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Original Article

# Challenges and Strategies of Needs Assessment Implementing in Diabetes Self-management Education in Iran: A Qualitative Study

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## Abstract

**Background:** Many diabetes educators in Iran do not have the necessary skills and competence for performing a needs assessment, and thus, cannot provide Diabetes Self-Management Education (DSME) to suit individual educational needs and conditions. The purpose of the present study was to explore and analyze needs assessment implementation in DSME and evaluate the barriers and the appropriate strategies from educators' viewpoints. **Materials and Methods:** The present qualitative study was conducted using a conventional content analysis approach with semi-structured and in-depth interviews and using a purposeful sampling method on 20 nurses, physicians, and endocrinologists. The data of this study were collected from April to October 2018. The interviews were analyzed using the content analysis method of Graneheim and Lundman. **Results:** Qualitative data analysis resulted in the emergence of two main categories of educational challenges of needs assessment and managerial challenges of needs assessment and four subcategories (lack of structured educational planning, lack of needs assessment practical patterns, managers' insufficient support and supervision, and managers' insufficient attention to motivational factors). **Conclusions:** Educational strategic planning, managers' obligation and support in designing practical patterns, and supervision tools to evaluate educators' performance in the needs assessment domain can result in the promotion of DSME needs assessment, the efficiency of plans, and the promotion of society's health.

**Keywords:** *Diabetes mellitus, education, needs assessment, qualitative research, self-management*

## Introduction

Diabetes Self-Management Education (DSME) is a cost-effective strategy for the management of Diabetes Mellitus (DM). DSME consists of activities that continue beyond formal self-management education in order to promote and maintain the necessary behaviors and facilitate the learning of knowledge, skills, and abilities necessary for self-management.[1,2] Despite the complexity of DM treatment, the acquiring of self-management skills and adherence to them in these patients lead to health and quality of life promotion and hospitalization cost reduction.[1] According to reports, less than 50% of diabetic patients in the USA receive DSME.[3,4] The results of studies in Iran showed that less than 50% of the patients participate in DSME classes. Moreover, no adherence to self-care behaviors was reported in more than 50% of the patients.[5,6] Self-care can be promoted using different educational methods based on patients' educational needs, knowledge, and awareness.[7] Therefore, the implementation and appropriate application of educational programs is a kind of investment and the key factor in society development through increased efficiency of different social, economic, and health domains. To achieve this goal, the first and most fundamental step in planning and implementing educational processes is a needs assessment.[8,9] Needs assessment must reveal a comprehensive viewpoint of a person's knowledge, attitude, skill, and needs.[10] Needs assessment process techniques and models are evolving; thus, educators should be familiar with the different needs assessment methods and how to use these models to provide educational materials that meet the patients' needs.[8] Moreover, correct examination, recognition, selection, and application of methods and needs assessment patterns as scientific tools to plan and implement educational programs are of significance.[11] The correct performance of needs assessment increases

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the probability of its needs matching.[12] The collecting and analyzing of data, identifying needs at different levels, and prioritizing them during needs collecting assessment has attracted learners' participation in designing, implementing, and continuing education and has provided the necessities to increase educational efficiency.[13]

In the review of literature, no evidence was found in Iran about how to implement DSME needs assessment. Furthermore, the identification and analysis of current challenges in qualitative researches, compared to quantitative researches, has provided a comprehensive understanding of many aspects of health systems. Thus, the researchers decided to explore and analyze the status of needs assessment implementation in DSME in Iran by examining educators' viewpoints in a qualitative study.

## Materials and Methods

The present qualitative study was conducted with a conventional content analysis approach.[14] The data of this study were collected from April to October 2018. This study was part of a larger study, which aimed to design and develop a manual for training DSM for nurse educators. Purposeful sampling was performed until data saturation.[15] Regarding the fact that no new codes were extracted from the last four interviews, data saturation was reached and sampling was stopped. The study participants consisted of 20 individuals this study (2 faculty members nursing and Ph.D. teaching staff, 4 nursing M.Sc., 6 nursing B.Sc., 5 DM specialists, and 3 endocrinologists) with a minimum of 2 years of experience in DM treatment, care, and education in health and treatment centers and medicine and nursing faculties of Isfahan University of Medical Sciences, Shiraz University of Medical Sciences, Yazd University of Medical Sciences, Tehran University of Medical Sciences, Mashhad University of Medical Sciences, and Qazvin University of Medical Sciences, Iran. The demographic characteristics of the participants are provided in Table 1.

The required data were collected through 20 individual interviews (in-depth and semi-structured) after explaining the research purpose and method for each participant, and obtaining written informed consent for voice recording from them. The interviews were conducted in the participants' workplace (in a suitable and quiet environment) and when they had sufficient time and less work pressure. Each interview lasted 20–45 min. Some of the questions were, "In your experience, what are the factors that prevent or facilitate need assessment?", "What strategies do you recommend for performing needs assessment correctly?", and "What are your most important needs assessment challenges?" To obtain in-depth information, probing questions such as "Please explain more.", "What do you mean?", and "Please provide an example" were used. The interviews were recorded using a digital voice recorder. To achieve the level of floating-point data, each interview was reviewed several times.

The data analysis method used in this study was that of Graneheim and Lundman (2004).[16] The recorded interviews were first carefully listened to, and then, transcribed word-by-word and in detail. The semantic units including word, sentence, or paragraph were determined in the text. Semantic units were combined based on similarity, and codes were extracted. Similar codes were grouped in subcategories, and then, the main categories were formed using an inductive process.

The codes' credibility was ensured through a member check of the notes and the researcher's prolonged engagement. Some extracted codes were checked by a number of participants and were modified if needed (member checking). Moreover, nursing educators, DM specialists, and clinical managers were interviewed to collect data (source triangulation). The dependability of data was assessed through the reviewing of the texts, codes, and categories by the researcher's colleagues. Data transferability was ensured through a clear explanation of the research to the participants and sampling with maximum variation in terms of age, educational background, workplace, academic education, and expertise. For confirmability, some interviews and the codes and classifications were extracted and given to coworkers who were familiar with qualitative research analysis and did not participate in the study and they were asked to examine the authenticity of the coding process.[14]

### Ethical considerations

The necessary authorization for conducting the study was obtained from the Ethics Committee of the School of Nursing and Midwifery of Isfahan University of Medical Sciences with the code R.MUI.RESEARCH.

**Table 1: Demographic characteristics of the participants**

| Participants | Number | Mean (SD) | | Gender |
|---|---|---|---|---|
| | | Age (year) | Experience in treatment, care, and education (year) | |
| Faculty member and Ph.D.*** nursing | 2 | 42.56 (8.42) | 12.32 (8.16) | 14 female |
| Nursing M.Sc.** | 4 | | | |
| Nursing B.Sc.* | 6 | | | 6 male |
| Diabetes specialist | 5 | | | |
| Endocrinologist | 3 | | | |

*B.Sc. = Bachelor of Science; **M.Sc. = Master of Science; ***Ph.D. = Doctor of Philosophy

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REC1396.3.294. The researcher then obtained informed consent from all participants by referring to the field, introducing himself, and explaining the study goals. The researcher completed the informed consent form for each participant. The time of the interviews was determined with the agreement of the participants and each interviewee was allocated a code. Participants were free to leave the interview at any stage, and there was no loss and damage for them.

## Results

The demographic characteristics of the 20 participants of the study are presented in Table 1. The two main categories of educational challenges of needs assessment and managerial challenges of needs assessment and four subcategories were achieved from data analysis [Table 2].

### Category 1: Educational challenges of needs assessment

This main category includes the two subcategories of lack of structured educational planning and lack of practice patterns for a needs assessment.

#### *Lack of structured educational planning*

The statements of participants showed that they had received DM training from educators for whom no educational needs assessment and DSME workshops had been held to date, and thus, they were not familiar with needs assessment principles and skills, and they did not have appropriate and sufficient knowledge and performance. A nursing faculty member stated: "… *diabetes educators are not familiar with step-by-step education principles, from needs assessment to evaluating, and no needs assessment educational courses have been held for them so far….*" *(p2)*.

Some participants who had participated in an educational course about 10 years ago stated that defect in knowledge transfer methods by professors, lack of capability to use various needs assessment methods and education skills, and merge them with DSME specialized knowledge by professors, the short duration of the courses, lack of repetition and practicality, lack of provision of material about needs assessment, lack of periodical needs assessment of educators, and lack of evaluation as the reasons of the lack of knowledge and skills in the needs assessment domain.

**Table 2: The main categories and subcategories extracted from qualitative data**

| Subcategories | Main categories |
|---|---|
| Lack of structured educational planning for implementing needs assessment | Educational challenges of needs assessment |
| Lack of needs assessment practical patterns | |
| Managers' insufficient support and supervision | Managerial challenges of needs assessment |
| Managers' insufficient attention to motivational factors | |

Another nurse educator said: "… *10 years ago, only a 4-hour educational course was held for us, which was about diabetes and nothing was said about needs assessment let alone being trained in a practical way ….*" *(p5*).

A DM specialist added: "*... during all the years I have been working in the field of diabetes, this is the first time that a person has asked about my educational needs as an educator …*" *(p7)*.

Regarding defects in the knowledge transfer method, a board member said: "*Most of our professors are skillful in the diabetes treatment domain, but they do not have sufficient skill in using needs assessment patterns and merging diabetes education with various educational methods ...* " *(p8)*.

The participants mentioned the lack of sufficient English knowledge and sufficient skill in searching scientific sources, unavailability of updated and evidence-based scientific sources, and inability to pay the costs of credited scientific sources to answer their scientific needs in the field of needs assessment as the problems resulting from lack of educational planning.

A nurse educator stated: "… *searching material in English is really difficult for me and I do not understand them very well ….*" *(p11)*.

Another nurse said: "… *there is a wide range of resources and I do not know which article or website is better and which one will give me the information that I need …*" *(p15)*.

A faculty member said: "….*educational courses are often in person, and to access the content of courses or articles, online payment and financial credit (Master Card and Visa Card) are required and the minimum payment is 30 to 70 dollars and this cost is too high for us considering we do not have sufficient information about the content of the educational material…*" *(p6)*.

The participants believed that structured planning in an organization, holding continuous educational workshops and English courses, providing information and appropriate facilities to access credited scientific sources easily, and using professors with specialized knowledge in the field of educational skills and DSME can promote educators' knowledge and skill in using needs assessment patterns.

#### *Lack of practical patterns for needs assessment*

The participants' experience showed that educators who have worked in the field of diabetic patients' education provide the educational content based on their experience and the patients' most common needs which results in material repetition and a disregard for learning style and individual needs. A DM specialist added: "…*needs assessment needs a practical pattern; often I train based on experience, the materials become repetitive and sometimes*

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*our patients do not receive any training on some new treatments and cares…" (P19).*

The participants noted the designing of a needs assessment practical guide as an effective factor in the provision of appropriate education based on learning style and individual needs with the aim to accelerate the needs assessment process, attract patients' trust and collaboration, coordinating educators, integrating the provided materials, and upgrading educators' skills in providing and designing standard forms.

A nurse educator stated: "…*A framework for needs assessment and educators' coordination is necessary; it would be really good if we could recognize the needs of every age and every level of literacy using needs assessment patterns…*" *(p17).*

A nurse said: "… A *pattern is, of course, necessary for providing standard needs assessment forms as I know no one is familiar with needs assessment forms…*" *(p10).*

Participants reported the lack of needs assessment and needs assessment based on taste and work experience, lack of tools for evaluating the knowledge and practice of experienced nurses, which illustrates the necessity of designing a practical needs assessment pattern.

### Category 2: Managerial challenges of needs assessment

This main category included the two subcategories of managers' insufficient support and supervision and managers' insufficient attention to motivational factors.

#### *Managers' insufficient support and supervision*

The efficiency of educational plans requires managers' support and supervision of the needs assessment process and sufficient time allocation to concentrate the educators on patients' problems and fundamental needs. The participants stated that due to their multiple tasks, they do not have enough time opportunity for individual needs assessment because, in addition to lack of standard forms to accelerate needs assessment, the management also does not determine any specific time for needs assessment and there is no obligation and supervision on the needs assessment process. A nurse said: "…*The management system do not consider needs assessment an obligation and have not determined any specific time for preliminary or periodic needs assessment. As we do not have a standard needs assessment form and we are very busy at work, each person has his/her own way…" (p1).*

The participants reported managers' and educators' high workload and multiple tasks and lack of supervision tools to evaluate educators' performance as reasons for the insufficient supervision of the needs assessment process by managers. The director of a diabetes center stated: "… *We have such a high workload that the educators do not have time to provide the patients with the routine trainings completely, let alone allocating a specific time for individual needs assessment…" (p9).*

The shortage of educator workforce has caused the managers to disregard individual needs assessment and consider the patient's training based on general and group needs and predetermined priorities and implement minimum training. The director of a diabetes clinic said: "…*On average, 200 to 250 people refer to this clinic daily; we have only one nurse and one doctor and it is clear that they do not have enough time for individual and regular needs assessment…" (p9).*

The participants believed that managers can overcome the management challenge through time management, obligation, precise supervision of the individual needs assessment process, and designing of supervision tools to evaluate educators' knowledge and performance, and creating the necessary conditions to recruit a sufficient number of educators.

#### *Managers' insufficient attention to motivational factors*

Motivation is a significant tool for moving forward and reaching an effective and efficient result, creating a positive educational environment, and successfully performing the plans. The participants reported managers' lack of support of and attention to scientific and profession promotion of educators, lack of appropriate feedback (appreciation and reward), lack of job stability and security, high workload, and lack of a wage proportional to the work volume as reasons of the lack of motivation of educators to obtain the knowledge and skill required for implementing needs assessment.

One of the nurses stated: "… *in some cases, the educators are not motivated and do not feel the need to receive specialized needs assessment trainings as, even if the training feedbacks are at the highest level, there will be no support by officials…" (p1).*

Another nurse said: "…*My contract is renewed annually; what would happen if it were not renewed next year?…" (p14).*

The DM specialist said: "…*I have to visit 150 to 200 patients a day with this minimum and fixed salary; it is necessary that the manager understands my motivation and provides the conditions for continuous retraining, but unfortunately this is not the case…" (p7).*

The participants believed managers' sufficient attention to motivational factors to be sufficient motivation for educators to obtain the knowledge and skills necessary for the correct performance of needs assessment and the efficiency of organizational educational plans.

## Discussion

The findings of this study provide a clear understanding of needs assessment challenges from the viewpoint of DSMEs. These challenges are categorized into two main categories)

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educational challenges and management challenges of needs assessment).

In the present study, lack of organizational planning for continuing education and not holding even one educational course to obtain knowledge and gain the skill to use a variety of needs assessment patterns in order to provide training based on learning style and individual needs were stated as the reasons of reduction in educators' implementation of individual need assessment. So, according to the prediction of a 2 or 3-day educational plan for nurses in the national plan of diabetes prevention and control (after 15 years since it has started),[17] educators, who have not passed any DSME courses, lack sufficient knowledge, skills, and experience in the field, are not even familiar with the principles and methods of needs assessment, and do not consider the needs and learning style of the patients, provide repetitive materials. This has resulted in patients' lack of interest in attending training sessions and lack of awareness and confidence of the trainers in needs assessment and training skills.[18-20] This finding is in accordance with the findings of the present study. The results of the present study show that needs assessment of the educators are not performed periodically, while continuous needs assessment of educators must meet the minimum educational and specialized needs of the educators[21] and previous studies have emphasized the necessity of periodic need assessment.[21,22] The participants of the present study preferred to be trained by educational masters who were familiar with diabetes educators' needs and ability and skills in applying various needs assessment methods and training skills and could integrate them with DSME specialized knowledge. Previous studies have reported the high costs of participating in continuing education courses.[21] Other studies, like our research, emphasizes on the lack of easy access to updated and original educational scientific resources[21,23] the provision of necessary conditions to present supplementary English courses,[24] searching appropriate information based on educators' needs,[25] and continuation of educators' studies in postgraduate training courses in diabetes,[26] according to patients' special needs.[27]

Therefore, the solution suggested in the present study is focusing on organization management with the aim of empowerment and development of key competencies of diabetes educators since educational conditions and needs and an individual's psychological barriers are the main components of DSME.[10] The results of the present study show the necessity of designing a pattern or practical guide for needs assessment and designing educational strategies appropriate to various individual needs, styles, and learning situations. This results in the improvement of educators' knowledge and skills in performing a needs assessment, achieving patients' trust and collaboration, and accelerating the needs assessment process, and eliminating needs assessment based on taste. In this regard, studies have emphasized the formulation of instructional strategies[1] and have identified need assessment as an effective factor in attracting patients' trust and collaboration.[28] Therefore, the results of the present study are in line with the results of the studies by Beck *et al*.[1] and Gordon *et al*.[28]

The quality of care and education provided by healthcare centers has its most significant effect on the outcome of patients[29] and evaluation of educators' performance in implementing needs assessment can have positive effects on increasing and strengthening learning, improving education quality, and developing patients' competence. The results of this study show that managers do not have enough control and supervision on educators' performance evaluation due to lack of familiarity with the evaluation process of organizational managers, high workload, and lack of supervision tools; thus, it seems that designing structured supervision tools is necessary to evaluate educators' professional skills in needs assessment, improve self-reflection, and identify educators strengths and weaknesses. In this regard, numerous studies have also found the training of performance assessment skills[30] and the use of supervisory tools effective on the improvement of educators' performance.[21,23,31]

Furthermore, lack of human resources, educators' multiple tasks, and the high number of patients provide limited time to sufficiently attending to the needs and learning style of the patients and using various educational methods;[21] which was in line with the present study results. Therefore, managers with sufficient support and supervision to establish individual needs assessments, provide the necessary conditions for the suitable recruitment of human resources, and promote organizational culture to provide constructive feedback, and sufficient time to complete standard forms of individual need assessment can provide the required conditions to overcome this managerial challenge. In addition, studies have found the provision of appropriate feedback effects on the improvement of learning and performance.[32]

Adaptation of managers' leadership style with educators' level preparation helps to improve the competence of diabetes educators.[33] Nevertheless, the findings of this study show no obligation, supervision, and support on the managers' side in upgrading educators' knowledge and skill. These along with lack of performance evaluation, no effective use of reward and upgrade mechanisms, and no realization of spiritual (intellectual) and financial needs and benefits result in frustration, no job security and satisfaction, and no motivation in achieving skills and using needs assessment patterns on educators' side. These findings of the present study are in line with the results of Galletta *et al*.[33] and Jafari *et al*.[34] Therefore, precise supervision and enough attention to different motivational factors and educators' expectations and desires can increase educators' motivation for implementing needs assessment.

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Among the limitations and strengths of the present study, considering that the aim of qualitative studies is not a generalization, the results of this study, despite its low number of participants, is generalizable to the whole country of Iran due to the variety of education and specialty of educators and variety of DSME locations (public centers, private centers, and universities of medical sciences).

## Conclusion

Structured educational planning, managers' obligation and support in designing practical patterns and supervision tools to evaluate educators' performance in the needs assessment domain, continuous practical workshops, time management for the implementation of individual needs assessment, and necessary decision making to meet the educators' needs and provide their motivational factors can result in the promotion of DSME needs assessment, the efficiency of plans, and the promotion of society's health. Consequently, the findings of this study can help managers and policymakers in planning to resolve issues and revising educational and management infrastructures in the field of DSME needs assessment.

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### Conflicts of interest

Nothing to declare.

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