PRINCIPLES AND METHODS OF RESEARCH ON THE QUALITY OF LIFE IN PATIENTS WITH DIABETES

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Summary

Introduction. In recent years, assessing the quality of life of patients with diabetes, as an indicator of the patient’s overall well-being, which affects not only the course of the primary condition but also the prognosis of the development of complications and associated conditions, has become particularly important.

According to WHO experts, the quality of life is an integral characteristic of a person’s physical, psychological, emotional, and social functioning, based on their subjective perception.

The aim: to conduct analysis and synthesis of scientific publications on the selection of instruments for researching the quality of life of patients with diabetes.

Materials and methods: The analysis and synthesis of scientific publications regarding the utilization of standardized questionnaires to assess the quality of life among patients with type 2 diabetes mellitus were conducted. The appropriateness and practicality of their utilization in the clinical practice of healthcare professionals were analyzed. The following methods were employed: a systematic approach, bibliosemantic analysis, as well as analytical and comparative methods.

Results: Given that virtually any chronic illness can influence the structure of a patient’s psyche and personality, it can be inferred that diabetes leads to similar consequences, which undoubtedly impact their quality of life.

Quality of life is a multifaceted concept that encompasses the influence of disease severity and physical condition on the patient’s physical, social, economic, and emotional well-being. This is why assessing the patient’s quality of life is increasingly crucial in evaluating the effectiveness of diabetes therapy. Moreover, it is essential to assess several parameters, taking into consideration not only the patient’s physical state. We have conducted an analysis spanning almost 40 years to identify effective questionnaires for assessing the quality of life of diabetes patients.

Conclusions: It is evident that assessing the quality of life of patients and identifying factors that impact it are crucial elements in the formulation of intervention strategies aimed at enhancing the quality of life for these individuals.

Key words: diabetes, patients’ quality of life, diabetes complications, endocrinological pathology, diabetic retinopathy, diabetic foot

INTRODUCTION

Diabetes mellitus is a chronic non-infectious disease characterized by its rapid spread and has become a pandemic in the 21st century. The total number of patients with diabetes is rapidly increasing and spreading at an alarming rate, surpassing the predictions of IDF (International Diabetes Federation) experts. Over the last 10 years, the number of diabetes patients has doubled and reached 420 million individuals. According to the latest forecasts by the IDF, it is expected that by 2040, the number of people with diabetes will increase to 642 million. Global trends of rising diabetes prevalence are also observed in Ukraine [1-3].

In recent years, the assessment of the quality of life of patients with diabetes has gained special importance as an indicator of the patient’s overall condition, which
affects not only the course of the main disease but also the prognosis of complications and accompanying pathology.

According to WHO experts, quality of life is an integral characteristic of a person’s physical, psychological, emotional, and social functioning, based on their subjective perception [4,5]. Quality of life is related to health and characterizes the level of well-being and satisfaction with all aspects of life affected by the disease or the process of its treatment from the patient’s perspective. Therefore, in modern medicine, there is a demand for a comprehensive assessment of a patient’s condition, not only from the standpoint of the severity of the pathological process but also considering the impact of the disease on their ability for self-care, daily life, work, social functioning, psychological well-being, and more.

The aim is to analyze and synthesize scientific publications related to the selection of tools for assessing the quality of life in patients with type 2 diabetes mellitus.

MATERIALS AND METHODS

An analysis and synthesis of scientific publications on the experience of using standardized questionnaires to study the quality of life of patients with type 2 diabetes mellitus was conducted. The feasibility and practicality of their use in the practical work of doctors were analysed. The following methods were employed: a systematic approach, bibliosemantic analysis, analytical method, and comparative analysis.

RESULTS AND DISCUSSION

Diabetes mellitus is an endocrine disorder that can occur in patients of any age group. This pathology, especially when the therapy is incorrectly selected and patient adherence to treatment is low, has a significant negative impact on all aspects of patients’ lives without exception. Therefore, diabetes mellitus and its complications have remained one of the most important issues in modern medicine for over three decades, despite the latest treatment methods, medications, and improvements in treatment protocols [5-7]. This problem is relevant for the vast majority of countries worldwide in patients of various age groups [8,9].

This disease is primarily dangerous due to its numerous complications, which can significantly worsen the quality of life of patients, lead to disability, and even death. In the sense of those mentioned above, it can be concluded that there is a need to implement new methods not only for assessing the quality of treatment but also for evaluating the quality of life of patients, which is a direct consequence and an indicator of the effectiveness of the prescribed therapy. One of our top priorities is to maintain a high quality of life for patients with endocrine disorders. In the case of diabetes mellitus, it is essential to prevent the development of vascular pathologies, including diabetic foot and diabetic retinopathy [10-12].

Every year, leading researchers worldwide develop new methods, study, and test new approaches to assessing the quality of life of patients [13-16].

As any chronic disease affects the structure of a patient’s psyche and personality, we can conclude that diabetes mellitus also leads to similar consequences, which inevitably impact the quality of life of patients. This is especially true considering the specific nature of this disease and the high risk of complications affecting various organs and systems.

Quality of life is a multi-component concept that encompasses the influence of the disease’s severity and the patient’s overall physical, social, economic, and emotional well-being. The psychological component is the most susceptible to changes due to the illness and significantly influences all other aspects of a patient’s life. Diabetes mellitus presents a unique psychological profile. On the one hand, this condition typically arises in older individuals who may already have other chronic illnesses, meaning that unlike insulin-dependent diabetes, it may not be the sole health challenge they face but one of several difficulties to overcome. On the other hand, it’s essential to consider that older patients have fewer reserves in both their bodies and minds to cope with the challenges associated with the disease.

Therefore, patients with diabetes mellitus typically perceive their condition as an illness rather than an «alternative way of life», leading to several negative behavioral reactions. Additionally, it’s essential to acknowledge that old age and the natural aging processes of the body do not favourably impact the quality of life, both in psychological and physical aspects. Moreover, the presence of comorbidities plays a significant role in deteriorating the quality of life for individuals with diabetes, as most patients also have concomitant cardiovascular, neurological, and urogenital conditions [17,18].

Based on the above, we can conclude that a patient’s attitude towards their illness is a crucial factor that influences their quality of life, including emotional and psychological aspects. A patient’s negative or indifferent attitude towards diabetes will significantly impact their adherence to treatment because they may lose the ability to adequately assess the seriousness of the situation and cope with the consequences of the disease.

For a long time, the patient may perceive diabetes as an ongoing threat that will follow them throughout their life and cannot be eliminated due to the peculiarities of its pathogenesis, inevitably leading to serious consequences. This perception of the illness will inevitably result in a deterioration of the patient’s condition, leading to higher
levels of anxiety and depression, further diminishing their quality of life. This creates a vicious cycle that becomes increasingly challenging to break free from and manage all aspects of their health, ultimately reducing the effectiveness of therapy due to decreased treatment adherence.

Researchers have developed numerous questionnaires that allow the assessment of various aspects of quality of life in diabetes patients.

The Diabetes Quality of Life Measure (DQoL) was one of the first instruments initially developed for use in the Diabetes Control and Complications Trial (DCCT) research in the 1980s. This questionnaire is designed to assess discomfort related to the intensive treatment regimen in patients with Type 1 diabetes. It is still widely used in evaluating the quality of life in diabetes.

The Audit of Diabetes-Dependent Quality of Life (ADDQoL) is a questionnaire that takes a different approach to assessing the quality of life in diabetes [19]. It consists of a list of questions that cover various life domains impacted by diabetes. These domains include work/career, social life, family relationships, friendship, sexual life, leisure activities, freedom to travel, concerns about the future, motivation to achieve goals, physical activity, the likelihood of potential loss of independence, and satisfaction with food. There are two versions of this questionnaire, one with 18 questions and the other with 19 questions. Additionally, there are separate versions for adolescents (ADDQoL-Teens) and children (ADDQoL-Junior).

Other questionnaires that assess the quality of life in diabetes include The Diabetes-Specific Quality of Life Scale (DSQOLS) and the Diabetes-39 Questionnaire (D-39).

Analogously to ADDQoL, questionnaires have been developed to assess the quality of life in diabetes complications: Retinopathy-Dependent Quality of Life Questionnaire (RetDQoL) – a questionnaire for assessing the quality of life in retinopathy, and Renal Dependent Quality of Life (RDQoL) – designed to assess the quality of life in individuals with end-stage renal disease receiving hemodialysis, peritoneal dialysis, or kidney transplantation.

For assessing the quality of life in lower extremity involvement, the following questionnaires are currently used: Diabetic Foot Ulcer Scale (DFS) and The Neuropathy and Foot Ulcer-specific Quality of Life Instrument. These questionnaires allow the evaluation of specific aspects of emotional and psychological well-being affected by diabetes, concerns related to its specific symptoms, as well as satisfaction with treatment.

The Appraisal of Diabetes Scale (ADS) – designed to determine the patient’s feelings and attitudes towards diabetes [20]. The ATT-39 questionnaire was one of the first tools developed to assess psychological adaptation to diabetes [21]. The Questionnaire on Stress in Patients with Diabetes – Revised (QSD-R) [22]. The Type 2 Diabetes Symptom Checklist [23].

Well-being Enquiry for Diabetics (WED) – a 50-question instrument with 4 scales to assess various aspects of quality of life: symptoms, discomfort, impact on life, and emotional well-being. Well-being Questionnaire (W-BQ-22 and W-BQ-12) – general and emotional well-being questionnaires that differ in the number of questions and allow the assessment of anxiety and depression symptoms and overall well-being.

All of the aforementioned questionnaires have not gained widespread use, and the results of quality of life research in patients with diabetes using these questionnaires are difficult to compare with similar studies. This is why the study of a patient’s quality of life is becoming increasingly important in assessing the effectiveness of diabetes therapy, with a focus on multiple parameters, not just the patient’s physical condition. In most countries, standardized questionnaires that have been validated for their validity, reliability, and sensitivity are used to assess the quality of life in patients with diabetes. The EQ-5D-5L questionnaires are one of the mentioned tools. They were developed in 2009 by the EuroQol organization and are an effective instrument for evaluating patients’ health status and quality of life. These questionnaires are even used to assess the quality of life of patients with diabetes. Several studies have demonstrated that diabetes has a negative impact on the overall health-related quality of life [24, 25].

One study showed a better quality of life among men with diabetes compared to women in terms of treatment satisfaction, missing less work, and having less leisure time affected by their diabetes [26]. In the same study, men also reported fewer symptoms of depression or anxiety. The same research group provided results from their study indicating that diabetes-related quality of life was better in individuals with higher educational status and among those who were employed compared to the unemployed [27]. Researchers also presented data showing that the duration of diabetes was negatively correlated with quality of life. Additionally, it was reported that the quality of life was worse among patients who had already developed diabetic complications compared to those without complications.

The Australian study concluded that the prevalence of depression among individuals with diabetes was higher than in the population without diabetes [28]. It is evident that measuring the quality of life of patients and identifying variables that affect it are important components for developing intervention strategies aimed at improving the quality of life of individuals with diabetes.
CONCLUSIONS

The quality of life of patients with type 2 diabetes mellitus is significantly reduced because a majority of the respondents find their daily activities challenging: many patients have difficulty walking, washing, and dressing; they experience pain, anxiety, and depression.

Upon analyzing the effectiveness and reliability of data obtained by researchers from various countries, we have determined that the most commonly used instruments for assessing the quality of life of patients with diabetes are standardized questionnaires like EQ-5D-5L. These questionnaires include questions about the presence of pain and discomfort, difficulties with walking, problems with washing and dressing, challenges in daily activities, the presence of anxiety or depression, and the level of awareness about their condition. The well-known SF-36 questionnaire and its variations (SF-20, SF-12), as well as EuroQoL (EuroQ5D), are also frequently used. Data on the quality of life from studies using these questionnaires are comparable to data from numerous studies worldwide.

FUTURE RESEARCH PROSPECTS

A promising direction for scientific research is the development of a more in-depth meta-analysis of the use of questionnaires in assessing the quality of life of patients with diabetes to formulate proposals for improving the healthcare system for such patients.

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Резюме

ПРИНЦИПИ ТА МЕТОДИ ДОСЛІДЖЕННЯ ЯКОСТІ ЖИТТЯ ПАЦІЄНТІВ З ЦУКРОВИМ ДІАБЕТОМ
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Вступ. В останні роки особливого значення набуває оцінка якості життя пацієнтів з цукровим діабетом, як показника загального стану пацієнта, що впливае не лише на перебіг основного захворювання, а й на прогноз розвитку ускладнень та супутньої патології.

На думку експертів ВООЗ, якість життя – це інтегральна характеристика фізичного, психологічного, емоційного та соціального функціонування людини, що базується на її суб’єктивному сприйнятті.

Мета: провести аналіз та узагальнення наукових публікацій щодо вибору інструментів для дослідження якості життя хворих на цукровий діабет.

Матеріали та методи. Проведено аналіз та узагальнення наукових публікацій щодо досвіду застосування стандартизованих опитувальників для вивчення якості життя пацієнтів з цукровим діабетом другого типу, проаналізовано доцільність та практичність їх застосування в практичній роботі лікарів. Використано такі методи: системний підхід, бібліосемантичний, аналітичний та порівняльний метод.

Результати: оскільки абсолютно будь-яке хронічне захворювання впливає на структуру психіки та особистості пацієнта, можна зробити висновок, що цукровий діабет викликає подібні наслідки, що не може не відображатися на якості їх життя.

Якість життя є багатокомпонентним визначенням, яке поєднує вплив ступеня тяжкості захворювання та стану організму на фізичний, соціальний, економічний та емоційний добробут пацієнта. Саме тому все більшого значення в оцінці ефективності терапії цукрового діабету набуває вивчення якості життя пацієнта. При цьому дуже важливо оцінювати ряд параметрів, враховуючи не тільки фізичний стан пацієнта. Ми провели майже 40-річний аналіз, щоб підібрати ефективні опитувальники щодо якості життя пацієнтів з діабетом.

Висновки: Очевидно, що вимірювання якості життя пацієнтів та визначення змінних, які впливають на неї, є важливими компонентами для розробки стратегії втручання, спрямованих на покращення якості життя таких пацієнтів.

Ключові слова: цукровий діабет, якість життя пацієнтів, ускладнення цукрового діабету, ендокрінологічна патологія, діабетична ретинопатія, діабетична стопа