A study was conducted to explore the relationship between a deadly disease Cancer and Health related Quality of Life .

The mortality was effecting Health Related Quality of Life , It was negatively effecting treatment of cancer patients . Health Related Quality of Life was rated as poor as it was causing increase in mortality rate, it was significantly increasing financial burden, psychological stress and feelings of sadness. But if healthcare providers help to achieve Health Related Quality of Life by working on treatment strategies and social support can help to increase survival chances among cancer patients (Sitlinger & Zafar, 2018) .

Some factors such as hemoglobin, age of patients, bone metastasis was effecting chances of survival among 254 patients with gastric cancer when Health Related Quality of Life was reported (Groenvold et al., 2007; Park et al., 2008). In most cases financial dependence and poor economic background can effect overall survival chances of cancer patients which is not addressed in Health Related Quality of Life which is needed (Zafar & Aberenthy, 2013). If proper care was given to patients with symptoms management and right treatment can improve 34 % of Health Related Quality of Life during intervention of patients with tumor, but in some cases it got 38 % worse (Basch et al., 2016).

The chances of survival got seven years with chemotherapy; results have significantly shows how right use of treatments and technology can overall improve Health Related Quality of Life and survival chances (Basch et al., 2017). Mostly Health Related Quality of Life are in English language which can become a barrier for people who does not speak English. For reliable reports cultural adopted instruments must be used for better outcomes (Marsh & Truter, 2021). Health Related Quality of Life highlights about an individual's psychosomatic health, How he/she is coping with stressors and living a happy life .

How a person is dealing with his/her sufferings of any chronic illness (WHO, 2015). An individual's levels of satisfaction are totally driven by Health. Health Related Quality of Life is distinguished from quality of life because it focuses on health (Wilson, 1995). When Health Related Quality of Life was assessed in an organizational behavior, The job stressors were effecting well -being and employment satisfaction. In this case health related Quality of Life was improving health and employees satisfaction. It was beneficial for both organization and employees for better outcomes and satisfaction (Murdaugh, 1997). A study was conducted a comprehensive research on Health related Quality of life with Liver patients. Clinical parameters such as severity of disease and symptoms burden .

The patients reported lower Health Related Quality of Life . The author reported that there is need of more literature for patient centered techniques (José Ísper Garbin et al., 2012). The complex connection between Health related Quality of Life with suicide ideation and psychological discomfort. According to the research psychological discomfort acted as a mediator between Health Related Quality of Life and suicide ideation.

If Health Related Quality of Life decreases so psychological discomfort will increase which will also create suicidal thoughts. That's why it's required to do work on psychological well- being (Chukwuemeka et al., 2024) . Investigating the connection between Health Related Quality of life and healthcare organizations. There is a need of improving health care system because it will directly effect on Health Related Quality of Life, this study helped to improved healthcare systems (Patrick, 1997).

Jun and Han (2023), investigated the relationship between physical exercises and Health Related Quality of Life among Korean people. Results showed that more physical exercise cause an increase in Health Related Quality of Life. The study proved that physical fitness is a key to maintain one's Health related Quality of life among Korean people.

Some factors must be addressed in Health Related Quality of Life it includes psychological aspects , effective care and management of symptoms in this way distress can be identified and Health related Quality of Life can be improved (Fann et al., 2012) .Another study was conducted (2014), on how to improve Health related Quality of Life worldwide (Denlinger & Ligibel, 2014) .Burnout, Fatigue and depression can cause a decrease in Health related Quality of Life , Some guidelines are given by National Comprehensive Cancer network (NCCN) by following these guidelines it can help people by doing physical exercises, counseling ,journal writing , Cognitive Behavioral Therapy can be effective . Health related Quality of Life was explored in pembrolizumab patients, it was noted that they had better Health Related Quality of Life (Andre et al., 2021). The importance of Health related Quality of Life was assessed in

cancer patients during clinical trials. It evaluates the insight among patients with distress tolerance; overall well-being .It also aids in effective treatment strategies to enhance the lives of cancer patients (Osoba, 2011).

Fallowfield and Harper (2005), examined the effect of medications on Health Related Quality of Life among lung cancer patients. They observed that even these drugs were useful for treatment but they have some side effects such as impairing daily life functioning of patients. The review highlighted how traditional and clinical practices were negatively impacting patients Health Related Quality of Life. When someone is diagnosed with deadly diseases it negatively affects Health Related Quality of Life and Mental health.

Kenzik et al. (2015), explored the relationship between survivors of cancer and Health Related Quality of Life , it was tracked that how these transitions were challenging over time. The study highlights the importance of new intervention plan for successful treatments. Dirven et al.(2013), focused on designing disease specific Health related Quality of life tools so that it can focus on psychological, cognitive and neurological problems of patients.

Health related Quality of Life was assessed in heart patients in Ethiopia. The researchers applied Wilson and Cleary Model, the study also highlights significant effects of demographic variables which included socioeconomic background, present condition of the patient, psychological and societal support. Medical treatment and comorbidity with other diseases played an important role in shaping patients Health Related Quality of Life (Mulugeta et al., 2023).

Hence, Health Related Quality of Life can significantly impact on different disease groups in past few years. Cardiovascular diseases Obesity, (HIV) Human Immunodeficiency Virus (AIDS) Acquired Immunodeficiency Syndrome , Cancer, Stroke, Infectious diseases , physical disability , asthma. Health Related Quality of Life can help to tailor intervention plans

and evidence based treatment (Johnston et al., 2019 , Johnson et al., 2020 ; Karlsson et al., 2007;Montazeri, 2008).

Higher expectation related to Health Related Quality of Life has raised more questions. Previous researchers have identified that oral health problems can cause more disturbances in daily life functioning of aged people (Griffin et al., 2012; Tonetti et al., 2017). Obesity is increasing among people it can affect sleep, fatigue, stress similarly other deadly diseases was declining Health Related Quality of Life. These issues were causing depression (Hoedjes et al., 2018; Nigatu et al., 2016).

Zheng et al.(2021), investigated the research trends in Health Related Quality of Life. It was developing insights and highlighting the significance of studying Health Related Quality of Life. Future studies must identify the risk factors for Health Related Quality of Life because every patient is facing different circumstances and it is effecting their psychological health (Cella et al.,2002). One study quoted that poor life style and habits can cause a significant decline in Health Related Quality of Life (Mello et al., 2014 ; Zhang et al., 2018). A study conducted in Italy explored that if a aged person is living alone it can affect his/her Health Related Quality of Life (de Belvis et al., 2008).

Health Related Quality of Life effects children differently as compared to adults , some other factors such as educational background (Avis et al., 2004), social support (Avis et al., 2004; Coventry et al., 2004) and economic status (Ahluwalia et al., 2003; Ferro, 2014; Houben-van Herten et al., 2015), parents psychological health, parental bond, child and parents relationship (Ferro, 2014 ; Otto et al., 2017) , migration (Houben-van Herten et al., 2015) can impact Health Related Quality of Life in children . Health Related Quality of Life was also affecting women , they feel more depression than men (Ahluwalia et al., 2003).

A study proved that when women got married it significantly brought a positive change in Health Related Quality of Life , it caused low stress in them made women happier (Avis et

al., 2004). In older adults age factor can contribute to illness like depression, heart problems , cognitive dysfunction and comorbidities were negatively associated with Health Related Quality of Life.

Early detection and appropriate treatment of depression will have better Health Related Quality of Life outcomes, say the authors. Paper advocates the integration of mental health care into primary health services for the purposes of addressing the lens of other influences of depression on the individuals lives. The results and conclusion highlight the necessity of uniting different hepatitis C strategies, which involve pharmacological and psychosocial treatment oriented to the optimal recovery and Health Related Quality Of Life of people suffering from depression . Multiple studies have shown that doing physical exercises , marinating a good diet ,leave smoking can improve someone's Health Related Quality of Life (Ahluwalia et al., 2003 ;Oh et al., 2010 ; Dadgostar et al., 2016).

A researcher evaluated that the Health Related Quality of Life among non -small cell lung cancer , they concluded that side effects of symptoms for example pain , fatigue ,hopelessness during treatment impacted their overall Health Related Quality of Life. It's crucial for standardization of Health Related Quality of Life assessments for patients care and better outcomes. Working on progress in Health Related Quality of Life is still needed in clinical trials and daily life .For reporting the timing and measurement of tools because it is still limited in some cases (van der Weijst et al., 2017).

Pregnancy significantly affects Health Related Quality of Life with physical, emotional, and social factors they all play a crucial role. Studies indicate that pregnant women experience a decline in Health Related Quality of Life due to physical discomfort, hormonal changes, and concerns about maternal and fetal health (Danyliv et al., 2015). A study was conducted on women who gave birth through vaginal delivery and cesarean which affects mothers Health

Related Quality of Life. Health Related Quality of Life got worse in cesarean as compared to vaginal delivery (Evans et al., 2022).

Researchers compared Health Related Quality of Life with breast cancer at phase three. There were significant differences was observed with efficacy of both therapies (eribulin mesylate and capecitabine) with Health Related Quality of Life (Cortes et al., 2015).
White et al ., (2020) conducted a study on Health Related Quality of Life in neuroendocrine neoplasia patients . the findings revealed that longitudinal studies are required on it to explore the challenges and hormonal imbalance causing negative impacts on Health Related Quality of Life . Health Related Quality of Life was significantly impacting emotions, psychological health among Polycystic Ovary Syndrome (PCOS).

Women felt more disturbed due to irregular periods, acne and obesity (Jones et al., 2007). Women undergoing fertility treatments report lower Health Related Quality of Life and it effected their mental health due to the emotional burden, physical discomfort, and financial strain of procedures such as In Vivo fertilization (IVF) and medicines (Gameiro et al., 2016). These results emphasize that additional research into Health Related Quality Of Life is needed, and that addressing its physical, mental, and social determinants will lead to its improvement and that of diverse populations.

2.4 Research at Eastern countries

A study was conducted in Pakistan, explore how Orthorexia Nervosa (ON) is linked to social appearance anxiety for young women and reveal the impact of self - esteem on this relationship. The study reinforces the upward trend in Orthorexia Nervosa behaviors among young women from societal expectations for a certain appearance and growing craze for "clean eating" (Umar, Kausar & Iqbal et al ., 2023).

It is found that Orthorexia Nervosa is associated positively with social appearance anxiety, because the people engaged in Orthorexia Nervosa behaviors tend to fear being judged

by their physical appearance. And self -esteem does moderate this relationship. People with higher levels of self -esteem were better able to buffer Orthorexia Nervosa negative psychological effects by demonstrating reduced social appearance anxiety than those with lower self- esteem. Orthorexia Nervosa was indulging people in excessive exercises .Individuals force them to eat clean and pure diet and do compulsive exercises to maintain an ideal body figure. Early detection can help to maintain balance in daily life (Zohar et al., 2023).

Worrying about one's health is normal but in some cases if worrying about getting sickness can cause serious problems in productivity (Milosveic et al., 2015). Nosophobia is a universally shared phobia; It can effect different age groups (children, adults and aged people). People who are having Nosophobia can face physical problems such as stomach issues and gastrointestinal problems. Stigma can be reduced by seeking awareness and treatment for Nosophobia. It can be treated by relaxation techniques, psycho education and life style modification, physical exercise can also help to reduce it's effects .

Some other issues can arise because of Nosophobia which includes lack of concentration in daily life work, strain on relationship and social isolation (Sherif et al., 2023).Those who are spending more time with seriously sick people are at a risk of Nosophobia (Megha, 2024) . Sometimes people only think about worst case they are fixated on getting sick this is due to negative cognitions . These sufferings can elevates sensitivity, weakness and feelings of sadness (Meng, 2019).Nosophobia can become issue for people having lower economic backgrounds due to costly tests and treatments .Different cultures have different sensitivities in dealing with chronic illness (Cleve and Clinic Org .,2022) .

They stress the cultural setting of Pakistan, where local norms and beauty benchmark may elevate worry over way as a motivator for Orthorexia Nervosa , as well as anxiety related to it. This study reinforces the need to boost the self-esteem through the psychological intervention in the face of Orthorexia Nervosa in decreasing social appearance anxiety. Therefore, further

research regarding these dynamics in populations other than those for which we have data and development of culturally sensitive prevention and intervention would be called for.
Recent efforts from Eastern countries to explore Orthorexia Nervosa (ON) for its cultural and contextual aspects provided insights into the Orthorexia Nervosa The development and validation of the Lebanese Orthorexia Nervosa Scale (LONS) represents a first step in developing culturally specific tools for assessing Orthorexia Nervosa in Lebanon that is reflective of the dietary patterns and culture of the region (Eprehm et al., 2024).

In Polish and Lebanese adults, the prevalence of Orthorexia Nervosa was higher in the Lebanese population (8.4%) compared with the Polish one (2.6%); further findings suggested that the Lebanese population with BMI ≤ 25 kg/m^2 showed a tendency of lower Orthorexia Nervosa (Brytek-Matera et al., 2020) .Additionally, a cross cultural study, with Lebanon Orthorexia Nervosa , and the differential impact of temperamental traits across cultures (Obeid et al., 2022) .Such findings underscore the need to take culturally sensitive approaches to making sense of and remedying Orthorexia Nervosa in Eastern societies.

The fear of getting diseases, known as Nosophobia, has been drawn attention in East countries, especially in the point of view of the pandemic of COVID-19. Another study done on healthcare professionals in Pakistan showed a strong positive correlation between Nosophobia, health anxiety and fear of COVID 19. Thus, elevated disease related fears negatively can affect the mental health of medical personnel (Ilyas et al., 2024).

Fear of getting COVID -19 was developed among different medical professionals such as doctors, nurses and paramedic staff in Pakistan and other countries as well (Chen et al ., 2019 ; Mehmood et al ., 2023; Sherif et al., 2023 ;Shayganfard et al., 2021). A research was conducted during smart lockdown, it was noted that people were developing more irrational fears about getting sick during pandemic (Tsang et al., 2020) , they felt helpless and it negatively affected them (Meng et al., 2019; Seçer et al., 2020) .A study was conducted in Turkey by Koç & Başgöl

(2022), on women , results show that there was a positive correlation between stress, death anxiety, depression during the time of COVID-19 Virus. Fear of sickness and fear of death are related with each other.

The fear of contraction of diseases, as commonly referred to as 'Nosophobia', has been the subject of research especially in Pakistan with regard to medical education and healthcare professions. In a study of medical students in Pakistan it was found to have a very high prevalence of Nosophobia and hypochondriacal concerns related to the psychological burden on this group (Mehmood et al., 2023).

A study investigating the relationship between cyberchondria (excessive online health searches) and health anxiety was performed with the Pakistani population and found a significant relationship, with health literacy as a moderating factor. It was emphasized that health literacy would help to mitigate the effect of health anxiety and Nosophobia in the general population (Sansakorn et al., 2024).Together these studies provide a confirmation that Nosophobia, indeed, is widespread in Pakistan and points to the necessity of designed interventions to reduce its deleterious psychological effects.

A research was conducted by Abinaya and Dr.Illakiya (2022), on Nosophobia among psychology students group and non -psychology students group , the results proved that fear of getting extreme sickness was reported by psychology students . Individuals who have a habit of daily exercising routine so it does not mean that they can not have Nosophobia. Sometimes low confidence can bring sadness and anxiety . But doing exercise can also help to get rid of it. Nosophobia is related with death anxiety , most importantly this fear caused psychological damage during disease outbreak across the world. If someone’s mind is not working properly how can there immune system work properly (Chalhoub et al., 2022).

Research during the COVID-19 outbreak in China showed elevated levels of health anxiety in a typical population. In particular, a rise in exposure to pandemic related information,

as well as personal concerns regarding their health were linked with greater health anxiety in the wake of the health crisis (Zhong et al., 2021), and medical students in the United Arab Emirates were found to possess a high preponderance of health anxiety. This finding indicates the impact of Nosophobia and health anxiety in academic settings of disease-related fears and teaches the need for mental health targeting interventions to this demographic (Alkhamees et al., 2022).

These concerns should be addressed using culturally sensitive mental health strategies. Health Related Quality of Life is a multidimensional construct encompassing physical, mental and social well-being as at subjects perceive. This has emerged as an important subject of study in public health in that it offers us a window into how diseases impact upon people's lives (Centers for Disease Control and Prevention (CDC, 2020). A study was conducted on mental health of Chinese people who were already infected by Corona Virus , they were facing severe depression, stress, anxiety and fatigue . They had developed a fear that can they infect their family members (Hao et al ., 2020; Zhang et al ., 2020) .

Health Related Quality of Life is affected by chronic illnesses. A study in Pakistan targeting the individuals with the cardiovascular conditions noted that physical limitation and emotional stress were major contributors of reduced Health related quality of life (Ahmadi et al., 2019) .However, adequate prenatal care and social support have been shown to improve Health Related Quality of Life in pregnant women (Gul et al ., 2018).

Health related quality of life has a major role in mental health. This study found a relationship between depression and anxiety and lower Health related quality of life in cancer patients in China. The results from this study showed extreme validity, that psychological distress (to a greater degree than physical symptoms) was associated with overall Health Related Quality of Life (Luo et al., 2024).Also, there has been research also in Eastern societies of the contribution of cultural and familial support to Health Related Quality of Life. Such as a study in

Saudi Arabia showed that strong family network has the positive effect on Health Related Quality of Life of patients with dilasis (Al-Sayyari et al., 2022).

Health Related Quality of Life research has been further highlighted as important by the COVID-19 pandemic. The Health Related Quality of Life of the respondents was shown to be significantly lower for those with higher levels of health anxiety and fear of COVID-19 in a global study, including Eastern countries. In particular, this was true for healthcare workers and those with preexisting health problems (Arab-Zozani et al., 2020) .

Diabetes is negatively associated with health related quality of life disturbing one's physical and mental health .These results present urgency for culturally appropriate and whole outlook approaches to enhance Health Related Quality of Life among various populations. Interventions aimed at improving well- being and life satisfaction can tailoring by targeting the physical, mental and social dimensions of health (Sinclair et al., 2008). Study on patients with multiple sclerosis indicate that physical limitations and cognitive impairment negatively impact employment status, which in turn reduces Health Related Quality of Life (Benito-León et al., 2002).

Pain is one of the most significant determinants of Quality of Life . Persistent pain conditions such as fibromyalgia, chronic back pain, and migraines are associated with decreased life satisfaction and functional limitations (Breivik et al., 2006). Role functioning pertains to the capacity to fulfill occupational, familial, and societal roles despite health challenges. Many chronic illnesses affect an individual's ability to work, leading to financial burdens and stress and effected Health related Quality of Life among Sweden population (Burström et al., 2001).

Patients with conditions such as neurological disorders stroke or Parkinson's disease often experience social withdrawal, further deteriorating their Health Related Quality of Life (Mitchell et al., 2013).

Patients with liver cirrhosis can gain essential insights into the disease's complex effects in the social, psychological, and physical domains by having their Health Related Quality of Life evaluated. Regional differences, especially in Pakistan, underline the need for localized research and culturally appropriate techniques, even if international studies show that cirrhosis patients have considerable deficits in Health Related Quality of Life (Bajaj et al., 2011;Younossi et al., 2014). In environments with limited resources, filling these gaps might help direct focused efforts to enhance patient outcomes and drive healthcare policies.

2.5 Theoretical Framework

Through the lens of Cognitive Behavioral Theory (CBT) which was given by Beck, the relationship between Nosophobia, Orthorexia Nervosa (ON), and Health-Related Quality Of Life .Health related quality of life can be successfully explored. According to this idea, thoughts, feelings, and actions are all interrelated, and unhelpful thought patterns can result in upsetting feelings and actions that harm one's quality of life (Beck, 1976).

2.51 Cognitive Distortions

People who have Orthorexia Nervosa frequently have perfectionism and binary thinking, classifying foods as either "healthy" or "unhealthy." Similar to this, Nosophobics may overestimate their risk of getting sick, which causes them to become overly anxious and fearful. These false ideas fuel maladaptive behaviors and increase anxiety.

2.52 Behavior

Avoidance behaviors are essential in both Nosophobia and Orthorexia Nervosa (ON). For example, people in ON might altogether avoid foods they consider "unhealthy," while Nosophobics might stay away from places or circumstances they link to sickness. These actions tend to reinforce the underlying anxieties and make it more difficult to escape the pattern, even

though they may offer some relief from anxiety. Such avoidance can eventually lower a person's general quality of life by causing social isolation and increasing emotional anguish.

2.53 Emotional Impact

Persistent stress brought on by strict eating regimens or a fear of getting sick leads to emotional tiredness, which worsens Health Related Quality of Life.

My research, which employs Cognitive Behavioural Therapy (CBT) as a theoretical framework, postulates that maladaptive cognitive patterns mediate the relationship between Orthorexia Nervosa and Nosophobia, which is then reinforced by avoidance actions. This framework will direct the investigation of how different psychological disorders affect Health related quality of life and provide guidance for creating focused therapies. To improve Health related quality of life, exposure-based therapies and cognitive restructuring may help address the underlying cognitive distortions and end the reinforcement cycle.This study uses CBT to offer a strong theoretical foundation for comprehending and resolving the interaction between Orthorexia Nervosa, Nosophobia, and Health Related Quality of Life.

2.6 Conceptual Framework

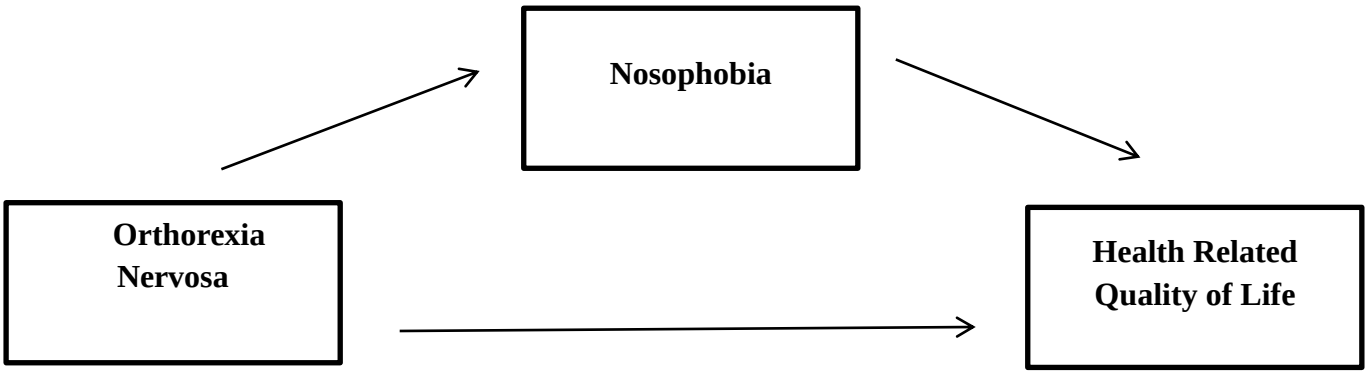

Figure 1. Conceptual Framework of Study

2.7 Rationale of study

Globally, Orthorexia Nervosa (ON) and Nosophobia are two new health issues. Nevertheless, there is a dearth of studies focusing on these problems among Pakistani population. Examining these illnesses in light of Pakistani customs, way of life, and eating patterns can offer special insights on their frequency, risk factors, and effects on Health Related Quality of Life. By examining the relationship between Orthorexia Nervosa, Nosophobia and Health Related Quality Of Life (psychological, physical ,overall life satisfaction) this research can provide valuable insight by filling the gap .This study delves into the Cognitive Behavioral Theory(Beck,1976).There are so many factors for research gap in Pakistan (Abid Hussain, 2022).

A new phenomenon named as Orthorexia Nervosa has emerged ad it's also increasing among people.Both Orthorexia Nervosa and Nosophobia are not classified as a disorder in DSM-5.Therefore,research was required for better understanding as later on it can be classified as disorders.Internet Gaming disorder was also not classified as a disorder in the beginning but in 2013 it was added in Conditions for further study in DSM-5.It is defined as extreme obsession with games on internet.Obsession is defined as any recurrent thoughts and cognitions which can cause impairement in daily functioning of individuals(Amercian Psychiatric Association,2013).That's why I studied both Orthorexia Nervosa and Nosophobia together as both are new concepts and important because they are affecting people.

Given these perspectives, several crucial steps should be taken to achieve this research study for better understanding of Orthorexia Nervosa in the Eastern societies. First of all, the team needs to define what aspects of regional, religious, and cultural peculiarities are going to be researched. In order to have diverse respondent pool, attention should be paid to selection of correct sample sizes, sampling methods, participant recruitment techniques. Strictly adhering to a healthy diet can create unnecessary stress, as people worry about the purity of their

food or avoid entire food groups, leading to disordered eating behaviors (McComb & Mills, 2019).

Subsequently, appropriate and accurate assessment tools of Orthorexia Nervosa suited to the different cultural environment are urgently needed. In this process the research team should use items from Orthorexia assessment while noting the viability of using culturally sensitive items in Eastern societies. It may also require the cooperation with other cross-cultural psychologists and seeking advice from religious/cultural authorities on the validity of the adapted instruments.It's important to study based on culture of different people which helps in distinguishing concepts (Arya,2021).

The age group (20-45) represents the vital part of population which can work for economic growth of the country,if these individuals are suffering from psychological issues then there will be no productivity and prosperity.Studying the age range 20-45 years is important for any society as they are the backbone of the country (Bloom et al.,2003).

Last, the findings of the study should be spread to other stakeholders who comprise of the researchers, healthcare providers, and policymakers. In this way, the findings can be used to design culturally appropriate identification techniques and treatment approaches, enhance Orthorexia Nervosa screening and treatment processes, and participate in debates on culture-appropriate approaches to improving attitudes toward body and food in current culture.

The significant lack of literature, especially in nonwestern context, on Orthorexia Nervosa (ON) and Nosophobia led me to take up research on it. Little has been written about Orthorexia Nervosa, an obsession with healthy eating, and Nosophobia, the unreasonable fear of illness, both of which can seriously damage mental health, social performance, and general quality of life on an obsessive level. While they are relevant, especially now with a health conscious or post pandemic perspective, these conditions are poorly understood yet.It's

important to study factors regarding research in healthcare field because it will benefit people (Hanney et al.,2003).

This decision is based on observations that most existing research is Western centric and did not account for culturally, socially and diet differences in Eastern societies. However, this gap prevents culturally sensitive diagnostic tools and intervention from being developed. For instance, traditional dietary practices, together with collectivist health beliefs, may manifest the symptoms of Orthorexia Nervosa and Nosophobia very differently in many Eastern cultures than in Western contexts.

The growing focus of the world on health and wellness, which can be encouraged by social media, adds to ON risk, along with the after effects of the COVID pandemic, boosting Nosophobia concerns (Madhav, 2017).Studies must be done at developing countries so that better and economical treatment plans can be developed. This research enables us to identify which of these conditions are prevalent, what unique risk factors are associated with them, and what cultural variations impact mental health outcomes for these conditions. This research addresses these gaps in the literature to progress our understanding of interventions, inform clinical practice, and guide decision making for novel and effective interventions appropriate for different cultural contexts.

Chapter 3

METHOD

The purpose of this current research was to examine the relationship between Orthorexia Nervosa, Nosophobia and health related quality of life . Self-report questionnaires were filled by adults age ranging from (20-45). Permission and consent was taken from Authors for following scales Donini ORTO-15, Illness Attitude Scale, WHO Quality of Life Scale Brief .This will allow us to explore the complex interplay between study variables (Nosophobia, Orthorexia Nervosa and Health Related Quality Of Life) while considering the role of demographic variables (age, gender, birth order and family structure) among adults. The research methodology section is comprised of the research framework where the particular research is designed, the exact measuring instruments used to acquire details about the study variables, validation of the above outlined tools, sampling method, information on data collection process, population and statistical plan.

3.1 Research Design

The research design consists of two phases: Phase I Pilot study and Phase II Main study . Cross-sectional research design is used to examine the relationship between Orthorexia Nervosa, Nosophobia and Health Related Quality Of Life .This allowed us to explore the complex interplay between study variables (Nosophobia, Orthorexia Nervosa And Health Related Quality Of Life) while considering the role of demographic variables (age, gender, employment status and family structure).

3.2 Objectives

1. To investigate the impact of Orthorexia Nervosa, Nosophobia, and Health Related Quality Of Life.

2. To explore the role of demographic variables (gender, age, education, employment status and family structure) on study variables (Orthorexia Nervosa, Nosophobia And Health Related Quality Of Life) .
3. To study the mediating role of Nosophobia between Orthorexia Nervosa and Health Related Quality Of Life.

3.3 Hypotheses

H1: There will be positive association between Nosophobia and Orthorexia Nervosa.

H2: Health Related Quality Of Life will be negatively associated with Nosophobia and Orthorexia Nervosa.

H3: Health related Quality of Life will be negatively associated with Orthorexia Nervosa.

H4: People with Nosophobia can develop hypochondiral beliefs.

H5:People with Orthorexia Nervosa can develop hypochondrial beliefs.

H6: Gender groups will vary significantly on study variables.

H7: Employment status of participants will vary significantly on study variables.

H8: Worrying about illness can increase healthy eating behaviors.

H9: Mediating role of Nosophobia between Orthorexia Nervosa and Health Related Quality Of Life.

3.4 Measures

1. Donini ORTO-15 for Orthorexia Nervosa
2. Illness Attitude Scale (IAS 26 Robert Kellner) for Nosophobia
3. WHO Quality of Life Scale Brief for Health Related Quality Of Life.

3.5 Donini ORTO-15

Orthorexia nervosa will be assessed by using Donini ORTO-15 scale, Developed by Donini and associates in 2005, based on Bratman Orthorexia Self test (1997).It has a 15 self reporting items which determines the severity of symptoms like obsession, fixation which

includes selection, nutrition, purchase and consumption related to healthy diet. This scale measures emotional and rational aspects of individuals. This is a 4-point Likert Scale (items that reflected Orthorexic tendencies scores “1” while items having normal attitude towards eating scores “4”.Higher scores indicates probability of Orthorexia Nervosa,

Cronchbach alpha α of scale is is 0.7 Donini et al.'s initial validation research suggested using a cut-off score of ≤ 40 to identify people who have orthorexic tendencies (Donini et al., 2005).

3.6 Illness Attitude scale

Nosophobia will be measured by Illness Attitude Scale (IAS)-27 ,it was developed by Robert Kellner in 1987. It’s a 27 items self report scale which has 5-point Likert type ranges from 0-4 .This instrument has 9 subscales (Worry about illness, Concerns about Pain ,health Habits, Hypochondrial beliefs, Thanathophobia, Disease phobia, Bodily Preoccupations, Treatment Experience, Effects of Symptoms) fear , belief about getting a chronic illness. Cronchbach alpha α is (0.82 - 0.85) Higher scores indicates probability of Nosophobia (Robert Kellner., 1987) .

3.7 WHO Quality of Life Scale-Brief

The WHO quality of life scale –brief was developed by World health organization in 1998.It’s a 26 items self report scale which has 5-point Likert type ranges from 1-5 ,1 represents low frequency or intensity of negative views, and 5 has great frequency or intensity of good perceptions. It has four domains physical, psychological, social relationships and environment .Higher scores indicates good health related quality of life . Cronchbach alpha α is 0.90 (WHO ., 1998).

3.8 Operational Definitions

3.9 Orthorexia Nervosa

It evaluates attitudes and actions associated with a fixation on eating healthy higher scores suggest a stronger degree of Orthorexic tendencies. It will be measured by Donini ORTO-15 scale each item is assessed on a Likert scale, usually ranging from 1 to 4 (Donini et al., 2005).

3.10 Nosophobia

Intended to assess the attitudes, concerns, and beliefs related to a typical disease ,It will be measured by using Illness Attitude Scale ,high scores indicate severity level while low score indicates low level (Robert Kellner, 1987).

3.11 Health Related Quality of Life

A multidimensional approach used as a latent construct describes social, physical and psychological aspects of well-being .it will be measured by using WHO Quality of life scale-Brief scores indicates satisfaction from Health Related Quality Of Life while low scores indicates poor satisfaction from health related quality of life (WHO ,1998). Health is defined as a person is physically, mentally fit and socially active in other words we can say that there's no illness (WHO, 2015).Understanding of effects of health and illness is crucial for living a better life it's referred as Health Related Quality of Life.

Majorly it's dimensions are physical, mental, social, perceptions and overall quality of life (Ware, 1995).Considering the literature review I was compelled to study the relationship between variables. Nosophobia acts as a mediator between Orthorexia Nervosa and Health Related Quality Of Life . In the present research, data was collected through convenient sampling, and it was ensured that all the respondents confidentiality and inform consent was maintained. After this, they handed participants a demographic sheet alongside the questionnaires. This informed them there were no right or wrong answers when responding to

the questionnaires. Participants were assured that their information would be kept confidential so that they could complete the questionnaires as needed without having to hide anything from their responses, and they were informed that the information gathered would be used for research only. At the end of the survey, participants were thanked for their cooperation.

3.12 Phase I

3.13 Pilot Study

3.14 Objectives

1. The objective of the pilot study is to ensure the reliability and validity of the instruments.
2. To check the instruments on Pakistani population.
3. A preliminary scale study was conducted before main study for ensuring reliability of the instruments.

3.15 Sample

A sample of 100 was chosen to conduct pilot study. Adults (M=25.10, S.D=3.92) from different universities, offices , areas of Rawalpindi and Islamabad with the age range of 20-45 years. Inform Consent was also taken for the participants taking part in the pilot study by explaining them the purpose of the study, while assuring them about the confidentiality of the identity and the obtained information. Pilot study was conducted to ensure the reliability of all three variables scales.

3.16 Inclusion Criteria

1. Individuals having age range from 20-45
2. Participants having no diagnosed chronic medical illness.
3. No diagnosed mental illness.
4. Participants having minimum BS/Masters qualification.

3.17 Exclusion criteria

Individuals having chronic medical illness forced to follow specific diet patterns.

3.18 Procedure

For the purpose of research I used convenience sampling from Rawalpindi and Islamabad. Confidentiality of participants was assured .It took 10 to 15 minutes in order to fill questionnaires. Statistical analysis was performed using SPSS.

3.19 Data Analysis

SPSS-25 and Process macro 4.0 were used for data analysis in order to fulfill the hypotheses and objectives of this study. After data collection normality tests were done and cleaning of data. Descriptive Analysis was used to determine psychometric properties of the study variables such as kurtosis, skewness, standard deviation and mean. Cronbach's alpha was applied to determine the reliability and appropriateness of the measures in this study Pearson's product-moment correlation analysis was used for an establishing relationships between the research variables. Regression analysis is used for prediction. In addition, moderation and mediation analyses were performed via SPSS macro 4.0. After collecting the data, normality assumptions were checked and data cleaning was performed. Descriptive analysis was conducted on the study variables to assess their psychometric properties, including calculations of kurtosis, skewness, standard deviation, and mean.

3.20 Analysis of Pilot Study

Results of pilot study is attached below

3.21 Item Total Correlation

Table 1 Inter-item correlation matrix for Orthorexia Nervosa (N=100)

Items	*M*	*SD*	Item Total Correlation	Cronbach's Alpha if item deleted
ORTO_1	2.5	1.51	0.60	0.72
ORTO_2	3.5	1.51	0.62	0.73
ORTO_3	1.5	1.51	0.61	0.72
ORTO_4	1.5	1.51	0.59	0.71
ORTO_5	1.5	1.51	0.60	0.74
ORTO_6	2.5	1.51	0.62	0.74
ORTO_7	1.5	1.51	0.58	0.72
ORTO_8	3.0	1.01	0.59	0.71
ORTO_9	3.0	1.01	0.60	0.72
ORTO_10	2.5	1.51	0.62	0.70
ORTO_11	3.0	1.01	0.58	0.72
ORTO_12	3.0	1.01	0.59	0.71
ORTO_13	2.5	1.51	0.56	0.70
ORTO_14	3.0	1.01	0.60	0.71
ORTO_15	3.0	1.01	0.57	0.70

3.23 Item Total Correlation

Table 2 Inter-item correlation matrix for Health related quality of life (N=100)

Items	*M*	*SD*	Item total correlation	Cronbach's Alpha if item deleted
WHO_A	2.50	1.50	0.60	0.72
WHO_1	3.50	.501	0.62	0.73
WHO_2	1.50	.502	0.61	0.72
WHO_3	1.50	.502	0.59	0.71
WHO_4	1.50	1.51	0.60	0.74
WHO_5	2.50	1.05	0.62	0.74
WHO_6	3.50	1.51	0.58	0.72
WHO_7	3.00	1.51	0.59	0.71
WHO_8	3.00	1.51	0.60	0.72
WHO_9	2.50	1.05	0.62	0.70
WHO_10	3.00	1.51	0.58	0.72
WHO_11	3.00	1.51	0.59	0.71
WHO_12	2.50	1.51	0.56	0.70
WHO_13	3.00	1.05	0.60	0.71
WHO_14	3.00	1.51	0.57	0.70
WHO_15	2.500	1.51	0.60	0.72
WHO_16	3.500	.51	0.62	0.73
WHO_17	1.500	.51	0.61	0.72
WHO_18	1.500	.51	0.59	0.71
WHO_19	1.50	.51	0.60	0.74

WHO_20	2.50	1.57	0.62	0.74
WHO_21	1.50	.502	0.58	0.72
WHO_22	3.00	1.05	0.59	0.71
WHO_23	3.00	1.05	0.60	0.72
WHO_24	3.00	2.01	0.62	0.70
WHO_25	3.00	1.05	0.58	0.72
WHO_26	2.50	1.507	0.59	0.71

3.24 Item Total Correlation

Table 3 Inter-item correlation matrix for Nosophobia (N=100)

Items	*M*	*SD*	Item total correlation	Cronbach's Alpha if item deleted
IAS_1	2.51	1.51	0.59	0.76
IAS_2	3.5	.51	0.60	0.77
IAS_3	1.5	.51	0.57	0.75
IAS_4	1.5	.52	0.61	0.78
IAS_5	1.5	.52	0.58	0.76
IAS_6	2.5	1.51	0.59	0.76
IAS_7	1.5	.51	0.60	0.77
IAS_8	3.0	1.01	0.56	0.75
IAS_9	3.0	1.01	0.59	0.76
IAS_10	2.5	1.51	0.60	0.77
IAS_11	3.0	1.01	0.58	0.76

IAS_12	3.0	1.01	0.57	0.75
IAS_13	2.50	1.51	0.59	0.76
IAS_14	3.0	1.01	0.56	0.75
IAS_15	3.0	1.01	0.58	0.76
IAS_16	2.50	1.51	0.59	0.76
IAS_17	3.50	.52	0.60	0.77
IAS_18	3.00	1.51	0.56	0.75
IAS_18A	3.00	1.51	0.57	0.75
IAS_19	2.50	1.51	0.59	0.76
IAS_20	2.50	1.51	0.58	0.76
IAS_21	2.00	1.01	0.60	0.77
IAS_22	2.50	1.51	0.59	0.76
IAS_23	3.00	1.01	0.60	0.77
IAS_24	2.50	1.51	0.57	0.75
IAS_25	2.50	1.51	0.59	0.76
IAS_27	2.50	1.51	0.59	0.76

3.25 Demographics Of Pilot Study

Table 4 Demographics characteristics (N=100)

Variables	*f (%)*	Mean *(SD)*
Age		29.10(3.92)
Gender		
Male	50(50)	
Female	50(50)	
Family System		
Nuclear Family System	65(65)	
Joint Family System	35(35)	
Employment Status		
Employed	66(66)	
Unemployed	34(34)	
Marital Status		
Single	86(86)	
Married	14(14)	
Education		
Masters or BS Level	85(85)	
MPhil Level	13(13)	
PhD Level	2(2)	

f = Frequency, %= percentage

Table 5

Psychometric properties of the major study variables (N=100)

Variables	*K*	α	*M*	*SD*	Range		Skewness
					Actual	Potenial	
ORTO_T	15	0.70	32.84	5.81	16 -45	15 – 60	0.10
HRQOL_T	26	0.72	60.22	9.54	22 – 87	26-130	0.05
Physical	27	0.75	52.40	13.30	12 – 26	12 – 30	0.20
Psychological	7	0.78	15.24	2.93	9 – 22	10-28	0.05
Social	7	0.79	15.38	2.88	5 – 16	6-18	0.10
Environment	6	0.74	14.55	2.63	4-16	5-17	0.15
IAS_T	6	0.75	15.05	2.78	20 – 80	26-108	0.20
Worry about Illness	3	0.82	5.75	1.82	2 – 13	3 – 15	0.40
Concerns about Pain	3	0.79	5.65	1.57	2 – 9	3 – 15	0.35
Health Habits	3	0.74	5.94	1.72	2– 9	3 – 15	0.10
Hypochondrial Beliefs	3	0.83	5.93	1.64	2 – 10	3 – 15	0.50
Thanatophobia	3	0.81	5.77	1.86	2 – 13	3 – 15	0.45
Disease Phobia	3	0.78	5.82	1.70	3 – 10	3 – 15	0.55
Bodily Preoccupations	3	0.74	5.87	1.81	2 – 13	3 – 15	0.30
Treatment Experience	3	0.71	5.80	1.80	1 – 12	3 – 15	0.15
Effects of Symptoms	3	0.77	5.87	1.74	2– 11	3 – 15	0.10

Note:ORTO-15=Orthorexia Nervosa, HRQOL=Health Related Quality of Life, IAS=Nosophobia The table 5 shows psychometric properties of Orthorexia Nervosa, Nosophobia and Health Related Quality of Life all values is greater than or equal to a value of > .5, indicating that the scales' reliability values are within an acceptable range. All of the constructs' skewness and kurtosis values fall within the acceptable range of -2 to +2, which is sufficient evidence for the normal distribution (Du, 2010).

3.28 Delimitations

1. The sample was over or under reporting .
2. The sample mostly belonged from urban.
3. Since it was a cross-sectional study so cannot be used for a longer period of time.
4. The access to information was limited.

Chapter 4

ANALYSIS AND INTERPRETATION OF DATA

The purpose of the current research was to examine the relationship of Orthorexia Nervosa, Nosophobia and Health Related Quality Of Life. Data was analyzed by using SPSS for achieving research objectives The measures used in analysis of the study included; Descriptive, Independent sample t-test, Regression, Mediation, and correlation analysis. Independent samples t-tests were used to compare the mean differences in the demographic variables. Only significant results are reported in the study which is attached below:

4.1 Main Study

Main study was carried out to prove the hypotheses.

4.2 Sample

A total of 300 participants was selected and it was divided into 150 males and 150 females. Age range was from 20-45. Our sampling approach involves convenience sampling at Islamabad and Rawalpindi institutions, universities ,offices .The details of sample are attached below.

4.3 Item Total Correlation

Table 1 Item- Total Correlation for ORTO-15 (N=300)

Items	*M*	*SD*	Item Total Correlation	Cronbach's Alpha if Item Deleted
ORTO_1	2.09	1.44	.75	.68
ORTO_2	3.49	.50	.86	.71
ORTO_3	1.50	.50	.87	.71

ORTO_4	1.50	.50	.87	.71
ORTO_5	1.48	.50	.86	.79
ORTO_6	2.50	1.50	.83	.66
ORTO_7	1.48	.50	.16	.76
ORTO_8	2.58	1.11	.74	.69
ORTO_9	2.57	1.11	.37	.73
ORTO_10	2.09	1.44	.89	.66
ORTO_11	3.0	1.01	.91	.83
ORTO_12	2.59	1.12	.74	.69
ORTO_13	2.50	1.51	.83	.66
ORTO_14	3.00	1.01	.91	.83
ORTO_15	2.86	.99	.74	.70

5.4 Item –Total Correlation

Table 2 Item –Total Correlation for WHO Quality of Life Scale Brief (N=300)

Items	*M*	*SD*	Item Total Correlation	Cronbach's Alpha if Item Deleted
WHO_A	2.50	1.51	.82	.85
WHO_1	1.31	.731	.24	.81
WHO_2	3.05	1.04	.76	.77
WHO_3	1.50	.501	.76	.78
WHO_4	1.50	.501	.76	.78

WHO_5	1.48	.501	.76	.81
WHO_6	2.34	1.44	.89	.76
WHO_7	3.32	1.49	.29	.79
WHO_8	2.56	1.12	.67	.78
WHO_9	2.99	1.01	.73	.77
WHO_10	1.77	1.31	.69	.77
WHO_11	2.56	1.12	.38	.82
WHO_12	2.77	1.05	.89	.77
WHO_13	2.02	1.42	.81	.76
WHO_14	3.00	1.01	.80	.83
WHO_15	2.84	.98	.93	.77
WHO_16	2.33	1.49	.90	.75
WHO_17	2.91	.96	.11	.80
WHO_18	1.50	.51	.76	.78
WHO_19	1.50	.51	.76	.78
WHO_20	1.48	.51	.76	.81
WHO_21	2.33	1.49	.90	.75
WHO_22	1.48	.51	.28	.81
WHO_23	2.48	1.12	.54	.78
WHO_24	2.82	1.07	.58	.78
WHO_25	2.29	1.87	.81	.76
WHO_26	2.83	1.07	.65	.83

4.5 Item-Total Correlation

Table 3 Item-Total correlation of Illness Attitude Scale (N=300)

Items	*M*	*SD*	Item Total Correlation	Cronbach's Alpha if Item Deleted
IAS_1	2.06	1.43	.91	.85
IAS_2	1.96	1.22	.43	.86
IAS_3	1.50	.501	.72	.86
IAS_4	1.50	.501	.72	.86
IAS_5	1.48	.501	.74	.88
IAS_6	1.83	1.02	.72	.86
IAS_7	1.48	.51	.11	.87
IAS_8	2.17	1.07	.57	.86
IAS_9	2.55	1.12	.82	.85
IAS_10	2.06	1.43	.71	.85
IAS_11	2.18	1.07	.03	.88
IAS_12	2.38	1.33	.83	.85
IAS_13	2.50	1.51	.68	.85
IAS_14	2.18	1.07	.08	.88
IAS_15	1.82	.88	.20	.87
IAS_16	2.50	1.51	.78	.91
IAS_17	2.72	1.34	.71	.86
IAS_18	2.55	1.12	.83	.85
IAS_18A	1.73	.811	.05	.87
IAS_19	2.03	1.28	.42	.86

IAS_20	2.12	1.31	.91	.85
IAS_21	1.66	.92	.67	.86
IAS_22	1.26	.84	.48	.86
IAS_23	2.18	1.19	.13	.88
IAS_24	2.12	1.31	.91	.85
IAS_25	2.49	1.51	.69	.85
IAS_26	2.06	1.43	.90	.85
IAS_27	1.96	1.22	.43	.86

These table represents item-total correlation of all study variables Orthorexia Nervosa,Nosophobia and Health Related Quality of Life.

Table 4

Demographics of study variable (N=300)

Variables	*f* %	Mean (*SD*)
Age		27.13(5.47)
Gender		
Male	150(50)	
Female	150(50)	
Education		
Masters or BS Level	236(78.7)	
MPhil Level	46(15.3)	
PhD Level	18(6)	
Employment Status		
Employed	201(67)	
Unemployed	99(33)	
Family System		
Nuclear	201(67)	
Joint	99(33)	
Marital Status		
Single	228(76)	
Married	69(23)	
Divorced	3(1)	

Table 5

Psychometric Properties of Study Variables (N = 300)

Variables	*K*	α	*M*	*SD*	Range		Skewness
					Actual	Potenial	
ORTO-T	15	0.75	35.24	7.46	20-55	15 – 60	0.10
HRQOL-T	26	0.80	61.4	11.99	45 – 90	26-130	0.05
Physical	7	0.78	22.0	4.5	7 – 35	12-30	0.05
Psychological	7	0.79	18.5	4.8	7-35	10 – 28	0.10
Social	6	0.74	12.0	3.0	6 – 23	6 – 18	0.15
Environment	6	0.75	10.9	3.3	4 – 10	5-17	0.20
IAS-T	27	0.87	53.1	14.4	30 – 95	26-108	0.20
Worry about Illness	3	0.82	7.80	2.10	3 – 10	3 – 15	0.40
Concerns about Pain	3	0.79	7.40	2.00	3 – 13	3 – 15	0.35
Health Habits	3	0.74	6.40	2.00	3 – 12	3 – 15	0.10
Hypochondrial Beliefs	3	0.83	7.10	2.30	3 – 13	3 – 15	0.50
Thanatophobia	3	0.81	7.50	2.00	3 – 14	3 – 15	0.45
Disease Phobia	3	0.78	7.60	2.20	4 – 13	3 – 15	0.55
Bodily Preoccupations	3	0.74	5.50	2.30	3 – 11	3 – 15	0.30
Treatment Experience	3	0.71	6.20	2.00	3 – 13	3 – 15	0.15
Effects of Symptoms	3	0.77	6.70	2.10	3 – 13	3 – 15	0.10

Note:ORTO-15=Orthorexia Nervosa, HRQOL=Health Related Quality of Life, IAS=Nosophobia

The table 5 shows psychometric properties of Orthorexia Nervosa, Nosophobia and Health Related Quality of Life and subscales all values is greater than or equal to a value of > .5, indicating that the scales' reliability values are within an acceptable range. All of the constructs' skewness and kurtosis values fall within the acceptable range of -2 to +2, which is sufficient evidence for the normal distribution (Shrout & Lane, 2012).

Table 6

Pearson Correlation of Study Variables Orthorexia Nervosa, Health related Quality of Life and Nosophobia (N = 300)

No.	Variable	1	2	2a	2b	2c	2d	3	3a	3b	3c	3d	3e	3f	3g	3h	3i
1	ON-T	—															
2	HRQ-T	.72**	—														
2a	PHY	.65**	.78**	—													
2b	PSY	.62**	.81**	.69**	—												
2c	SR	.58**	.75**	.65**	.68**	—											
2d	ENV	.55**	.73**	.63**	.66**	.64**	—										
3	IAS-T	.70**	.54*	.48*	.50*	.44*	.41*	—									
3a	WAI	.62**	.46*	.41*	.45*	.38*	.36*	.85**	—								
3b	PAIN	.65**	.49*	.44*	.48*	.41*	.39*	.82**	.76**	—							
3c	HAB	.60**	.45*	.40*	.43*	.37*	.35*	.78**	.72**	.74**	—						
3d	HYPO	.64**	.47*	.42*	.46*	.40*	.37*	.81**	.75**	.77**	.70**	—					
3e	TP	.58**	.43*	.38*	.41*	.36*	.33*	.76**	.70**	.72**	.68**	.74**	—				
3f	DP	.66**	.50*	.46*	.48*	.42*	.40*	.79**	.74**	.76**	.70**	.78**	.71**	—			
3g	BP	.61**	.44*	.40*	.43*	.38*	.36*	.74**	.69**	.72**	.68**	.72**	.68**	.70**	—		
3h	TE	.57**	.42*	.38*	.40*	.35*	.34*	.70**	.66**	.68**	.64**	.68**	.65**	.67**	.65**	—	
3i	ES	.63**	.46*	.42*	.45*	.40*	.38*	.77**	.72**	.74**	.70**	.75**	.71**	.73**	.71**	.69**	—

** p < 0.5, ** p < .01*

Note:ON-T=Orthorexia Nervosa, HRQ-T=Health Related Quality of Life, IAS-T=Nosophobia,PHY=Physical,PSY=Psychological,SR=Social Relationships,ENV=Environment,WAI=Worry about illness,PAIN=Concerns about pain,HAB=Health habits,HYPO=Hypochondrial beliefs,TP=Treatment process,DP=Disease phobia,BP=Bodily preoccupations,TE=Treatment experience,ES=Effects of symptomps .

Table 6 represents correlation matrix of three variables Orthorexia nervosa, Health Related Quality Of Life and Nosophobia. Orthorexia Nervosa is positively correlated with health related quality of life (r = .715 **, p <.01), it means that Orthorexia Nervosa increases so health related quality of life also increases. Orthorexia Nervosa is also strongly positively correlated with Nosophobia (r = .866** ,p <.01), Due to fear of sickness people are following strict diet plans . Orthorexia nervosa increases so Nosophobia also increases showing a positive relationship between both variables which proves our hypothesis that people eat healthy food due to fear of sickness. Health Related Quality Of Life is positively related with Nosophobia (r = .541 , p< 0.5). It concludes that all these three variables are positively correlated with each other.Subscales of Health Related Quality of Life subscales are positively and moderately correlated with Orthorexia Nervosa and Nosophobia.Whereas Nosophobia subscales Worry about Ilness and concerns about pain are positively correlated with Orthorexia Nervosa which proves our hypothesis that worry about illness will increase healthy eating.Hypochondiral beliefs are positively associated with Nosophobia which proves our hypothesis. Hypochondiral belief are also positively correlated with Orthorexia Nervosa.

4.6 Predictor of Dependent Variable

Linear Regression. A simple linear regression analysis was performed by Enter method was done to check the most significant predictors of DV (see Table)

Table 8

Simple Linear Regression Analysis on Orthorexia Nervosa Predicting Health Related Quality of Life

Variables	*R*	R^2	*B*	*SE B*	*β*	*t*	*p*	95%*CI*	
								LL	*UL*
Orthorexia Nervosa	.715	.511	1.15	0.065	.715	17.66	.001	1.02	1.28

** $p < .01$

The table 8 shows linear regression analysis performed on health related quality of life with orthorexia nervosa. From the Results of linear regression explain the value of R^2, the 51 % variance caused in dependent variable by the independent variable Orthorexia Nervosa is a predictor of Health related quality of life among adults significance value (F= 1,298) =311.7 , p= .001 .Since this value is less than 0.05 . The relationship indicates a statistical difference . The results show that orthorexia nervosa predicts health related quality of life and there is a association between them.

Table 9

Simple linear Regression Analysis on Nosophobia predicting Orthorexia Nervosa

Variables	*R*	R^2	*B*	*SE B*	*β*	*t*	*p*	95%*CI*	
								LL	*UL*
Nosophobia	.700	.490	0.447	0.015	.700	18.23	.001	0.42	0.48

*** $p < .001$.

A simple linear regression analysis was performed to examine the prediction of variables, It indicates that Nosophobia is a predictor of ($p < .001$) it is statistically significant. The R2 value is 49 % variance which explains Orthorexia Nervosa ,It means that there is a positive

association between Nosophobia and Orthorexia Nervosa indicating that Nosophobia is predicting Orthorexia Nervosa among adult.

Table 10

Simple linear Regression Analysis on Nosophobia predicting health related quality of life

Variables	*R*	R^2	*B*	*SE B*	*β*	*t*	*p*	95%*CI*	
								LL	*UL*
Nosophobia	.541	.293	0.4	0.04	.54	11.11	.001	0.32	0.48

.****p*< .001.

A simple linear regression analysis was performed to examine the prediction of variables , whether Nosophobia predicts health related quality of life .The variance is 29.3 % is explained by R 2 value , It indicates that Nosophobia is a predictor of health related quality of life as R=.541 , the results were statistically significant (p <.001).

Table 11

Simple linear Regression Analysis on Orthorexia Nervosa predicting Nosophobia

Variables	*R*	R^2	*B*	*SE B*	*β*	*t*	*p*	95%*CI*	
								LL	*UL*
Orthorexia Nervosa	.71	.511	1.15	0.065	.715	17.66	.001	1.02	1.28

.****p*< .001.

A simple linear regression analysis was performed to examine the prediction of variables, whether Orthorexia Nervosa predicts Nosophobia. It indicates that Orthorexia nervosa is a strong predictor of Nosophobia as R2 value 51 % variance describes it , the results were statistically significant (p<0.001).

5.7 Multiple Regression. Multiple regressions analysis was done to check the combined predictive role of all independent variables for dependent variable, see table below

Table 12

Multiple Linear Regression for IV predicting DV (N = 300)

Variables	*B*	*p*	*95%CI*	
			LL	*UL*
Constant	24.13	.000	20.21	28.06
Nosophobia	1.150	.001	.517	.741
Orthorexia Nervosa	. 447	.001	.120	.312
R^2 = .665				
R= .816				
F = (2,297),				
p < .001				

Note. CI = Confidence Interval; LL = Lower limit; UL = Upper limit.

* *p*<.05. ** *p* <.01. *** *p*<.001.

The table 12 represent the multiple regression analysis using Nosophobia And Orthorexia Nervosa as a significant predictors of health related quality of life, From the Results of multiple regression explain the value of R2 = .665, the 65 % variance caused in dependent variable Health related quality of life, by the all independent variable, Orthorexia Nervosa and Nosophobia the most significant predictor of dependent variable among all IVs with F ratio *(F*=2.297,*p*=.001*).* According to the results the hypothesis is confirmed that both Nosophobia and Orthorexia Nervosa is effecting health related quality of life among adults.

Table 13

Independent Sample t-test of Across Gender

	Men (*n* = 150)		Women (*n* = 150)				
Variables	*M*	*SD*	*M*	*SD*	*t (298)*	*p*	*Cohen's d*
ORTO-T	28.61	0.62	41.87	4.77	-33.7	.000	0.5
WHO-T	52.17	2.08	70.78	10.49	-21.3	.000	0.6
IAS-T	43.35	4.28	64.72	13.06	-19.1	.000	0.7

Note : ORTO-T is Orthorexia Nervosa, WHO-T is Health related Quality of Life, IAS-T is Nosophobia (*p= .001***)*

An independent sample t-test was conducted on both genders 150 males and 150 females, for examining differences between them , using Donini ORTO-15 scale for Orthorexia Nervosa ,WHO Quality of life scale brief-26 , IAS-27 for Nosophobia .Results have shown that there is a significant difference in ORTO-T Scores for men (M = 28.61, SD = 0.62) and women (M = 41.87, SD = 4.77) , *t*(298) = --33.7 , *p = .001****, with a moderate effect size (*d=0.5).*This suggests that women have higher Orthorexic tendencies as compared to men.. WHO-T Scores for men (M = 52.17, SD = 2.08) and women (M = 70.78, SD = 10.49), *t (298) = -21.3 , p =. 001****, with a moderate effect size *(d*=0.6*).* It indicates that women have lower Health Related Quality Of Life as compared to men. IAS-T scores indicates men (M = 43.35 ,SD =4.28) and women (M = 64.72 ,SD = 13.06) ,*t(298) = -19.1 , p = .001**** , with moderate effect size *(d = 0.7).* It shows that women have higher level of Nosophobia as compared to men.

Table 14

Independent Sample t – test of occupation of participants

Mean comparison of occupation of participants on scales (N=300)

	Employed (*n* = 201)		Unemployed (*n* = 99)				
Variables	*M*	*SD*	*M*	*SD*	*t (298)*	*p*	*Cohen's d*
ORTO-T	33.94	7.24	37.86	7.23	-4.40	.001	0.54
WHO-T	59.52	11.57	65.44	11.91	-4.12	.001	0.50
IAS-T	52.22	13.65	57.72	15.36	-3.14	.001	0.37

Note : ORTO-T is Orthorexia Nervosa, WHO-T is Health related Quality of Life, IAS-T is Nosophobia (****p*= .001*)*

An independent sample t-test was conducted on employment status of participants for examining differences between them using ORTO-15 scale for Orthorexia Nervosa ,WHO Quality of life scale brief-26 , IAS-27 for Nosophobia .Results have shown that there is a significant difference in ORTO-T Scores for employed participants (M = 33.95, SD = 7.24) and unemployed participants (M = 37.86, SD = 7.23) , *t*(298) = -- 4.40 , *p= 0.001****, with a moderate effect size (*d = 0.54)* suggest a moderate difference .The results show statistical difference for ORTO-15 between employed and unemployed participants , Orthorexia Nervosa was higher in unemployed participants.. WHO-T Scores for employed participants (M = 59.52, SD = 11.57) and unemployed participants (M = 65.44, SD = 11.91), *t (298) = -4.12 , p = 0.001**** with a moderate effect size *(d = 0.50).* It indicates that unemployed participants scored higher as compared to employed participants for health related quality of life, significant difference for health related quality of life . IAS-T scores indicates employed participants (M = 52.22,SD = 13.65) and unemployed participants (M = 57.72 ,SD = 15.36) ,*t(298)= - 3.14 , p =0.002* , with a small to moderate effect size *(d=0.37).* It shows that it had a statistical

difference having higher rate of Nosophobia among unemployed participants as compared to employed participants.

Mediation Analysis. Mediation analyses were conducted to find out the indirect effects of Nosophobia in predicting Orthorexia Nervosa and Health related quality of life. Mediation analysis was performed by using Process Marco. Results are shown in the following tables.

Table 15

Simple Mediation analysis of the effect of Nosophobia on Orthorexia Nervosa and Heath Related Quality of Life

Predictors	*DV*			
	Model 1	Model2		
			95% *CI*	
	B	*B*	*LL*	*UL*
Constant	20.95	24.13	20.21	28.06
Independent variable	1.15 **	0.095	0.01	0.21
Mediator	-	0.62 **	0.51	0.74
Indirect effect (ON→NOSO→HRQOL)	-	0.66	0.48	0.87
R^2	0.51	0.65	-	-
Δ R^2	-	0.14		
F	311.78***	281.42***		
Δ*F*	-	3.52*		

Note: ON=Orthorexia Nervosa,NOSO=Nosophobia,HRQOL=Health Realted Quality of Life, CI = confidence interval, *UL* = upper limit, *LL* = lower limit

(*p<.05,**<.01,***p < .001)

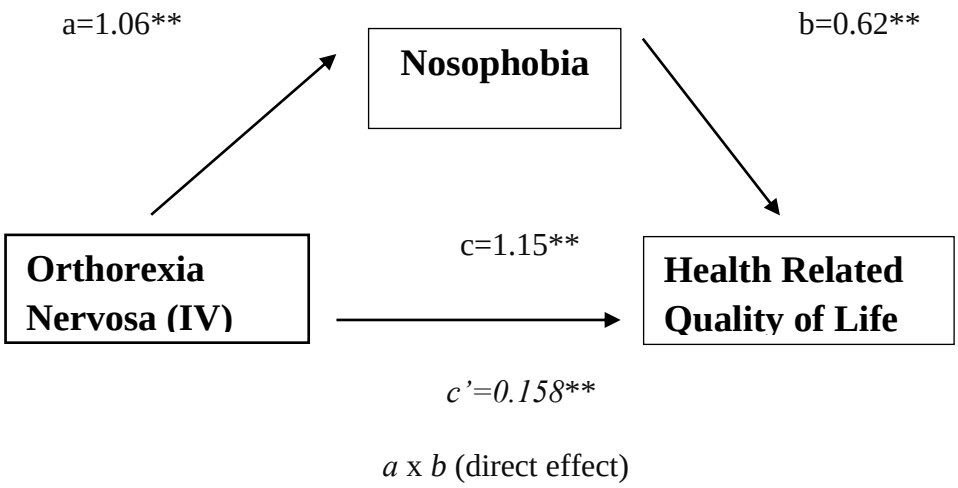

Figure 2 . *Simple Mediation Analysis of Nosophobia on Orthorexia Nervosa and Health Related Quality of Life*

Mediation analysis was performed on Orthorexia Nervosa and Health Related Quality Of Life using Nosophobia as a mediator between them .The results show total effect of mediation model was significant, where b= 1.51,t = 17.66, CI = [0.01,0.21], p < .01 ** .The results indicates that Orthorexia Nervosa has a significant effect on Health Related Quality Of Life before mediation analysis was performed. It means that due to Orthorexia Nervosa the Health Related Quality Of Life becomes low.

The table shows that the direct effect is also significant, where b = 0.095,t = 0.87, CI = [0.01,0.21], p < .05 *, Which means that the controlling effect of Nosophobia makes a negative impact of Orthorexia nervosa on Health Related Quality Of Life. The results indicates that the indirect effect of is statistically significant showing , b = 0.62, CI = [0.48,0.74], The mediation analysis shows that the Nosophobia acts as a mediator between Orthorexia nervosa and Health Related Quality Of Life. It means that fear of sickness is causing negative effects on health elated quality of life among adults.

Chapter 5

SUMMARY, DISCUSSIONS, CONCLUSIONS AND SUGGESTIONS

5.1 Summary

This research compares Orthorexia Nervosa, Nosophobia and Health related Quality of Life. The mediating role of Nosophobia was explored between Orthorexia nervosa and Health Related Quality of Life.

5.2 Discussions

The research was performed for assessing the complex interplay between Orthorexia Nervosa, Nosophobia and Health Related Quality of life in Pakistan. The research was conducted on adults. The rationale of this study was drawn by studying gaps in literature, this study will help to build better intervention plans among Pakistani population .The study aimed at comparing demographics variables which includes gender, family system and employment status of participants .

In present study, several instruments were used on participants which includes Donini ORTO-15 Scale (Donini et al., 2005), WHO Quality of Life Scale Brief -26 (WHO, 1998), Illness Attitude Scale -27 (Robert Kellner, 1987). In order to gather data from participants , questionnaires included inform consent ,demographics sheet, questions of scales .It was noted that Cronbach's alpha reliability for all three instruments were achieved significantly. The scores obtained from the scales and subscales, the transformed scores from mean differences and standard deviations were used in the study. The sample's descriptive statistics regarding mean age and gender, family system, participant's education level, and employment status were computed in order to perform additional data analyses. To investigate the role of Nosophobia on Orthorexia Nervosa and Health Related Quality of Life among Pakistani population.The study

was conducted on adults age ranging 20-45 years, my study will help for better insight development that why this age group is influenced to eat clean diet because of fear of diseases.In this way future researchers can develop better tools and intervention plans for such population which is non-clinical.

5.3 Nosophobia and Orthorexia Nervosa

The aim of this study was to find out if there's a connection between Nosophobia and Orthorexia Nervosa. Therefore, it was assumed that there is a positive relationship between Nosophobia and Orthorexia Nervosa. Results have showed that Nosophobia is positively correlated with Orthorexia Nervosa. Hence, the first hypothesis (H1) of this study is accepted that there is a positive association between Nosophobia and Orthorexia Nervosa. If Nosophobia increases Orthorexia Nervosa also increases among adults .

People with an intense fear of sickness may avoid social gatherings, crowded places, or physical contact out of fear of exposure to germs. Fear of sickness may also trigger obsessive-compulsive tendencies, such as excessive hand washing, avoiding public places, or following extreme health routines (Asmundson & Taylor, 2020). This can lead to loneliness, weakened relationships, and reduced social support. Orthorexia Nervosa has some strict eating patterns and participants were influenced to eat healthy due to Nosophobia.

5.4 Health Related Quality of Life and Nosophobia

The second hypothesis (H2) was that Health related Quality of Life is negatively associated with Nosophobia but our results depicted that there is a positive relationship between them. Therefore, the hypothesis is rejected based on existing evidence demonstrating a significant negative impact of Nosophobia on various aspects of well-being.The reasons can be cultural difference and coping strategies which can be further explored by future researchers. Research indicates that heightened Nosophobic tendencies are closely linked to increased anxiety, psychological distress, and functional impairments, all of which contribute to a

diminished well-being. There can be other factors like coping strategies of people to deal with fear of illness Nosophobia (Weck et al., 2015). Nosophobia often associated with health anxiety and hypochondriasis can lead to excessive worry, avoidance behaviors, and increased healthcare utilization, all of which can negatively impact both mental and physical well-being. Health related anxiety can increase hospitals visits and it can directly effect on health and overall well-being (Fink et al., 2010). Studies show that individuals with high levels of health-related fears tend to experience chronic stress, reduced social interactions, and lower overall life satisfaction, further reinforcing the detrimental effect on Health related Quality of life. Study has proved that taking precautionary measurements by focusing on Outbreak, seeking medical reassurance continuously, stocking medicines can affect one's life (Asmundson & Taylor, 2020).

Moreover, excessive preoccupation with illness can result in maladaptive coping strategies, such as constant medical reassurance-seeking or avoidance of medical care altogether, both of which are associated with decreased psychological well-being and impaired daily functioning. The persistent anxiety and hyper vigilance associated with Nosophobia can also contribute to sleep disturbances, fatigue, and overall reduced quality of life (Bailer et al., 2015). Given the strong association between Nosophobia and psychological distress, it is evident that an increase in Nosophobia negatively affects Health related Quality of life. Therefore, the hypothesis is rejected, as existing literature consistently supports the notion that heightened Nosophobic tendencies contributes to poorer well-being rather than having no impact.

5.5 Orthorexia Nervosa and Health related Quality of Life

The hypothesis (H3) states that Health related Quality of Life will be negatively associated with Orthorexia Nervosa. According to the results of this study there is a positive association of Orthorexia Nervosa with Health Related Quality of Life. Therefore, the hypothesis is rejected. Obsession with healthy eating, known as Orthorexia Nervosa, can lead to anxiety,

guilt, and obsessive thoughts about food (Bratman & Knight, 2000). Individuals who rigidly follow strict diets may develop food-related distress, leading to social isolation and a reduced quality of life (Koven & Abry, 2015).

The hypothesis (H4) was People with Nosophobia can develop hypochondrial beliefs.Students studying medicine and related fields had more levels of Nosophobia and developed hypochondrial beliefs (Szczurek et al.,2022).Nosophobia can also lead to somatic problems (Harrigon et al.,2008).The hypothesis (H5) was People with Orthorexia Nervosa can develop hypochondrial beliefs. People with Orthorexia Nervosa can develop anxiety and guilt feelings if dietary restrictions are breached.Hypochondrial beliefs such as controlling on food ingredients,portion. Orthorexia Nervosa was affecting people, this hypothesis is accepted ,Orthorexia Nervosa is have some Obsessive compulsive tendencies as reordering of food ingredients, rechecking(Koven & Abry,2015) .Some people who strictly eat healthily may develop a sense of moral superiority, leading to judgment of others' eating habits, it can cause stress and anxiety (Kinzl et al., 2006). According to Cognitive Behavioral Theory people with Orthorexia Nervosa can have rigid thinking such as packaged food can be hazardous for health(Beck,1976).

This can create social tension and make group dining experiences uncomfortable. Conversely, those with strict diets may feel judged themselves, causing social anxiety and withdrawal from food-centered events. Strict dietary choices can limit social interactions, as individuals may avoid gatherings where unhealthy or "forbidden" foods are served (Eriksson et al., 2008). This can lead to strained relationships with family and friends, reducing overall well-being.

Psychological research suggests that diet rigidity can contribute to perfectionism, which has been linked to higher stress and even depressive symptoms (Brytek-Matera et al.,

2017).While eating healthy is generally beneficial, an extreme or rigid approach to nutrition can have negative consequences on mental health, physical well-being, and social life. A balanced approach, rather than strict dietary rules, is key to maintaining overall health and happiness.

5.6 Effects of Demographic on Study Variables

The hypothesis (H6) was gender groups will vary significantly on study variables (Nosophobia, Orthorexia Nervosa and Health related Quality of Life). The results of this study have proved that there was a significant difference between males and females on study variables .Hence, the third hypothesis is accepted. Females had higher tendencies of Nosophobia, Orthorexia Nervosa and Health Related Quality of Life as compared to male . It means that Pakistani females are more affected by Nosophobia, Orthorexia Nervosa and Health Related Quality of Life. Studies consistently show that women report higher levels of health anxiety and fear of illness compared to men. This can be attributed to greater health awareness, increased healthcare-seeking behaviors, and heightened sensitivity to bodily sensations (Asmundson & Taylor, 2020). According to Biopsychosocial Model females are highly sensitive due to hormone fluctuations they are more prone to anxiety and fear (Engel,1977).Rumination leads to excessive worry about health (Nolen -Hoeksema,2001).

Sociocultural factors, such as gender norms that emphasize women’s responsibility for personal and family health, contribute to higher levels of Nosophobia among females. Females are more likely to exhibit Orthorexic tendencies due to societal pressures regarding body image, diet culture, and the pursuit of a "clean" or "healthy" lifestyle (Cena et al., 2018).

Women, particularly those engaged in fitness and nutrition-related activities, are often more susceptible to restrictive eating patterns and compulsive health behaviors, which explains their elevated Orthorexia Nervosa scores (Brytek-Matera et al., 2017). The significant gender difference found in the study aligns with previous research indicating that females tend to exhibit

greater health anxiety, stronger dietary discipline, and a more proactive approach to health management, leading to higher scores in Nosophobia, Orthorexia Nervosa and Health Related Quality of Life.

These findings highlight the influence of biological, psychological, and sociocultural factors in shaping gender-specific health behaviors and perceptions. Despite increased health concerns and dietary rigidity, females reported poor Health Related Quality of Life., particularly in domains related to self-care, preventive health behaviors, and social well-being (Kaplan et al., 1991). Additionally, social media exposure to diet trends and "wellness" culture disproportionately affects women, reinforcing rigid dietary habits linked to Orthorexia Nervosa (Turner & Lefevre, 2017).

The hypothesis (H7) was Employment status will vary on study variables (Nosophobia, Orthorexia Nervosa and Health Related Quality of life. Therefore the hypothesis was accepted as there was a significant difference between employed participants and unemployed participants. Unemployed participants had higher level In Nosophobia, Orthorexia Nervosa and Health Related Quality of life. Psychological distress, excessive time for dietary control, and heightened health anxieties .Unemployment is a significant source of anxiety and depression, which are risk factors for developing Orthorexia Nervosa (Rodgers et al., 2019). Orthorexia Nervosa is positively associated with psychological distress, both perfectionist attitude and psychological distress can impact quality of life (Strahler et al., 2018).

The hypothesis (H8) Worrying about illness can increase healthy eating behaviors.Higher level of persistent fear of getting sick will be positively associated with stress and anxiety levels. This hypothesis was accepted as Nosophobia was causing high stress and anxiety levels.This adaptive mechanism ensures survival by promoting dietary behaviors that minimize health risks. Psychological research also supports this notion, as individuals who perceive a higher risk of

illness are more likely to engage in preventive health behaviors, including better dietary choices (Schüz et al., 2015).

Fear appeals in health communication further reinforce this behavior by triggering protective responses, (Witte & Allen, 2000). Leading individuals to prioritize nutritious food consumption to mitigate perceived threats. Consequently, the psychological and evolutionary mechanisms underlying fear-driven health behaviors provide substantial justification for accepting the hypothesis that the fear of sickness can compel individuals to eat healthily. From an evolutionary standpoint, humans have developed aversions to foods perceived as harmful due to their association with disease and contamination. An emotion of disgust forces them to perform aversive behaviors for instance vomiting (Rozin & Fallon, 1987). The fear of illness serves as a powerful motivator for individuals to adopt healthier eating habits.

5.7 Mediating role of Nosophobia

The hypothesis (H9) was mediating role of Nosophobia between Orthorexia Nervosa and Health Related Quality of life. Therefore, the hypothesis was accepted Nosophobia acted as a mediator between Orthorexia Nervosa and Health Related Quality of Life. It means that fear of sickness has caused negative effects on health elated quality of life among adults and influencing people to eat healthy only. Understanding the reason,meaning and numerical data in research (Streefkerek, 2023).

It can be explained by Cognitive Behavioral Theory (CBT), the relationship between Nosophobia, Orthorexia Nervosa , and Health-Related Quality of Life This theory can help in understanding about the thoughts and behaviors ,that negative cognitions can affect one’s life (Beck,1976). These thoughts are influencing people to adopt healthy eating which is also affecting their Health Related Quality of Life. In one study Health Related Quality of Life was used as a mediator between depression and anxiety and also impacting someone’s quality of life

for example Psychosis patients had severe depression it affected their sleep schedules and also lowered their Health Related Quality of Life (Meijer et al., 2008).

5.9 Conclusion

The current research focused on how Nosophobia and Orthorexia Nervosa were associated with Health Related Quality of life. The mediating role of Nosophobia was explored in this study. The findings are consistent with the current literature on the subject and add to the body of knowledge on such dynamics. Nosophobia and Orthorexia Nervosa were positively correlated with each other it means that increase in Nosophobia was influencing participants to eat clean and pure diet which is called Orthorexia Nervosa among Pakistani population.
There was a significant difference between both genders regarding study variables. Females tend to have higher tendencies of Orthorexia Nervosa .

This suggests that they were adopting clean eating habits more than male participants. Nosophobia was also significantly higher in females as compared to males while it was affecting Health Related Quality of life of females more in comparison to male participants. Unemployed participants tend to have higher levels of Nosophobia ,Orthorexia Nervosa and Health Related Quality of Life.

Taken together, the finding of the study provides further support to the hypotheses. This study will help future researches and will help for better intervention plans among Pakistani population.

5.10 Limitations and Suggestions

1. Because the study employed cross-sectional method and the results cannot be tested in the future. Longitudinal study can be helpful in getting a deeper insight into the process itself, and more possible factors that are associated with it. Studies carried out longitudinally are beneficial because they can give more reliable results since its findings are more accurate.

2. The data for the present study has been collected from the urban population and was restricted to Islamabad and Rawalpindi only. Therefore, it's suggested and proposed to extend its diversity by incorporating data from the rural part of Pakistan, for the prospective generalization of the findings.
3. The data for the present study has been collected from the non- Clinical (general/normal) population only. Therefore, it cannot accurately represent diagnosed patients. Future researches must concentrate on Clinical populations such as people at hospitals, clinics and rehabilitation centers.
4. However, examining Nosophobia, Orthorexia Nervosa and Health Related Quality of Life must be studied with confounding variables , such as personality characteristic, trauma, chronic illness,underlying conflicts,eating habits,some other fear factors etc.
5. The present study is quantitative ,future researchers can do qualitative study for example interviews can help for better understanding. These methodologies include in-depth interviews and focus groups that will help in the understanding of patient experiences of living with Orthorexia Nervosa and culture in the manifestation of Orthorexia Nervosa. Census, questionnaires, and other types of epidemiological research can provide useful information on the incidence of Orthorexia Nervosa and its psychological effects on the members of the aforementioned populations. It is important to be culturally traditional and religiously sensitive to the societies of the eastern world being researched on throughout the research process. This can be done by using the right translation in the material and interactions, using local participants, and delivering the results in culturally acceptable way that will allow their wide sharing.
6. The present study target population was adults age range (20-45). Future researches can also focus on teenagers and children for generalizability among population.

7. Due to short time only few subscales were explored as our main focus was on main scales of study variables , for example Hypochondrial beliefs as it was related to the study variables future researchers can also explore other subscales and other factors.

5.11.Future Implications of Present Study

1. Present study can be implied theoretically and practically. This study can contribute in the field of Clinical Psychology. As both Orthorexia Nervosa and Nosophobia are not included in DSM-V . This study can help for better understanding and building insight for both Orthorexia Nervosa and Nosophobia.
2. Findings of this study can help to build better intervention plans and tailor them according to the culture. This study can help to understand about Nosophobia, Orthorexia Nervosa and Health Related Quality of Life according to the Pakistani context.
3. Findings of this study can help to have a deeper insight that Nosophobia and Orthorexia Nervosa are impacting Health Related Quality of Life. So it will be useful for future researchers to develop more diagnostic tools.
4. The present study can help in building awareness regarding Orthorexia Nervosa, Nosophobia and Health Related Quality of Life.It can help at collective level in other fields of psychology also along with Clinical Psychology for the benefit of society.
5. The findings of the study can help in better understanding that adults age ranging from 20-45 years are influenced to adopt such diet due to sickness fear. In this way age and gender based tools and intervention plans can be developed as my study proves that females had higher tendencies of Orthorexia Nervosa and Nosophobia .

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APPENDIX A

Informed Consent & Demographic Sheet

INFORM CONSENT

I am an M-Phil student in Applied Psychology at the National University of Modern Languages, Islamabad. I am conducting a study on certain psychological problems and behaviors in adults. Your voluntary participation in this research is appreciated. All information provided will be confidential and used solely for research purposes. You can withdraw from the study at any time if you experience discomfort. Your cooperation is invaluable. Thank you for your participation!

DEMOGRAPHIC SHEET

Age : ----------

Gender: ----------

Education: ----------

Family System : ----------

Occupation : ----------

Marital Status: ----------

Are you currently ill? ----------

APPENDIX B

DONINI ORTO-15

Questionnaire-1

Kindly read each question carefully and choose the response that best describes your experience; there are no right or wrong answers. Mark only one answer:

1. When eating, do you pay attention to the calories of the food?	Always	Often	Sometimes	Never
2.When you go to the supermarket, do you feel confused? *	Always	Often	Sometimes	Never
3. In the last 3 months, did the thought of food worry you?	Always	Often	Sometimes	Never
4.Are your eating choices conditioned by your worry about your health status?	Always	Often	Sometimes	Never
5.Is the taste of food more	Always	Often	Sometimes	Never

important than the quality when you evaluate food?				
6.Are you willing to spend more money to have healthier food?	Always	Often	Sometimes	Never
7.Does the thought about food worry you for more than three hours a day?	Always	Often	Sometimes	Never
8.Do you allow yourself any eating transgressions?	Always	Often	Sometimes	Never
9.Do you think your mood affects your eating behavior?	Always	Often	Sometimes	Never
10.Do you think that the	Always	Often	Sometimes	Never

conviction to eat only healthy food increases self-esteem?				
11.Do you think that eating healthy food changes your life-style (frequency of eating out, friends, …)?	Always	Often	Sometimes	Never
12.Do you feel guilty when transgressing?	Always	Often	Sometimes	Never
13.Do you think that healthy food is also tastier than other food?	Always	Often	Sometimes	Never
14.Do you feel a sense of fulfillment with eating healthy food, more than that of eating	Always	Often	Sometimes	Never

“normally”?				
15.Do you think that nowadays eating healthy is difficult?	Always	Often	Sometimes	Never

APPENDIX C

Illness Attitude Scale

Questionnaire 2.

Kindly choose the response carefully that best describes your experience and there is no right or wrong answer. Please keep in mind standards, hopes, pleasures, and concerns, You think about your life in the last two weeks.

Do you get the kind of support from others that you need?	Not at all	A little	Moderately	Mostly	Completely
1.How would you rate your quality of life?	Very Poor	Poor	Neither poor nor good	Good	Very good
2. How satisfied are you with your health?	Very dissatisfied	dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied
3. To what extent do you feel that physical pain prevents you from doing what you need to do	Not at all	A little	A moderate amount	Very much	An extreme amount
4. How much	Not at all	A little	A moderate	Very much	An extreme

do you need any medical treatment to function in your life?			amount		amount
5. How much do you enjoy life?	Not at all	A little	A moderate amount	Very much	An extreme amount
6. To what extent do you feel your life to be meaningful?	Not at all	A little	A moderate amount	Very much	An extreme amount
7. How well are you able to concentrate?	Not at all	A little	A moderate amount	Very much	An extreme amount
8. How safe do you feel in your daily life?	Not at all	Slightly	A moderate amount	Very much	Extremely
9. How healthy is your physical environment?	Not at all	Slightly	A moderate amount	Very much	Extremely
10. Do you	Not at all	A little	Moderately	Mostly	Completely

have enough energy for everyday life?					
11. Are you able to accept your bodily appearance?	Not at all	A little	Moderately	Mostly	Completely
12. Have you enough money to meet your needs?	Not at all	A little	Moderately	Mostly	Completely
13. How available to you is the information that you need in your day-to-day life?	Not at all	A little	Moderately	Mostly	Completely
14. To what extent do you have the opportunity for leisure activities?	Not at all	A little	Moderately	Mostly	Completely
15. How well	Very poor	Poor	Neither poor	Well	Very well

are you able to get around?			nor well		
16. How satisfied are you with your sleep?	Very dissatisfied	Dissatisfied	Neither satisfied nor disatissfied	Satisfied	Very satisfied
18. How satisfied are you with your capacity for work?	Very dissatisfied	Dissatisfied	Neither satisfied nor disatissfied	Satisfied	Very satisfied
19. How satisfied are you with yourself?	Very dissatisfied	Dissatisfied	Neither satisfied nor disatissfied	Satisfied	Very satisfied
20. How satisfied are you with your personal relationships?	Very dissatisfied	Dissatisfied	Neither satisfied nor disatissfied	Satisfied	Very satisfied
21. How satisfied are you with your sex life?	Very dissatisfied	Dissatisfied	Neither satisfied nor disatissfied	Satisfied	Very satisfied
22. How	Very	Dissatisfied	Neither	Satisfied	Very

satisfied are you with the support you get from your friends?	dissatisfied		satisfied nor disatissfied		satisfied
23. How satisfied are you with the conditions of your living place?	Very dissatisfied	Dissatisfied	Neither satisfied nor disatissfied	Satisfied	Very satisfied
24. How satisfied are you with your access to health services?	Very dissatisfied	Dissatisfied	Neither satisfied nor disatissfied	Satisfied	Very satisfied
25. How satisfied are you with your mode of transportation?	Very dissatisfied	Dissatisfied	Neither satisfied nor disatissfied	Satisfied	Very satisfied
26. How often do you have	Very dissatisfied	Dissatisfied	Neither satisfied nor	Satisfied	Very satisfied

negative feelings, such as blue mood, despair, anxiety, depression?			disatissfied		

APPENDIX D

WHO Quality of Life Scale-Brief

Questionnaire 3.

Kindly choose the response carefully that best describes your experience and there is no right or wrong answer.

1.Do you worry about your health?	No	Rarely	Sometimes	Often	Most of the time
2.Are you worried that you may get serious illness in future?	No	Rarely	Sometimes	Often	Most of the time
3.Does the thought of a serious illness scare you?	No	Rarely	Sometimes	Often	Most of the time
4.If you have a pain, do you worry that it may be caused by a serious illness?	No	Rarely	Sometimes	Often	Most of the time

5.If a pain lasts for a week or more, do you see a physician?	No	Rarely	Sometimes	Often	Most of the time
6.If a pain lasts for a week or more, do you believe that you have a serious illness?	No	Rarely	Sometimes	Often	Most of the time
7.Do you avoid habits which may be harmful to you such as smoking?	No	Rarely	Sometimes	Often	Most of the time
8. Do you avoid foods which may not be healthy?	No	Rarely	Sometimes	Often	Most of the time

9. Do you examine your body to find whether there is something wrong?	No	Rarely	Sometimes	Often	Most of the time
10. Do you believe that you have a physical disease but the doctors have not diagnosed it correctly?	No	Rarely	Sometimes	Often	Most of the time
11. When your doctor tells you that you have no physical disease to account for your symptoms, do you refuse	No	Rarely	Sometimes	Often	Most of the time

to believe him?					
12. When you have been told by a doctor what he found, do you soon begin to believe that you may have developed a new illness?	No	Rarely	Sometimes	Often	Most of the time
13. Are you afraid of news which reminds you of death (such as funerals, obituary notices)?	No	Rarely	Sometimes	Often	Most of the time
14. Does the thought of	No	Rarely	Sometimes	Often	Most of the time

death scare you?					
15. Are you afraid that you may die soon?	No	Rarely	Sometimes	Often	Most of the time
16. Are you afraid that you may have cancer?	No	Rarely	Sometimes	Often	Most of the time
17. Are you afraid that you may have heart disease?	No	Rarely	Sometimes	Often	Most of the time
18. Are you afraid that you may have another serious illness?	No	Rarely	Sometimes	Often	Most of the time
19. When you read or hear about an illness, do	No	Rarely	Sometimes	Often	Most of the time

you get symptoms similar to those of the illness?					
20. When you notice a sensation in your body, do you find it difficult to think of something else?	No	Rarely	Sometimes	Often	Most of the time
21. When you feel a sensation in your body do you worry about it?	No	Rarely	Sometimes	Often	Most of the time
22. How often do you see a doctor?	Almost never	Only never rarely	About 4 times a year	About once a month	About once a week
23. How many	None	1	2 or 3	4 or 5	6 or more

different doctors, chiropractors or other healers have you seen in the past year?					
24. How often have you been treated during the past year? (For example, drugs, change of drugs, surgery, etc.)	None	1	2 or 3	4 or 5	6 or more times
25. Do your bodily symptoms stop you from working?	No	Rarely	Sometimes	Often	Most of the time

26. Do your bodily symptoms stop you from concentrating on what you are doing?	No	Rarely	Sometimes	Often	Most of the time