

Integrative Approaches to Treating Non-Hodgkin's Lymphoma

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Received: 📅 2024 Oct 01

Accepted: 📅 2024 Nov 22

Published: 📅 2025 Jan 28

Abstract

This report seeks to investigate integrated therapy for NHL, one of the most common cancers with multiple therapeutic options. Many patients still resist chemotherapy and radiation. Thus, more comprehensive patient care models are needed. We review the research on NHL's forms, stages, epidemiology, and current treatment approaches. Second, it includes a comprehensive literature assessment of various research approaches. Yoga, meditation, diet changes, and herbal supplements are recommended for their efficacy, safety, and potential to improve patients' quality of life. A 52-year-old woman with lowgrade follicular non-Hodgkin's Lymphoma was studied. This approach integrates biologic therapy and proprietary mixes with lifestyle changes. A holistic approach to therapy may enhance the treatment process and ease symptoms, improving the patient's general well-being. This paper provides a research-backed integrative treatment methodology based on case study data as an extra contribution. This strategy is an auxiliary to traditional therapy adapted to individual patients' requirements to enhance treatment results. This discussion explores issues and methods for incorporating integrative remedies into healthcare. This conversation aims to promote patient education and health professional engagement. These therapies are among the most significant in modern oncological treatment; additional research is needed. This rigorous assessment aims to enhance non-Hodgkin's lymphoma treatment entirely and appropriately.

1. Introduction

NHL has several lymph node-derived hematomas. NHL is difficult to treat since it may present in many ways and has different prognoses. This has raised NHL prevalence and made it a significant cancer research and treatment issue. Traditional medicines, including chemotherapy, radiation therapy, and immunotherapy, have been utilized to treat the illnesses with mixed results [1]. Nevertheless, these therapies are usually accompanied by myriad adverse reactions and limitations supporting the development of individualized treatment plans. A new trend of integrative oncology incorporating orthodox medical treatments and complementarity is emerging as effective for cancer care [2]. The integrative paradigm seeks to improve patient outcomes through more than treating mere cancer; it addresses the patient's entire well-being. The author recommends that scientists discover other treatment options, such as target therapy and radiotherapy, which may be harmless and highly efficient.

This article investigates a case study of a 52-year-old female patient who developed lowgrade follicular non-Hodgkin's Lymphoma in 2020, thus exploring the literature to identify the proposed integrative treatment for her. The diagnosis was established after clinical examination and several tests like PET scan, which revealed multiple involvements and consistent laboratory results. These manifestations comprised enlarged and aching lymph nodes, unrelaxing weakness, and hot flashes at night. The patient received a novel therapeutic strategy involving biological

therapy, proprietary blends, yoga, meditation, breathing exercises, and a specialized diet. In this setting, such an approach is illustrative and can help alleviate symptoms and overall quality of life. There should be an integrative approach combining conventional medical practices with complementary techniques in the optimization of treatment results and improving patient's quality of life in the context of Hodgkin's Non-Lymphoma cancer. This paper proposes an integrated treatment protocol by reviewing the case study and relevant literature. This protocol aims to complement conventional therapeutics to provide an integrated strategy for controlling NHL. The study aims to show how combining Complementary Therapy may help boost NHL patients' treatment results, reduce their side effects, and ultimately improve their health.

1.1. Background Information

The term NHL represents a group of lymphocytic cancers with undefined characteristics of Lymphoma. However, NHL as a term encompasses different sub-types. Blood cancer is a significant proportion of NHL cases, highlighting its importance in medicine [3].

1.1.1. Categories and Stages of NHL

NHL is divided into B-cell and T-cell lymphomas that are either slow-growing (indolent) or fast-spreading (aggressive). In the United States, most NHL occurrences can be classified as B-cell lymphomas, accounting for approximately 85%, where DLBCL and follicular lymphoma are the predominant subtypes. While T-cell lymphomas are not as common, they

tend to be more powerful. The stages of NHL depend on how far and where the cancer has grown in a person's body. These include steps I–IV with location I, meaning that the cancer involves only one lymph node area or organ. Stage IV entails a case where the tumor is spread within other body parts beyond the lymphatic system, like bones and organs [4].

1.1.2. Epidemiology and Risk Factors

Globally, the incidence of NHL has been on the rise. In many countries, it has become one of the most common malignancies. Patients are mostly older than 50 or above 70, as the incidence of NHL is higher in the elderly [5]. Nevertheless, some types of NHL are more prevalent within the younger population. The risk factors involved in developing NHL are occupational and environmental exposures that include chemical agents, certain drugs, autoimmune disorders, chronic infections like syphilis, or immunosuppressed individuals with or without HIV/AIDS and those receiving chemotherapeutic agents (Though less significant than other cancers, genetic factors may increase the risks of NHL for individuals born with specific disorders. The researchers have examined whether environmental risk factors, including cadmium and lead, have a bearing on the increase in the cases of B-cell NHL [5]. It points out the need to appreciate the environment and lifestyle parameters that can cause NLH.

1.1.3. Conventional Treatments for NHL

The section below defines the three conventional NHL treatments, which differ depending on the category, stage, and patient-specific aspects.

1.1.4. Chemotherapy

The standard therapy for NHL is also founded on chemotherapy. Chemotherapy applies certain cytotoxic drugs that kill or suppress cancer cells' growth. There are multiple considerations when choosing a chemotherapy regimen, such as the kind and stage of Lymphoma, the patient's general health, and past treatments. The chemotherapeutics for NHL differ a lot. These include CHOP, which consists of cyclophosphamide, doxorubicin, vincristine, and prednisone. Most of these drugs are also combined for better effects. For example, the CHOP is commonly used to treat most NHLs, especially aggressive ones.

Nevertheless, chemotherapy comes with a lot of obstacles. However, it has several adverse impacts, such as vomiting, nausea, weakened immunity, hairlessness, tiredness, and loss of bone marrow. These may include damage to the cardiac system, lung issues, and developing another illness such as cancer [6]. Constantly checking patients for these signs is crucial throughout and following therapy.

1.1.5. Radiation Therapy

Radiation therapy is another critical aspect of NHL treatment, especially among patients with early-stage or localized disease. A high energy radiation is used in a therapy that kills cancer cells. It can either operate alone or together with chemotherapy treatment. Radiation therapy is specifically useful when dealing with localized NHL,

and it has been applied as a palliative to ease symptoms of advanced disease. New development in radiation therapy has enabled more focused treatment on a tumor, causing a less damaging effect on normal tissues. Using techniques such as intensity-modulated radiation therapy IMRT and image-guided radiation therapy, IGRT has dramatically enhanced the precision of radiation delivery. However, some include skin modifications, fatigue, and temporary depletion of blood cell count [1]. Although new drugs are coming up, radiation therapy remains helpful in therapy for NHL. This study illustrates how radiation treatment benefits both curative and palliative stages of health care.

1.1.6. Immunotherapy

There is little doubt that the introduction of immunotherapy in NHL represents a significant breakthrough compared with the existing therapeutic methods, which may not be effective anymore. The immune system in a person's body is used to hunt down and kill cancerous cells. In contrast to chemotherapy and radiation, which attack all fast-dividing cells in an undifferentiated manner, immunotherapy helps the immune system distinguish and kill the cancer cells alone.

1.1.7. Categories of Immunotherapies for NHL

Monoclonal Antibodies: These consist of artificial molecules that can link themselves to designated receptors in the cancerous cells. Rituximab (a monoclonal antibody that binds with the CD20 antigen expressed on the outer membrane of B – B-lymphocytes) is frequently used to treat NHL. Rituximab, which can be used separately or combined with chemotherapy, is highly effective in treating the different subtypes of B-cell NHL [6]. **Checkpoint Inhibitors:** Drugs like nivolumab or pembrolizumab block proteins that inhibit Tcells against cancer cells. Checkpoint inhibitors enhance the immune reaction towards cancer cells by blocking these proteins. **CAR T-Cell Therapy:** A newer method, termed Chimeric Antigen Receptor (CAR) T-cell therapy, involves modifying a patient's T-cells into carrying specialized receptors that recognize specific antigens. Such receptors can bind with certain cancer cell proteins at the surface. After being reinjected into the patient, these CAR T-cells detect and destroy cancer cells. CAR T-cell therapy be used to treat NHL patients who have already received and are resistant to other traditional treatments [7].

1.1.8. Limitations and Side-Effects Conventional Therapies for NHL

Traditionally, the NHL outcomes had vastly improved, but these traditional treatments were not free of limitations and adverse effects. While chemotherapy is effective in reducing neoplastic cells, its side effects include, among others, nausea, fatigue, and heightened susceptibility to infection as it suppresses bone marrow functions. Although radiation therapy is more focused, it can also lead to skin changes, fatigue, and even more secondary cancers. While these therapies are much less toxic than chemotherapy, they can induce immune-related adverse effects, as emphasized by Dere [8]. In their description of polatuzumab vedotin's immunogenicity. Treatment of NHL is very complex, as a

trade-off between efficiency and quality of life. More focus has been observed on integrative medicine, which combines conventional treatments like drugs and radiotherapy with other complementary therapies. This change aims to increase treatment effectiveness, reduce the intensity of side effects, and improve patient health outcomes.

1.2. Literature Review

1.2.1. Mind-Body Treatments

Practices such as yoga, meditation, and qigong form part of the mind-body therapies now central to the integrative approach to treating NHL. For example, some therapies such as CBT are aimed at connecting the relationship between the mind and body, thus improving mental health and minimizing anxiety from daily stresses, thereby enhancing quality of life. Such mindbody therapies are an added advantage in the context of NHL because, many times, the patients have tremendous physical and psychological stressors that make it difficult for them to overcome the disease through traditional procedures. Yeh and Chung's seminal work assessed the effect of qigong as a Traditional Chinese Mind-Body strategy in reducing fatigue and improving sleep in patients with NHL undergoing chemotherapy. A qigong-based randomized controlled trial found that this intervention substantially decreased fatigue levels and improved sleep quality in those patients [9]. Our case study was especially timely because the patient continued to suffer from prolonged fatigue, which is one of the leading consequences of cancer therapies. Thus, introducing qigong in the treatment program might help ease these symptoms, thus improving the patient's treatment experience and quality of life.

Han et al. systematically evaluated mind-body therapeutics for sleep disruption in cancer patients. Although irrelevant to NHL, this study illustrates the universal effectiveness of mindbody therapeutic approaches in resolving sleep problems that often occur among cancer patients. Night sweats and disturbed sleep are directly related to this case study. As indicated by Han et al., mind-body therapies could help treat these sleep disturbances and thus improve a patient's condition. In particular, Raghunath et al. assessed the effectiveness of yoga and naturopathy for complementary therapy on NHL. Their work demonstrates that the strategies help reduce physical and physical symptoms in NHL patients. This study aligns closely with our case study's approach of incorporating yoga, suggesting that such practices can complement the primary treatment and offer symptomatic relief [10].

1.2.2. Nutritional Changes in NHL

Changes in diet have been gaining much more acknowledgment as a crucial part of the integrative approach to cancer therapies involving NHL. This shows that there is a realization that diet affects how cancer grows in cancer patients' life cycle. A specialized process in nutrition is vital in dealing with side effects of treatment that may lower appetite or overall nutritional status. Arslan and his colleagues investigated the apoptosis of *Nigella sativa*, an herb with medicinal properties that affect human lymphoma cells. It was shown that *Nigella sativa* killed lymphoma cells,

which might complement NHL therapy. In particular, this finding is pertinent to our discussion in that some herbal supplements can be used with other treatments to enhance their effectiveness [11].

Frazzi Tigano studied resveratrol—a component found in grapes and blueberries that induces cell death in lymphoma and leukemia cells. The authors of this research found that resveratrol has triggered several pathways involved in cell death of these cancer cells. This study supports the idea of including a prophylactic diet with chemoprotective elements in the therapy program for sufferers of NHL. Such foods enriched with resveratrol or supplemented may help the patient sustain the biological therapy [12].

A recent study by Song et al., involving a patient with primary gastrointestinal non-Hodgkin's Lymphoma in the background of chronic kidney disease, focused on demonstrating the efficacy of a personalized nutrition interventional approach. Case studies revealed the effectiveness of individualized nutritional strategies for treating refractory NHL and the subsequent positive response after implementing dietary modifications [13]. Our case study focuses on following a specific prescribed diet as recommended by Dr. Ketskes. This emphasizes a personalized diet, something that aligns with this book.

Danielle et al. evaluated associations of body composition change, lifestyle change, and metabolic risk among NHL survivors. They emphasized that metabolic problems could be prevented by controlling weight and other lifestyle aspects, such as feeding patterns. Our study reemphasizes the importance of nutrition management in our case study, where the patient used a diet without refined carbohydrates and animal proteins [14]. The survey by Daniele et al. suggests that these dietary changes could improve NHL patients' general health for their recovery. Furthermore, Lee and colleagues highlighted the need for specific care approaches in managing nutritional aspects in elderly NHL patients with various comorbidities [15]. Our case study highlights a specialized diet that supports this study's primary focus, i.e., tailored treatments.

1.2.3. Herbal Additions in NHL

NHL treatment using plant-based supplements is on the rise; natural components of plants, commonly known as botanicals, form part of the standard treatment regimen for cancer of lymph nodes (non-Hodgkin). Studies have been done on plant-based supplements that can induce cancer cell apoptosis, reduce chemotherapy side effects, and improve general health and wellness. Supportive care can be provided in NHL, where patients have complicated clinical problems and treatment difficulties. Frazzi Tigano studied the mechanisms of cell suicide induced by resveratrol, a compound of grape, against Lymphoma and leukemia. The resveratrol induces apoptosis and autophagy via multiple pathways specific to cancer cells. Resveratrol is an important herbal supplement that is very useful and may help improve the current therapy. Torres-Collado examined whether natural compounds such as celecoxib and histone deacetylase

inhibitors can overcome CD19-CAR CTL therapy resistance in NHL [16]. These results would have great significance for our case study as they provide an understanding of which herbs may be helpful to combine with immunotherapy to address drug tolerances in particular [5]. Although their research was unrelated to this topic, Deubler looked at the link between exposure to heavy metals. The results of this study point to an argument for including organic and less harmful therapeutic therapists within healing procedures. Integration of herbs such as *Nigella sativa* or resveratrol into a treatment schedule for the case study patient may provide additional therapeutic benefits in line with the concept of integrative therapy for cancer. In addition, as medical research advances, the place of herbal supplements within the complex therapeutic approach to NHL is likely to become even more critical, giving hope to sick people for practical curative actions.

1.2.4. Effectiveness and Safety

The study evaluated the immunogenic effects of polatuzumab vedotin, a monoclonal antibody-drug conjugate for treating relapsed/refractory (RR) follicular Lymphoma (FL) and diffuse large B-cell Polatuzumab vedotin was efficient in targeting and killing tumor cells in the study. It also highlighted possible adverse immunogenic reactions, thus compromising safety. It is crucial for the comprehension of potent drugs such as polatuzumab vedotin, which represents a double-edged sword. However, their effectiveness is accompanied by very stringent watchfulness for safety purposes, especially regarding immune-related adverse effects. This becomes more crucial in cases of this nature, especially to people participating in or considering such advanced treatment options as described in our patients.

Langer et al. compared peripheral blood T cells as well as CAR T cell products derived from relapsed and refractory non-Hodgkin's lymphoma patients. The study demonstrated that CAR T cell therapy could be successful in remission where standard treatments failed [7]. On the one hand, approving such medicines was beneficial as people became aware of the complexities and dangers accompanying them. This highlights the need for a personalized approach to the treatment of NHL, which aligns with our case study that emphasizes specific treatments. However, safety concerns also temper the effectiveness of CAR T cell therapy, underscoring the importance of careful monitoring and management of associated side effects.

The authors looked at the changes in body composition, lifestyle factors, and steroid treatment as predictors for metabolic risk after NHL survival. Results from the study showed that specific alterations and lifestyle factors after treatment were significant determinants of the dangers of metabolic NHL survivors [14]. This included long-term effects of using steroids, for instance, is one of the aspects of the treatment of NHL. The insights above are essential for our case study as they bring out post-NHL treatments' health complications and overall life threats. Therefore, understanding these risks is crucial in formulating effective treatment plans for cancer and general health and lifestyle

concerns.

In addition to this specific research, other literary works on NHL treatment continuously emphasize that efficacy must be matched by safety. These could include the adverse long-term consequences of a cure, drug-drug, treatment-treatment interactions, and the effect on a patient's general health status. Therefore, treatment methods such as chemotherapy are effective but may bring about nausea, fatigue, organ damage, and even the development of further tumors. However, even radiotherapy, although specifically designed for a particular target, affects surrounding normal tissues and organs.

The studies conducted by Lugtenburg et al. are essential for understanding how to treat aggressive NHL in populations typically underrepresented in clinical trials, such as elderly or frail patients with significant cardiovascular comorbidities [17]. The authors highlight the difficulties associated with this type of patient management, stressing specific treatment options accounting for therapy efficacy and safety. Older patients may have some illnesses that do not allow aggressive approaches; therefore, creating personalized therapy programs is necessary.

Their work suggests the potential benefits of incorporating less toxic, more tolerable treatments – aspects that are often central to integrative therapy approaches. The study reinforces that a one-size-fits-all approach may not be suitable, especially for frail patients. Their findings advocate for including gentler, possibly complementary therapies that can work alongside conventional treatments, ensuring that all patients, regardless of age or comorbidity, receive adequate and safe care [17].

1.3. Case Study Examination

In 2021, this 52-year-old woman had low-grade follicular NHL diagnosed. She had multiple symptoms like persistent fatigue, enlarged lymph nodes, and night sweats despite having no family history of cancer. She was treated using biological therapy along with proprietary blends, supplemented by yoga, meditation breathing exercises, and a special diet.

1.3.1. Patient's Illness and Intervention Plan

This reflects widespread involvement of the lymphatic system, which is quite common for follicular NHL with multiple affected lymph nodes and other general symptoms, namely, fatigue, weight loss, etc., that characterize the patient's condition. Biological therapy will probably involve monoclonal antibodies targeting the malignant cells, leaving normal cells unharmed, and reducing side effects compared with conventional chemotherapy [8]. Proprietary blends may be employed, although they are unspecified. In addition to that, they presume that natural compounds such as *Nigella sativa* can cause apoptosis in lymphoma cells [11]. The use of herbs during treatment indicates that more people are now incorporating them into their plans to boost their effectiveness while reducing undesirable effects.

1.3.2. Integrative Treatments for our Patient

The case of incorporating mind-body practices like yoga and meditation in the patient's treatment plan deserves mentioning. These are essential for minimizing fatigue and enhancing sleep in NHL patients [9]. Given this, it is necessary as far as the patient's symptoms of fatigue and night sweats are concerned. Such therapies may have done much better in controlling these symptoms and providing her with some improved quality of life through this period.

Moreover, the diet that the patient observed during treatment, which had no refined carbohydrates or animal protein, probably positively impacted treatment results. Metabolic risk factors for NHL survivors, dietary intakes, and body composition. The patient's diet was based on plenty of vegetables without any gluten, which might be inflammatory. However, it would help support general healthy living alongside other treatment options, such as biological therapy.

Breathing exercises and stress management is an essential component of integrative therapy. These practices help to reduce the psychological stress due to cancer diagnosis and its treatment, which might even lead to positive physiological results. Mind-body interventions such as this have been proven beneficial in managing sleep disturbances affecting about nine of ten cancer patients [18]. Unusually, she uses proprietary blends in her treatment. The mention of these blends, though, without indicating precisely what comprises them, insinuates that it is possible to go out and investigate methods alternative to conventional treatment. Such combinations will be effective depending on the Nigella sativa constituent inducing apoptosis in lymphoma cells [11].

1.4. Planned Integrative Therapy Protocol

This part seeks to propose an integrative treatment protocol blending modern treatments with other complimentary modalities for a fifty-two-year-old woman in our case study who got low-grade, follicular non-Hodgkin's Lymphoma; the purpose of this protocol is to target the particular signs, such as swollen lymph nodes, tiredness, hot flushes, general well-being to optimize treatment efficiency about minimal side effect burden and improved quality of life.

Chemotherapy and Immunotherapy: Since the patient was already on biological therapy, administration of another regimen of chemotherapy and immunotherapy that includes medicinal entities such as polatuzumab vedotin should be continued. Therefore, such treatments are fundamental in getting rid of lymphoma cells [8]. In the case of NHL treatment, the use of targeted drugs like rituximab or obinutuzumab should only be considered if the patient has a particular subtype of non-Hodgkin Cognitive-behavioral therapy and incorporating mind-body therapies such as yoga and meditation have proven to relieve fatigue and stress [18]. Such practices may help improve the psychological and emotional state, which is crucial for a cancer-afflicted person. Instead, an emphasized diet that includes fresh foods such as fruits, vegetables, cereals, beans, nuts, poultry,

and fish can be prescribed. It applies general nutritional standards for oncological patients on managing body weight and metabolic risks [14]. Therefore, the gradual introduction of an herbal supplement such as Nigella sativa that has demonstrated its ability to trigger apoptosis in leukemic cells may be considered, but this should carefully be supervised while taking its compatibility with other treatments into account and being specific to each particular patient. Patients are encouraged to take regular moderate exercise adjusted to their individual energy level and general state of health. Light exercises such as walking, light aerobic activity, and supervised physiotherapy effectively preserve muscle mass, boost mood, and improve physical function. People with cancer must take part in counseling sessions as well as support groups if they wish to deal with all of the mental effects that come with being diagnosed with cancer—stress management, such as methods and ways of dealing with emotional pressure due to the disease. Monitoring is therefore needed to measure the efficacy of the integrated approach, after which changes can be made.

The patients should undergo regular clinical examinations, imaging, and blood tests to assess and follow up on the disease process and treatment-related side effects. Engaging the services of a registered dietician, a psychiatrist or psychologist, and complementary therapy experts on a routine basis ensures the comprehensive management of the patient's condition.

1.5. Integrative Methods in Practice

1.5.1. Challenges

There are many barriers against integrative therapies in NHL treatment. Moreover, healthcare providers may not have sufficient information regarding complementary therapies, which may cause reluctance when advising their patients. Further, these gaps in knowledge can cause worry concerning possible inter-actions of conventional treatment with an alternative one that is often complicated as for cases concerning non-Hodgkin's Lymphoma. The problem of evidence. The other major issue is the logistical and economic aspects of incorporating these therapies in routine cancer management. Most of these complimentary treatments are not covered by insurance. Therefore, the patients must pay out of pocket [19]. Moreover, there might be a shortage of skilled professionals or access to sophisticated treatments, particularly in rural settings.

A multi-faceted approach has to be adopted to overcome these challenges. Complementary therapies knowledge training programs can help healthcare professionals to understand how to incorporate them into treatments. Cooperation between oncologists, complementary therapists, and researchers will foster an integrated and evidence-based cancer care management system. More robust research initiatives can bolster the evidence base on which effective and safe complementary therapies may be appropriately inserted into existing best practice management plans for patients suffering from NHL. Financial and accessibility barriers may also be addressed by increasing funds for the said research and advocating insurance coverage for verified

therapeutics.

1.5.2. Patient Education and Participation

Successful utilization of integrative therapies hinges on patient education. It is essential to educate the patients about the possible benefits and risks associated with these interventions and how they may supplement modern medical treatment, such as giving them updates on evidence-based data and helping them make joint decisions. It is, therefore, vital that the benefits of providing a complete list of any treatment being undertaken or contemplated by the patient for safe and well-integrated care [20]. Patients can also be educated and motivated by support groups and patient networks. They can be helpful to places where patients can exchange information on incorporating alternative medicines in therapy practices. When patients are involved in formulating and implementing their treatment, it could translate into improved adherence to the planned intervention and better outcomes. An individualized approach should be applied to all patients to consider their peculiarities, including beliefs, preferences, and lifestyles. These obstacles may be addressed through collaborative work on education, research, and patient-centeredness. Effective integration of these therapies provides a holistic approach to treating NHL while improving patient outcomes and quality of life.

1.6. Inferences for Practice

1.6.1. Application in Medical Situations

Current research on integrative approaches against non-Hodgkin's Lymphoma and their implications in practice in the clinics. For example, the potential incorporation of mind-body therapies in patient care plans can provide solutions for fatigue and enhanced sleep quality [9]. Such adverse events are every day among chemotherapy patients, and they make this integration especially critical. Another study conducted by Arslan et al. about the apoptosis effect of *Nigella sativa* shows that supplements can also support cancer treatments [11]. However, clinical practitioners may include such additives under strict surveillance to complement routine therapies. Complementary therapies must be adapted to the particular needs of an individual patient considering tumor stage, other concurrent therapeutic measures already in place, and general health status. Notably, these therapies should be integral if a holistic care strategy incorporates assessment for effectiveness/ side effects.

1.6.2. Recommendations

This makes healthcare professionals aware of integrative therapies' possible advantages and disadvantages. Such education and training may also help to improve their advisement of patients. Oncologists plus other healthcare providers participating in cancer care should emphasize complementary therapies [21]. The professionals shall open up to their patients about using complementary therapies or considering them as a form of whole care. This approach demands keeping abreast of the recent findings and standards in integrative medicine [2]. In addition, healthcare providers should promote a multidisciplinary approach involving dietitians, physical therapists, and mental health

professionals to ensure that a holistic treatment plan that caters to all aspects of the patient's health and wellness is in place [22-28].

2. Conclusion

NHL promotes an integrative approach incorporating conventional treatment, including chemotherapy, radiotherapy, immunotherapy, and complementary interventions like mind-body therapies, diet manipulation, and natural products. Using the study case of one 52-year-old woman with follicular NHL, grade 1, one could demonstrate how the integrative method is effective during actual practice. The cornerstone treatment for NHL is chemotherapy and radiotherapy, but these therapies have many side effects that may affect patients' quality of life. A new treatment option, known as immunotherapy, holds promise even if it also has its challenges, especially in refractive cases, because of potential side effects and patients' varying responses to the therapy. These traditional therapies are efficient, yet they demonstrate the need for other therapeutic techniques to heal disease and improve the patient's general health. Treatment-related side effects can be controlled with complementary therapies such as mind-body practices, including yoga and meditation, which may also improve treatment efficacy and quality of life. Another important aspect of this integrated treatment strategy involves nutrition and nutritional supplements such as *Nigella sativa* and resveratrol, the effectiveness of which is supported by research on their anticancer ability. Our patient is in line with the general challenges faced in the context of NHL treatment as he experienced weakness, sweating at night, and the emotional burden that comes with NHL. Through the use of complementary therapies in the drug and chemotherapy regime, it is possible to mitigate these symptoms even as they increase the efficiency of the other drug treatment options. It is consistent with the evidence that such integrative therapy improves health outcomes in patients. It appreciates the complexity associated with NHL and the specific needs of individual patients by encouraging tailored treatment methods that extend beyond the physical aspects of cancer into emotional and mental supports.

Treatment of NHL is transforming, and there is the realization that to achieve better results, integrative approaches should be incorporated. This is an example of a more compassionate and holistic model of care in which patient welfare comes first. Consequently, survival with quality of life matters most for patients like those in the case discussed above. Moreover, future studies in this area need to focus on verifying the validity of these complementary therapies and their safety for coadministration with conventional medication. Finally, it should lead to forming a comprehensive model of management where integrating techniques becomes essential rather than auxiliary means for oncology therapy, facilitating their life after cancer with positive and happy outcomes.

References

1. Zimmermann, M., Oehler, C., Mey, U., Ghadjar, P., Zwahlen, D. R. et al (2016). Radiotherapy for Non-Hodgkin's lymphoma: still standard practice and not an outdated

- treatment option. *Radiation Oncology*, 11, 1-10.
2. ILS.org. (2020). Integrative Medicine and Complementary Therapies | *Leukemia and Lymphoma Society*. Wwww.ils.org.
 3. American Cancer Society. (2022). Radiation Therapy for Non-Hodgkin Lymphoma. Wwww.cancer.org.
 4. Mayo Clinic. (2022, October 26). Non-Hodgkin's Lymphoma - Symptoms and Causes. *Mayo Clinic*.
 5. Deubler, E. L., Gapstur, S. M., Diver, W. R., Gaudet, M. M., Hodge, J. M., et al (2020). Erythrocyte levels of cadmium and lead and risk of B-cell non-Hodgkin lymphoma and multiple myeloma. *International journal of cancer*, 147(11), 3110-3118.
 6. American Cancer Society. (2023). Targeted Therapy Drugs for Non-Hodgkin Lymphoma. Wwww.cancer.org.
 7. Langer, T., Lowe, E., Perez, A., Rosenberg, S., Feldman, S. A., et al (2016). Comparative evaluation of peripheral blood T cells and resultant engineered anti-CD19 CAR T cell products from relapsed/refractory non-Hodgkin's lymphoma (NHL) patients. *Cancer Research*, 76(14_Supplement), 2305-2305.
 8. Dere, R. C., Beardsley, R. L., Lu, D., Lu, T., Ku, G. H., et al (2023). Integrated summary of immunogenicity of polatuzumab vedotin in patients with relapsed or refractory B-cell non-Hodgkin's lymphoma. *Frontiers in Immunology*, 14, 1119510.
 9. Yeh, M. L., Chung, Y. C. (2016). A randomized controlled trial of qigong on fatigue and sleep quality for non-Hodgkin's lymphoma patients undergoing chemotherapy. *European Journal of Oncology Nursing*, 23, 81-86.
 10. Raghunath, K., Sumathi, C., Rajappa, S. J., Mohan, M. K., Kumar, U., et al (2019). Efficacy of Yoga and Naturopathy as an Adjuvant in the Management of Non-Hodgkin's Lymphoma. *Int J Health Sci Res*, 9, 172-82.
 11. Arslan, B. A., Isik, F. B., Gur, H., Ozen, F., Catal, T. et al (2017). Apoptotic effect of Nigella sativa on human lymphoma U937 cells. *Pharmacognosy magazine*, 13(Suppl 3), S628.
 12. Frazzi, R., Tigano, M. (2014). The multiple mechanisms of cell death triggered by resveratrol in lymphoma and leukemia. *International journal of molecular sciences*, 15(3), 4977-4993.
 13. Song, Y. H., Kwon, H. N., Hong, J. I., Park, J., Kim, J. Y., et al (2020). A Case Study on the Customized Nutrition Intervention for a Patient with Primary Gastrointestinal Non-Hodgkin Lymphoma Underlying Chronic Kidney Disease. *Clinical nutrition research*, 9(4), 332.
 14. Daniele, A., Guarini, A., Summa, S. D., Dellino, M., Lerario, G., et al (2021). Body composition change, unhealthy lifestyles and steroid treatment as predictor of metabolic risk in non-Hodgkin's lymphoma survivors. *Journal of Personalized Medicine*, 11(3), 215.
 15. Lee, S., Jeon, H., Park, S., Lee, S., Chang, H. J., et al (2021). A potential treatment option for elderly non-Hodgkin lymphoma patients with multiple comorbidities: Two case reports and literature review. *Explore*, 17(3), 265-269.
 16. Torres-Collado, A. X., Jazirehi, A. R. (2018). Overcoming resistance of human non-Hodgkin's lymphoma to CD19-CAR CTL therapy by celecoxib and histone deacetylase inhibitors. *Cancers*, 10(6), 200.
 17. Lugtenburg, P. J., Lyon, A. R., Marks, R., Luminari, S. (2019). Treatment of aggressive non-Hodgkin's lymphoma in frail patients: *cardiac comorbidities and advanced age*.
 18. Han, J., Cheng, H. L., Bi, L. N., Molasiotis, A. (2023). Mind-body therapies for sleep disturbance among patients with cancer: A systematic review and meta-analysis. *Complementary Therapies in Medicine*, 75, 102954.
 19. Lymphoma Research Foundation. (2022). Integrative Oncology. *Lymphoma Research Foundation*.
 20. UK, N. G. A. (2016). Patient information needs. In Non-Hodgkin's Lymphoma: Diagnosis and Management. *National Institute for Health and Care Excellence (NICE)*.
 21. Frenkel, M., Sapire, K. (2017). Complementary and integrative medicine in hematologic malignancies: questions and challenges. *Current oncology reports*, 19, 1-12.
 22. Aring, N. M., Barton, D. L., Brooks, T., Zick, S. M. (2019). Integrative therapies for cancer-related fatigue. *The Cancer Journal*, 25(5), 349-356.
 23. Choi, J. H., Ahn, M. J., Ki, M. R., Oh, H. S., Lee, Y. Y., et al (2001). Clinical prognostic factors and treatment outcome of aggressive non-Hodgkin's lymphoma in elderly patients. *Cancer Research and Treatment*, 33(4), 324-328.
 24. Flowers, C. R., Leonard, J. P., Nastoupil, L. J. (2018). Novel immunotherapy approaches to follicular lymphoma. *Hematology 2014, the American Society of Hematology Education Program Book, 2018(1)*, 194-199.
 25. Sapkota, S., Shaikh, H. (2023). Non-hodgkin lymphoma. In StatPearls [Internet]. *StatPearls Publishing*.
 26. Rausch Osian, S., Leal, A. D., Allmer, C., Maurer, M. J., Nowakowski, G., et al (2015). Widespread use of complementary and alternative medicine among non-Hodgkin lymphoma survivors. *Leukemia lymphoma*, 56(2), 434-439.
 27. Thandra, K. C., Barsouk, A., Saginala, K., Padala, S. A., Barsouk, A., et al (2021). *Epidemiology of non-Hodgkin's lymphoma. Medical Sciences*, 9(1), 5.
 28. Zeng, J. C., Zhang, R. L., Wei, X. J., Lin, G. H. (2022). Acupuncture for improving a case of widespread herpes zoster after non-Hodgkin's lymphoma chemotherapy. *Explore*, 18(5), 608-611.