

Original Research Article

SWOT analysis of herbal medicine in Saudi Arabia: Current practices and prospects

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Abstract

Purpose: To conduct a SWOT analysis to evaluate strengths, weaknesses, opportunities and threats associated with trends and prospects of herbal medicine practice within the Saudi healthcare system.

Methods: The analysis was conducted using a comprehensive review of various secondary data sources. These included an extensive examination of peer-reviewed journals for academic insights and public health data for statistical and epidemiological records. Data were systematically categorized and analyzed using the SWOT framework to identify key internal and external factors influencing herbal medicine in Saudi Arabia.

Results: Key strengths encompass strong cultural acceptance, rich biodiversity and supportive government initiatives. The primary weaknesses identified include the absence of standardization and scientific validation, as well as public misconceptions regarding the efficacy and safety of herbal medicine. Opportunities exist in the growing global demand for natural health treatments, technological advancements and potential educational initiatives. Potential threats include strong competition from conventional medicine, strict regulatory barriers hindering herbal treatment approval and environmental sustainability concerns related to herbal medicine production.

Conclusion: Although herbal medicine in Saudi Arabia holds significant potential, it is crucial to tackle challenges related to regulation, scientific research and public awareness. Strategic efforts in these areas will enhance the integration of herbal medicine into the modern healthcare system, thereby ensuring its safe, effective and sustainable use.

Keywords: Herbal medicine, Saudi Arabia, SWOT analysis, Traditional medicine, Healthcare integration, Regulation issues

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INTRODUCTION

Herbal medicine holds a significant and longstanding position within the cultural and healthcare landscape of Saudi Arabia. Herbal medicine, which is deeply embedded in cultural traditions and religious practices, especially those associated with Prophetic Medicine, is widely accepted and trusted by the Saudi

population. Prophetic Medicine, derived from the teachings of Prophet Muhammad, emphasizes the use of natural remedies and has fostered a strong cultural endorsement of herbal practices [1,2].

The diverse flora of Saudi Arabia provides a rich repository of medicinal plants extensively used in traditional remedies. The country's varied climate

and geography support the growth of numerous plant species with medicinal properties, making Saudi Arabia a unique and valuable resource for herbal medicine. This biodiversity not only contributes to the effectiveness of traditional treatments but also holds significant potential for discoveries in natural medicine [2]. Recent global trends towards holistic and natural treatments further position herbal medicine in Saudi Arabia at a pivotal juncture. There is a growing demand worldwide for alternative and complementary medicine driven by increasing consumer awareness and preference for natural health solutions. This trend presents an opportunity to integrate traditional practices with modern healthcare systems, potentially resulting in more personalized and culturally sensitive healthcare solutions. [3,4].

However, despite these strengths, the practice of herbal medicine in Saudi Arabia faces several challenges. A major concern is the lack of standardization and regulation. The absence of uniform quality control measures and standardized guidelines can result in inconsistent treatment outcomes and potential health risks. This lack of regulation also undermines the credibility and safety of herbal products and hinders their integration into mainstream healthcare [4]. Another critical challenge is the limited scientific validation of herbal remedies. While traditional knowledge and anecdotal evidence support the efficacy of many herbal treatments, there is need for rigorous scientific research to substantiate these claims. Such research is essential not only for validating traditional practices but also for enhancing their acceptance within the broader medical community. Public misconceptions about the efficacy and safety of herbal medicine also pose significant risks. Despite its widespread cultural acceptance, misinformation and lack of awareness about proper usage can result in misuse and adverse health outcomes. This issue underscores the need for educational initiatives to raise awareness about the benefits and limitations of herbal medicine [5,6].

Integration of herbal medicine into the healthcare system also presents significant opportunities. Advances in technology and pharmacology offer new avenues for developing and standardizing herbal products. These advancements improve the quality and safety of herbal medicines, facilitating their acceptance and integration into conventional healthcare. Additionally, government support and funding for research drive innovation and development in the field, positioning Saudi Arabia as a leader in herbal medicine [7,8]. The objective of this SWOT

analysis is to comprehensively evaluate the current status and future potential of herbal medicine in Saudi Arabia. This analysis identifies and examines internal strengths and weaknesses, as well as external opportunities and threats associated with the practice and integration of herbal medicine within Saudi healthcare system. By systematically exploring these factors, the study provides actionable insights and strategic recommendations for policymakers, healthcare providers and stakeholders to enhance the efficacy, safety and acceptance of herbal medicine.

METHODS

Design

This research employs a comprehensive SWOT analysis to systematically evaluate strengths, weaknesses, opportunities and threats associated with herbal medicine practices in Saudi Arabia. The SWOT framework is used to thoroughly assess internal strengths and weaknesses, along with the external opportunities and threats impacting herbal medicine in the region. This approach is grounded in strategic management theory, which posits that understanding these dimensions can significantly enhance planning and improve practices within the field [9].

Data collection

The backbone of data collection process for SWOT analysis was an extensive literature review. The sources included peer-reviewed journals, industry reports, health sector analyses from governmental and non-governmental organizations and articles concerning both regional and international perspectives on herbal medicine. Databases such as PubMed, Scopus, and Google Scholar were searched using keywords like "herbal medicine in Saudi Arabia," "traditional Saudi medical practices," and "SWOT analysis of herbal medicine."

Data from public health records

Public health records provided by the Saudi Ministry of Health and other local health agencies were examined to understand the regulatory environment, the prevalence of herbal medicine usage and recorded benefits or issues arising from such practices. These records offer insight into how herbal medicine is integrated into the national healthcare system and highlight any existing regulatory frameworks that support or hinder its practice [10].

SWOT analysis framework

A comparative analysis was performed to juxtapose the situation of herbal medicine in Saudi Arabia with global trends and practices. This comparison provided a broader context, highlighting unique aspects of Saudi situation and common trends in herbal medicine practice worldwide. The SWOT analysis was systematically applied to each set of categorized data.

This involved identifying internal resources and capabilities that facilitate effective use of herbal medicine in Saudi Arabia (strengths), pinpointing internal deficiencies within herbal medicine practices and policies that could hinder its effectiveness or growth (weaknesses), exploring external chances for expansion and improvement of herbal medicine, such as potential for policy support or international collaboration (opportunities) and assessing external risks, including regulatory challenges and competitive pressures from conventional medicine sectors that could impede the progress of herbal medicine (threats). Each factor was evaluated based on its frequency of appearance in the data and its perceived impact on the field, as articulated in literature and health records.

Theoretical foundation

The theoretical foundation of this study was based on the strategic management principles that suggest organizations including sectors such as herbal medicine, enhance their strategic planning and operational effectiveness through

thorough analysis of their internal and external environments [11].

RESULTS

The main SWOT analysis factors of Herbal Medicine in Saudi Arabia are summarized in Table 1.

Strengths

Cultural acceptance and integration

Herbal medicine is firmly integrated into Saudi culture and is often associated with Prophetic Medicine which contributes to its widespread acceptance among the general population. It receives strong backing from various societal groups, including religious leaders who promote its benefits in alignment with spiritual practices.

Biodiversity of medicinal plants

Saudi Arabia's unique flora provides a rich source of medicinal herbs, many of which are endemic to the region. This biodiversity is not only a resource for health but also a potential economic booster through local and international herbal trade.

Governmental support

Recent initiatives by Saudi government show a growing acknowledgment and support for integrating herbal medicine into the national healthcare system, reflecting a strategic move towards diversification in healthcare provisions.

Table 1: SWOT analysis factors of herbal medicine in Saudi Arabia

Category	Factor	Details
Strengths	Cultural integration	Deep-rooted in traditions and widely accepted by the public.
	Rich biodiversity	Diverse flora supports extensive herbal remedies.
	Government initiatives	Supportive policies and funding for research.
Weaknesses	Standardization issues	Lack of consistent quality control and safety standards.
	Scientific validation	Limited research undermines broader acceptance.
	Public misconceptions	Misinformation leads to misuse and health risks.
Opportunities	Global demand	Increasing international interest in natural health products.
	Educational programs	Potential for academic and public educational initiatives.
	Technological advances	Advances in technology enhancing product development.
Threats	Conventional medicine	Strong competition from more scientifically validated medicine.
	Regulatory challenges	Barriers in laws and international standards.
	Environmental concerns	Sustainability issues due to resource depletion.

Weaknesses

Lack of standardization and regulation

There is a significant gap in the standardization of practices and products, which raises concerns about the quality and safety of herbal treatments. This lack of regulation leads to variations in treatment outcomes and potential health risks.

Limited research and development

The investment in research is relatively low in comparison to global trend, limiting development of herbal medicine evidence-based practices in Saudi Arabia. This restricts ability to scientifically validate traditional remedies and hampers their acceptance in formal healthcare settings.

Public misinformation

Despite widespread cultural acceptance, there is a significant amount of misinformation regarding efficacy and safety of herbal medicine. This may result in misuse and potential health risks.

Opportunities

Global interest in natural remedies

The global shift towards natural and holistic health treatments provides a significant opportunity for Saudi Arabia to position itself as a leader in herbal medicine, both as a knowledge center and as an exporter of high-quality herbal products.

Educational and collaborative prospects

Establishing educational programs and research centers focused on herbal medicine presents an opportunity to foster collaboration between traditional practitioners and biomedical researchers. Such initiatives will enhance credibility and effectiveness of herbal treatments.

Technological advancements

Advancements in biotechnology and pharmacology provide an opportunity to investigate potential of medicinal plants through innovative approaches to drug development.

Threats

Competition from conventional medicine

The widespread presence and progress of conventional medicine continuously threaten adoption of herbal remedies, especially in urban

areas where modern healthcare facilities are prevalent.

Regulatory challenges

Increasing regulatory scrutiny could pose challenges if not aligned with supportive policies that protect and promote the traditional medicine sector.

Sustainability concerns

The biodiversity that herbal medicine depends on is threatened by overharvesting and habitat destruction, leading to significant long-term sustainability challenges.

DISCUSSION

The SWOT analysis of herbal medicine in Saudi Arabia reveals a complex interplay of cultural heritage, modern healthcare demands and regulatory challenges. Herbal medicine has a profound connection to Saudi culture and religion especially Prophetic Medicine, providing a strong foundation for its widespread acceptance and trust among the population. This cultural support enables seamless integration of herbal practices into daily healthcare, mirroring societal and spiritual values of Saudi community. [1]. Saudi Arabia's rich biodiversity further strengthens practice of herbal medicine. The diverse climate and geography of the country support a wide range of medicinal plants, making it a unique resource for traditional remedies. [2,4]. Government initiatives have also been supportive, with increased funding and strategic efforts to incorporate herbal medicine into the national healthcare framework [5].

Despite these strengths, significant weaknesses exist. The lack of standardization and regulation poses major challenges. Without consistent quality control measures and unified standards, there will be variations in treatment outcomes and potential health risks [4]. This lack of herbal medicine regulations in Saudi Arabia undermines the credibility and safety of herbal products, hindering their acceptance in mainstream healthcare. Additionally, limited scientific validation of many herbal remedies hampers their integration into conventional medical practice. While traditional knowledge and anecdotal evidence suggest efficacy, rigorous scientific research is necessary to substantiate the claims and enhance their acceptance within the broader medical community [5].

Public misconceptions about the efficacy and safety of herbal medicine also pose risks.

Despite widespread cultural acceptance, misinformation and lack of awareness about proper usage leads to misuse and adverse health outcomes [6]. Addressing these misconceptions through educational initiatives is crucial for promoting the safe and effective use of herbal treatments.

The global trend towards natural and holistic health treatments presents significant opportunities for Saudi Arabia. The rising global interest in alternative and complementary medicine presents a significant market opportunity for Saudi herbal products [12]. Furthermore, advances in technology and pharmacology support the development and standardization of these products and enhance their quality and safety [10]. Creating dedicated research centers and academic programs focused on herbal medicine can stimulate innovation and strengthen the credibility of traditional treatments [8,13,14]. However, herbal medicine faces strong competition from conventional medicine, which benefits from extensive scientific validation and regulatory support. This competition limits the adoption of herbal remedies, especially in urban areas with advanced healthcare facilities [5]. Environmental sustainability is another concern, as overharvesting of medicinal plants and environmental degradation threaten long-term viability of herbal medicine practices [6,13].

Finally, while herbal medicine in Saudi Arabia has a strong cultural foundation and significant potential for growth, addressing challenges of standardization, scientific validation and public education is essential. Strategic efforts in these areas can enhance the integration of herbal medicine into modern healthcare system, ensuring its sustainability and broader acceptance.

Limitations of this study

This SWOT analysis of herbal medicine in Saudi Arabia has several limitations. It mainly depends on secondary data sources, such as literature reviews and public health records, which might not reflect the most recent practices and trends. Quality and rigor of these sources vary and impact reliability of findings. Lack of primary data collection, such as surveys or interviews, restricts insights into personal experiences and specific challenges faced by stakeholders.

Moreover, the analysis reflects published viewpoints that may not encompass all regional practitioners or diverse patient demographics. Given the evolving nature of regulatory and

healthcare environments, findings might become outdated as new policies and practices are introduced. Environmental and sustainability issues were discussed generally without specific local case studies, limiting detailed understanding. Future research should incorporate primary data collection, longitudinal studies and detailed local examinations to provide a more comprehensive and up-to-date evaluation.

CONCLUSION

This SWOT analysis of herbal medicine practice in Saudi Arabia underscores its profound cultural significance and substantial potential within the healthcare sector. Strengths include strong cultural acceptance, rich biodiversity and supportive government initiatives. However, challenges such as lack of standardization, insufficient scientific validation and public misconceptions need to be addressed. Opportunities abound with the global trend towards natural health treatments and technological advancements. Yet, threats from conventional medicine, regulatory barriers and sustainability concerns persist.

To fully integrate herbal medicine into the modern healthcare system, strategic efforts must focus on enhancing research, improving regulatory frameworks and educating both practitioners and the public. Addressing these areas will ensure the safe and effective use of herbal medicine and position Saudi Arabia as a leader in the field while preserving its valuable traditional practices.

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Ethical approval

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Availability of data and materials

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Conflict of Interest

No conflict of interest associated with this work.

Contribution of Authors

The authors declare that this work was done by the authors named in this article and all liabilities pertaining to claims relating to the content of this article will be borne by them.

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REFERENCES

1. Alqethami A, Aldehbiani AY. Medicinal plants used in Jeddah, Saudi Arabia: Phytochemical screening. *Saudi J Biol Sci* 2021; 28(1): 805-812. doi:10.1016/j.sjbs.2020.11.013.
2. Al-Safadi B. Herbal medicine in Saudi Arabia: Tradition and evolution. *Int J Herb Med* 2020; 8(2): 45-52.
3. Alrowais NA, Alyousefi NA. The prevalence extent of Complementary and Alternative Medicine (CAM) use among Saudis. *Saudi Pharm J* 2017; 25(3): 306-318.
4. Al-Faris NA. The regulatory and ethical aspects of herbal medicine practice in Saudi Arabia. *J Herb Med* 2018; 12: 1-7.
5. Johns T, Eyzaguirre PB, Smith RF. Herbal medicine research and global health: An ethical analysis. *Bull World Health Organ* 2008; 88(8): 594-599.
6. Smith L, Wargo K. The risks and benefits of herbal medicine. *Drug Saf* 2020; 43(2): 95-105.
7. Ministry of Health. Healthcare development strategies in Saudi Arabia. Riyadh: Saudi Ministry of Health; 2021.
8. Al-Dosari A. Medicinal plants in Saudi Arabia: Status, challenges, and prospects for conservation. *Saudi J Biol Sci* 2019; 26(3): 545-558.
9. Hill T, Westbrook R. SWOT Analysis: It's Time for a Product Recall. *Long Range Planning*. 1997; 30: 46-52.
10. Saudi Ministry of Health. Health reports on traditional medicine practices. Riyadh: Ministry of Health. 2020.
11. Höglund L, Holmgren Caicedo M, Mårtensson M, Svärdesten F. Strategic Management in the Public Sector: How Tools Enable and Constrain Strategy Making. *Int Public Manag J* 2018; 21(5): 822–849.
12. Global Wellness Institute. Global wellness trends report: The future of wellness 2021. Global Wellness Institute; 2021. Accessed May 28, 2024.
13. Tang H, Huang W, Ma J, Liu L. SWOT analysis and revelation in traditional Chinese medicine internationalization. *Chin Med* 2018; 13:5.
14. Ajala AO, Kolawole EA, Adefolaju T, Owolabi AO, Ajiboye BO, Adeyonu AG, Akangbe JA, Obaniyi KS, Adebimpe AT, Adeniyi V. Traditional Medicine Practices in Nigeria: A SWOT Analysis. *Int J Mech Eng Technol* 2019; 10(2): 117-126.