RESEARCH OF THE QUALITY OF LIFE OF PATIENTS WITH DIABETIC RETINOPATHY

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Summary

The aim of the research: To determine effective techniques for researching the quality of life of patients with diabetic retinopathy, conduct surveys, and analyze the obtained results. Materials and methods: Bibliosemantic and analytical methods, sociological and statistical methods were employed. A standardized quality of life questionnaire, SF-36, was used. The study population consisted of 30 outpatient patients (22 females and 8 males) who are affiliated with the State Institution of Science «Research and Practical Center of Preventive and Clinical Medicine» State Administrative Department, suffering from diabetes with diabetic retinopathy. Results and Discussion: In medical practice, «health-related quality of life» (HRQL) refers to the comprehensive characterization of a patient’s physical, psychological, social, and emotional well-being, as assessed based on their subjective perception. Key requirements for modern questionnaires include universality, reliability, sensitivity to changes in the health status of each patient, reproducibility, and ease of use. Additionally, these questionnaires should be standardized, meaning they have a consistent set of standard questions and response options for all respondents, and they should allow for quantitative assessment of psychophysical well-being. In Europe, the most commonly used general-type questionnaire is the EuroQol (EQ-5D), while in the United States, the American questionnaire SF-36 and its variations (SF-22, SF-20, SF-12) are widely recognized. During our research, the assessment of health-related quality of life (HRQL) was conducted using the SF-36 questionnaire, which patients filled out by hand. The study population consisted of 30 outpatient patients (22 females and 8 males) suffering from diabetes with diabetic retinopathy of the second and third degree of severity (preproliferative and proliferative). Conclusions: The only element of self-perception of the disease that was found to be prognostically favorable for health-related quality of life (HRQL) is anosognostic attitudes oriented towards continuing an active way of life and a drive for self-realization. The pronounced maladaptive component of self-perception of the disease is associated with a decrease in HRQL both overall and in specific areas. It is not excluded that the tendency to attach excessive significance to the disease creates a favorable ground for the emergence of emotional problems and the development of intra- and interpersonal conflicts, both related and unrelated to the illness.

Key words: diabetes, quality of life, diabetic retinopathy, prevention of non-communicable diseases, SF-36, attitudes towards one’s own illness

INTRODUCTION

The analysis of the literature regarding the issue of the development, epidemiology, risk factors, and prevention of diabetic retinopathy (hereinafter referred to as DR) indicates, firstly, a global prevalence of diabetes and, secondly, the resulting loss of vision primarily due to diabetic retinopathy, especially in highly developed countries [1; 2]. This is caused by the fact that DR is a fairly common complication of diabetes and has a direct correlation with the level of hyperglycemia, as proven in various populations and studies. Additionally, risk factor
assessment models for DR are continuously evolving with the use of modern statistical methods. Finally, the issue of DR prevention using contemporary technologies requires further improvement, even in highly developed countries [3].

The majority of researchers have come to the conclusion that diabetic retinopathy (DR) is a significant microvascular complication of diabetes and the primary cause of vision impairment and blindness. Nearly all patients with type 1 diabetes and over 60% of those with type 2 diabetes develop a significant degree of DR within the first 20 years of the disease [4, 5].

According to the opinions of several researchers (P. Duncan, H. Jorgensen, D. Wade, D. Buck, A. Jacoby, A. Massey, G. Ford, P. Appelros, I. Nydevik, M. Viitanen), widely accepted criteria for evaluating the effectiveness of treatment and recovery after illness, based on traditional indicators such as average lifespan and mortality, no longer satisfy modern medical science. In contrast, assessing the quality of life (QOL) can provide researchers with comprehensive information regarding a patient’s perspective on their own illness [6].

Questionnaires used for studying the quality of life (QOL) in patients with diabetic retinopathy should be accessible and acceptable, taking into account the common disorders often observed in patients [7].

THE AIM OF THE STUDY

To determine effective methods for studying the quality of life in patients with ophthalmological pathology and conduct an analysis of the obtained results.

MATERIALS AND METHODS

Bibiosemantic and analytical methods, sociological and statistical methods were employed. In our research, we conducted an analysis of the suitability of various questionnaires for assessing the quality of life in patients with retinopathies of different origins and used the standardized quality of life questionnaire SF-36. The study population consisted of 30 outpatient patients (22 females and 8 males) who are affiliated with the State Institution of Science «Research and Practical Center of Preventive and Clinical Medicine» State Administrative Department, suffering from diabetes with diabetic retinopathy of the second and third degree of severity.

RESULTS

In medical practice, «health-related quality of life» (HRQL) is understood as a comprehensive characterization of a patient’s physical, psychological, social, and emotional well-being, assessed based on their subjective perception. Because the improvement of quality of life is often the primary or secondary goal of any form of treatment, in the past decade, there has been significant interest from healthcare professionals of various specialties, including ophthalmologists, in researching this indicator.

The main requirements for modern questionnaires, as formulated by R. Kosmidis, include universality, reliability, sensitivity to changes in each patient’s health status, reproducibility, and ease of use. Additionally, questionnaires should be standardized, meaning they have a consistent set of standard questions and response options for all respondents, and should allow for quantitative assessment of psychophysical well-being. In Europe, the most commonly used general-type questionnaire is EuroQol (EQ-5D), while in the United States, the American questionnaire SF-36 and its variations (SF-22, SF-20, SF-12) are widely recognized.

Since there is no universal ophthalmological questionnaire available, most questionnaires designed for patients with eye diseases are used in conjunction with one of the general methods for assessing quality of life.

In the field of ophthalmology, questionnaires such as ADVS, NEI-VFQ, and VF-14 have gained widespread use. Currently, the most prominent ophthalmological questionnaire is the NEI-VFQ (National Eye Institute Visual Function Questionnaire), developed by researchers at the National Eye Institute in the United States in the mid-1990s. NEI-VFQ consists of 51 questions that assess quality of life across 13 different domains. Due to the effort required from patients to answer a large number of questions, shortened versions of the questionnaire, comprising 25 and 39 questions, have been proposed. This questionnaire has accumulated substantial experience in its application for studying patients with age-related macular degeneration, diabetic retinopathy, glaucoma, cataracts, and other eye conditions. Among the most user-friendly ophthalmological questionnaires is VF-14 (Visual Function), which includes 18 questions characterizing 14 aspects of a patient’s daily activities.

In our research, the assessment of health-related quality of life (HRQL) was conducted using the SF-36 questionnaire, which patients filled out by hand. The SF-36 questionnaire consists of 36 questions distributed across 9 scales: physical functioning (PF), role-physical (RP), bodily pain (BP), general health (GH), vitality (VT), social functioning (SF), role-emotional (RE), mental health (MH), and perception of general health (GH-PR). The results are presented as scores on 8 scales and two summary categories. The scores for each scale range from 1 to 100, where 100 represents perfect health [8].

The study included 30 outpatient patients (22 females and 8 males) who were receiving care at the State Institution of Science «Research and Practical
Center of Preventive and Clinical Medicine, State Administrative Department. These patients had diabetes with diabetic retinopathy of the second and third degree of severity (preproliferative and proliferative). None of the tested individuals experienced complete vision loss.

During the analysis of the data obtained using the SF-36 questionnaire, the degree of patients’ well-being in various areas was assessed by comparing the average scores on the HRQOL scales to the maximum possible values. The maximum score for each scale is 100, and the maximum total score for quality of life is 900.

The sample consisted of individuals of middle and mature age (ranging from 41 to 70 years, with an average age of 51.93 ± 7.89 years) with significant duration of diabetes (ranging from 11 to 35 years, with an average duration of 20.23 ± 6.50 years). The onset of diabetes predominantly occurred in childhood and adolescence.

The results of the assessment of quality of life, as presented in the table, indicate a decrease in quality of life across all parameters in the sample. In the best case, the degree of decrease is approximately 20 % (PF), while in the worst case, it reaches up to 63 % (GH).

<table>
<thead>
<tr>
<th>Scale</th>
<th>Mean ± SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical activity</td>
<td>78.83 ± 15.96</td>
</tr>
<tr>
<td>Social activity</td>
<td>75.00 ± 23.44</td>
</tr>
<tr>
<td>The role of physical problems in disability</td>
<td>59.17 ± 39.11</td>
</tr>
<tr>
<td>The role of emotional problems in disability</td>
<td>70.02 ± 38.52</td>
</tr>
<tr>
<td>Painful sensations in case of disability</td>
<td>59.03 ± 22.88</td>
</tr>
<tr>
<td>Mental health</td>
<td>56.13 ± 18.30</td>
</tr>
<tr>
<td>General health</td>
<td>38.27 ± 20.11</td>
</tr>
<tr>
<td>Comparison of well-being</td>
<td>37.33 ± 18.04</td>
</tr>
<tr>
<td>Vitality</td>
<td>55.83 ± 19.52</td>
</tr>
<tr>
<td>Quality of life</td>
<td>529.62 ± 154.0</td>
</tr>
</tbody>
</table>

It’s clear that the nature of the disease, patients’ knowledge about it, their physical condition (the duration of the primary disease correlates with the number and severity of complications), and the current issue of deteriorating vision all play a significant role in the quality of life assessments. Moreover, it’s interesting to note that a substantial portion of patients (40 %) exhibits a harmonious attitude toward the disease, and the internal perception of the disease is often dominated by minimal social maladjustment-related stigmas (ergopathic and anosognostic types of attitudes toward the disease: 17 % and 13 %, respectively). This information provides valuable insights into the patient experience and their coping strategies in the face of diabetic retinopathy and its associated challenges.

Many patients believe that revealing their illness will inevitably create obstacles to their professional growth. They are often uncomfortable with the thought that they will be pitied, perceived only as sick individuals, or that others will start to take care of them. Some patients do not even disclose their diabetes to their friends. This attitude is quite common and likely explains the peak on the scale of such a sensitive attitude toward the disease.

CONCLUSIONS

The assessment of quality of life in patients with ophthalmological pathology allows for the evaluation of the patient’s somatic condition and its dynamics. Information obtained from the assessment of patients’ quality of life, combined with traditional ophthalmological examinations, is considered an important criterion for the effectiveness of therapeutic and preventive measures today. However, comprehensive studies on the quality of life in different pathologies are virtually absent in the literature.

Thus, the only element of perceiving one’s own illness that appears to be prognostically favorable for quality of life is the anosognostic attitudes oriented towards continuing an active way of life and a desire for self-realization. The distinctiveness of the maladaptive component of illness perception is associated with a reduction in the quality of life both overall and in specific areas. It is not excluded that the tendency to attach excessive importance to the disease creates a favorable ground for the emergence of emotional problems and the development of internal and interpersonal conflicts, both related and unrelated to the illness.

At the same time, it remains unclear to what extent anosognostic attitudes towards the disease allow patients to maintain adequate control, adhere to the necessary regimen, and seek timely medical attention. It is important to understand whether the patient’s self-assessment of their condition is distorted during this process. The study of this problem, with the involvement of objective comprehensive data on the patient’s somatic status and their behavior in relation to the disease, is a task for further research. However, even at this stage, it is possible to identify a number of maladaptive elements in the perception of one’s own illness (especially sensitive, hypochondriacal, anxious, and neurasthenic attitudes towards the disease), which can be the target of
psychocorrection aimed at improving the quality of life of patients with diabetes and retinopathy.

**FUNDING AND CONFLICT OF INTERESTS**

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**COMPLIANCE WITH ETHICAL REQUIREMENTS**

The study was conducted in accordance with the Helsinki declaration «Ethical Principles for Medical Research Involving Human Subjects».

**REFERENCES**

Резюме

ВИВЧЕННЯ ЯКОСТІ ЖИТТЯ ПАЦІЄНТІВ З ДІАБЕТИЧНОЮ РЕТИНОПАТІЄЮ
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Державна наукова установа «Науково-практичний центр профілактичної та клінічної медицини» Державного управління справами, м. Київ, Україна

Мета: визначення ефективних методик для дослідження якості життя пацієнтів з діабетичною ретино-патією, проведення опитування та аналіз отриманих результатів.

Матеріали та методи: бібліосемантичний та аналітичний методи, соціологічний та статистичний метод. Застиговано стандартизований опитувальник якості життя SF-36. Досліджуваним контингентом стали 30 амбулаторних пацієнтів (22 жінки та 8 чоловіків) котрі прикріплені до обслуговування до Державної наукової установи «Науково-практичний центр клінічної та профілактичної медицини» державного управління справами, хворих діабетом з діабетичною ретинопатією. Результати та обговорення.

Результати дослідження та обговорення. У медичній практиці під якістю життя («health related quality of life», HRQL; якість життя, пов’язане зі здоров’ям) розуміють сукупну характеристику фізичного, психологічного, соціального та емоційного стану пацієнта, що оцінюється виходячи з його суб’єктивного сприйняття. Основні вимоги до сучасних опитувальників: універсальність, надійність, чутливість до змін стану здоров’я кожного пацієнта, відтворюваність, простота використання. Крім того, опитувальники мають бути стандартизованими, що має на увазі ентрів стандартних питань та відповідей для всіх респондентів та забезпечення можливістю кількісної оцінки показників психофізичного благополуччя. У Європі найпоширенішим опитувальником загального типу є EuroQol (EQ-5D), у США визнання отримав американський опитувальник SF-36 та його модифікації (SF-22, SF-20, SF-12). При проведенні нашого дослідження оцінка ЯЖ проводилась за допомогою опитувальника SF – 36, який пацієнти заповнювали власноруч. Досліджуваним контингентом стали 30 амбулаторних пацієнтів (22 жінки та 8 чоловіків) хворих діабетом з діабетичною ретинопатією другого і третього ступеня вираженості (препроліферативної та проліферативної).

Висновки. Єдиним елементом сприйняття власного захворювання, прогнозно сприятливим щодо ЯЖ, виявилися анозогностичні установки з орієнтацією на продовження активного способу життя та прагненням до самореалізації, а виразність дезадаптивного компонента сприйняття власного захворювання пов’язана зі зниженням ЯЖ як загалом, так і в окремих сферах. Не виключено, що тенденція надавання хворобі надто велике значення створює сприятливий ґрунт для появи емоційних проблем, розвитку внутрішньо- та міжособистісних конфліктів, пов’язаних і непов’язаних із захворюванням.

Ключові слова: цукровий діабет, якість життя, діабетична ретинопатія, профілактика неінфекційних захворювань, SF-36, ставлення до власного захворювання.