

Metaphoric perceptions of individuals with diabetes in Turkey: A content analysis

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Abstract

Background: The diagnosis of diabetes mellitus adversely impacts the quality of life due to treatment, changes in daily life, functional disability, and emerging complications. Using metaphors to convey perceptions of diseases and life experiences is crucial for understanding healthcare behaviors.

Objective: This study aimed to explore the metaphorical perceptions of “diabetes” and “being a person with diabetes” within a sample group of individuals with diabetes in Turkey.

Methods: A qualitative design was employed to investigate the metaphoric perceptions of 72 people with diabetes. Data were collected face-to-face between 15 May and June 2023 using a semi-structured questionnaire. Data were analyzed using content analysis.

Results: From the statements of the individuals with diabetes in the sample, seven metaphoric themes related to diabetes – “pain and distress, helplessness and hopelessness, instability, attention and sensitivity, captivity, positive outlook and acceptance, deprivation” – and six metaphoric themes concerning being a person with diabetes – “suffocation and distress, helplessness, powerlessness and disappointment, captivity, attention and sensitivity, guilt, and being worn out” - were identified. Commonly recurring sub-themes with negative connotations included “darkness, well, convict, prison, captivity, microbe, infectious disease, a hot flush, guilt, clouding life, and being ruined.” Some positively framed statements included “friend, traffic sign, and driving a car.”

Conclusion: The majority of patients in the study used negative metaphors, with fewer expressing positive sentiments regarding the necessity of accepting and paying attention to the disease. Defining individuals’ metaphorical perceptions of their disease may enable the provision of better quality and holistic care. Nurses, in particular, play a crucial role in facilitating behavioral changes for patients with diabetes to achieve self-management.

Keywords

Turkey; metaphor; diabetes mellitus; people with diabetes; nursing care; qualitative research

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Background

Diabetes mellitus poses a global health challenge, and its prevalence is steadily rising in Turkey and worldwide. The occurrence frequency varies across societies, influenced by factors such as age, gender, race, eating habits, genetic characteristics, and environmental factors. The International Diabetes Federation has reported that the global number of individuals aged 20 to 79 with diabetes is 537 million, projecting an increase to 643 million by 2030 and 783 million by 2045 (International Diabetes Federation, 2021). However, compared to the estimated rate of increase in previous years, it is evident that the prevalence of diabetes has surged more rapidly than anticipated and is expected to continue this upward trend (International Diabetes Federation, 2017, 2021).

Similar to other chronic diseases, a diabetes diagnosis brings about adverse effects on individuals’ quality of life, including both treatment and lifestyle adjustments, as well as complications that arise at different stages in the life cycle and factors like functional disability (AbuAlhommos et al., 2022; Jing et al., 2018; Trikkalinou et al., 2017). Living with diabetes

often induces negative thoughts and a reduction in life expectations, impacting self-management skills and making diabetes management challenging, consequently affecting metabolic control (Arda Sürücü & Büyükkaya Besen, 2018; Canpolat et al., 2022; Istek & Karakurt, 2018; Wu et al., 2019).

Individuals with chronic diseases hold their own beliefs regarding disease and health, forming the foundation for their health behaviors (Bakan et al., 2017). Each health or disease behavior has psychological, social, and community aspects, and understanding these aspects enables the development of medical approaches tailored to individuals and their cultures. A sociocultural evaluation of a patient significantly contributes to the exposure to chronic disease, as well as the diagnosis, care, management, and treatment of individuals (Mohseni et al., 2020). Additionally, factors such as socioeconomic status, culture, beliefs, gender, ethnic background, and geographical conditions play a role in the perception and management of disease.

The term ‘metaphor’ (cognitive image) can be defined as the act of comparing one thing to another through a symbolic expression, thereby expressing abstract situations by

rendering them concrete (Tanriverdi & Kahraman, 2018). Having individuals with a chronic disease articulate their perceptions of the disease and their life experiences using metaphors is crucial in describing their views on their diseases and, consequently, their healthcare behaviors (Ardahan et al., 2018; Sinnenberg et al., 2018). This approach allows for planning care and self-management that can positively impact the quality of life (Wu et al., 2019).

A literature review examining the determination of metaphoric perceptions of diabetes reveals studies conducted on this subject with diverse sample groups of individuals with diabetes (Ardahan et al., 2018; Mogre et al., 2019; Pal et al., 2018; Sinnenberg et al., 2018). These studies aimed to describe patients' experiences using metaphors, employing various sample sizes and methods such as face-to-face interviews and text examinations. However, it is evident that there is a need for additional research in this field, specifically studies that can establish a database for systematic analyses providing clearer descriptions of the metaphoric meanings of diabetes mellitus derived from sample groups in different cultures. Consequently, our study was designed to determine metaphoric perceptions of 'diabetes' and 'being a person with diabetes' within a distinct sample group of individuals with diabetes. The study sought answers to the following questions: In individuals diagnosed with diabetes mellitus, "How is diabetes mellitus perceived as a disease?" and "What is the perception of being a person with diabetes?"

Methods

Study Design

This study utilized a qualitative descriptive design to examine the metaphoric perceptions of individuals diagnosed with diabetes regarding both 'diabetes' and 'being a person with diabetes.'

Participants

A total of 78 individuals aged 18 years and above, diagnosed with diabetes and without any communication impediments (such as vision or hearing problems), participated in the study. During the data collection stage, six forms that were incompletely filled or lacked metaphors (e.g., responses like 'I don't know' or 'I haven't thought about it') were excluded from the study, resulting in a sample size of 72 people with diabetes. Inclusion criteria comprised having received a diabetes diagnosis at least one year prior, having no communication issues hindering responses to the questions, and agreeing to participate in the study. The individuals constituting the sample are referred to as 'participants' with serial numbers P1, P2, ... P71, and P72.

Data Collection

The researchers conducted face-to-face interviews to collect research data between 15 May and 15 June 2023 at the internal medicine clinics and internal medicine outpatient departments of the relevant hospital. For collecting metaphor-based data, a semi-structured questionnaire form was employed. Prior to data collection, the researchers provided information to the participants, introduced the semi-structured question form to those who agreed to participate, and instructed them to complete it. Before filling in the semi-

structured question form, participants were given examples related to metaphors to facilitate their creation. The word 'because' was added to encourage more detailed responses and generate additional metaphors. The interviews lasted approximately 5-6 minutes.

The semi-structured questionnaire form, comprising two parts, was developed by the researchers through a literature review (Ardahan et al., 2018; Rossi, 2016; Sinnenberg et al., 2018). The first part of the form included questions about participants' sociodemographic data and information about their disease, such as age, educational status, duration of diabetes, type of diabetes, treatment for diabetes, presence of chronic complications, HbA1c level, fasting and postprandial glucose levels. The second part consisted of two questions to determine participants' metaphors for diabetes and being a person with diabetes. In these questions, participants were asked to complete the gaps in the following statements: 1) Diabetes is like/resembles... because... 2) Being a person with diabetes is like/resembles... because...

Data Analysis

Data on the participants' sociodemographic and diabetes-related characteristics were presented using frequency and percentage rate distribution with IBM SPSS version 22.0. Content analysis was employed to determine the participants' metaphors regarding 'diabetes' and 'being a person with diabetes.' The analysis involves transforming abstract thoughts or feelings into a concrete structure that individuals can comprehend and making it understandable. During data classification, attention was given to the metaphor used and its justification (Buyukozturk et al., 2013; Pratte, 1981; Terry et al., 2017).

The data analysis steps (Polit & Beck, 2017; Saban et al., 2006) were as follows:

1. In the first stage, a provisional list of metaphors was created and named. Each researcher read the responses and became familiar with them.
2. In the second stage, each researcher read the metaphors repeatedly, establishing a relationship between them and their source. They examined how the metaphoric meanings in the data could be understood.
3. In the third stage, metaphors were rearranged, and initial codes were created.
4. In the fourth stage, the obtained metaphors were collected under conceptual headings and expressed with the correct codes, and the meaning of the word or metaphor in the responses was completed, making an inference.
5. In the fifth stage, validity and reliability were established. All researchers worked on the topics and metaphors, and a compromise decision was made. The first researcher coded the metaphors independently, and the 2nd and 3rd researchers verified these codes. The similarity between researchers in terms of the coded dataset indicates the research's reliability.
6. In the sixth stage, themes and sub-themes were created from the common results obtained. These were transferred to the NVivo program (QSR International, USA) to visualize the themes and sub-themes, and the final version was created. The goal was to collectively see the themes and sub-themes created at this stage (Polit & Beck, 2017; Saban et al., 2006).

Additionally, at the feedback stage, answers were sought to the following questions to ensure validity: Was the analysis inclusive? Were the themes produced from the data clear? Were the findings meaningful, and did they contribute new information? Did all the researchers examine the analysis and findings?

Ethical Considerations

Ethical committee approval (15/12/2022-29) for this study was obtained from the Health Sciences Ethics Committee of Çankırı Karatekin University, and institutional permission was secured from the hospital where the study was to be conducted. Additionally, during the data collection stage,

participants were informed, and approval was obtained from those who agreed to take part in the research. Throughout the study, strict adherence to the principles of the Helsinki Declaration regarding ethical rules was observed at all stages.

Results

This study, which determines the metaphoric perceptions of individuals with diabetes mellitus regarding 'diabetes' and 'being a person with diabetes,' presents the data obtained in this section. **Table 1** illustrates the sociodemographic characteristics of individuals with diabetes and the distribution of data on diabetes.

Table 1 Sociodemographic characteristics of participants ($N = 72$)

Characteristics	n	%	$\bar{X} \pm SD$	Min-Max
Age			57.2 ± 15.5	20-85
Gender				
Female	37	51.4		
Male	35	48.6		
Education				
Illiterate	5	6.9		
Basic literacy	2	2.8		
Primary school	29	40.3		
High school	21	29.2		
University	15	20.8		
Marital status				
Married	61	84.7		
Single	11	15.3		
Duration of diabetes			14.6 ± 11.4	1-51
Type of Diabetes				
Type 1 diabetes mellitus	6	8.3		
Type 2 diabetes mellitus	66	91.7		
Treatment*				
Only lifestyle change	6	8.3		
Hypoglycemic medications	55	76.1		
Insulin	39	54.6		
Chronic diabetes-related complications				
Yes	29	40.3		
No	43	59.7		

*The total is above 100% because of participants who selected more than one treatment choice

From the answers of the participants in the study, seven metaphoric themes were determined on diabetes (**Table 2**), and six metaphoric themes were determined on being a person with diabetes (**Table 3**).

Metaphoric Themes Related to Diabetes

Pain and distress

The individuals stated that they felt pain and distress in their bodies because they knew diabetes to be a chronic disease. Statements with content of pain and distress were grouped under this metaphor ($n = 14$). They were identified by the words "longing, electric, separation, difficulty, persecution, Ottoman slap, disagreeable, depression, menopause, hot water, heat, torture, suffering, and stress." Some of the statements used in this connection were:

- *Diabetes is like an electric shock, because it burns.* (P8)
- *Diabetes is like persecution, because it ruins people.* (P33)
- *Diabetes is like the menopause, because it makes you feel hot.* (P41)
- *Diabetes is like torture, because it doesn't kill, but it makes your life terrible.* (P55)

Helplessness and hopelessness

For some people, having diabetes signified helplessness and hopelessness ($n = 29$). The words "a well, darkness, cloud, night, it goes anywhere it wants, a car with failed brakes in my body, sneaky, explodes like a volcano, a law unto itself, blackening life, hopelessness, resistance, microbe, unfulfilled dream, living like a pharmacy, bad, evil, disappointment, crawling, like cancer, it ruined my life, like an outbreak of disease, the world, and negativity" were used to describe them. Some of the expressions in this theme were:

- *Diabetes is like a well, because when you fall in, you can't get out.* (P1)
- *Diabetes is like the world, because you can't lose the weight that you've gained.* (P21)
- *Diabetes is like a sneaky person, because it kills you silently from inside, and you can't stop it.* (P23)
- *Diabetes is like a free person, because it gets anywhere it wants in the body, and you can't stop it.* (P24)
- *Diabetes is like cancer, because it doesn't leave you without embracing the whole body.* (P25)
- *Diabetes is like a trap, because it catches you and doesn't let you go.* (P26)

Table 2 Metaphoric themes on 'diabetes' (N = 72)

Metaphor Themes and Codes	n	%
Pain and distress	14	19.45
<ul style="list-style-type: none"> • Oppression/torture (n = 2) • Separation/longing (n = 2) • Difficulty (n = 1) • Ottoman slap (n = 1) • Boring (n = 1) • Electric shock (n = 1) • Feeling of constriction (n = 1) • Menopause (n = 1) • Heat/hot water (n = 2) • Stress (n = 1) • Suffering (n = 1) 		
Helplessness and hopelessness	29	40.28
<ul style="list-style-type: none"> • Well/trap (n = 2) • Single/free person (n = 2) • Sneaky person (n = 2) • Volcano (n = 1) • Darkness/night (n = 2) • Cloud (n = 1) • Car with failed brakes (n = 2) • Microbe/epidemic/cancer n = 3) • Crawl (n = 1) • Life fallen apart/finished/ruined (n = 4) • Pharmacy (n = 1) • World (n = 1) • Evil/negativity (n = 4) • Resistance (n = 1) • Disappointment (n = 2) 		
Instability	4	5.55
<ul style="list-style-type: none"> • Seesaw (n = 1) • Infectious disease (n = 1) • Storm/hurricane (n = 2) 		
Attention and sensitivity	3	4.17
<ul style="list-style-type: none"> • Woman (n = 1) • Quality (n = 1) • Baby (n = 1) 		
Captivity	4	5.55
<ul style="list-style-type: none"> • Prison/convict/jail/captivity (n = 4) 		
Positive outlook and acceptance	15	20.83
<ul style="list-style-type: none"> • Gratitude disease/sweet disease (n = 3) • Close friend/friend (n = 3) • Test/exam (n = 2) • Lifetime (n = 2) • Inheritance (n = 1) • Water (n = 1) • Shadow (n = 2) • Sticky (n = 1) 		
Deprivation	3	4.17
<ul style="list-style-type: none"> • Being hungry (n = 1) • Theft (n = 1) • Africa (n = 1) 		
TOTAL	72	100.00

Instability

The individuals transferred the problems that they had experienced in their bodies from the complications brought about by the disease to the theme of instability. This area included especially the rise and fall of blood glucose levels and sudden changes (n = 4). The words "landslide, hurricane, infectious disease, and seesaw" were used to describe them. Some of the expressions used in this regard were:

- *Diabetes is like a seesaw, because you always have to keep your balance. (P5)*
- *Diabetes is like an infectious disease, because when you catch it, it doesn't go away, and the symptoms increase suddenly. (P27)*
- *Diabetes is like a landslide, because it falls and rises like sugar. (P40)*
- *Diabetes is like a hurricane, because it's unstable – its speed keeps increasing and decreasing. (P44)*

Attention and sensitivity

The individuals made statements such as that diabetes was something that they had to be sensitive to and pay attention to so that it progressively took away from their quality of life ($n = 3$). They used the words “quality, woman, and baby” to describe them. Some of the expressions in this theme were:

- *Diabetes is like a woman, because it always wants attention.* (P7)
- *Diabetes is like a good-quality life, because it needs a healthy life.* (P19)
- *Diabetes is like a baby, because it wants you to concern yourself with it, pay attention to it, and behave sensitively towards it under all conditions.* (P26)

Captivity

Individuals with diabetes may feel with regard to their disease that they are not free. Expressions describing this were determined in the individuals in the sample, and these expressions were gathered under the metaphor of captivity ($n = 4$). The words “jail, convict, prison, and captivity” were used to describe them. Some of the expressions used in this regard were:

- *Diabetes is like a prison, because you're like a prisoner.* (P2)
- *Diabetes is like jail, because it restricts our lives.* (P15)

Table 3 Metaphoric themes on 'being a person with diabetes' ($N = 72$)

Metaphor Themes and Codes	<i>n</i>	%
Suffocation and distress	16	22.22
<ul style="list-style-type: none"> • Hot flush/suffocate/desert/fire/fiery/ standing in the desert ($n = 6$) • Person whose life has fallen apart/having a vegetable life/dead person/half a person/person whose life has finished ($n = 5$) • Being in a balloon/being in an empty space ($n = 2$) • Hunger ($n = 1$) • Sleeplessness ($n = 1$) • Despair ($n = 1$) 		
Helplessness, powerlessness, and disappointment	23	31.94
<ul style="list-style-type: none"> • Being in a well ($n = 1$) • Having microbes/catching an infectious disease ($n = 2$) • Sadness/sorrow ($n = 2$) • Death ($n = 1$) • Anxious person ($n = 1$) • Bad ($n = 2$) • Being timid/fear ($n = 2$) • Being crazy ($n = 1$) • A person whose life is full of difficulties ($n = 3$) • Pessimistic person ($n = 1$) • A bomb ready to explode/being irritable ($n = 2$) • A person whose efforts are for nothing ($n = 1$) • Poverty ($n = 1$) • Everything ($n = 1$) • Being unable to reach one's dreams ($n = 1$) • A car not speeding up ($n = 1$) 		
Captivity	10	13.90
<ul style="list-style-type: none"> • Hospital room/hospital/being in hospital ($n = 3$) • Only looking at everything ($n = 1$) • A tortured person ($n = 1$) • Always being patient ($n = 1$) • Being captive/being in prison/being banned/being condemned ($n = 4$) 		
Attention and sensitivity	12	16.67
<ul style="list-style-type: none"> • Traffic sign/driving a car ($n = 2$) • Being delicate ($n = 1$) • Healthy life/eating healthily ($n = 2$) • Being on your guard ($n = 1$) • Being a dietician/being a doctor/having a profession ($n = 3$) • Paying attention to everything ($n = 2$) • Life ($n = 1$) 		
Guilt	6	8.33
<ul style="list-style-type: none"> • Being a thief ($n = 3$) • Being guilty/being a sinner ($n = 2$) • Being insatiable ($n = 1$) 		
Being worn out	5	6.94
<ul style="list-style-type: none"> • Old age ($n = 1$) • Being damaged ($n = 1$) • Suffering pain/being under stress ($n = 2$) • Trembling ($n = 1$) 		
TOTAL	72	100.00

Positive outlook and acceptance

Even though it is difficult to accept a chronic disease, individuals do slowly come to terms with it and try to continue their lives. Fifteen words were determined, statements carrying the meaning of acceptance, which were used by the individuals participating in the study as positive statements relating to diabetes ($n = 15$). Words used to describe them were “inheritance, sweet disease, good disease, test, friend, close friend, lifetime, examination, gratitude, like water, shadow, and sticky.” Some of the expressions in this theme were:

- *Diabetes is like a close friend, because you have to be together all your life.* (P22)
- *Diabetes is like a lifetime, because it never leaves you.* (P30)
- *Diabetes is like your shadow, because it's always with you, it follows you.* (P46)

Deprivation

In order to bring their disease under control and manage it, people with diabetes undergo a complicated process of lifestyle changes, and in making these changes, a feeling of deprivation comes to the fore. Three words relating to deprivation were determined ($n = 3$). The words “thief, Africa, and suffer hunger” were used to describe them.

Some of the expressions used in this regard were:

- *Diabetes is like being hungry, because you can't eat everything you want.* (P4)
- *Diabetes is like a thief, because it steals your health.* (P6)
- *Diabetes is like Africa, because you can't find anything to eat.* (P69)

Metaphoric Themes on Being a Person with Diabetes Suffocation and distress

Diabetes is a lifelong disease that gives rise to a series of not only physical but also social, mental, and psychosocial problems. Generally, patients mention concepts of anxiety and distress in the management of the disease. Sixteen expressions were determined on the theme of anxiety and distress ($n = 16$). These were described with the words “being in an empty space, feeling hot, sleeplessness, despairing, like a dead person, hunger, like a balloon, someone whose life has ended, having a fever, suffocating, desert, standing in the desert, vegetable life, and half a person.” Some of the expressions used in this regard were:

- *Being a person with diabetes is like being a balloon, because it always gives the feeling of swelling.* (P35)
- *Being a person with diabetes is like fire, because it leaves you weak, it makes you thirsty, and it causes distress.* (P44)
- *Being a person with diabetes is like standing in the desert, because it makes you feel hot.* (P52)
- *Being a person with diabetes is like sleeplessness, because you can't sleep comfortably, and it causes distress.* (P53)

Helplessness, powerlessness, and disappointment

Among the widespread signs of depression seen in people with diabetes are symptoms of helplessness and powerlessness. This is generally expressed by the individuals themselves. Among the metaphors the participants in the study expressed as relating to being a person with diabetes, most were found to be expressions of helplessness or hopelessness ($n = 23$). They were described with the words “disquiet, human melancholy in a well, being fearful, infectious disease, death, bad, fear, difficulty, pessimism, grief, being

contaminated with germs, being unable to achieve your dreams, crazy, difficulty, and running into difficulties.” Some of the expressions in this theme were:

- *Being a person with diabetes is like being in a well, because you feel helpless, and you think you can't get out.* (P1)
- *Being a person with diabetes is like being contaminated with germs, because you can never get completely well again.* (P3)
- *Being a person with diabetes is like being a bomb that is ready to explode, because you can get angry at any moment.* (P19)
- *Being a person with diabetes is like fear, because you think that at any moment, your organs can be damaged.* (P22)
- *Being a person with diabetes is like death, because every day, some parts of you are damaged, and you can't prevent it.* (P29)
- *Being a person with diabetes is like wasting effort, because whatever you do, you can't preserve your health.* (P42)
- *Being a person with diabetes is like being poor, because instead of eating your food, you look at it.* (P43)
- *Being a person with diabetes is like grief, because it hurts.* (P56)
- *Being a person with diabetes is like disappointment, because you can never make plans.* (P70)

Captivity

People with diabetes generally cannot at first easily make changes to their lifestyles. For this reason, they say that they feel at first as if their freedom has been taken from them and they have been taken captive. Another of the participants' metaphors for being a person with diabetes was captivity, and statements containing captivity were grouped in this area ($n = 10$). The words used to describe it were “hospital room, convict, only looking at everything, jail, torture, patience, and being prohibited.” Some of the expressions used in this regard were:

- *A person with diabetes resembles a captive, because your eating freedom is taken from you.* (P6)
- *Being a person with diabetes is like being a convict, because you can't escape from it.* (P15)
- *Being a person with diabetes is like being a hospital, because you're registered in every department, and you're always there.* (P20)

Attention and sensitivity

Statements by some of the participants that being a person with diabetes necessitated attention and sensitivity were grouped under this metaphor ($n = 12$). Words used to describe it were “driving a vehicle, being on your guard, eating healthily, traffic sign, delicate, being a doctor, and everything.” Some of the expressions used in this theme were:

- *Being a person with diabetes is like eating healthily, because your blood sugar is put in order by eating healthily.* (P12)
- *Being a person with diabetes is like having a profession, because it is always necessary to advance with love and acceptance.* (P26)
- *Being a person with diabetes is like being a doctor, because you have to be your own doctor.* (P49)
- *Being a person with diabetes is like life, because it is bitter and sweet in every direction.* (P57)
- *Being a person with diabetes is like driving a vehicle, because you have to manage your own health and you have to be very careful.* (P60)

Guilt

For people with diabetes, a difficult point is conforming to the recommended treatment plan, particularly the diet. For this reason, people sometimes feel guilty. Statements by the individuals in the sample with content of guilt about conforming to the diet in the treatment plan were collected under a

separate metaphor ($n = 6$). These were described with the words “being a thief, being guilty, being a sinner, and being insatiable.” The expressions used in this theme were as follows:

- *Being a person with diabetes is like being a thief, because you eat secretly.* (P10)
- *Being a person with diabetes is like being a sinner, because when you eat, you feel you're committing a sin.* (P28)

Being worn out

Statements by individuals in the sample that *being a person with diabetes* was exhausting were grouped under this metaphor ($n = 5$). They were described with the words “suffer harm, stress, suffer pain, tremble and old age.” Some of the expressions were:

- *Being a person with diabetes is like old age, because it wears a person out and ages them prematurely.* (P54)
- *Being a person with diabetes is like suffering harm, because it wears you out.* (P63)

Discussion

This study aimed to define metaphors related to diabetes and the experience of being a person with diabetes. Participants' statements were categorized into seven metaphors concerning diabetes and six metaphors related to being a person with diabetes. Regarding diabetes, the metaphors were: 1) pain and distress, 2) helplessness and hopelessness, 3) instability, 4) attention and sensitivity, 5) captivity, 6) positive outlook and acceptance, and 7) deprivation. Concerning being a person with diabetes, the metaphors included 1) suffocation and distress, 2) helplessness, powerlessness, and disappointment, 3) captivity, 4) attention and sensitivity, 5) guilt, and 6) being worn out.

Upon evaluating the metaphors in this study, it was observed that sub-themes expressed both positive and negative thoughts. Similar findings were noted in other studies in the literature. Individuals had positive or negative thoughts depending on their circumstances. Those with access to adequate medical care, effective social support systems, good metabolic control, and the ability to confidently manage diabetes tended to express more positive themes. Conversely, individuals lacking proper care, lacking support systems, and experiencing a high rate of complications tended to express negative themes (Fioretti & Mugnaini, 2022; Mogre et al., 2019; Pal et al., 2018; Stuckey & Peyrot, 2020).

More than half of the participants in the sample conveyed more negative perceptions in their statements about both diabetes and being a person with diabetes. Particularly, negative themes related to metaphors of helplessness, powerlessness, hopelessness, suffering, and captivity were frequently reiterated. This aligns with other qualitative studies involving people with diabetes. Ardahan et al. (2018) found that metaphors such as machine, vegetable, disease, animal, person, thinking, and traffic were developed for diabetes, with negative sub-themes including cancer, virus, cigarette, secret agent, broken machine, burnt-down house, dangerous road, and road accident. Similarly, Sinnenberg et al. (2018) reported expressions about diabetes such as exhaustion, war, guilt, infectious disease, and plague. Pal et al. (2018) found that individuals expressed negative feelings about living with type 2 diabetes, including exhaustion, indifference, denial, anger,

frustration, self-blame, and shame. These metaphors parallel those found in the literature.

Participants articulated statements like “diabetes is like a sneaky person; the symptoms are noticed late” (P12) or “it kills you sneakily and silently from inside, and you can't stop it” (P23). Ardahan et al. (2018) also emphasized the cancer metaphor in their study. Individuals spend years at the prediabetes stage and spend their lives without knowing that there are risks of diabetes or other associated conditions. Sometimes, after complications develop, they go to the hospital. People who are in a group at risk from diabetes or who are diagnosed with prediabetes should certainly have yearly checkups, and changes need to be determined (American Diabetes Association, 2023; Rooney et al., 2023; Turkish Society of Endocrinology and Metabolism, 2022). If scans and detailed assessments are not made in time, it is an inescapable result that complications will develop in tissues and organs. Diabetes, unfortunately, is not just about a high level of glucose in the blood. As guides on diabetes show, “diabetes mellitus is a wide-spectrum disease, a metabolic disorder, which affects many tissues and organs in the body, with multisystemic involvement and acute and chronic complications (American Diabetes Association, 2023; Turkish Society of Endocrinology and Metabolism, 2022).

Some participants (P54 and P63) stated that diabetes was an exhausting disease and that it damaged the body (“Being a person with diabetes is like old age, because it wears a person out, and causes premature aging” - P54 / “Being a person with diabetes resembles suffering harm, because it wears you out” - P63). It is known that poor control of diabetes causes harm to the body and damages many tissues and organs (Rama Chandran et al., 2020; Turkish Society of Endocrinology and Metabolism, 2022). Diabetes-related organ damage is what affects individuals the most and causes fear. It is seen that these statements, collected under the metaphor of exhaustion in the current study, confirm other studies. Examining the sub-metaphors in the study by Ardahan et al. (2018), the expressions burnt-down house and limed-up/broken machine are seen for diabetes. In the study by Sinnenberg et al. (2018), diabetes was described as “destroying, devastating, and a disease which is harmful to the body,” and hypertension as “a silent killer.” Participant P65 compared diabetes to “a cloud” because “it makes me feel like I'm not in myself.” It is seen in the literature that complications arising in connection with diabetes, particularly sudden hypo or hyperglycemic changes, cause cognitive changes and changes in daily activities (Ji et al., 2023; Pyatak et al., 2023; Rama Chandran et al., 2020).

Also, the participants' statements contained such expressions as “diabetes is a close friend / it's like your shadow / it's like life – it never completely leaves you” (P22/P30/P46). After a diagnosis of diabetes mellitus, you have to live with it for the rest of your life. For this reason, ensuring self-management by developing behavioral changes in managing the disease is essential for control. Individuals accepting their disease, increasing their awareness, and developing their diabetes self-management skills improve metabolic control and reduce the rate of complications (Canpolat et al., 2022; Turkish Society of Endocrinology and Metabolism, 2022).

In the study by Sinnenberg et al. (2018), it was found that individuals stated that diabetes was an infectious disease or a

plague that must be avoided. In the study by [Ardahan et al. \(2018\)](#), the theme of the virus was developed. In the current study also, participant P27 described diabetes as “like an infectious disease, because when you catch it, it doesn’t go, and symptoms suddenly increase,” and being a person with diabetes as “like a person who has caught an infectious disease, because you can’t escape from it.” Similarly, P3 described diabetes as “like a microbe, because it doesn’t go away” and being a person with diabetes as “like having microbes because you can never completely recover.”

The participant (P53) in the current study described being a person with diabetes as sleeplessness. “Being a person with diabetes is like sleeplessness because you can’t sleep comfortably.” It is also stated in the literature that sleep quality and duration were affected by hypoglycemia developing at night, causing such things as nightmares, neuropathic pain, and frequent nocturnal urination ([Arora et al., 2016](#); [Khandelwal et al., 2017](#)).

It was determined that three participants (P7, P19, and P26) made statements on diabetes, and 12 participants (P5, P7, P11, P12, P14, P21, P26, P49, P57, P59, P60, and P64) on being a person with diabetes relating to the theme of attention (“driving a vehicle, traffic lights, baby and woman”). In the study by [Ardahan et al. \(2018\)](#), one participant also stated that diabetes necessitated paying attention and described a person’s diabetes as a “flower.” In fact, diabetes is a disease that necessitates attention and effort, requiring individuals to take on their own self-care and make behavioral changes in their lives. Adopting a healthy lifestyle and ensuring the other necessities of medical care will secure metabolic control, reduce diabetes-related complications, and thus raise the quality of life. To achieve this aim, a holistic, accessible, and good-quality health service is essential. Within a holistic approach, it is crucial to strengthen self-care with self-management education and support ([American Diabetes Association, 2023](#); [Pal et al., 2018](#); [Rashidi & Özcan, 2022](#)). However, it is reported that in many countries, including developed countries, a significant proportion of people have not received education or support on self-management ([Pal et al., 2018](#); [Preechasuk et al., 2019](#); [Rinker et al., 2018](#)).

In the study by [Ardahan et al. \(2018\)](#), one participant compared diabetes to traffic. Looking at the explanations, it is seen that this metaphor is explained as managing oneself and taking responsibility for mistakes, as in the statement by the participant (P12), “Being a person with diabetes is like eating healthily, because blood sugar is regulated by healthy eating,” or as P60 states, “Being a person with diabetes is like driving a vehicle because you have to manage your own health and you have to be very careful.” Diabetes is a disease that necessitates constant medical care and self-management. Individuals must take responsibility for themselves. Diabetes can be controlled only by strengthening self-management ([Mohseni et al., 2020](#); [Turkish Society of Endocrinology and Metabolism, 2022](#)).

The participants (P26) stated that being a person with diabetes “is like having a profession, because it is always necessary to move forward by loving and accepting.” It causes negative thoughts such as ignoring the disease, fighting with it, helplessness, and hopelessness to come to the fore. P62 described diabetes this way: “Diabetes is like negativity; it always makes you have bad thoughts.” However, negative

feelings make diabetes management more difficult. Regular psychosocial assessment and comprehensive medical care and counseling services are essential for coping with negative feelings and the problems that may develop along with them ([American Diabetes Association, 2023](#)).

Again, in the study by [Ardahan et al. \(2018\)](#), diabetes was compared to diet. In the current research, the participants emphasized nutrition in different metaphors. The participants stated that being a person with diabetes was like “being a thief, being a thief, being a guilty person, being a sinner, and being insatiable” (P4, P10, P18, P28, P46, P69). Two participants (P4 and P69) described diabetes as “poverty” and said that it was like “being hungry” and “Africa.” [Mogre et al. \(2019\)](#), in a study with 23 people with diabetes, stated that the individuals conformed with great difficulty to diet restrictions and even that after some time, their sense of taste was reduced, and a feeling of hunger emerged. One of the essential symptoms of diabetes is described as a feeling of hunger and eating a lot ([Turkish Society of Endocrinology and Metabolism, 2022](#)). In a study by [Pal et al. \(2018\)](#), participants also described developing a negative self-image as “feeling like a criminal” and “deserving punishment.” In a study by [Ide et al. \(2018\)](#), participants made statements that they felt uncomfortable with conforming to diet, they could not eat everything they wanted, their eating habits had changed after diagnosis, they equated diabetes with being hungry, and even that they preferred death.

Implications of the Study

Identifying metaphor perceptions in people with chronic diseases such as diabetes mellitus is essential in defining and understanding individuals’ perceptions. It is vital that nurses and other health professionals plan medical care while prioritizing these values at all stages of describing the metaphors that individuals develop, diagnosis, treatment, counseling, and education. Thus, individuals’ perceptions of their diseases may change. By changing metaphorical perceptions, self-management of the disease may improve, and therefore, quality of life may increase. Improved diabetes self-management reduces healthcare costs with positive effects such as preventing acute and chronic complications and reducing hospital admissions. This is important not only for people with diabetes but also for everyone living with a chronic disease.

Limitations

The most important limitation of the study is that it was conducted in a single center. It is recommended that similar studies be conducted in the future with individuals receiving service from different hospitals with a multi-center.

Conclusion

In this study, where the metaphoric perceptions of individuals with diabetes regarding both diabetes and being a person with diabetes were determined, participants utilized more expressions associated with negativity. The content of these expressions reflected feelings of helplessness, powerlessness, pain, distress, guilt, and exhaustion. In contrast, positive acceptance expressions related to the importance of acknowledging and paying attention to the

disease were less prevalent. It is understood that negative thoughts about the disease among individuals with diabetes have an impact on disease management. These negative perceptions complicate diabetes self-management and impede metabolic control. The initial step in overcoming this obstacle and inducing behavioral changes for diabetes control involves developing the belief that "I can control the disease, I can manage it" through accepting it and fostering positive imagery. At this stage, crucial responsibilities rest on all healthcare professionals involved in providing medical care, particularly diabetes trainers and diabetes nurses.

Declaration of Conflicting Interest

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Authors' Contributions

The authors confirm their contributions to the paper as follows: ATÖ, ÖBD, and BY planned and designed the study; scanned the literature, collected and analyzed the data, and wrote all parts of the manuscript. All authors agreed to the final version of the article.

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Data Availability

The data generated during the study are available from the corresponding author upon reasonable request.

Declaration of Use of AI in Scientific Writing

There is nothing to declare.

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