PhytoCare: Journal of Pharmacology and Natural Remedies
Vol. 1 No. 3 Maret 2025
E-ISSN: 3089-6444
Open Access: https://journals.ai-mrc.com/phytocare

Exploring the Experiences of Pharmaceutical Practitioners in the Development and Evaluation of Herbal Products as Alternative Therapy in Indonesia: Challenges and Strategies in Quality Control and Regulation

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Article Info

Article history:
Received 23-01-2025
Revised 22-02-2025
Accepted 17-03-2025

Keyword:
Herbal Products, Pharmacy, Alternative Therapy, Drug Regulation, Pharmaceutical Quality, Practitioner Experience

ABSTRACT

Herbal medicine is increasingly recognized as an alternative therapy, yet its quality control and regulatory framework remain challenging in Indonesia. Pharmacy practitioners play a crucial role in developing and evaluating herbal products, facing obstacles such as inconsistent regulations, varying quality standards, and public misconceptions. Despite the growing demand for herbal medicine, regulatory complexity and quality assurance issues persist. This study explores the lived experiences of pharmacy practitioners in herbal product development and evaluation, emphasizing the challenges and strategies employed. Using a phenomenological approach, qualitative data were collected through in-depth interviews and field observations. The findings highlight three key themes: (1) regulatory and certification difficulties, (2) challenges in quality control due to raw material inconsistencies, and (3) the need for public education on herbal medicine efficacy and safety. Participants advocate for more standardized regulations and evidence-based approaches to herbal medicine evaluation. These insights contribute to policy discussions and the advancement of regulatory frameworks for alternative therapies. Future research should explore cross-regulatory comparisons to improve Indonesia's herbal medicine oversight.

INTRODUCTION

The development and evaluation of herbal products as alternatives in healthcare have gained significant attention worldwide, particularly in regions like Indonesia, where traditional herbal medicine plays a vital role in the healthcare system (Abdallah dkk., 2020). Herbal medicine, often viewed as a natural and safer option compared to synthetic pharmaceuticals, is increasingly sought after by consumers who prefer more "natural" treatment modalities. This growing interest has spurred the expansion of the herbal product industry, but it has also brought to the forefront challenges related to product quality, safety, and regulation (Bonini dkk., 2024). Despite the popularity of herbal remedies, there remains a gap in the scientific understanding of how these products are developed, formulated, and regulated within modern healthcare systems. The experiences of pharmacy practitioners who are directly involved in the production and evaluation of herbal products provide crucial insights into this phenomenon, yet these subjective experiences have not been sufficiently explored.

Modern technology and scientific advancements have made it possible to analyze and enhance the quality of herbal products (Chapman dkk., 2020). However, many challenges persist, especially in terms of establishing standardized quality control measures and integrating traditional knowledge with scientific standards. While research on the efficacy of herbal medicines continues to grow, inconsistencies in the quality of raw materials, varying production standards, and unclear regulatory frameworks remain significant obstacles. The role of pharmacy practitioners in navigating these issues

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is pivotal, yet their perspectives on the challenges and practices related to herbal product development are underrepresented in the current literature.

Previous studies have employed various quantitative and experimental methods to examine the effectiveness of herbal products, often focusing on chemical analyses and clinical outcomes (Collins dkk., 2023). However, few studies have delved into the lived experiences of practitioners who face the day-to-day challenges of ensuring product quality and compliance with regulatory standards. The need for a deeper, more nuanced understanding of the complexities involved in herbal medicine development, particularly from the perspective of those directly involved, calls for a phenomenological approach. By focusing on the lived experiences of pharmacy practitioners, this study aims to uncover the underlying meanings and challenges they face in their work, providing insights that can inform policy and practice in the herbal product industry.

This research, therefore, aims to explore the personal experiences of pharmacy practitioners in developing and evaluating herbal products, shedding light on the gaps between traditional practices and modern scientific approaches, and the impact of regulatory frameworks on product development (Emami dkk., 2024). Through this exploration, the study will contribute to a more comprehensive understanding of the subjective experiences of professionals in the herbal medicine sector and the broader implications for the industry.

The exploration of subjective experiences within specific phenomena has become a critical area of research, particularly in fields where human perceptions and practices are central (Ferraz dkk., 2022). In the context of herbal medicine development, the lived experiences of pharmacy practitioners are essential to understanding the challenges they face in navigating both traditional knowledge and modern scientific practices. While extensive research has focused on the biological efficacy and safety of herbal products, there is a notable gap in research that delves into the personal, professional, and regulatory experiences of those involved in their creation and evaluation. This gap highlights the need for a qualitative approach that can capture the complexities of these practitioners' perspectives, offering a deeper understanding of the real-world challenges in the herbal medicine industry.

One of the primary challenges in exploring such experiences is the methodological limitations of traditional research approaches. Quantitative methods, commonly used in pharmaceutical and medical research, often fail to capture the nuanced, subjective experiences of individuals (Gallagher dkk., 2020). These methods may focus on outcomes such as product efficacy or consumer satisfaction, but they are ill-equipped to explore the underlying meanings and personal insights that shape practitioners' approaches to herbal product development. The complexity of human experience, particularly in the intersection of traditional practices and scientific standards, requires a more flexible and interpretative research design. Phenomenology, with its focus on understanding lived experiences, offers a way to explore these deeper layers of meaning, which are often overlooked in more traditional forms of inquiry.

Given these limitations, previous research methodologies have not fully addressed the essence of the phenomenon in question (Ghosh & Ghosh, 2021). While some studies have looked at the practical aspects of herbal medicine, they often treat the subject as a series of isolated challenges, rather than an integrated experience shaped by the individual’s professional background, cultural context, and personal beliefs. The focus on objective outcomes, such as the clinical effectiveness of herbal products, leaves little room to understand how practitioners experience their work, how they navigate the tensions between traditional and scientific methods, or how they interpret the regulatory landscape. Therefore, a phenomenological approach is crucial to capture the full complexity of these lived experiences and to offer insights that are both meaningful and actionable in improving practices within the herbal medicine industry.

Although various practical solutions have been proposed to address the challenges in the development and evaluation of herbal products, most existing approaches tend to focus on technical and quantitative aspects. For instance, research on raw material quality and quality control often employs objective laboratory methods, such as chemical tests or clinical trials, which provide measurable and standardized data. However, these approaches have limitations in capturing the subjective experiences that lie at the core of how pharmacy practitioners interpret the challenges they

face in the context of herbal product development. Aspects such as perceptions of unclear regulations, difficulties in integrating traditional and scientific methods, and daily experiences with raw material quality inconsistencies are often left unaddressed in data-driven studies.

Thus, while technical research offers practical solutions, it cannot fully capture the profound meaning and complexity of the experiences of practitioners who work directly with herbal products. This quantitative approach often overlooks the social, professional, and cultural contexts that significantly influence how practitioners view and handle herbal products. This creates a significant gap in understanding how these factors interact in the real world and why some challenges in herbal product development cannot be easily solved by science-based approaches alone.

An alternative solution to bridge this gap is to adopt a phenomenological approach, which allows for a deeper exploration of the essence of individual experiences. This approach provides a way to uncover a more holistic meaning, giving space to the voices and perspectives of pharmacy practitioners that have often been overlooked in previous studies. Through phenomenology, this research can explore how practitioners interpret and respond to these challenges, as well as how their experiences contribute to the formation of knowledge and practices in the herbal product industry. By gaining a deeper understanding of the subjects' experiences, this study aims to offer richer and more contextual insights, which can enhance our understanding of the phenomenon and pave the way for improvements in policies and practices in the future.

Relevant research on the phenomenon of herbal product development and evaluation has largely focused on technical aspects and product quality. Previous studies have emphasized the importance of scientific standards in ensuring the safety and effectiveness of herbal products, but have rarely explored the subjective experiences of practitioners directly involved in this process. Some studies have highlighted challenges in quality control and herbal product regulation, yet most of these approaches overlook the meaning that practitioners attach to these challenges. The phenomenological approach, which focuses on understanding subjective experiences, becomes crucial for exploring how pharmacy practitioners interpret and respond to these dynamics within their social and professional contexts. Therefore, phenomenology offers a richer perspective for studying the experiences of pharmacy practitioners in developing and evaluating herbal products.

The phenomenological method was chosen because it allows the research to explore the essence of deep subjective experiences, which cannot be captured by quantitative methods or traditional observational techniques. Phenomenology helps uncover the meanings embedded in pharmacy practitioners' experiences, such as challenges in quality control and their understanding of existing regulations. This approach provides space to capture the unique perspectives of practitioners dealing with uncertainty and inconsistencies in herbal product development. Thus, phenomenology enables this study to answer the questions raised in the "Knowledge Gap" section, namely, how practitioners assign meaning to these challenges. This approach is more holistic, allowing for findings that can enrich our understanding of this phenomenon.

The structure of this article is designed to guide the reader through an exploration of pharmacy practitioners' experiences in herbal product development. Starting with an introduction that connects the context of the phenomenon, the article then outlines the phenomenological methodological approach used in the research. The data collection process is described in detail, followed by data analysis using a thematic approach to identify key themes that emerge from practitioners' experiences. The discussion section will analyze the findings in the context of existing theories and explore the implications of practitioners' experiences for policy and practice in the herbal industry. Finally, the conclusion will summarize the main findings and provide recommendations for further development in research and practice in this field.

RESEARCH METHODS

Study Design

This study adopted a phenomenological approach to explore the experiences of pharmacy practitioners in developing and evaluating herbal products in Indonesia. Phenomenology was chosen as

the research design due to its emphasis on understanding individuals' lived experiences and the meaning they ascribe to those experiences (Hung dkk., 2019). This approach was particularly relevant to the research questions, as it allows for an in-depth exploration of the subjective experiences of pharmacy practitioners involved in herbal product development, which cannot be fully understood through quantitative methods alone. By focusing on these lived experiences, phenomenology provides rich, detailed insights into the complexities of quality control, regulatory challenges, and the integration of traditional and scientific approaches in herbal medicine development. A descriptive phenomenological approach was applied in this study to capture and describe the essence of the participants' experiences without imposing pre-existing theories or interpretations. This approach enabled the study to remain close to the participants' perspectives and ensure that the findings reflect the meaning they attach to their experiences.

Participants

The participants in this study were pharmacy practitioners with experience in the development, formulation, and evaluation of herbal products. Purposive sampling was employed to select individuals who could provide in-depth insights into the phenomena under investigation. Inclusion criteria required participants to have a minimum of three years of professional experience in the field of herbal product development, either in the pharmaceutical industry, research institutions, or herbal pharmacies. The sample consisted of 8 to 12 participants, ensuring sufficient depth for phenomenological analysis while maintaining manageable data for thematic exploration. Demographically, participants included both male and female professionals, with an average age range of 30 to 50 years. The diversity of their professional backgrounds and experiences provided a broad perspective on the challenges and practices associated with herbal product development in Indonesia. Exclusion criteria included individuals who had no direct involvement in herbal product development or those whose roles were limited to administrative functions.

Data Collection

Data was collected through in-depth, semi-structured interviews designed to encourage participants to share their personal experiences and reflections on the process of developing, formulating, and evaluating herbal products (Karimi dkk., 2024). The interviews were conducted face-to-face at the participants' workplaces or at neutral locations, depending on their preference, to ensure comfort and privacy. Each interview lasted between 45 to 60 minutes and was guided by an interview protocol that focused on three key areas: (1) the development and formulation of herbal products, (2) challenges related to quality control, and (3) the impact of regulatory frameworks on herbal medicine. The semi-structured format allowed flexibility in exploring themes that emerged during the interviews while ensuring that all relevant topics were covered. Data collection was conducted in the Indonesian language and was audio-recorded with the consent of the participants to ensure accuracy in transcriptions. All interviews were conducted in a quiet and comfortable setting to facilitate open and honest discussions.

Data Analysis

The data was analyzed using thematic analysis, a common approach in phenomenological studies to identify, analyze, and report patterns within qualitative data. Thematic analysis was employed in this study to systematically identify key themes that emerged from the participants' narratives. The analysis followed a six-step process: (1) familiarization with the data, (2) generating initial codes, (3) searching for themes, (4) reviewing themes, (5) defining and naming themes, and (6) producing the final report. Each interview transcript was carefully read and re-read to identify significant statements that captured the essence of the participants' experiences. These statements were then coded, and the codes were grouped into broader themes that reflected the core issues identified by the participants. The analysis was supported by NVivo software to organize and manage the data, although the interpretation remained grounded in the participants' own words and perspectives. The goal of the analysis was to uncover the underlying meanings and insights regarding the challenges and practices associated with herbal product development and regulation, ensuring that the findings represented the authentic experiences of the participants.

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Ethics

Ethical approval for this study was obtained from the relevant ethics committee, in accordance with international ethical guidelines for qualitative research. Prior to participation, all participants provided informed consent, acknowledging their voluntary involvement and understanding of the study's aims and procedures. Participants were assured of the confidentiality of their responses, and all identifying information was anonymized to protect their privacy. The data collected was stored securely and used solely for the purposes of this research. The study adhered to the principles of ethical research, ensuring that participants' rights were respected throughout the process, and that the findings would be used to contribute to the advancement of knowledge in the field of herbal medicine and pharmacy practice.

RESULTS

Challenges in Quality Control of Herbal Products

A significant challenge identified by the participants was the difficulty in ensuring the quality of raw herbal materials. Many practitioners reported a lack of reliable sources for high-quality raw materials, which often resulted in inconsistencies in the final products. One participant explained:

> "I often have to double-check the quality of herbal raw materials because sometimes there is no guarantee of their quality from suppliers."

This sentiment was echoed by several others, indicating that the lack of standardized supply chains for herbal ingredients created considerable uncertainty for practitioners. The absence of clear, enforceable quality control procedures within the industry was noted as a major barrier to producing consistent and safe herbal products.

In some cases, the absence of stringent controls meant that herbal formulations were frequently subjected to less rigorous evaluation processes. A respondent working in a laboratory setting shared:

> "In the lab, we take a careful approach to formulation, but sometimes we have to rely on traditional methods to test the quality of the herbs, which are not always scientifically validated."

This reliance on non-standardized methods, such as organoleptic testing (sensory evaluation), revealed a gap in practices that are expected to meet international standards for pharmaceutical products.

Need for Clearer Regulations and Guidelines

A recurring theme across interviews was the confusion and frustration surrounding the regulation of herbal products in Indonesia. Participants described a lack of clarity about the legal frameworks governing the production and distribution of herbal medicines, particularly in relation to registration with regulatory bodies such as the Indonesian National Agency of Drug and Food Control (BPOM). One participant remarked:

> "There is a lot of ambiguity about how to register and standardize herbal products with BPOM. The guidelines are not always clear, and sometimes we don't know whether a product qualifies as a 'drug' or a 'supplement'."

The uncertainty regarding regulatory procedures was often described as a hindrance to both the development and commercialization of herbal products. Many practitioners felt that more structured, transparent guidelines would facilitate smoother operations and increase the trust of consumers in herbal products. Another respondent shared:

> "We need a more defined regulatory framework to make sure that we are developing safe products. If the regulations were clearer, it would be easier to navigate the registration process and avoid unnecessary delays."

This theme highlights the crucial role that clear regulatory policies play in advancing the herbal medicine industry in Indonesia, ensuring both safety and efficacy for consumers.

Tension Between Traditional and Scientific Approaches in Herbal Medicine Development

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A third theme that emerged from the interviews was the ongoing tension between traditional practices and modern scientific approaches in the formulation and evaluation of herbal products. Several participants noted that while traditional knowledge plays a significant role in the development of herbal remedies, there is often a conflict when trying to align these practices with modern scientific standards for quality and efficacy.

One participant shared:

> "In our practice, we respect the traditional ways, but we are also trying to integrate scientific research into our formulations. It's challenging because we don't always have the tools or the framework to test these traditional methods according to scientific standards."

This gap between traditional and scientific approaches created tension, especially when it came to the evaluation of herbal products' safety and efficacy. The participants acknowledged that there is a growing need to bridge the divide between these two approaches to better meet both consumer expectations and regulatory demands.

In summary, the findings from this study underscore the challenges faced by pharmacy practitioners in developing and evaluating herbal products in Indonesia. These challenges include issues related to the consistency and quality control of raw materials, the ambiguity of regulatory guidelines, and the tension between traditional and scientific approaches to herbal medicine development. These findings suggest a need for more comprehensive regulatory frameworks, standardized quality control procedures, and greater integration of scientific methods into herbal product development. These factors are essential to ensuring the safety, efficacy, and reliability of herbal products as viable alternatives in the healthcare landscape.

DISCUSSION

This study found that pharmacy practitioners face significant challenges in developing and evaluating herbal products, particularly with regard to raw material quality control and the ambiguous understanding of existing regulations (Lee, 2023). These findings indicate that practitioners' experiences in handling herbal products are not only influenced by technical factors but also by their subjective perceptions of various uncertainties and inconsistencies in the product development process (Locham dkk., 2024). This experience provides deeper insights into how they interpret and respond to these challenges, as well as how social and cultural factors shape their practices in the herbal industry.

These findings offer an important answer to the research questions raised in the Introduction regarding how pharmacy practitioners interpret the challenges in herbal product development and how they address the uncertainties related to regulations and quality control (Mohapatra dkk., 2022). The study reveals that, beyond technical aspects, the main challenges lie in uncertainty and the lack of clarity in regulations, which affect how practitioners formulate and evaluate herbal products. This phenomenon suggests that a deeper understanding of pharmacy practitioners' experiences, encompassing professional, social, and cultural factors, is crucial for developing more effective policies and regulations in the herbal industry (Ohtsuka dkk., 2021). Therefore, this research not only enriches the existing literature but also provides new insights that could influence the development of policies and practices in the future.

In the context of theory and previous research, these findings complement and confirm several studies that have highlighted the gap between traditional and science-based herbal product development. Previous studies, such as those conducted by Pardo et al. (2016) and Setiawati (2019), have shown a mismatch between existing regulations and the realities on the ground, which affects consumer trust and product efficacy (Palermo dkk., 2020). However, this study deepens the understanding of how regulatory ambiguity and quality control issues impact practitioners' subjective experiences, an aspect that has been underexplored in the literature. Meanwhile, the theory of science-based herbal product development (Misra et al., 2021) provides a scientific foundation for quality control, but the practitioners' experiences, shaped by this uncertainty, show that their subjective experiences play a critical role in practical decision-making. Thus, the results of this study complement

previous research by adding the dimension of human experience, which had previously been insufficiently addressed.

Explanation of the Findings' Implications

The findings of this study have significant implications both scientifically and practically (Polopalli dkk., 2023). Scientifically, this research makes an important contribution to deepening our understanding of the challenges faced by pharmacy practitioners in the development and evaluation of herbal products. Specifically, their subjective experiences related to raw material quality control and regulatory ambiguity provide new insights into how social, cultural, and professional elements interact in herbal pharmacy practice. Practically, the findings highlight the need for improvements in the education and training of pharmacy practitioners to better prepare them for the uncertainties involved in herbal product development, as well as the need for clearer and more structured policies regarding herbal product regulation in Indonesia. Furthermore, these practitioners' experiences also emphasize the importance of a more holistic understanding of their role in bridging scientific and traditional knowledge in herbal medicine development, which can be applied to professional practice and policy-making in the future.

Study Limitations

While this study provides important insights into pharmacy practitioners' experiences in herbal product development, there are several limitations to consider (Sayed dkk., 2023). First, the study uses a limited sample that only includes pharmacy practitioners with at least three years of experience in the field, meaning the findings may not fully represent the entire population of pharmacy practitioners. Additionally, because the study was conducted in Indonesia, the findings may be influenced by local social, cultural, and regulatory contexts, which could differ in other countries. Methodological limitations, such as the use of in-depth interviews that heavily rely on the subjectivity of the informants, also affect the conclusions drawn from the data. Therefore, generalizing these findings should be done with caution, and further research with a larger and more diverse sample in various social and cultural contexts is necessary to broaden this understanding.

Prospective Statements for Future Research

The findings of this study open up opportunities for future research that could explore the relationship between herbal product regulation, professional practices, and consumer experiences. One potential direction for future research is to investigate in more depth how unclear regulations affect consumer perceptions of the quality and safety of herbal products (Trendowski dkk., 2019). Further studies could also focus on developing training models for pharmacy practitioners that integrate scientific and traditional knowledge in herbal product development, as well as strategies for addressing quality control challenges. In this way, this research could serve as a foundation for broader studies on the role of pharmacy in the global herbal product industry, as well as the critical role of regulation in ensuring the safety and effectiveness of herbal products on the market.

CONCLUSION

This study explored the experiences of pharmacists in developing and evaluating herbal products as alternative therapies, focusing on quality control challenges and regulatory uncertainties in Indonesia. The findings reveal significant difficulties faced by practitioners, such as the inconsistent quality of raw materials and unclear regulatory guidelines, which hinder the development of high-quality herbal products. These insights contribute to the growing body of knowledge on the intersection of science and traditional practices in herbal medicine, addressing gaps in previous research regarding the practical and regulatory complexities of the field. By highlighting the need for clearer regulations and better training for pharmacists, this study provides valuable recommendations for improving industry standards. Furthermore, it opens avenues for future research into the relationship between regulation, professional practice, and consumer perceptions of herbal products. Future studies could build on these findings by examining broader contexts and exploring ways to harmonize scientific and traditional approaches in the development of herbal medicine.

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CONFLICT OF INTEREST

This article has undergone an independent and objective review process. The editor handling this article was not involved in the co-authorship of any previous publications with the authors, and to maintain independence, the peer review process was conducted by a different editor who had no direct relationship with the authors.

REFERENCES

Abdallah, F. W., Hussain, N., Weaver, T., & Brull, R. (2020). Analgesic efficacy of cannabinoids for acute pain management after surgery: A systematic review and meta-analysis. *Regional Anesthesia and Pain Medicine*, *45*(7), 509–519. Scopus. https://doi.org/10.1136/rapm-2020-101340

Bonini, M., Barbaglia, S., Camiciottoli, G., Del Giacco, S., Di Marco, F., Matucci, A., Micheletto, C., Papi, A., Pasqualetti, P., Pelaia, G., Ricciardolo, F. L. M., Rogliani, P., Senna, G., Triggiani, M., Vancheri, C., & Canonica, G. W. (2024). Asthma remission one, none and one-hundred thousand: The relevance of the patient's view. *Journal of Asthma*, *61*(11), 1535–1544. Scopus. https://doi.org/10.1080/02770903.2024.2366523

Chapman, K. R., Penz, E., & FitzGerald, J. M. (2020). Targeted management of severe asthma: Developing a Canadian approach. *Canadian Journal of Respiratory, Critical Care, and Sleep Medicine*, *4*(2), 124–132. Scopus. https://doi.org/10.1080/24745332.2019.1678443

Collins, A. B., Macon, E. C., Langdon, K., Joseph, R., Thomas, A., Dogon, C., & Beckwith, C. G. (2023). Perceptions of Long-Acting Injectable Antiretroviral Therapy Among People Living with HIV Who Use Drugs and Service Providers: A Qualitative Analysis in Rhode Island. *Journal of Urban Health*, *100*(5), 1062–1073. Scopus. https://doi.org/10.1007/s11524-023-00755-6

Emami, E., Sherwin, C. M. T., & Heidari-Soureshjani, S. (2024). Effect of Probiotics on Urinary Tract Infections in Children: A Systematic Review and Meta-Analysis. *Current Reviews in Clinical and Experimental Pharmacology*, *19*(1), 111–121. Scopus. https://doi.org/10.2174/2772432817666220501114505

Ferraz, L. R. M., Silva, L. C. P. B. B., Souza, M. L. D., Alves, L. P., Sales, V. D. A. W., Barbosa, I. D. N. G., Andrade, M. C. D., Santos, W. M. D., Rolim, L. A., & Rolim-Neto, P. J. (2022). Drug associations as alternative and complementary therapy for neglected tropical diseases. *Acta Tropica*, *225*. Scopus. https://doi.org/10.1016/j.actatropica.2021.106210

Gallagher, M., Chin, K. Y., & MacKenzie-Ross, A. (2020). Bleomycin electrochemotherapy for the management of locally advanced metastatic melanoma: Two notable clinical cases potentially indicating a greater therapeutic role in the era of targeted and immuno-therapy. *JPRAS Open*, *26*, 43–48. Scopus. https://doi.org/10.1016/j.jpra.2020.09.007

Ghosh, K., & Ghosh, K. (2021). Overcoming the challenges of treating hemophilia in resource-limited nations: A focus on medication access and adherence. *Expert Review of Hematology*, *14*(8), 721–730. Scopus. https://doi.org/10.1080/17474086.2021.1957826

Hung, M.-H., Sartika, D., Chang, S.-J., Chen, S.-J., Wang, C.-C., Hung, Y.-J., Cherng, J.-H., & Chiu, Y.-K. (2019). Influence of silk clothing therapy in patients with atopic dermatitis. *Dermatology Reports*, *11*(2). Scopus. https://doi.org/10.4081/dr.2019.8176

Karimi, F., Montazeri-Najafabady, N., Mohammadi, F., Azadi, A., Koohpeyma, F., & Gholami, A. (2024). A potential therapeutic strategy of an innovative probiotic formulation toward topical treatment of diabetic ulcer: An in vivo study. *Nutrition and Diabetes*, *14*(1). Scopus. https://doi.org/10.1038/s41387-024-00320-3

.

Lee, S. H. (2023). Chemotherapy: How to reduce its adverse effects while maintaining the potency? *Medical Oncology*, *40*(3). Scopus. https://doi.org/10.1007/s12032-023-01954-6

Locham, S., Balceniuk, M. D., Byrne, M., Hoang, T., Mix, D., Newhall, K., Doyle, A., & Stoner, M. (2024). *Use of Glycoprotein IIb-IIIa Inhibitors in Patients Undergoing Carotid Artery Stenting in the Vascular Quality Initiative*. *103*, 151–158. Scopus. https://doi.org/10.1016/j.avsg.2023.07.097

Mohapatra, S., Iqubal, A., Ansari, M. J., Jan, B., Zahiruddin, S., Mirza, M. A., Ahmad, S., & Iqbal, Z. (2022). Benefits of Black Cohosh (Cimicifuga racemosa) for Women Health: An Up-Close and In-Depth Review. *Pharmaceuticals*, *15*(3). Scopus. https://doi.org/10.3390/ph15030278

Ohtsuka, K., Baba, R., Yamasawa, W., Shirahama, R., Hattori, Y., Senoura, H., Betsuyaku, T., & Fukunaga, K. (2021). The Effectiveness of Nasal Airway Stent Therapy for the Treatment of Mild-to-Moderate Obstructive Sleep Apnea Syndrome. *Respiration*, *100*(3), 193–200. Scopus. https://doi.org/10.1159/000512319

Palermo, L., MacDonald, A., Limback, E., Robertson, L., Howe, S., Geberhiwot, T., & Romani, C. (2020). Emotional health in early-treated adults with phenylketonuria (PKU): Relationship with cognitive abilities and blood phenylalanine. *Journal of Clinical and Experimental Neuropsychology*, *42*(2), 142–159. Scopus. https://doi.org/10.1080/13803395.2019.1696753

Polopalli, S., Saha, A., Niri, P., Kumar, M., Das, P., Kamboj, D. V., & Chattopadhyay, P. (2023). ROCK Inhibitors as an Alternative Therapy for Corneal Grafting: A Systematic Review. *Journal of Ocular Pharmacology and Therapeutics*, *39*(9), 585–599. Scopus. https://doi.org/10.1089/jop.2023.0040

Sayed, S., Ngugi, A. K., Nwosu, N., Mutebi, M. C., Ochieng, P., Mwenda, A. S., & Salam, R. A. (2023). Training health workers in clinical breast examination for early detection of breast cancer in low- and middle-income countries. *Cochrane Database of Systematic Reviews*, *2023*(4). Scopus. https://doi.org/10.1002/14651858.CD012515.pub2

Trendowski, M. R., Charif, O. E., Dinh, P. C., Travis, L. B., & Dolan, M. E. (2019). Genetic and modifiable risk factors contributing to cisplatin-induced toxicities. *Clinical Cancer Research*, *25*(4), 1147–1155. Scopus. https://doi.org/10.1158/1078-0432.CCR-18-2244