

Is There a Relation Between Illness Perception and Self-Care Maintenance among Patients with Chronic Disease?

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Abstract

Background: Chronic disease management offers problems to human well-being and the long-term viability of healthcare systems, and promoting self-care is seen as a critical issue for people with chronic illnesses. **Aim:** This study aimed to investigate the relationship between illness perception and self-care maintenance among patients with chronic disease. **Subjects and Method: Design:** descriptive correlational research design was used in this study. **Setting:** The study was conducted at the outpatient clinics, hospitals, and primary healthcare centers affiliated to the Ministry of Health in Port Said City. **Sample:** A convenience sample of 1,005 patients were included in the study. **Tools:** Three tools were used in this study: a patient interview questionnaire, a self-care maintenance scale, and a brief illness perception scale. **Results:** This study's results found a significant relationship between self-care maintenance and chronic disease patient perception about their illness regarding all dimensions with a p-value that ranged from 0.000 to 0.05 except for the dimension related to personal control and emotion. **Conclusion:** Self-care was a significant relationship to disease perception among study patients with chronic conditions. Furthermore, age, education level, work, the current diagnosis, and previous hospitalizations were found to be significantly linked with sustaining self-care and illness perception among chronic illness patients. **Recommendations:** Developing self-care programs aimed at improving the self-care behaviors of people with chronic illnesses taking into consideration the study associated factors. Develop nursing interventions and strategies to raise self-care maintenance and awareness regarding self-care among chronic disease patients.

Keywords: *Chronic disease, Illness, Maintenance, Patient, Perception & Self-care.*

Introduction

Patients' subjective beliefs regarding their ailment are referred to as disease perception. In persons with chronic conditions, it was found to be linked to self-care confidence. Patients' health practices are assumed to be influenced by their perceptions of sickness. Sickness perception is a subjective viewpoint that focuses on personal experiences and the well-being of illness and provides guidance on how to maintain healthy habits in persons with chronic illnesses (Kusuma et al., 2019). It is impacted by cognitive and emotional factors such as the disease's expected progress over time, the disease's life implications, how the disease is managed or treated, the disease's identification and causes, and feelings such as dread or worry linked with the disease (Naalweh et al., 2017).

Disease manifestations or perceptions reflect the chronically ill's own perceptions of the cause or beliefs about how the disease occurs; ideas of what

disease characteristics or symptoms related to the disease should look like; disease outcomes, such as the disease's impact on quality of life, relationships, and work impact; whether the disease is chronically, chronically, or cyclical; whether the disease is chronically. When disease is viewed as a normal part of life, positive perspectives of it emerge (Natashia et al., 2019).

An overview of the disease was created by collecting information regarding the chronic condition obtained through social interactions, authoritative sources (including nurses), the chronically ill patient, and his or her own experiences. On the other hand, a thorough awareness of the condition can help in making informed decisions about the behaviours that come with chronic illnesses. In chronic conditions including cardiovascular disease and kidney disease, there is a link between disease perception and self-care, according to the literature (Wirtz & Moucheraud, 2017). Chronic diseases and disorders

occur because of complex interactions and last for the rest of one's life. Chronic disease management poses a threat to human health and the long-term viability of healthcare systems. Self-care is promoted as a fundamental focus of care for patients with chronic illnesses. Chronic diseases are a global health burden and a significant financial burden for health-care institutions around the world (WHO, 2016).

Chronic diseases have been considered as the biggest cause of mortality and disability worldwide, afflicting people in both developing and developed countries, more than 36 million people died in 2008 from chronic diseases, primarily cardiovascular disease (48%) cancer (21%), chronic respiratory disease (12%), and diabetes (12%). (3%). Nearly 80% of these deaths occur in low- and middle-income countries, where infectious diseases have now surpassed them as the primary cause of disease burden (WHO, 2016). Chronic diseases cause 44 percent of premature deaths worldwide, according to the United Nations Development Program. Chronic diseases kill twice as many people as infectious diseases including HIV/AIDS, TB, and malaria, as well as other infectious diseases like maternal and perinatal disorders and nutritional inadequacies. Depending on the prevalence of disease and its possible impact on health-promoting actions, perceptions of health will become an essential part of health during the next few decades. Self-awareness is undeniably important in the self-management behavior of persons living with chronic conditions (Central Public Mobilization and Statistics Office, 2016).

Egypt has an extremely high frequency of chronic disease risk factors among adults, according to many research and population-based surveys. Diabetes was found to be prevalent in 17% of the population, and hypertension was found to be prevalent in 40% of the population (WHO, 2018). High blood pressure affects around one in every six women and men (17.2 percent and 16.7 percent, respectively) (Ministry of Health and Population, 2015).

Self-care for patients and their families is currently seen as an important aspect of chronic disease treatment. The ability of an individual to cope with any chronic disease is defined as self-care (Buck et al., 2015). This encompasses coping with the physical and psychosocial repercussions of chronic disease, as well as controlling symptoms, treating sickness, making lifestyle adjustments, and managing the physical and psychosocial consequences of chronic disease (Sharma et al., 2018).

Self-care attempts to reduce the negative effects of chronic conditions and preserve a good quality of life (National Center for Chronic Disease Prevention and Health Promotion, 2017). Patients with chronic

conditions must make a variety of self-care management decisions and follow complex care routines on a regular basis. Chronic disease self-care training and assistance helps persons with chronic diseases manage these decisions and actions, which has been demonstrated to enhance health outcomes and reduce problems. The process of providing the knowledge, skills, and competences essential for self-care to people with chronic diseases is known as self-care education (Abaza & Marschollek, 2017).

Overall, in Portugal, the importance of holistic care for people with chronic conditions is center on the diagnosis and initiation of medical care, while medical and specialist nurses provide community training, monitor treatment outcomes, support behavioral change, and coordinate active follow-up care (Sharma et al., 2018). Nurse engagement has been found in several trials to increase the quality of chronic disease care and patient outcomes. Receiving high-quality chronic care, according to the chronic care model, should allow patients to actively participate in decisions about their treatment and take action to attain their best health and quality of life (Bongaerts et al., 2017).

Finally, the literature review in this special issue reminds researchers that, despite the progress in self-care and chronic disease nursing research over the past few decades, there is still considerable conceptual and psychometric work to be done. Chronic disease self-care is complicated and has significant scientific limitations, such as issues with accurate but practical measurement of multiple chronic diseases, necessitating a rigorous scientific approach and, most importantly, ensuring adequate representation of diverse populations to address health equity issues by the group in the conducted study (Badway et al., 2016).

Significance of the study

Chronic diseases are one of Egypt's most serious health issues and the primary cause of death. According to the WHO, 2018 Progress Monitoring Report, chronic illness fatalities accounted for 83 percent of all deaths in Egypt in 2015, with 476,000 deaths from chronic diseases among a population of 93,778,000. Egypt's projected risk of premature death from chronic diseases has risen to 24%. Chronically unwell patients, on the other hand, may have less faith in their abilities to care for themselves if they are discovered to have other medical disorders. Self-care maintenance is seen as a critical aspect of illness progression, treatment, and day-to-day functional management in health care. Maintaining self-care, on the other hand, has received less attention as a driver of healthcare outcomes. Understanding the necessity of self-care maintenance for patients with advanced

chronic disease and knowledge of these aspects should be experimentally proved to aid self-care maintenance in this patient population. To better understand, the goal of this study was to look at the link between self-care and perception in chronic disease patients.

Aim of the study

This study aimed to investigate the relationship between illness perception and self-care maintenance among patients with chronic disease. Through objective:

1. Identify illness perception of patients with chronic disease.
2. Assess self-care maintenance among patients with chronic disease.
3. Determine relation between self-care maintenance and illness perception among patients with chronic disease.

The research questions for this study were: Is there a relation between self-care maintenance and illness perception among patients with chronic disease?

Subjects and Method

Research design A descriptive correlational research design was used in this study

Setting:

The present study was carried out in twelve primary health care centres and outpatient clinics for the patients with chronic diseases at As-Salam Port Said Hospital. Primary health care centers affiliated with the Ministry of Health were randomly chosen to represent the six districts of the Port-Said Governorate: Al-Manakh, Al-Dawahi, AlZohour, Al-Arab, Al-Gharb, and Al-Janoub. Each of the previously mentioned centers has a chronic disease clinic that provides non-profit health care services for patients with chronic diseases such as history taking, physical examination, vital signs examination, and lab investigations for blood sugar. These services are provided from 08:00 AM to 08:00 PM.

Sample: A convenience sample of 1,005 patients diagnosed with at least one of the following six chronic diseases: hypertension, non-insulin-dependent diabetes mellitus, chronic obstructive pulmonary disease, heart disease, coronary artery disease, and cerebrovascular diseases. Patient **inclusion criteria** were adult patients who were at least 18 years old and able to answer questions. **Exclusion criteria** were referral to another health care provider and/or failure to answer the questionnaire.

Sample size

$$n = \left(\frac{Z_{1-\alpha/2} + Z_{1-\beta}}{ES} \right)^2$$

The standard normal deviate for $\alpha = Z_{\alpha} = 1.96$

The standard normal deviate for $\beta = Z_{\beta} = 18.99$

$$A = 8$$

$$B = (Z_{\alpha} + Z_{\beta})^2 = 7.8489$$

$$C = (E/S (\Delta))^2 = 0.3906$$

$$AB/C = 1005$$

$$n = 21$$

$$n = \left(\frac{1.96 + 18.99}{0.3906} \right)^2 = 1005 \text{ patients}$$

Sample size will be 1005 patients to achieve a power of 95% and a level of significance of 5% (two sided), assuming the standard deviation of the differences to be 8 between pairs (Rosner, 2016).

Study tools:

Data for this study were collected using the following three tools:

Tool one: Structured interview Questionnaire Sheet:

It was developed by the researchers for the collection of data. The researcher in the Arabic language developed this structured sheet. It covered demographic data about patients, such as age, gender, marital status, and educational level, and medical data about the type of chronic disease, duration of the ailment, and previous hospital admission were documented.

The **second tool** uses the **Self-Care Maintenance Scale**; it is a ten-point self-administered assessment scale utilized by **Riegel et al. (2009)** to determine levels of self-care. For self-reporting, the tool employed a quantitative Likert ordinal numeric scale.

Scoring System:

The numerical values ranged from 1 to 4, with each item's frequency of self-care activities determining the score. The total score is 40 points, divided into three grades: low, which accounts for 70% of the total score, good, which accounts for 80% of the total score, and expert, which accounted for 85% of the entire score. The frequency of self-care activities scored on a scale of one to four, with one indicating "never" or "rarely" and four indicating "frequently" or "every day." Previous research confirmed the tool's reliability and validity (**Riegel et al, 2009**).

Four Arabic, English, and nursing specialists translated the gadget into Arabic so that it could be used, operated on, and understood by Egyptian patients. After that, the Cronbach alpha coefficient statistical test ≥ 0.76 was used to perform **reliability** testing. To assure content authenticity, a panel of medical, surgical, and community health care experts determined **content validity**.

The **third tool** is **Brief Illness Perception Questionnaire (BIPO):**

It proved to be a useful and sensitive tool for measuring disease perception in research participants

(Broadbent, et al., 2006), to guarantee clarity, it was first translated into Arabic and then back-translated. It consists of a nine-item survey that evaluates multiple elements of disease perception. Consequence The first five assess cognitive perceptions such as effect on life (item 1); duration of illness (item 2); control over illness (item 3); beliefs about the effectiveness of treatment (item 4); and experience of symptoms (item 5). Items 6 and 8 assess emotional aspects including concern about illness and a multifaceted question about mood. Item 7 assesses the degree of understanding of the illness. The final item is open-ended, asking respondents to rank the three most important factors causing their illness. It is intended for use in groups rather than individuals, so is more suited to research settings.

Score system:

Answers rated on a scale of 0 to 10 for each question. A score of 10 indicates low disease awareness for items 1, 2, 5, 6, and 8, whereas a score of 0 indicates strong disease awareness. A score of 10 showed good disease awareness for questions 3, 4, and 7, whereas a score of 0 indicates low disease awareness. Patients were asked to indicate the top three causal variables for their disease (item 9) and their causal representations were examined using an open-response item the best overall score was 90 points, while the lowest was 0 point. Higher scores indicated more dangerous perspectives on the disease, whereas lower values indicate more benign perspectives.

Validity and reliability of BIPQ

The BIPQ's validity and reliability were extensively assessed (Broadbent et al., 2015). In a post-MI patient group, the questionnaire's predictive validity was tested; for example, greater worry about disease was modestly associated with a slower return to work ($r=0.43$, $p0.03$). In another study, improved diabetes control was moderately associated with higher personal control of the disease ($r=0.30$, $p0.01$) (Illness Perception Questionnaire. BIPQ Score, 2013). BIPQ scores were shown to be weakly or moderately linked with most health outcomes studied. The test-retest correlations of Pearson are generally satisfactory (range: 0.5-0.7).

Pilot study:

The pilot study was carried out on 10 % of the study sample which included (100) patients with chronic diseases, who were selected randomly. It was done to ascertain the relevance, clarity, and applicability of the used tools and to estimate the time needed to fill in the data collection tools. The patients who shared in the pilot study were excluded from the main study sample to assure the stability of the result. Based on the findings of the pilot study, no modifications were done to the tools. It was simple and clear. The pilot study was conducted on the 1st October 2019.

Field Work:

The researcher began collecting data by introducing themselves to the patients and explaining the study's purpose and significance. The patients were told that the information gathered would be kept private and utilized solely for the purpose of the research (oral consent was taken from each patient). The instruments were explained to the patients, and they were self-administered during the follow-up time. . For illiterate participants, the researchers read the question items word for word exactly as they appeared in the questionnaires. Responses are recorded. Questionnaires were collected upon completion. It took around 35-45 minutes to complete. After the collection of data, were thanked and acknowledged by the researchers for their precious donations to the study. The process of data collection was stopped for approximately two months due to the spread of the Covid-19 pandemic. The collection of data covered a period of 6 months from the mid of November 2019 to the mid of March 2020.

Administrative Design:

Preliminary, official letters were issued from the dean of the Faculty of Nursing to primary health care centers and As-Salam Hospital requesting their collaboration and promise to carry out the study, after clarifying the aim of the study.

Statistical analysis

Data entry and statistical analysis were done using the statistical package for social science (SPSS) version (24.0). Data were presented using descriptive statistics in the form of frequencies and percentages for qualitative variables and means and standard deviations for quantitative variables. Qualitative categorical variables were compared using the chi-square test. Fisher Exact correction for chi-square when more than 20% of the cells have an expected count of less than five. Moreover, the Pearson coefficient test was used to correlate the relation between self-care maintenance and illness perception measures among study participants. The P-value is the degree of significance. The statistical significance value was considered at $P\text{-value} \leq 0.05$.

Ethics approval

The study was accepted by the University of Port Said's Faculty of Nursing's Scientific Research Ethics Committee (9.12.2021(6)). After a thorough explanation of the study's goal and nature, patient subjects gave their verbal consent. Each senior is treated with respect and informed that the information gathered would be utilized solely for research purposes, with anonymity guaranteed. Participants were told that their participation in the study was completely voluntary and that they might opt-out at any time.

Results

Table (1): Frequency & percentage distribution of demographic characteristics of study participants (n=1005).

Items	N	(%)
Gender		
Male	508	50.5
Female	497	49.5
Age		
18-<30 years	83	8.3
30-<40 years	130	12.9
40-<50 years	203	20.3
50-<60 years	283	28.3
60-70 years	214	21.3
≥70 years	92	9.2
Marital status		
Single	157	15.6
Married	698	69.5
Divorced	66	6.6
Widow	84	8.4
Education		
Read and write	162	16.1
Primary	242	22.3
Secondary	95	9.5
High secondary	237	23.6
University	214	21.3
Others	73	7.3

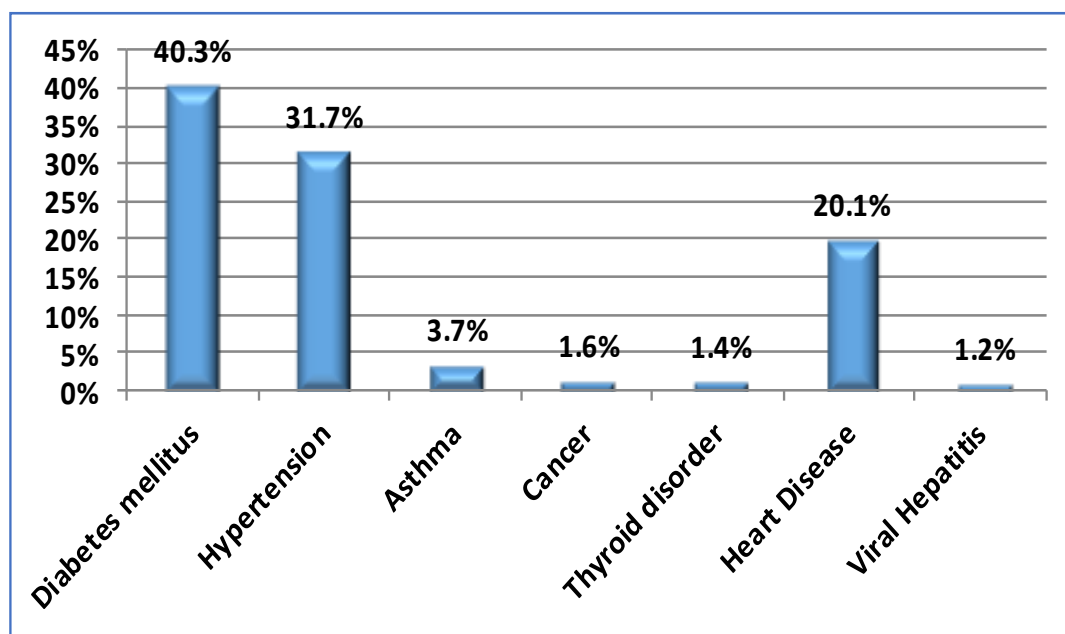


Figure (1): Percentage distribution of current diagnosis of study participants

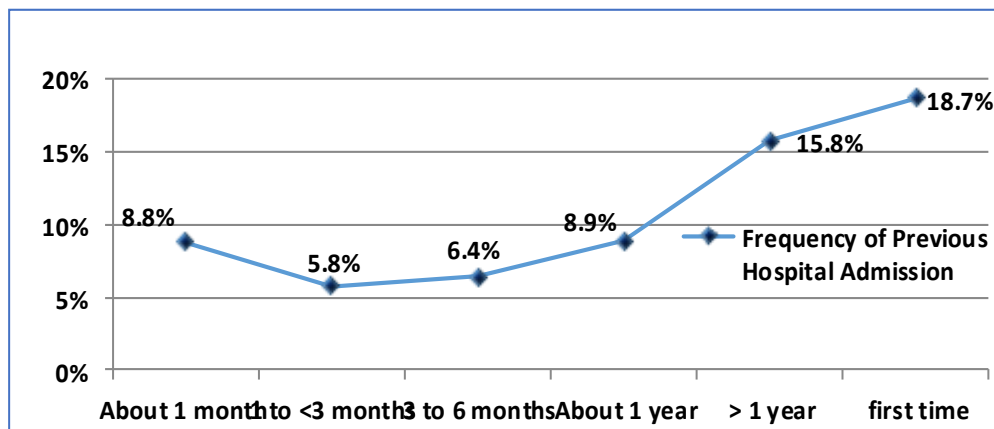


Figure (2): Frequency of previous hospital admission of study participants

Table (2): Relation between self-care maintenance and illness perception measures among study participants (n=1005).

Perception	Self-care		
	Mean ± SD	F	p-Value
1. How much does your illness affect your life (consequences)	2.98 ± 1.472	1.748	0.009
2. How long do you think your illness will continue (timeline)	2.29 ± 1.547	2.855	0.000
3. How much control do you feel you have over your illness (personal control)	2.83 ± 1.359	1.319	0.121
4. How much do you think your treatment can help your illness (treatment control)	2.22 ± 1.430	2.595	0.000
5. How much do you experience symptoms from your illness (identity)	2.12 ± 1.461	1.668	0.015
6. How concerned are you about your illness (concern)	3.46 ± 1.282	3.508	0.000
7. How well do you feel you understand your illness (illness comprehensively)	3.53 ± 1.205	5.233	0.000
8. How much does your illness affect you emotionally (emotion)	3.24 ± 1.386	1.252	0.169
9. Manage basic life activities including diet or exercise as they relate to your illness	2.25 ± 1.285	47.232	0.000

Table (3): Factors associated with self-care maintenance among study participants (n=1005).

Factors	Self-care maintenance	
	F	p-Value
Age	5.204	0.000
Gender	T = 879	0.380
Marital status	0.408	0.747
Educational level completed	21.328	0.000
Current diagnosis	3.336	0.003
Previous hospitalization	4.700	0.000
Working	10.222	0.000

Table (4): Factors associated with illness perception among study participants (n=1005).

	Age	Gender	Marital status	Education	Working	Diagnosis	Previous hospitalization
1. How much does your illness affect your life (consequences)	88.54 (0.000)	15.02 (0.090)	35.40 (0.129)	102.70 (0.000)	119.57 (0.000)	97.28 (0.000)	122.81 (0.000)
2. How long do you think your illness will continue (timeline)	70.65 (0.009)	13.69 (0.134)	47.74 (0.008)	94.86 (0.000)	124.09 (0.000)	108.96 (0.000)	121.77 (0.000)
3. How much control do you feel you have over your illness (personal control)	77.82 (0.002)	15.82 (0.071)	37.89 (0.080)	109.50 (0.000)	118.64 (0.000)	85.72 (0.004)	111.31 (0.000)
4. How much do you think your treatment can help your illness (treatment control)	78.94 (0.001)	13.56 (0.139)	32.27 (0.222)	112.47 (0.000)	128.01 (0.000)	130.90 (0.000)	98.64 (0.000)

	Age	Gender	Marital status	Education	Working	Diagnosis	Previous hospitalization
5. How much do you experience symptoms from your illness (identity)	69.33 (0.003)	12.85 (0.117)	44.75 (0.006)	79.85 (0.000)	66.26 (0.04)	92.27 (0.000)	146.29 (0.000)
6. How concerned are you about your illness? (concern)	135.14 (0.000)	11.91 (0.218)	31.65 (0.245)	121.98 (0.000)	141.58 (0.000)	100.09 (0.000)	109.53 (0.000)
7. How well do you feel you understand your illness (illness comprehensively)	108.86 (0.000)	38.18 (0.000)	67.54 (0.000)	151.34 (0.000)	130.29 (0.000)	131.29 (0.000)	104.85 (0.000)
8. How much does your illness affect you emotionally (e.g., does it make you angry, scared, upset, or depressed) (emotion)	44.40 (0.797)	40.76 (0.000)	33.24 (0.189)	70.57 (0.009)	79.71 (0.013)	116.49 (0.000)	107.80 (0.000)
9. Manage basic life activities including diet or exercise as they relate to your illness	109.89 (0.000)	10.30 (0.036)	19.38 (0.080)	155.15 (0.000)	170.24 (0.000)	65.54 (0.000)	97.95 (0.000)

Table (1): The proportions of male and female patients in the study sample were nearly equal, at 50.5 % and 49.5 %, respectively. The group of patients aged 40 to 50 years was 20.3%, and on the other hand, had the largest proportion of patients aged 50 to 60 years (28.3%), and followed by her cohort of patients aged 40 to 50 years. Instead, 69.5 % of those who took part in the survey were married. Furthermore, middle school students in the high secondary education had the largest share (23.6%), followed by elementary school pupils with primary education (22.3%) and university graduates (21.3%), respectively

Figure (1): However, the current study revealed that diabetes mellitus is the highest chronic disease among study patients that reached 40.3% followed by hypertension that represents 31.7%; however, only 1.2% of patients suffered from viral hepatitis, and 1.5% suffered from cancer

Figure (2): According to the study findings, the highest percentage of the study participants (18.7%) were first-time hospitalized patients, followed by patients who had been in the hospital for more than a year (15.8%). Only 5.8% of the participants in the study had previously been hospitalized for 1 to 3 months

Table (2): Conversely, the current study finds a statistically significant a relationship between total self-care maintenance and all dimensions of illness perception, $p < 0.01$ with the exception of those linked to personal control and mood $p < 0.05$

Table (3): Moreover, other factors associated significantly with patient's demographic characteristics and self-care maintenance included age, educational level, and working status with a p-value of 0.000. Additionally, the factors including current patient diagnosis and previous hospitalization

related significantly to self-care maintenance with a p-value of 0.003 and 0.000, respectively

Table (4): According to the study findings, self-care maintenance was poor in 91% of the current study sample. Moreover, the current study results have revealed that all dimensions of illness perception among patients with chronic disease are associated significantly with age, education, working status, diagnosis, and previous hospitalization, whereas gender-related significantly with only two dimensions of patient perception, namely, illness comprehensibility, and emotion with a p-value of 0.000, 0.000, and 0.036, respectively. In addition, the marital status of chronically ill patients was significantly associated with only three dimensions of disease perception, namely disease timeline, identity, and intelligibility, with p-values of 0.008, 0.006, and 0.000, respectively

Discussion

A total of 1,005 patients were included in the study, with a similar percentage of males and women. According to the findings, the highest of patients in this study were between the ages of 40 and 60. The percentage of chronically unwell adults aged 70 and older, on the other hand, was low. These findings are backed up by study **Houtum et al., (2016)**, who found that women accounted for more than half of patients with chronic diseases. Furthermore **Kong & Cho (2020)** found that patients with diabetes had a median age of less than 60 years and that more than three-quarters of them were married. However, almost two-thirds of those who took part in the study were married.

The interpretation of these study findings shows that chronically ill patients have similar gender, age, and marital status, yet cultural and geographic distinctions should be considered in healthcare systems.

Furthermore, with less than one-third of patients completed high secondary school, which are the most educated, followed by elementary school graduates and college graduates. These findings contradict those of a study published in 2020 by Kong and Cho, which indicated that patients with diabetes had the largest proportion of college or higher education, accounting for more than two-thirds of the study group. These findings imply that one's level of education has little bearing on the chance of having chronic diseases.

However, the current study found that diabetes was the most frequent chronic disease, accounting for more than a third of the study population, and high blood pressure was the second most common chronic disease. However, viral hepatitis and cancer were found in the smallest percentage of study participants. Despite these findings, the study of **Palmer, 2018** ranked cardiovascular illness as the most common chronic disease, followed by musculoskeletal disease and diabetes. This is defined as the impact of lifestyle factors, such as eating habits, on the development of chronic diseases, such as diabetes, which are always caused by bad lifestyle factors such as eating habits and daily activities.

The highest percentage of the participants were previously hospital admitted, followed by those who admitted for more than a year, according to the data. The lowest percentage of research participants, on the other hand, had previously spent one to three months in the hospital. The low self-sufficiency rate of the current study population is to blame for these outcomes. The current study, on the other hand, found substantial links between fully maintaining self-care and all dimensions of disease perception, with the exception of those linked to personal control and mood. Research conducted by **Kim et al. (2019)** indicated that beliefs of sickness are linked to self-care management, which supported these findings. This illustrates how disease knowledge, self-care, and results are intertwined.

Furthermore, age, education level, and work status were all found to be strongly linked with sustaining full self-sufficiency, while gender and/or marital status were not. The findings are in line with **Gonen (2018)**, who found no significant differences in self-care management between men and women. However, there was a significant relation between sex and self-care, with women scoring higher on self-care than males, and patients aged 60 and up scoring higher on self-care than those under 60. This could be because increased self-care leads to a longer duration of chronic disease symptoms.

Furthermore, factors like the current patient's illness and previous hospitalization history were linked to self-care. According to research by **Gonen (2018)**, there was a positive association between type 2

diabetes perceptions and self-care the more favourable the disease view, the more positive the self-management.

Furthermore, the current data imply that age had a significant impact on all aspects of disease perception in patients with chronic diseases. In line with these findings, the study done by **Kim et al., (2019)** who discovered that the middle-aged group had the highest perception of the disease, while the younger group had lower views of the disease's 'personal control' than the older and middle-aged groups. However, according to study conducted by **Tang & Gao (2020)**, older patients were more likely to express a decreased sense of personal control. Furthermore, order of timing, treatment control, and concern, participants' perceptions of sickness were highest. Furthermore, **Nowicka-Sauer et al. (2016)**, mentioned that chronically ill patients typically have higher perceptions of their disease's expected course within their time frame, but patients with myocardial infarction or neurological disease, as well as hospitalised patients, may have higher disease perceptions about treatment control, understanding, consequences, or concerns

The current data imply that education, employment position, diagnosis, and previous hospitalization history all had a role in chronically ill individuals' perceptions of their condition. Furthermore, age, education level, work status, diagnosis, and previous hospitalization history were all significantly correlated with disease perception in patients with chronic diseases, whereas gender was significantly correlated with only two dimensions of patient perception, namely illness, comprehensibility, emotion, and basic life activities (such as diet or exercise). In contrast to these findings, a recent study done by **Aydin & Demir (2020)** reported no significant gender differences in sickness perception. Furthermore, only three variables of disease perception, including time course, disease identity, and comprehensibility, were substantially linked with chronically sick patients' marital status. **Tang & Gao (2020)**, study found lower levels of illness consistency or comprehensiveness in married patients, which is consistent with the current findings. In addition, chronically ill patients with lower levels of education had been found to have weaker views of personal control and disease coherence or comprehensibility. Patients with a longer wait to diagnosis, on the other hand, tended to be more conscious of diabetes and had a better grasp of it. Furthermore, patients with greater diabetes-related difficulties have been linked to better results, a lower feeling of treatment control, and a lack of consistency or comprehension of their disease (**Seow et al., 2018**).

Conclusions

In deduction, it is evident from the current study results that; self-care was significant in relation to disease perception among study patients with chronic conditions. Furthermore, age, education level, work, the current diagnosis, and previous hospitalizations were found to be significantly linked with sustaining self-care and illness perception among chronically ill patients.

Recommendations:

From the existing study results, the following recommendations were proposed:

1. Educational program on self-care maintenance for patients with chronic diseases.
2. Developing nursing interventions to raise self-care for patients with chronic diseases.

Further research of the study to apply to improve the self-care behaviours of people with chronic illnesses.

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