Metaphors as artefacts for adults with type 2 diabetes mellitus according to their professional cultures

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Abstract

Objective: To investigate why and what mental images patients who suffer from type 2 diabetes mellitus use to describe their experiences of the disease based on their professional culture.

Methods: This qualitative study was conducted at the Akdeniz University, Antalya, Turkey, in 2015, and comprised diabetics. Purposive sampling method was used. Data was gathered through the use of semi-structured interviews, incorporating qualitative data.

Results: There were 13 participants in the study. The metaphors revealed by participants on what type 2 diabetes mellitus meant to them, according to their professional culture, included flower, grass, diet, cancer, virus, horse race, cat, friend or sibling, secret agent, broken machine, dishwasher calcined, watch, cigarette, burnt house, accident, and dangerous path.

Conclusion: The outcome of this research addressed important implication for diabetics on how to self-manage their disease.

Keywords: Chronic disease, Cognitive image, Metaphor. (JPMA 68: 334; 2018)

Introduction

Diabetes is an important public health problem and its prevalence is progressively increasing both in Turkey and the world over. It is well known that although life expentancy has increased in the 21 st century, diabetes which used to be seen as a disease for the aged is now being increasingly observed in the young. It is rapidly increasing worldwide due to adverse changes in lifestyle. Its complications create great problems in terms of public health and health expenses; and its physiological, psychosocial and economic burden on all income groups is constantly increasing.[1,2]

A metaphor is a "figure of speech in which a word or phrase literally denoting one kind of object or idea is used in place of another to suggest a likeness or analogy between them".[3] Metaphors are also for researches as they can serve as powerful strategies to describe realities difficult to understand.[4] They also make aspects of phenomena not previously noticed clearer to understand and exemplify behaviours and processes by simplifying concepts, and stressing some properties over others.[5] They also add depth of meaning to understanding[6] and help to clarify and broaden understandings of the less known by applying known characteristics of familiar concepts to other less known phenomena.[5,7,8]

Healthcare professionals are advised to obtain communication patterns related to patients and utilise them. Nurses, whose primary role is to provide care, have an important duty among health workers; they also play significant roles, such as consultants, researchers, instructors, curatives and defenders. When nurses include metaphors into patient training as a requirement of their roles, training will become more interesting and meaningful for patients. Nurses should go beyond the point of view of the diabetic and be able to evaluate psycho-social and economic factors that contribute to disease and the training of patient in a wider context.[9]

The current study was planned to determine the types of cognitive images (metaphors) produced by patients diagnosed with type-2 diabetes mellitus (T2DM), why they produced these metaphors and whether these metaphors differed depending on their professional culture (Appendix).

Thus, the study examined:

1. The cognitive images (metaphors) produced by T2DM patients on their disease.

2. Participants' reasons for the metaphors.

3. Did the metaphors produced by the patients differ depending on their professional culture?

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APPENDIX:
SEMI-STRUCTURED INTERVIEW FORM
INTERVIEW QUESTIONS

Participants	:
Profession	:
Age	:
Gender	:
Diagnosis Period	:

1. What do you think Type-2 Diabetes Mellitus (T2DM) is like ? A thing, a living thing, etc.?

a
b
c

2. You mentioned about a/c. Can you tell me about more about what makes Type-2 Diabetes Mellitus (T2DM) like ……?

3. Why do you think Type-2 Diabetes Mellitus (T2DM) is like…….? Give your reasons.

a
b
c

4. You mentioned about a/c. Can you tell me about more about the reason why Type-2 Diabetes Mellitus (T2DM) like ……?

Patients and Methods

This qualitative study was conducted at the endocrinology and metabolism polyclinic of Akdeniz University, Antalya, Turkey, in 2015, and comprised T2DM patients. The study was planned at a phenomenological pattern; a phenomenological study is "one that focused on descriptions of what people experience and how it is that they experience what they experience".[10] Additionally, "the phenomenological inquiry is particularly appropriate to address meanings and perspectives of research participants. The major concern of phenomenological analysis is to understand 'how the everyday, subjective and inter-subjective world is constituted' from the participants' perspective".[11] The study design was used in order to explore the subjective evaluations of participants' metaphors on T2DM and to reveal the opinions based on the perspectives of them towards their diseases.

Purposive sampling method was used to select participants out of the 8,964 patients diagnosed with T2DM at the polyclinic during the six months of the study. Purposive sampling signifies that "one sees sampling as a series of strategic choices about, with whom, where, and how one does one's research, implies the way that researchers sample must be tied to their objectives and there is no one best sampling strategy because which is best will depend on the context in which researchers are studying and the nature of their research objective(s). Besides, criterion sampling technique involves searching for cases or individuals who meet a certain criterion, for example, that they have a certain disease or have had a particular life experience".[12] During the selection of participants, criteria such as an equal number of participants from both genders, having oral antibiotic therapy, being diagnosed in the last 6 months and the absence of more than one co-morbid/chronic disease were considered.

An in-depth interview was used to collect data. Data was collected by the researchers from November 2015 until January 2016. Forms developed by the researchers for data collection were used. Prior to interviews, the information form related to demographic information of the participants diagnosed with T2DM; and during interviews, an understandable, semi-structured interview form including 3 questions that guided the interview and helped the collection of data consistent with the purpose of the research were used. All of the interviews were done in a separate room and tape-recorded after participants agreed and signed the consent form. Interviews took approximately 30 minutes each. On the day interviews were done, tape recordings were documented by giving each participant a code number.

Permission for this research was obtained from the ethics commitee of Akdeniz University Hospital and Akdeniz University Medical Faculty. Participation in the research was conducted on a voluntary basis and written consent was obtained from all participants. During the analysis of interviews, codes were used instead of real names.

Interview data was analysed after verbatim transcripts. The content analysis was used during the analysis. For data decoding and categorisation process, NVIVO-10 package programme was used.

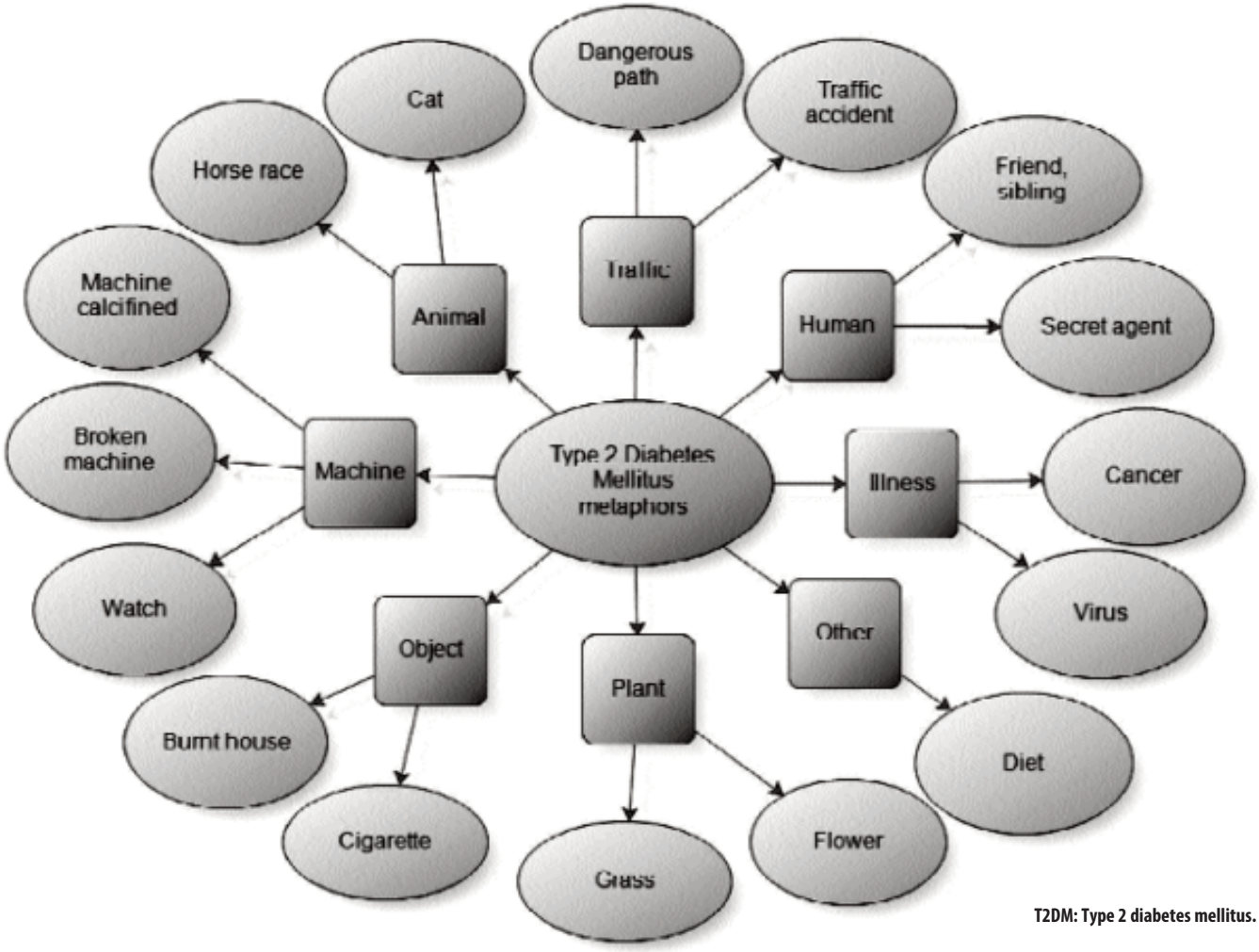
In order to ensure reliability and validity of the research, four steps were followed: (i) data was collected using semi-structured interview form based on a conceptual framework related to phenomena in the literature so that actual status of data would be reflected, (ii) data was used as direct quotations from the interviews without making any comments on them, (iii) a purposive sampling method based on voluntarism was used in order to get opinions and experiences of the participants, (iv) data was coded by two independent researchers and Cohen's kappa coefficient was calculated to determine inter-rater reliability of themes (kappa coefficient for this research was calculated as 0.714 which showed a high level of agreement), and (v) records of interviews were kept for outer reliability.

Results

There were 13 participants in the study. The first

Table-1: Metaphors produced by participants related to diabetes.

Metaphors		Participants												
Main theme	**Sub-themes**	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**
Machine	Broken machine			✓		✓			✓			✓		
	Machine calcified				✓									
	Watch							✓						
Plant	Grass										✓			
	Flower													✓
Disease	Virus							✓						
	Cancer					✓								
Animal	Cat		✓											
	Horse race												✓	
Human	Secret agent							✓						
	Friends, Sibling												✓	
Thing	Cigarette						✓							
	Burnt house	✓												
Traffic	Dangerous path									✓				
	Traffic accident												✓	
Other	Diet												✓	



T2DM: Type 2 diabetes mellitus.

Figure: Metaphors produced by patients diagnosed with T2DM related to their diseases.

Table-2: The metaphors produced by participants according to their professions.

Metaphors	Housewife	Civil servant	Student	Lecturer	Retired	Cook
Flower		✓			✓	
Grass						✓
Diet					✓	
Cancer			✓			
Virus				✓		
Horse race					✓	
Cat					✓	
Friend, Sibling					✓	
Secret agent				✓		
Broken machine	✓		✓		✓	
Dishwasher calcined	✓					
Watch				✓		
Cigarette				✓		
Burnt house	✓					
Accident					✓	
Dangerous path					✓	

participant was labelled 'A', second 'B', and so on. The data related to metaphors produced on T2DM revealed 8 main themes, namely, machine, plant, disease, animal, human, thing, traffic and others. They were further divided into 16 subthemes, including flower, grass, diet, cancer, virus, horse race, cat, friend or sibling, secret agent, broken machine, dishwasher calcined, watch, cigarette, burnt house, accident, and dangerous path (Figure, Table-1).

The metaphors produced by participants were classified according to their professions (Table-2).

Discussion

One of the priorities of nursing is to improve potential health of individuals and families. T2DM diagnosis is a dynamic process experienced in the light of physiologic and psychosocial variability. The first target in the care of individuals diagnosed with T2DM should be to consider their personality and to understand their perceptions and experiences.[13] Also, in chronic diseases, paying attention to a number of personal experiences is of importance in terms of stability in living with T2DM and prevention of complications. To reveal the meaning of disease in an individual's self-concept is an important psychosocial target. So, integrating existing lifestyle with self-management concept may be possible.

Findings also revealed that sometimes T2DM may emerge invisibly. For instance, participant G described diabetes as a secret agent and stated that diabetes might act as a secret agent if not discovered. This finding is consistent with the view that pre-diabetes, as described in literature, is an important risk factor for diabetes and cardiovascular diseases. Besides, it is also consistent with the view that prolonged pre-diabetes period seen in 90 percent of all diabetics lasts 5-15 years asymptomatic and during this period different complications develop primarily, micro and macro vascular complications.[1,14]

According to the findings, two of the participants described diabetes as traffic. Participant L used traffic accident metaphor and stated that accidents results from a mistake, everybody should know their mistakes and admit that he/she became diabetic due to his/her mistakes. Similarly, participant I defined diabetes as a dangerous road, and defined the lifestyle changes in appearance of T2DM as personal responsibilities in nourishment and physical activity patterns. This is consistent with the facts described in literature that the lifestyle of an individual causes T2DM.[1,2,15-17] Participant L stated: "It is very important for me, right now there is a horse race in my life. Who will win? Me." Participant M described T2DM as a flower and explained "...because the most delicate thing is flower, (and) since I see diabetes (as) a delicate disease, I should pay strict attention to it". In addition, he stated that disease can be well managed in T2DM. These findings are consistent with the views concerning the importance of self-management in diabetes and with scientific findings in literature.[16,18,19]

Two of the participants described diabetes as a disease. Participant E used cancer metaphor for diabetes and stated that if one does not protect oneself from diabetes, it was likely to spread through the body like a cancer. Similarly, participant G used a virus metaphor for diabetes and stated that keeping away from a diet, like uncontrolled eating, drinking and physical activity would make diabetes, like a virus, become reactivated and

capture the body and cause temporary ischaemic attacks and strokes by increasing cholesterol. As it can be understood, virus and cancer metaphors address the importance of continuation of T2DM-related self-management. These findings are parallel with the views emphasised in literature concerning the importance of T2DM and self-management and the risks (acute and chronic complications) that may emerge in cases where self-management cannot be sustained.[1,13,14,19]

Additionally, participant G used watch metaphor for diabetes and stated that he saw it as a watch that sometimes is early when you can control diabetes and sometimes remain late when you cannot control diabetes, a controlled life to control diabetes. The participant stressed on the fact that he viewed diabetes from the perspective of therapy, not a disease itself. Watch and regular use of medicines is an important finding in terms of noticing the importance of diabetes therapy. This finding is also consistent with the views stated in literature related to diabetes self-management.[14,16]

On the other hand, participant L defined diabetes with friend, sibling and twin metaphors and described the integration with diabetes the same way as Roy stated: as a transition from steady equilibrium to excellent coherence.[20]

One of participants described T2DM as a diet and stated that diabetes meant diet. This finding is consistent with the view in literature that one of the most important components of the T2DM therapy is the medical nourishment therapy.[14,16] This finding is also consistent with the finding reported by Whittemore et al. in a research called "Lifestyle Change in Type 2 Diabetes; A Process Model". In that research they found that diet and exercise behaviours turn into a part of daily life and relationships and are associated with awareness of healthiness and vulnerability in disease.[13]

Research participants C, D, E, H and K made similarities between diabetes and "a broken machine". This finding is consistent with opinions in literature about the micro- and macrovascular chronic complications of T2DM, such as diabetic retinopathy, neuropathy, nephropathy and diabetic foot.[1,14,16] This metaphor emphasised the reparability of T2DM as well as revealing its damaging aspect as a contribution to literature. On the other hand, the participants still believed that T2DM was curable.

Research findings re-emphasised the late period complications of T2DM. For example, participant A referred to T2DM as a completely burnt-out house, comparing it to a human body with diabetes. Additionally, participant F described T2DM as a cigarette influencing the whole body like diabetes, just as smoke from a cigarette circulates through lungs, blood and whole body and causes damage. These findings are also consistent with literature as they described the T2DM's late period complications.[1,16]

When the metaphors produced by participants according to their professions were scrutinised, it was noticed that they produced metaphors that reflected their professional cultures. For example, a participant whose profession is cooking used grass metaphor as grass symbolises vegetables used while cooking housewives used burnt house and dish washer metaphors; lecturer produced "watch", "secret agent" and "virus" metaphors because of their intellectual status and busy agenda. Professional culture includes profession-related values, norms and artefacts. Professional values add meaning to life with colleagues' basic beliefs; norms are pathfinders and organisers; artefacts possess a feature that can ease professional communication and help the use of a common language.[21] Metaphors that are artefacts of the organisational culture are valuable tools in discovering organisational culture and for individuals to understand each other.[22] In a sense, metaphors reflect the values that professional culture is based on.[23]

Through the metaphoric perceptions of the adults diagnosed with T2DM relating to their diseases, nurses may better understand the meaning of diabetes by making connections with each individual's unique experiences about the disease. Furthermore, they may learn perceptions of individuals diagnosed with T2DM relating to their diseases, thus they can get the opportunity to guide him by entering the individual's internal world. Thus, nurses help patients with lifestyle change with the potential to provide a counterbalancing presence for a meaningful life experience by virtue of achieving optimum level of health and wholeness.

Since this is a scientific research based on qualitative data, results were limited to the research group. We suggest that further qualitative studies that will comprehensively investigate and examine the problems experienced by individuals diagnosed with T2DM related to chronic diseases should be done.

Conclusion

It was noticed that T2DM influences individuals' physical, psychological and economical domains negatively. For nurses, whose basic role is to provide care, to understand the perception of an individual diagnosed with T2DM relating to his disease as a requirement of their consulting, researching, instructing, curing and

defending roles may be seen as the beginning of the medical therapy process.

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