

ASSESSING THE QUALITY OF LIFE IN PATIENTS WITH NON-HODGKIN'S LYMPHOMA IS A BURDEN OR AN ADVANTAGE?

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ABSTRACT

Introduction. Non-Hodgkin's lymphoma (NHL) is a malignant cancer of the lymphatic system. Modern treatment of NHL allows patients to extend their lifespan, but at the same time somatic and psychological complications reduce the patients' quality of life.

The objective of the study was to assess the quality of life in patients with NHL.

Material and methods. The study included patients with aggressive and indolent NHL. The quality of life was assessed using the standard assessment tools Eastern Cooperative Oncology Group (ECOG), Global Well-Being (GWB) and European Organization for the Research and Treatment of Cancer (EORTC) QLQ-C30.

Results. The study included 56 NHL patients: 36 women, 20 men, with a mean age of 58.1±1.3 years. The ECOG Scale of Performance Status, the EORTC functional scales, global health status and GWB were according to the primary tumour. Higher values of functional scales were recorded in patients with aggressive NHL (70%). The symptom scales assessment

RÉSUMÉ

L'évaluation de la qualité de vie des patients atteints de lymphome NH est-elle un fardeau ou un avantage ?

Introduction. Les lymphomes non Hodgkiniens (LNH) sont des néoplasies développées à partir des tissus lymphoïdes. Le traitement moderne du LNH permet de prolonger la durée de vie des patients, mais en même temps les complications somatiques et psychologiques présentent un risque de réduire la qualité de vie des patients.

L'objectif de l'étude a été l'évaluation de la qualité de vie des patients atteints de LNH.

Matériel et méthodes. Nous avons conduit une étude observationnelle incluant des patients diagnostiqués avec un LNH agressif et indolent. La qualité de vie a été calculée avec l'aide de l'instrument d'évaluation standard Eastern Cooperative Oncology Group (ECOG), Global Well -Being Group (GWB) et European Organization for the Research and Treatment of Cancer (EORTC) QLQ-C30.

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did not clearly vary in both types of lymphomas (70% aggressive, 63% indolent), and the „better“ global health status predominated in indolent NHL (36.8%). In 64.3% of cases there is severe suffering, with the predominance in women (72.2%).

Conclusions. Patients with indolent NHL had a higher degree of independence. The ECOG scale of NHL patients, regardless of morphological type, does not correspond to the stage of the disease, but to the location of the primary tumour and its size.

Keywords: non-Hodgkin's lymphoma, quality of life, health status.

Abbreviations:

NHL - Non-Hodgkin's lymphoma

ECOG - Eastern Cooperative Oncology Group

GWB - Global Well-Being

EORTC - European Organization for the Research and Treatment of Cancer

INTRODUCTION

Non-Hodgkin's lymphoma (NHL) is one of the most common malignancies¹, with a 5-year survival rate of 70%^{2,3}. The long follow-up period requires special attention to the quality of life of these patients. The response to treatment and the survival of NHL patients are the basic criteria for evaluating the outcome of the treatment applied, but it does not reflect the patient's well-being and functional abilities. These criteria being considered biomedical, they become even more important when they are analyzed and interpreted in terms of patient's quality of life⁴. The patient's quality of life is a descriptive term that characterizes emotional, social, physical well-being and normal functional ability⁵. NHL causes a series of changes in the lifestyle of both patient and his family. Prolonged hospitalizations, the worry of losing independence, the interruption of professional activity determine a series of role changes to which the patient must adapt⁵. The diagnosis of NHL conditions physical and emotional changes due to discomfort, pain, aesthetic changes, etc⁶. The concept of quality of life has become important in establishing health strategies for patients with cancer. Health-related quality of life brings together and focuses mainly on 4 areas: physical health, psychological health, independence and

Résultats. L'étude a inclus 56 patients: femmes-36, hommes-20 atteints de LNH avec un âge moyen de 58,1±1,3 ans. Le statut de performance ECOG, les échelles fonctionnelles, l'état général selon EORTC QLQ-C30 et GWB ont été évalués en fonction du foyer tumoral primaire. Des valeurs plus élevées d'échelles fonctionnelles ont été enregistrées chez les patients atteints de LNH agressif (70%). L'échelle d'évaluation des symptômes n'a pas varié de manière significative dans les deux types de lymphomes (70% agressifs et 63% indolents). Le meilleur état général a prévalu dans les LNH indolents (36,8%). Dans 64,3% des cas, a été constatée une grave souffrance. L'état psychologique des patients a été évalué en fonction du sexe, avec une prédominance de souffrances sévères chez la femme (72,2%).

Conclusions. Les patients atteints de LNH indolentes ont un degré d'indépendance plus élevé. Le status ECOG chez les patients avec LNH, indépendamment du type morphologique, ne correspond pas au stade de la maladie, mais à l'emplacement du foyer tumoral primaire et à sa taille.

Mots-clefs: lymphome non-Hodgkin, qualité de vie, l'état général.

social relationships^{7,8}. The review of the literature reflects the lack of unified general criteria and norms for assessing the quality of life of NHL patients. The tools applied to the study of quality of life are profiles and questionnaires that allow the evaluation of each component of quality of life separately involving a specific assessment of a phenomenon⁸. Eastern Cooperative Oncology Group (ECOG) performance status is used by oncologists to assess patients' degree of independence in cytostatic therapy and to predict the prognosis in malignancies with a high degree of spread⁹. The European Organization for the Research and Treatment of Cancer (EORTC) QLQ-C30 questionnaire is one of the most widely used questionnaires in the last 30 years in researching the quality of life of patients with oncological diseases (2010 evaluation report of the QLG Scientific Committee)¹⁰. A component part of the evaluation of the quality of life of the NHL patient is the estimation of the psychological well-being that was highlighted in the results of the Global Well-Being (GWB) study group. The information obtained from the patient in this questionnaire can add important data to clinical trials and is important in making medical decisions^{11,12}.

THE AIM OF OUR STUDY was to assess the quality of life in patients with NHL.

MATERIAL AND METHODS

The study included 56 patients with the diagnosis of NHL, established according to the International Histological and Cytological Classification of Hematopoietic and Lymphatic Tissue Pathologies proposed by the World Health Organization (WHO) in 2016: 37 patients with aggressive NHL and 19 patients with indolent NHL, who have met the criteria for inclusion in the study. The degree of independence of patients with NHL was assessed using the standard assessment tool in oncology, ECOG, depending on the type of malignant lymphoma, age, the degree of spread of the tumour process, and psychosocial status, based on patient responses to the questionnaires GWB and EORTC QLQ-C30. The Ethic Committee of the State University of Medicine and Pharmacy „Nicolae Testemitanu“, Chisinau, Republic of Moldova, approved the study on 28th of January 2020, session number 32.

RESULTS

Out of 67 patients with NHL in the Hematology Department of The Public Medico-Sanitary Institution Oncological Institute, Chisinau, Republic of Moldova, 56 met the criteria for inclusion in the study. At the initial visit, the average age of the patients was 58.1±1.3 years; the study included 36 women and 20 men. Aggressive NHLs developed more frequently in people aged 50-69 years and predominated in women, and indolent NHLs were more frequently found in older people and with the same

frequency in both sexes. In aggressive NHLs, patients with ECOG Performance Status 1 and 2 predominated (48.6% and 27%, respectively), followed by patients with Performance Status 3 (10.8%) and very rarely with Performance Status 0 and 4 (8.1% and 5.5%, respectively) (Figure 1). In indolent NHLs, patients with Performance Status 0 and 1 predominated (36.8% and 31.5%, respectively), followed by patients with Performance Status 2 and 3 (21% and 10.7%, respectively) and no patients with Performance Status ECOG 4 were assessed. So, in indolent NHLs, as opposed to aggressive NHLs, primary care patients have a higher degree of independence.

In both types of NHL, patients were diagnosed in advanced stages, mainly in stage IV (56.7% in aggressive NHL and 84.2% in indolent NHL). The degree of independence of NHL patients, regardless of morphological type, did not correspond to the stage of the lymphoproliferative process. Performance Status ECOG 3 and 4 was assessed both in patients with advanced stages (III and IV) and in patients with early stages (I and II). The low-degree of independence did not depend on age, but on the location of the primary tumour focus and its size: massive tumour component of the mediastinum with the development of superior vena cava compression syndrome, damage to Th3-Th5 vertebrae with signs of inferior paresis, inguinal tumour conglomerate with stasis of the lower limb or the association of the autoimmune component with the development of severe hemolytic anemia.

According to the EORTC QLQ-C30 questionnaire, higher scores, when assessing functional

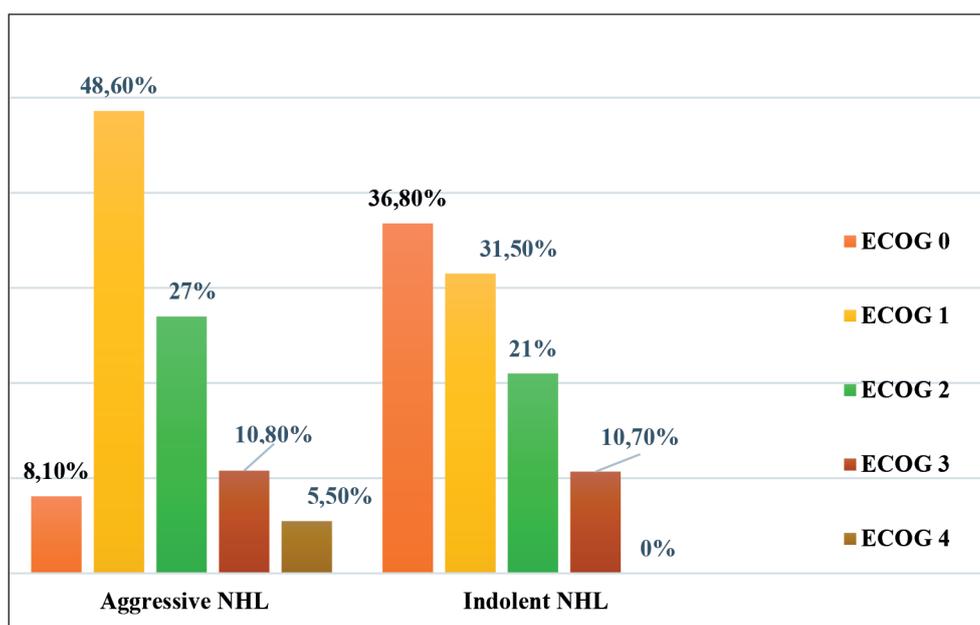


Figure 1. Performance status ECOG by NHL type.

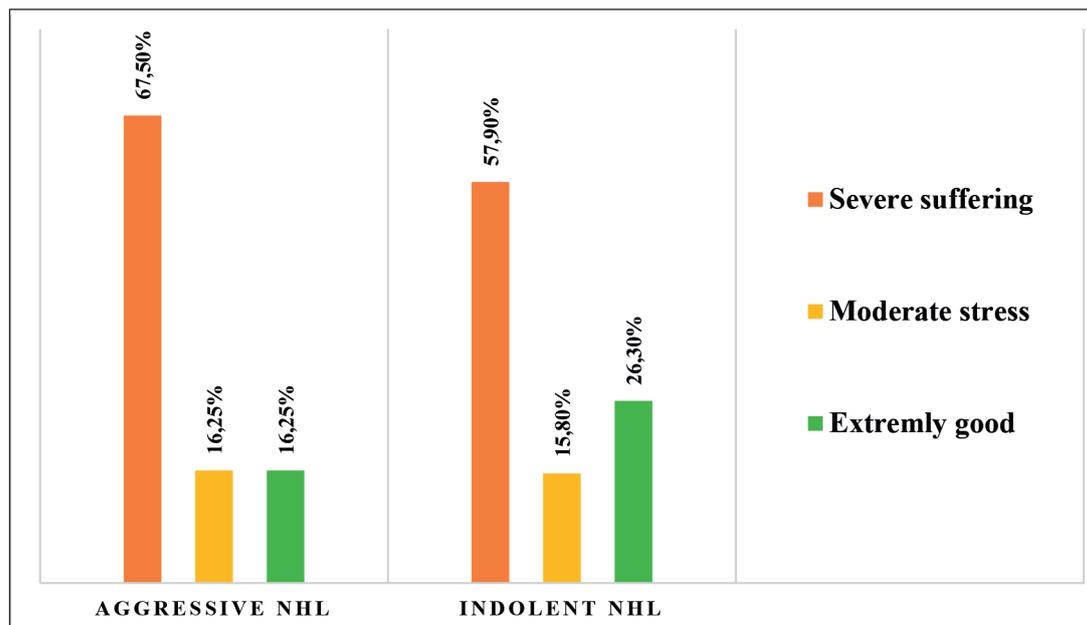


Figure 2. Psychological well-being index by NHL type.

parameters and global health status, indicate a better quality of life, and at the symptom scale higher scores indicate a poorer quality of life for patients. Functional scales in aggressive NHL ranged from 13 to 100 points, with a predominance of higher values predominantly in men (81%). In indolent NHLs they ranged from 3 to 100 points and only in 57% of cases was the score higher than 70. The scale of symptoms in aggressive NHL varied between 10 and 75 points, with a predominance of less than 30 in 70%, and in indolent NHL in 63% of cases. The global health status of patients with an aggressive type of NHL was assessed, with scores ranging from 16 to 83. A score higher than 70 was assessed in only 24% of cases. In indolent NHL in 36.8% of cases, the global health status of the patient was assessed with more than 70 points, the score varying between 25 and 100. A „better“ global health status was assessed in 50% of men with the indolent type of NHL, as opposed to 20% in aggressive NHL. The results of the evaluation according to the EORTC QLQ-C30 questionnaire did not depend on the degree of dissemination of the tumour process. The higher the values of the functional scales, the higher the level of patient satisfaction with the activity and social relationships. The higher the degree of symptoms, the more the vital activity and other aspects of the quality of life of NHL patients are limited. According to GWB, regardless of the NHL type, in 64.3% of cases there is a „severe suffering“ with a predominance in patients with aggressive type of NHL (67.5%), unlike patients with indolent NHL (57.9%) (Figure 2).

Moderate stress was assessed with approximately the same frequency in both types of NHL (aggressive

16.2% and indolent 15.8%, respectively). The „extremely good“ condition predominated in patients with indolent NHL (26.3%), compared to those with aggressive NHL (16.2%). Regardless of the type of NHL, the psychological state of the patients did not depend on age and stage of the disease, because the state of severe suffering, moderate stress and „extremely good“ condition was found in all age groups, in all stages of the disease, but with the predominance of severe suffering in women (72.2%).

Currently, the issue of the quality of life and life guidelines of cancer patients is important. There is a need of formulating adjusted questionnaires for hematological malignancies.

DISCUSSION

The current study investigated the quality of life in patients with NHL. The results revealed that the ECOG Scale of NHL patients corresponds to the location of the primary tumour focus and its size: bones damage, tumour conglomerate of lymph nodes. A significant increase in size of the lesions present at the start of the therapy or stable disease is associated with a deterioration in ECOG performance status of > 1 level related to malignancy¹³.

NHL is a heterogeneous group of malignancies characterized by an abnormal clonal proliferation of T-cells, B-cells or both¹⁴. Most of the adult NHLs are of B-cell origin^{15,16}. The average age of the patients is about 50 years¹⁷.

The quality of life in adult patients with NHL has become an increasingly important issue in

oncology¹⁸. The concept of quality of life has become important in establishing health strategies for patients with oncological diseases, including the diagnosis of NHL¹⁹. Modern treatment applied to NHL patients allows the prolongation of their life, makes it possible to obtain complete remission, but at the same time the difficulties associated with them, somatic and psychological complications, present a risk of reducing the quality of life of these patients^{19,20}. The quality of life as a prognostic factor has not been studied extensively in patients with hematological malignancies, including lymphomas²¹. A review of the literature reflects the lack of unified general criteria and norms for assessing the quality of life in NHL patients. Regardless of the stage of the disease and the histological type of NHL, an impaired performance status is a major obstacle, which contraindicates chemotherapy or limits the application of specific treatment in the required volume, which negatively influences the patient's quality of life^{9,22,23}.

Psychological, behavioural and social factors play critical roles in cancer biology and its treatment and are instrumental in an individual's adjustment to cancer²⁴. NHL patients have high levels of psychological distress during intensive and long-term diagnosis and treatment^{25,26}. One study, which included 417 patients with chronic myeloid leukemia, showed that female patients reported significantly worse statistical results in all dimensions of psychological well-being²⁷. In our study, we demonstrated the same result, that the psychological state of the patients was not according to age and stage of the disease, but according to gender, with the predominance of severe suffering in women.

The EORTC QLQ-C30 score of patients in our study was lower than that of patients with hematologic malignancies from high-income countries²⁸⁻³⁰. Husson et al demonstrated that the QLQ-C30 score appears to have more prognostic value than the global quality of life, physical functioning, or any other scale within the QLQ-C30³⁰. The EORTC QLQ-C30 score has a strong prognostic value for the overall survival of different cancer populations in a „real“ setting of the Dutch register PROFILES³¹.

This is the first national representative study of quality of life in patients with NHL from the Republic of Moldova. These patients have symptoms/problems that deserve attention. Health-related quality of life is an important issue in hematological malignancies³². These results have clear clinical implications for psychological interventions aimed at improving the quality of life of patients with malignant lymphoma. It is necessary to expand the research beyond simply assessing the size of the symptoms.

CONCLUSIONS

Patients with indolent NHL have a higher degree of independence. The ECOG Scale of NHL patients, regardless of morphological type, does not correspond to the stage of the disease, but to the location of the primary tumour focus and its size. Higher values of functional scales were recorded in patients with aggressive NHL. The symptom scales assessment did not clearly vary in both types of lymphomas (aggressive or indolent), and a „better“ global health status predominated in indolent NHL. The psychological state of the patients was not according to age and stage of the disease, but according to gender, with the predominance of severe suffering in women.

Author Contributions:

Conceptualization, S.B. and M.M.; methodology, L.M.-N.; software, V.T.; validation, M.M. and M.R.; formal analysis, S.B.; investigation, S.B. and M.M.; resources, S.B.; data curation, S.B. and M.M.; writing—original draft preparation, S.B.; writing—review and editing, M.M, S.B., M.R., V.T.; visualization, M.R. and L.M.-N.; supervision, M.M.; project administration, M.M. All the authors have read and agreed with the final version of the article.

Compliance with Ethics Requirements:

„The authors declare no conflict of interest regarding this article“

„The authors declare that all the procedures and experiments of this study respect the ethical standards in the Helsinki Declaration of 1975, as revised in 2008(5), as well as the national law. Informed consent was obtained from all the patients included in the study“

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