

Hope and Psychological Energy among Patients with Chronic Diseases: Correlation and Comparative Study

Elwaleed Abdalla Farih Meiri¹, Bandar Alalam Al Zahrani², Ibrahim bin Qasem Hakami³, Aza Mohamed Sediek Refai⁴

Abstract

The present study aims to identify the correlation between hope and psychological energy in patients with chronic diseases. The study consists of a sample of 100 patients with chronic diseases (diabetes, blood pressure, gastric ulcers, irritable bowel syndrome, and asthma-adipose) residing in Riyadh, Saudi Arabia. The study adopted the relational descriptive approach and used two scales, namely the hope scale of Snyder et al. (1991) and the psychological energy scale of Zaidan (2003). Data was entered and analyzed by the SPSS-22 statistical program. The results of the study concluded that there was a statistically significant correlation between hope and psychological energy in patients with chronic diseases. The results also confirmed the alternative hypothesis that there are significant differences in hope by sex and duration of disease. Differences were also significant in psychological energy according to the duration of the disease. The study concluded that hope and psychological energy are protective factors that allow the individual to cope with difficult and painful experiences, including chronic or dangerous diseases.

Keywords: *Chronic Disease, Hope, Psychological Energy.*

Introduction

In contrast to positive psychology, psychopathology is defined as a sudden and destructive event that the individual or society, with all its capabilities and procedures, is unable to confront and eliminate promptly. This is known as a traumatic experience (regarding the concept of psychological trauma). The source of this traumatic event this time is chronic diseases, which might affect some people and are regarded as the primary causes of death in modern times.

These include a long list of diseases such as metabolic syndrome, obesity, diabetes, non-alcoholic fatty liver disease, coronary heart disease, peripheral artery disease, hypertension, stroke, congestive heart failure, endothelial dysfunction, dyslipidemia, thrombosis, deep vein thrombosis, osteoporosis, osteopenia, rheumatoid arthritis, colon cancer, breast cancer, endometrial cancer, polycystic ovary syndrome, erectile dysfunction, pain, diverticulitis, constipation, and if persistent, lead to a significant decrease in both overall life years and quality of life combined (Booth et al., 2012).

Many psychological and mental problems associated with chronic diseases are likely to occur when individuals do not manage their stress or fears well. Therefore, coping strategies or facing these pressures or problems are crucial to avoiding or reducing the negative psychological effects associated with chronic diseases, including those that may lead to death (Ogawa, 2007).

Pain is considered one of the most mysterious phenomena; it is essentially a psychological experience. Historically, humans have addressed pain through medication and surgery. However, with the increasing significance of the role that psychological factors play in the sensation and treatment of pain, psychologists have begun to play a role in managing pain. As a result, psychological approaches are increasingly being used day by day. These approaches include various techniques such as biofeedback, relaxation, distraction, imagery, hypnosis, acupuncture, and other cognitive methods (Weisberg, 2008).

¹ Department of Psychology, Faculty of Social Sciences, Imam Mohammad Ibn Saud Islamic (IMISU), Email: eameiere@imamu.edu.sa.

² Department of Psychology, Faculty of Social Sciences, Imam Mohammad Ibn Saud Islamic (IMISU), Email: bszhrany@imamu.edu.sa.

³ Department of Psychology, Faculty of Social Sciences, Imam Mohammad Ibn Saud Islamic (IMISU), Email: iqhakami@imamu.edu.sa

⁴ Department of Education and Psychology, Faculty of Education, King Faisal University, Email: arefai@Kfu.edu.sa.

Under the ongoing stress imposed by chronic diseases on individuals, researchers tend to develop positive traits to fortify individuals to face these transformations in the intellectual, moral, social, political, and economic structures of societies. If this fortification applies to health, then patients are among the groups that desperately need to lead their lives, learn how to make good decisions while facing significant challenges, and focus on personal independence, self-actualization, and finding meaning in life. Therefore, cases of individuals with chronic diseases dominate healthcare in most parts of the world, including the United States. Patient management of disease is essential for controlling its effects (Clark, 2003).

Based on the above, researchers tend to develop some positive traits to fortify individuals against the successive psychological effects of chronic disease on the psychological and physical make-up of patients with chronic diseases. While this fortification is specific to healthy people, those with chronic diseases, in light of this significant confrontation, are the ones who desperately need to learn how to make good decisions, cope, have self-confidence, practice self-management, reinterpret feelings of pain, and enjoy life. Once an individual is diagnosed with a chronic disease, the patient experiences a state of depression and despair that hinders their daily functioning, in addition to the continuous effort to pursue treatment for years, the high costs of this treatment, and the suffering from pain (Dejean et al., 2013; Karaman et al., 2025).

Among the positive attributes highlighted in the current study is hope, which is considered one of the key notions in positive psychology due to its multiple positive impacts on adaptation and both mental and physical health. Hope is also a new positive point in human resource development, and its absence or loss relates to sentiments of helplessness, pessimism, negative emotions, and decreased resilience (Ibrahim, 2005). Hope is a cognitive state experienced by individuals in difficult situations where the desired positive outcomes have not yet occurred but are expected to happen in the future, often in an undesirable context. Consequently, what triggers hope in an individual are threatening and uncertain situations (Al-Yahya, 2018).

In this context, a review of some previous studies confirms that individuals with positive emotions, such as hope, are more likely to engage in healthy behaviors, regardless of their medical condition, and this contributes to the treatment of chronic diseases (see studies: Borges et al., 2021; Basten-Guenther et al., 2019; Schiavon et al., 2017).

Additionally, the results of some previous studies have confirmed positive correlations between hope and positive coping strategies among individuals with chronic diseases (see studies: Baptista et al., 2024; Cha & Yi, 2013; Long et al., 2020; Pinto et al., 2024). Psychological energy is viewed as more than just a type of activity or vitality and intensity of mental functions; it is the basis of motivation. Psychological energy can take on either a positive or negative form, depending on the nature of emotions from the source of energy. Excitement and happiness are sources of positive energy, while anxiety and anger are sources of negative energy. As is the case with most psychological traits, psychological energy is characterized by gradation, as individuals vary in terms of increase or decrease at different times and according to the type of situation (Mohamed, 2010).

Previous studies have shown a correlational relationship between psychological energy and its dimensions (self-will and self-confidence) and self-management of pain in individuals suffering from chronic diseases. The motivation to manage their pain is influenced by two main variables: beliefs about the importance of engaging in self-management of pain and beliefs about the individual's self-confidence and willpower (see studies by Baumeister et al., 2008; Hernandez, 2022; Livneh., 2022; Nizza et al., 2022).

Theoretical Framework

Chronic Diseases

The World Health Organization (WHO) confirms in one of its reports that the impact of chronic diseases in many low- and middle-income countries is steadily increasing. It is crucial to anticipate the growing significance of chronic diseases, understand them, and work to address them.

This requires adopting a new approach to enhance efforts in the prevention and control of chronic diseases. The same report indicates that chronic diseases have led to 53 million cases and deaths, with 80% of deaths due to chronic diseases occurring in low- and middle-income countries. These deaths occur in equal numbers among men and women, and there is a continued increase in the number of individuals, families, and communities affected by chronic diseases (Alnaami et al., 2019).

WHO predicts that by 2020, chronic diseases would account for nearly three-quarters of deaths worldwide, with 71% of deaths due to heart disease, 75% of deaths due to stroke, and 70% of deaths due to diabetes occurring in developing countries. The number of people with diabetes in the developing world is expected to increase by more than 5.2 times, from 84 million in 1995 to 228 million in 2025 globally. 60% of the burden of chronic diseases will occur in developing countries (World Health Organization, 2019). On the other hand, despite the tremendous advances in pathology, physiology, biochemistry, pharmaceuticals, and surgical interventions, chronic pain remains a significant problem for many individuals and even governments. Pain is a public health issue, as epidemiological studies indicate that the prevalence of chronic pain ranges from 15% to 20% among the adult population in the United States.

Psychological Energy

Psychological energy is one of the important topics that affect an individual's motivations and behavior, as well as their performance in tasks. The term psychological energy is used interchangeably with other psychological terms such as arousal, activation, and motivation for both the mind and body (Feinstein, 2008). An individual's psychological energy is affected by psychological stress; the level of psychological energy decreases as the level of psychological stress increases. This was confirmed by studies (Dubey & Shahi, 2011; Fullick et al., 2009; Straub, 2024), which showed that individuals with higher levels of psychological energy are more capable of coping with stress.

Adler (1988) explained the similarity between physical energy and psychological energy; just as physical energy works with physical bodies, psychological energy works with psychological constructs such as motivations and thoughts (Adler, 2002). Intensive literature reviews of sources such as Google Scholar, Web of Science, Medline, Academic Search Premier, and others have led to an understanding of the role that psychological energy plays in psychological and social adaptation to chronic diseases, despair, and overcoming crises and traumas (Livneh, 2022; Puetz et al., 2006). Feinstein (2008) mentions that negative sources of psychological energy lead to fatigue quickly, while positive sources of psychological energy help alleviate stress, anxiety, and negative thought sources.

Furthermore, many studies have shown that individuals with chronic diseases such as cancer face numerous daily challenges that are difficult for them, such as mobility restrictions and pain, as well as their surrounding physical environment (architectural barriers and strict medical systems) and psychosocial factors (stigma, professional discrimination, and doubts). Consequently, their ongoing struggles and victories lead to significant losses in psychological energy and adaptability (Livneh, 2022). Therefore, clarifying the concept of psychological energy in the context of life can improve the quality of life for individuals with chronic diseases and affect various aspects of the patient's life.

Relationship Between Hope and Psychological Energy

Researchers in the field of ethics say that hope is an acknowledgement that the horizon is open and a recognition that the future will be only as we desire it. Perhaps the experience of hope is the explicit existential expression of this human trust in the meaning of life. The current study focuses on hope, which lies at the heart of positive psychology and is considered one of the most important protective factors against the negative effects of stress.

It is an emotional strength that helps individuals remain connected with others and persist in the face of existence and the future (Mokhaimer, 2009).

It is worth mentioning that 'hope' is one of the concepts that has captured the attention of psychologists since the mid-1950s due to its importance and role in shaping and defining one's outlook on life. Consequently, its relationship with certain psychological conditions such as depression, despair, loss, and dissatisfaction (Shawqi 2005). Hope is also understood as the individual's perceived confidence in generating reasonable pathways to achieve desired goals (pathway, the cognitive component) and the perceived motivation to use those pathways to initiate and sustain efforts in the pursuit of desired goals (agency, the motivational component) (Snyder, 2002).

On the other hand, Snyder and his colleagues explained hope through the "Hope Theory," which focuses on the concepts of energy and pathways. Energy refers to the strength and level of motivation in pursuing goals, while pathways mean planning the routes leading to the goal, something that sounds like what is found in optimism theory. In this context, the emotions of hope are the ability to pursue goals with a level of willpower accompanied by positive emotions (Asalyah & Saed, 2015). As Allen and his colleagues (1991) argue, research on hope is a study of the mental, physical, and social health of individuals and communities. It is an exploration of personality dynamics, where hope involves a genuine overcoming of obstacles. This process includes a variety of adaptive relationships among individuals in both ordinary and challenging situations. It also encompasses a high level of self-esteem, happiness, and creative potential, while enhancing an individual's ability to interact with others and providing a positive motivational state that makes them more accepting and psychologically satisfied, even under stressful conditions. Additionally, it offers a wide range of ideas for addressing situations (Al-Fanjari, 2007). Hope is a cognitive state that an individual experiences in difficult situations where the positive outcomes they desire have not yet occurred but are expected to happen in the future, often in an undesirable context. Therefore, what triggers hope in an individual are threatening and uncertain situations (Al-Yahya, 2018).

Moreover, hope is positively and statistically correlated with psychological energy (Gulsen et al., 2021). Hope also contributes to the formation of psychological energy (Cheavens et al., 2005; Nelissen et al., 2017). Furthermore, hope is particularly relevant to our attempts to integrate both the psychological and the bodily. It redirects psychic potential and energies toward real possibility (Meissner, 1973).

Study Objectives

The current study aims to evaluate the contribution of the Hope Theory as a contributing factor in increasing psychological energy among patients with chronic diseases. It also aims to consider the different theoretical intersections between topics, making it possible to explore new knowledge and tools that may help alleviate the psychological suffering of people with chronic diseases. Furthermore, the current study aims to compare both hope and psychological energy according to sex and duration of disease.

Method

Design: The present study had a correlational design and included self-reported data from patients with chronic diseases.

Setting and sample

The study sample consisted of 100 cases of chronic disease patients from medical clinic visitors in Riyadh, who suffer from conditions such as hypertension, diabetes, obesity, and asthma. Within the age range of 30 and 47 years, with a mean age of 32 (SD = 3.2.) years, including 50 females and 50 males. The following table (1) illustrates the characteristics of the sample.

Table (1). The Characteristics of the Sample

Chronic diseases	N	%	Duration of disease	N	%	Educational Level	N	%
Diabetes	40	40	More than ten years	39	39	Bachelor's degree	70	70
hypertension	32	32	Less than ten years	61	61	Secondary	18	18
Irritable Bowel Syndrome	6	6	Gender	N	%	Middle school	12	12
			Males	50	50			
Asthma	16	16	Females	50	50	Total	100	100
Adipose	6	6						
Total	Total	100						

Material

The Psychological Energy Scale for individuals with chronic diseases, prepared by Shaimaa Zaidan (2023), aims to measure the level of psychological energy among those with chronic diseases. The scale consists of 44 items that assess four main dimensions: coping ability, self-confidence, life enjoyment, and self-management. Each of these dimensions includes statements that measure the extent to which they are present in individuals with chronic diseases. The score on the Psychological Energy Scale for cancer patients is evaluated according to a three-point correction scale (strongly agree, agree, strongly disagree). The scale exhibits good psychometric properties, with a Cronbach's alpha coefficient of (0.86) for the entire scale, while the alpha reliability coefficients for the four dimensions of the scale are (0.77, 0.75, 0.77, 0.79), respectively. The scale is characterized by factorial validity and apparent validity.

Hope Scale (Snyder et al., 1991), developed by Snyder and colleagues and adapted to Arabic culture by Qasim (2007), was used to assess the levels of hope among the participants. The scale consists of two sub-dimensions: pathways and agency, with each dimension containing four elements. The four remaining elements are additional elements and are not counted in the evaluation. In this way, the scale is made up of 12 items in total. In the Turkish model, items are responded to on a 4-point scale. (1: strongly disagree to 4: strongly agree). Grades can be obtained from the scale that ranges from 8 to 32. Higher grades indicate a high level of hope in certain situations. The internal consistency of the original version was reported as .75.

The internal consistency scores were found to be .71 for the sub-dimension of agency and .67 for the pathways. The test-retest reliability coefficients were found to be .85 over a period of 3 weeks. All of them are statistically significant at the level of $p < .001$. (Snyder et al., 1991). The internal consistency coefficient for the Arabic version translated by Qasim (2007) is .65 ($p < .001$), and the test-retest reliability coefficients are .66 ($p < .001$) over a period of 4 weeks. In the current study, we found the internal consistency coefficient to be 0.73, and we conducted a confirmatory factor analysis (CFA) on our sample to validate the construct. In the analysis of the confirmed factors, the construct validity of the two factors was verified.

Data Collection

Data Analysis

Descriptive statistics were used to describe the study variables, and Cronbach's alpha coefficients were calculated for the questionnaires used. Pearson product-moment correlations were used to test bivariate correlations between the main variables and partial correlation for statistical isolation.

Ethical Considerations

The study complies with the ethical principles set forth in the Ethics Committee of Imam Muhammad Ibn Saud Islamic University Questionnaires; a cover letter containing information about the study and a stamped reply envelope were mailed to patients. Two reminders were sent, and all data were coded using the subject number. When patients completed and returned the questionnaires, this was taken as their informed consent. All study patients were assured of confidentiality and were informed that their participation was voluntary.

Procedure

A number of (N = 100) individuals voluntarily participated in the study. The study tools were applied individually in outpatient clinics in Riyadh hospitals. The researcher informed all participants of the purpose of the study before implementing the measures. Participants completed answering the tools in about 30-45 minutes.

Results

Correlations between hope, study, and psychological energy

To detect the relationship between hope and psychological energy, Pearson's correlation coefficient was calculated between the scores of the sample members on the hope scale and their memories on the psychological energy scale, and the following results were in Table 2.

Table 2. Correlations Hope and Psychological Energy

Variables	Psychological Energy			
	coping ability	self-confidence	enjoyment of life	self-management
Hope				
Pathways	0.11	.375**	.387**	032
Agency	.323**	.319**	034	0.09

Table (2) indicates that there are positive correlations of statistical significance between the dimension of pathways on the scale of hope and each of the dimensions (self-confidence and enjoyment of life on the scale of psychological energy). The table also indicates that there are statistically significant positive correlations between the energy dimension on the hope scale and each of the coping ability and self-confidence on the psychological energy scale. While there are no statistically significant correlations between the dimension (self-management) and each dimension of hope (energy and pathways), and there is no statistically significant correlation between energy and enjoyment of life, there is also no statistically significant correlation between pathways and coping ability.

On the other hand, a comparison was made between males and females in both hope and psychological energy, so (T) was calculated to compare the averages of male and female scores on the hope scale and the psychological energy scale, and Table (3) shows the results of the comparison.

Table 3. Gender Differences Using in Hope Psychological Energy

Hope	Gender	N	Mean	Std. Deviation	T	Sig. (2-tailed)
Pathways	Males	50	13.5	2	3	0.003
	Females	50	11,76	3		
Agency	Males	50	13.4	2,6	5,3	.0,01

	Females	50	9.2	4	5.326	0.00
coping ability	Males	50	26.3600	6.26216		
	Females	50	19.8800	5.89929		
self-confidence	Males	50	22.8000	8.73183	2.138	.035
	Females	50	19.6000	5.98297		
enjoyment of life	Males	50	17.9200	6.01305	.784	.435
	Females	50	16.9600	6.23342		
self-management	Males	50	22.7600	6.97681	.210	.834
	Females	50	22.4600	7.31286		

Table (3) indicates that there are statistically significant differences between males and females in both pathways and agency. There are also statistically significant differences between males and females in both coping ability and self-confidence and differences in favors of males, while there are no statistically significant differences in each of enjoyment of life and self-management.

On the other hand, the study sample was compared in the total degree of hope and psychological energy according to the duration of the disease, and (T) was calculated to compare between two categories (less than ten years / older than ten years), and Table (4) shows the results of the comparison.

Table (4). of Differences in Psychological Energy and Hope According to the Duration of Disease.

Variables		N	Mean	Std. Deviation	T	Sig. (2-tailed)
Psychological energy	Duration of disease					
	More than ten years	39	123	2.88	3.55	0.004
	Less than ten years	61	98	3.89		
Hope	Duration of disease					
	More than ten years	39	23.9	3.80	1,36	0.08
	Less than ten years	61	21.36	2.99		

The results in Table (4) indicate that there are statistically significant differences between patients in psychological energy, according to the duration of their disease (above ten years/less than ten years) and differences in favors of those whose disease exceeds ten years.

Discussion

In this study, the relationship between hope and psychic energy was revealed. This finding can be attributed to hope-promoting psychic energy strategies, which in turn promote protective health behaviors and also affect immune responses and modulate the endocrine system. Energy and pathways as components of hope produce a specific amount of psychologically meaningful energy in the patient, which is motivated by his ability to face stressful situations that the patient is going through. On the other hand, the current study explains the positive relationship between hope and psychological energy until it can be through that hope to raise the state of mind of individuals and make them expect a bright future, which enhances their psychological energy.

This finding is consistent with the results of studies that have revealed a positive relationship between psychic energy and hope, such as those of Chevens et al. (2006), Tenneson et al. (2024), and Olsen et al. (2021).

As for the interpretation of results related to the social impact on hope, gender has an impact on the dimensions of hope (roads and energy) and differences in favor of males. The researchers explain this result by saying that the distinction between males and females in energy is due to the nature of socialization and its impact on the formation of self-concept in a way that makes this concept different for females from males. The methods of socialization prevailing in our Saudi environment limit women's activity and narrow their role in social life, which helps to show feelings of diminished will and self-confidence and thus the emergence of feelings of despair more than males. The distinction between males and females in perceiving paths as an element of hope is due to the nature of males, their experiences, their interaction with society, their preoccupation with developments occurring in it, and the energy and paths needed to overcome difficulties. Females, by virtue of their social status, are less susceptible to cultural, social, political, and economic trends than males—and therefore their experiences are lower in the paths needed to pursue goals (H Fangari, 2007: In addition, this finding is consistent with a study by Fangari (2007), a study by Shawqi (2005), and a study by Venning et al. (2009), which concluded that there are statistically significant gender differences hoped for towards males in adulthood. However, this finding contradicts a study by Strach (2000), a study by Almashaan (2010), and a study by Judeh (2010), which revealed significant gender differences in hope and differences towards females. With regard to the existence of statistically significant differences in the dimensions of coping ability and self-confidence of psychological energy between the sexes and differences in the direction of males and females, this can be attributed to the fact that males direct their energy inward through self-confidence and coping, while females direct their psychological energy outward, using psychological energy through the support of others. This finding is generally consistent with the results of studies by Boissoneault et al. (2019), which revealed differences in psychic energy between the sexes of patients with chronic diseases and differences in favour of males.

If we move on to the interpretation of the result that indicated the existence of statistically significant differences in both hope and psychological energy among patients with diseases according to the duration of the disease and the differences in favour of those with a duration of more than ten years, it can be said that the duration of the disease is considered a preventive factor for patients with chronic diseases. Psychological energy and hope provide them with the ability to control—to some extent—the disease. This is with the aim of adhering to the conditions of treatment and protection from its complications, especially since the importance of psychological energy represents the patient's awareness of making all his cognitive and behavioral efforts to modify what he sees as bad in his reality to a new reality that restores his balance, self-esteem, and confidence in his abilities, and from there he reaches a meaning for his life that prompts him to adapt to its developments.

Hope also lies in raising the sense of self-worth and reducing the degree of negative emotion. This finding is consistent with the results of studies (Cheavens et al., 2006; Gulsen et al., 2021) that indicated significant differences in hope among patients with chronic diseases according to the duration of the disease for more than 15 years or more, and is consistent with the results of studies (Dubey & Shahi, 2011; Loucka et al., 2022; Feinstein, 2008) that indicated that long-time patients lived with the disease through methods of

coping efficiently, making them feel satisfied, happy, psychologically reassured, and able to adapt to the frustrating and stressful situations of chronic diseases and the stress that accompanies them.

It is worth noting that hope has a central meaning in dealing with chronic diseases, but no systematic research has been conducted focusing on hope in Saudi culture so far, so the current study aimed to describe the meaning of hope and psychological energy and how they can be enhanced in people with chronic diseases. Data were collected from people with chronic diseases using a questionnaire. Data on hope and psychological energy were analyzed. The analyses indicated that hope and psychological energy mean life, restoration of health, and mental balance. The results confirmed that the dimensions of hope enhance the psychological energy of patients. Therefore, more qualitative research is needed for both hope and psychological energy among people with chronic diseases in Saudi Arabia to gain a deeper understanding of this topic.

To conclude, the current study's overall findings show a high correlation between physical and mental health. When a condition causes a person to become overwhelmed by anxiety, fear, and extreme stress, their positive energy can help them deal with the stress of the illness and possibly even help them overcome it. Chronic conditions like diabetes, hypertension, heart disease of all types, migraines, headaches, stomach and bone pain, and cancer, which necessitate the patient's patience and willingness to live with the disease, can be effectively treated with them.

There are many people who refused to give in to the disease and managed with their determination and willpower to overcome the most dangerous diseases and lead their lives normally. They even advise other patients to be strong and have psychic energy that helps the individual not to give in to the disease.

Conclusion

According to the current study, the research for hope promotes healthy, protective behaviors while also influencing immunological responses and modulating the neuroendocrine system. Furthermore, hope may promote a happy mood and protect mental health. However, hope is mostly regarded as an element of individuals, and it is unclear whether hope and its components vary with age. The fundamental processes of the preventive effects of hope and psychic energy are still not totally established, and the differences and similarities across the types of diseases are still unclear.

Ethical Approval

Informed consent was given verbally. All essential elements of the study, including access to complete and comprehensive patient information, were approved by the institutional review board and the previous creative committee at Imam Muhammad Ibn Saud Islamic University (IMSIU) of this study. The university committee did not ask for written consent because our study is not sufficient but includes the largest number of researches that affect surgical procedures. The outcome of this study was explained to be the same for all patients.

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