

# Perceived Social Influence and CAM Adoption in Men with Prostate Cancer: Implications for Patient-Centered Care

Bonney Osei<sup>1</sup>, Thomas Boansi Gyamerah<sup>2</sup>

<sup>1</sup>Nursing and Midwifery Training College, Asankrangwa

<sup>2</sup>College of Nursing, University of Manitoba

## Abstract

**Background:** The utilization of Complementary and Alternative Medicine (CAM) is steadily gaining relevance worldwide. Patients diagnosed with prostate cancer often turn to CAM for either a cure or symptom relief. Various social factors influence the decision to use CAM, whether as an alternative to or in conjunction with conventional treatment.

**Objective:** The study aimed at exploring the social factors perceived to influence the use of CAM among men with prostate cancer receiving treatment in a Teaching Hospital.

**Methods:** An exploratory descriptive qualitative design was used in conducting this study. Sixteen (16) men with prostate cancer were purposively sampled for the study. A semi-structured interview was used to collect data from the participants. All the interviews were audio recorded, transcribed verbatim and analyzed using thematic content analysis, coding and categorization.

**Results:** Findings show that participants believe herbal treatments have a long-standing history and are natural. Also, people endorse CAM therapies as viable treatment options.

**Conclusions:** The use of CAM is a common practice. The study highlighted that men with prostate cancer perceive herbal treatments as natural and rooted in long-standing traditions, and are widely endorsed as useful treatment options.

**Keywords:** Complementary and Alternative Medicine, Use, Prostate Cancer, Herbal Medicine, Social Factors.

## 1. INTRODUCTION

Complementary and Alternative Medicine (CAM) has become a widely recognized and accepted treatment option worldwide (Mortada, 2024). Currently, interest in the various CAM has gained new impetus, and as such it has been integrated into many patients care centers worldwide (Motaharifard et al., 2025; Nwanko et al., 2019). According to Chow et al. (2023), CAM has been traditionally used to define medical practices, products, or systems that do not conform to the standard beliefs of conventional medicine. These practices or systems include traditional medicine systems (such as African traditional medicine and acupuncture), mind-body interventions (like yoga and meditation), biologically-based treatments (including herbal remedies), hands-on therapies (such as therapeutic massage), and energy-based methods (like Reiki, therapeutic touch) (Jimoh et al., 2025).

The global use of CAM is often linked to socio-economic factors (Fjær et al., 2020), with key motivators

for choosing CAM over conventional healthcare including accessibility, perceived safety, and cost-effectiveness (National Cancer Institute, 2023). Additionally, individuals are move to use CAM due to its holistic nature- addressing physical, emotional and spiritual aspects of health, which aligns with many African cultural beliefs and practices (Pratap & Beda, 2024). The utilization of CAM among individuals diagnosed with cancer is common and has become increasingly prevalent (Abiri et al., 2024; Razali et al., 2020). Recent global estimates suggest that approximately 51% of individuals with cancer utilize at least one form of CAM after their diagnosis (Jazieh et al., 2021).

The motivations for CAM use among patients with cancers are diverse (Johnson et al., 2018). For instance, research shows that patient with prostate cancer often turn to CAM to manage cancer symptoms and side effects of conventional cancer treatments, boost immune system, to improve quality of life, enhance treatment outcomes, and to feel recovered and well managed (Aboufaras et al., 2024; Jazieh et al., 2021). Additionally, many patients perceive CAM as effective, safe, affordable, and easily accessible (National Cancer Institute, 2023; Ernst et al., 2019). Among those undergoing intensive treatments such as chemotherapy, radiotherapy, or surgery, CAM use is frequently associated with active coping strategies. These practices can offer a sense of control, hope, and purpose, contributing to psychological resilience during the treatment process (Kessel et al., 2016).

While the physical and psychological motivations for CAM use have been well documented, less attention has been given to the social context in which these decisions are made. Moreover, the few studies that have examined this social context were conducted outside Ghana. Understanding how men with prostate cancer perceive and respond to social influence regarding CAM use is vital not only for health education but also for enhancing patient-provider communication. This study, therefore, sought to explore how perceived social influence shapes CAM adoption among men with prostate cancer and how this understanding can inform more effective patient-centered care.

## 2. LITERATURE REVIEW

Perceived social norms and support have been linked to higher adoption rates, and are determined by the patients' beliefs about anything others believe about them acting a behavior. A qualitative ethno-nursing study based on Leininger's design, conducted by Wanchai et al. (2016) with 17 Thai women diagnosed with breast cancer from a hospital in Thailand's lower northern region, revealed that the primary motivation for choosing CAM was the endorsement from family, social circles, and various media sources. The study also found that these women held favourable perceptions and beliefs about CAM. Similarly, James et al. (2018) explored the reasons behind CAM use among individuals with specific or general health conditions, concluding that approval from relatives, peers, and mass media played a significant role in influencing CAM adoption. They emphasized the importance of sociocultural alignment in driving CAM use. In the same vein, research by Hamed Abdalla et al. (2020) indicated that most cancer patients were led to CAM based on recommendations from their social networks, particularly friends and family.

Long-standing history influence CAM use. Xiong et al. (2021) found that users of herbal medicine (HM) believed these remedies have existed for a long time and have played an important role in both preventing and treating various illnesses. Similarly, Mothibe et al. (2019) reported that individuals in Africa use CAM based on the belief that traditional healing practices predate modern biomedical treatments and continue to be relevant today. In a scoping review, Mwaka et al. (2020) examined the usage, safety, and risks associated with complementary and traditional medicine among patients with

cancer undergoing treatment in Sub-Saharan Africa. Their findings highlighted factors such as support from close social circles, and trust in traditional and complementary practitioners contributed to the continued use of CAM. The study concluded that traditional and complementary medicine (T&CM) is likely to be used alongside conventional cancer treatments, largely due to cultural integration and patients' trust in T&CM providers. Welz et al. (2018) also observed that a family history of CAM use and strong cultural influences were key motivators for the use of herbal remedies among cancer patients. Similarly, Yimer et al. (2019) found that participants believed in the healing potential of plants, viewing them as natural and safe treatments for various conditions, which reinforced their preference for CAM. Atwell et al. (2018) showed that respondents turned to CAM for both prevention and treatment of diseases based on their belief in its effectiveness and visible benefits. In line with this, Yan et al. (2022) also reported that people chose CAM because they believed it yielded positive health outcomes.

### **3. METHODS**

#### **3.1 Study Design and Setting**

A qualitative exploratory descriptive design was employed to gather data collection (Abdul-Mumin, 2016). This design was selected for the study because it provides an in-depth understanding of the phenomenon by exploring the perceived social influences and CAM adoption in men with prostate cancer. The study was conducted at the Medical Out-Patient of the Cancer Unit of the Teaching Hospital located in Ghana. The hospital was chosen because it serves as a referral center and its Oncology unit runs a clinic where cases of men with prostate cancer can be accessed.

#### **3.2 Population, Sample Size and Sampling Technique**

A purposive sampling technique was used in selecting participants for the study. Out of the population of men diagnosed with prostate cancer encountered at the clinic, at the time of the study, sixteen (16) were recruited for the study because data saturation was reached after interviewing the sixteenth person. The inclusion criteria for participation in the study included men who were thirty years and above, diagnosed with prostate cancer without a significant comorbidity, have resorted to CAM and receiving standard care at the Oncology Medical Outpatient unit of the Teaching Hospital. Whereas the exclusion criteria covered men with prostate cancer and significant comorbidity, weak, have limited time and were unwilling to participate in the study.

#### **3.3 Data Collection Tool and Procedure**

A semi-structured interview guide was used to collect data from face-to-face interviews. The interviews explored the attitudes of men diagnosed with prostate cancer on the use of CAM. The interview guide was designed based on the objective of the research. The interview guide was prepared into two sections: A and B. Section A consisted of the participants' socio-demographic data and Section B contained the core research open-ended questions. A pre-test of the interview guide was done on two men who fall within the inclusion criteria in a hospital in Kumasi. Consent was obtained from the Korle-Bu Teaching Hospital as well as the men who agreed to partake in the study. Face-to-face interview in English was employed at a location, date and time, which were convenient to the participants and the researcher. The interview session began with exchange of pleasantries between the participants and the researchers in order to make participants comfortable. Participants were permitted to read the information sheet which consisted of knowing the general information about the study, the potential risks and discomforts, the possible benefits, confidentiality matters, compensations, voluntary participation and right to leave the research study and also who to contact for further information in

order to clarified misconceptions they might have. Participants were encouraged to respond to the questions as they want but not on coercion. In the course of each interview, the researcher probed and redirected responses. Besides, participants were allowed to take time in answering the questions posed to them. The interviews were recorded using a voice recorder with the permission of the participants. The researcher kept the field records. Each interview lasted between 20 to 30 minutes. The researcher analyzed the data alongside as the data were being gathered. The interviews that were recorded were transcribed verbatim. The researcher employed thematic content analysis to analyze the data. Through thematic content analysis, the researcher made multiple copies of interview transcripts. All descriptions which were pertinent to the topic under investigation were marked with a highlighter pen. Each distinct unit of meaning was marked. Units which were similar were put together in a mass, and were coded. Each mass was labeled into categories with keywords and phrases. The transcribed interview data and identified words, phrases, expressions, ideas or statements, and sentences that denoted the phenomenon under investigation were noted. The researcher used the information to generate codes, and the codes were therefore put into sub-themes and then gather the sub-themes and put them into themes (Prime, 2024).

### 3.4 Methodological Rigor

Rigor was maintained based on the structure suggested by Ahmed (2024) namely, credibility, dependability, transferability, and confirmability. To achieve credibility in this study, the researcher employed purposive sampling to select the needed participants who were within the inclusive criteria. Dependability was ensured in this study by the full description of the sample, location, methods and analysis. Transferability was realized by the full description of the context of this study. To attain confirmability, the researcher collected a detailed thoughts of the men diagnosed with prostate cancer regarding CAM use. Data was gathered till saturation was reached and the data was analyzed based on what was exactly offered by the participants.

### 3.5 Ethical Considerations

The research was approved by the Institutional Review Board (IRB) of the Teaching Hospital. Consent forms were presented to the men who agreed to be part of the study. They were asked to sign after they had met the inclusion criteria. Confidentiality and anonymity of the actual source(s) of facts to be obtained for the study were ensured by using coded names and pseudonyms in place of the real names of the individuals who took part in the study. Privacy was ensured by interviewing the individual participants in the Unit head's office. Considering the study setting, the researcher ensured that the appropriate measures such as washing of hands, using of face mask and ensuring no shaking of hands were strictly adhered to.

## 4. FINDINGS

Thematic content analysis was used in analyzing the data, and one main theme, along with two sub-themes, emerged in relation to perceived social influences and the adoption of CAM in men with prostate cancer. The main theme reflected the subjective norms of participants, while the two sub-themes comprised belief in herbal treatments and perceived social approval of CAM use.

### 4.1 Subjective Norms of Men diagnosed with Prostate Cancer

This theme focused on the beliefs participants held about what others considered important. These perceived social influences played a significant role in shaping the decisions of men with prostate cancer

to adopt and utilize CAM. Two sub-themes emerged: belief in CAM treatments and perceived social approval of CAM use.

#### 4.1.1 Belief in Herbal Treatment

The study findings revealed that the participants had confidence in the therapeutic effects of plants (herbs) and in the existence of herbal treatments.

To begin with, some of the participants indicated that herbs or plants possessed medicinal properties and were used to manage their condition (prostate cancer).

“Yes, I have heard so much about CAM and I used it. ‘eerr’ what we know is when a person sustains a fracture of the leg herbs are used in healing the person.” PN

Again, most of the participants expressed the belief that CAM has a long-standing history and cited various therapies used in managing prostate cancer in men.

“Where I come from, I think traditional medicine is ‘eerr’ always around. So, when something happens, ‘eerr’ the herbal medicine is mostly use for treatments.” PL

“The particular traditional or herbal medicines I am using is called ‘STC’ ‘ehee’; I have forgotten the name. I took it 2 times for about one month.” PK

Additionally, the participants held certain beliefs regarding the nature and efficacy of CAM therapies.

“Most people normally trust herbal medicine and they think is natural and our people saw a positive results after using it during the olden days.” PD

“Oh, ‘eerr’ mostly men with prostate cancer use herbal treatments and I believe it works and someone told me CAM has been use in the Oti region for a long time.” PL

#### 4.1.2 Approval of CAM Use

The findings of study showed that the men diagnosed with prostate cancer also had endorsement from people in their lives to use CAM.

“Someone recommended CAM therapies to me; he had use it before and saw the results. For the herbal centers, people recommended them to me even though those centers are being advertised in the various media.” PF

“Hmm a friend advised me to trial traditional medicine which does not come with extra expenses in obtaining.” PK

## 5. DISCUSSION

### 5.1 Main Finding

The aim of the study was to explore the perceived social influences and the adoption of CAM among men with prostate cancer. The findings identified key social factors perceived to shape their decisions to use CAM. These results are supported by existing literature, which also highlights a wide range of social influences affecting CAM adoption in this population.

In this study, the participants expressed confidence in the medicinal properties of plants and herbs, acknowledging the existence and continued use of herbal medicines. Some of the men with prostate cancer believed that such remedies are accessible within their communities. They regarded these therapies as traditional practices passed down from their ancestors and emphasized their ongoing relevance in the management of various illness including cancer. These findings are consistent with those of several studies that highlight the healing properties of plants and herbs, as well as the longstanding use of herbal remedies in traditional medicine since time immemorial (Xiong et al., 2021; Mothibe et al., 2019; Shylaja & Peter, 2004). The consistency between this study and previous research



reinforces the perceived effectiveness and sustained use of herbal treatments. This suggests that men with prostate cancer may turn to familiar and trusted herbal remedies as part of their coping and treatment strategies.

The study also revealed that participants believed in the natural origin of CAM therapies, particularly emphasizing that herbal medicines are derived from nature. This finding aligns with previous study indicating that medicinal plants offer effective natural remedies for a wide range of diseases including cancer (Yimer et al., 2019). The perception that these treatments are based on traditionally used natural substances suggests they may be viewed as having fewer adverse effects compared to standard medicines. This belief may explain why men diagnosed with prostate cancer are inclined to trust and utilize herbal medicines as part of their treatment approach. Additionally, the respondents in this study expressed a belief in the efficacy of CAM treatments, stating that such therapies work quickly to enhance their well-being. This finding is consistent with several previous studies that reported a preference for CAM as a preventive, therapeutic, and recovery approach, largely due to its perceived effectiveness (Atwell et al., 2018; Yan et al., 2022). Similarly, Ernst et al. (2019) found that individuals are drawn to CAM because they believe it produces desired effects. This suggests that men diagnosed with prostate cancer may place trust in herbal treatments, possibly due to prior personal experiences with these therapies or recommendations from trusted individuals in their social lives.

Furthermore, participants in the present study reported receiving approval and encouragement from others to use CAM. The men with prostate cancer expressed that friends and family members recommended CAM to them. This finding aligns with previous research indicating that strong cultural and social influences, as well as a familial history of CAM use, are significant factors motivating the use of herbal medicine (Welz et al., 2018). Similarly, Hamed Abdalla et al. (2020) found that suggestions from family and friends played a central role in guiding patients toward CAM use. These findings suggest that social and familial ties play a central role in influencing CAM utilization. It may therefore be concluded that men with prostate cancer were likely encouraged or endorsed by significant people in their lives to use CAM therapies.

## 5.2 Implications for Patient- Centered Care

The results of this study highlight the need to incorporate patients' cultural beliefs, experiences, and social influences into oncological care. Men with prostate cancer expressed a strong belief in the medicinal properties of herbal remedies, perceiving them as accessible, natural, and grounded in longstanding traditional practices. Their inclination toward CAM, especially herbal therapies, reflects a broader perceptions of efficacy, minimal side effects, and resonance with community norms. These perceptions were often shaped by prior personal use and encouragement from family and social circles, emphasizing the influence of social expectations on treatment choices. In the context of patient-centered oncology, acknowledging and valuing these perspectives can improve patient-provider communication, build trust, and support shared decision-making. It is essential for oncology professionals to adopt culturally sensitive approaches and engage in open conversations about CAM to develop care plans that are both safe and holistic. Considering patients' cultural and social frameworks may enhance treatment adherence, satisfaction, and overall health outcomes.

## 5.3 Study Limitation

The small sample size of 16 men diagnosed with prostate cancer could not be counted a good representation of getting all the thoughts about CAM utilization in Ghana. The study was done in a single hospital in Ghana, and thus generalization of the findings to other divisions will be difficult.

## 6. Conclusion

The study highlights the strong belief among men with prostate cancer in the efficacy and cultural relevance of CAM therapies. Participants viewed these remedies not only as accessible and natural but also as traditional practices passed down through generations. The influence of social and familial ties further reinforced the use of CAM in managing prostate cancer.

## REFERENCES

1. Abdul-Mumin, K. H. (2016). Nurse Education Today The process of internationalization of the nursing and midwifery curriculum: A qualitative study. YNEDT, 46, 139-145. <https://doi.org/10.1016/j.nedt.2016.09.003>.
2. Abiri, O. T., Sheriff, M. S., Smalle, I. O., Bell, N. V. T., Kamara, I. F., Kamara, T. B., Cummings-John, C., Coker, J., Bah, A. J., Kanu, J. S., Luke, R., Kamara, L., Smith, J., & Samai, M. (2024). Complementary and alternative medicine use and its impact on quality of life among cancer patients in Freetown, Sierra Leone: Considerations for a resource-limited setting. Discover Medicine, 1(1), 150. <https://doi.org/10.1007/s44337-024-00153-0>
3. Aboufaras, M., Selmaoui, K., Baize, I., Alloun, Z., & Ouzennou, N. (2024). The reasons for the use of traditional and complementary medicine by cancer patients in Morocco. Advances in Integrative Medicine, 11(3), 138–142. <https://doi.org/10.1016/j.aimed.2024.06.001>
4. Ahmed, S. K. (2024). The pillars of trustworthiness in qualitative research. Journal of Medicine, Surgery, and Public Health, 2, 100051. <https://doi.org/10.1016/j.glmedi.2024.100051>
5. Attwell, K., Ward, P. R., Meyer, S. B., Rokkas, P. J., & Leask, J. (2018). “Do-it-yourself”: Vaccine rejection and complementary and alternative medicine (CAM). Social Science & Medicine, 196, 106-114.
6. Chow, S. L., Bozkurt, B., Baker, W. L., Bleske, B. E., Breathett, K., Fonarow, G. C., Greenberg, B., Khazanie, P., Leclerc, J., Morris, A. A., Reza, N., & Yancy, C. W. (2023). On behalf of the American Heart Association Clinical Pharmacology Committee and Heart Failure and Transplantation Committee of the Council on Clinical Cardiology; Council on Epidemiology and Prevention; and Council on Cardiovascular and Stroke Nursing. Complementary and Alternative Medicines in the Management of Heart Failure: A Scientific Statement From the American Heart Association. Circulation, 147(2), e4–e30. <https://doi.org/10.1161/CIR.0000000000001110>
7. Ernst, E., Cohen, M. H., & Stone, J. (2019). Ethical problems arising in evidence-based complementary and alternative medicine. Perspectives on Complementary and Alternative Medicine: A Reader, 61-68.
8. Fjær, E. L., Landet, E. R., McNamara, C. L., & Eikemo, T. A. (2020). The use of complementary and alternative medicine (CAM) in Europe. BMC Complementary Medicine and Therapies, 20(1), 108. <https://doi.org/10.1186/s12906-020-02903-w>
9. Hamed Abdalla, M. E. A., Ali, A. M., & Loong, L. (2020). The use of complementary and alternative medicine (CAM) among cancer patients at a tertiary hospital in Malaysia. Complementary Therapies in Medicine, 50, 102343. <https://doi.org/10.1016/j.ctim.2020.102343>
10. James, P. B., Wardle, J., Steel, A., & Adams, J. (2018). Traditional, complementary and alternative medicine use in Sub-Saharan Africa: A systematic review. BMJ Global Health, 3(5), e000895. <https://doi.org/10.1136/bmjgh-2018-000895>
12. Jazieh, A. R., Abuelgasim, K. A., Ardah, H. I., Alkaiyat, M., & Da'ar, O. B. (2021). The trends

- of complementary alternative medicine use among cancer patients. *BMC Complementary Medicine and Therapies*, 21(1), 167. <https://doi.org/10.1186/s12906-021-03338-7>
13. Jimoh, A. O., Hudu, S. A., Aliyu, U. M., Adamu, A. A., Bello, N., Tahir, A., & Abubakar, N. (2025). Exploring the use of complementary and alternative medicine among cancer patients in Africa: A systematic review. *Scientific African*, 29, e02852. <https://doi.org/10.1016/j.sciaf.2025.e02852>
14. Johnson, S. B., Park, H. S., Gross, C. P., & Yu, J. B. (2018). Complementary medicine, refusal of conventional Cancer therapy, and survival among patients with curable cancers. *JAMA Oncol.*, 4(10), 1375-81. <https://doi.org/10.1001/jama.oncol.2487>.
15. Kessel, K. A., Lettner, S., Kessel, C., Bier, H., Biedermann, T., Friess, H., Herrschbach, P., Gschwend, J. E., Meyer, B., Peschel, C., Schmid, R., Schwaiger, M., Wolff, K.-D., & Combs, S. E. (2016). Use of Complementary and Alternative Medicine (CAM) as Part of the Oncological Treatment: Survey about Patients' Attitude towards CAM in a University-Based Oncology Center in Germany. *PLOS ONE*, 11(11), e0165801. <https://doi.org/10.1371/journal.pone.0165801>
16. Motaharifard, M. S., Jamee, M., Seifi, A., Paknejad, M. S., & Mohkam, M. (2025). Complementary and alternative medicine use among children; A cross-sectional study from Iran. *Advances in Integrative Medicine*, 12(2), 100469. <https://doi.org/10.1016/j.aimed.2025.01.010>
17. Mothibe, M. E. & Sibanda, M. (2019). African Traditional Medicine: South African Perspective. In *Traditional and Complementary Medicine*. IntechOpen. <https://doi.org/10.5772/intechopen.83790>
18. Mortada, E. M. (2024). Evidence-Based Complementary and Alternative Medicine in Current Medical Practice. *Cureus*, 16(1), e52041. <https://doi.org/10.7759/cureus.52041>
19. Mwaka, A. D., Abbo, C., & Kinengyere, A. A. (2020). Traditional and Complementary Medicine Use Among Adult Cancer Patients Undergoing Conventional Treatment in SubSaharan Africa: A Scoping Review on the Use, Safety and Risks. *Cancer Management and Research*, 12, 3699–3712. <https://doi.org/10.2147/CMAR.S251975>
20. National Cancer Institute (2023), Complementary and Alternative Medicine. Retrieved from <https://www.cancer.gov/aboutcancer/treatment/cam#:~:text=The%20Safety%20of%20CAM,interact%20negatively%20with%20your%20medicines>
21. Nwankwo, T., Ajah, L., Ezeome, I., Umeh, U., & Aniebue, U. (2019). Complementary and alternative medicine. Use and challenges among gynaecological cancer patients in Nigeria: Experiences in a tertiary health institution - preliminary results. *European Journal of Gynaecological Oncology*, 11, 101–105. <https://doi.org/10.12892/ejgo4429.2019>
22. Pratap, V. & Beda, P. D. (2024). Holistic nature of Complementary and alternative medicine motivate its use—Google Search.. Retrieved 1 August 2025, from <https://www.intechopen.com/chapters/1194060>
23. Prime, R. (2024). Thematic Content Analysis—A Guide to Thematic Analysis. Retrieved from <https://bestdissertationwriter.com/thematic-content-analysis/>
24. Razali, N. H., Ali, A., Gan, S. H., & Lim, C. S. (2020). Prevalence of Traditional and Complementary Alternative Medicine's Use among Cancer Patients in South Peninsular Malaysia. *Asian Pacific Journal of Cancer Biology*, 5(1), Article 1. <https://doi.org/10.31557/apjcb.2020.5.1.19-26>
25. Shylaja, M. R., & Peter, K. V. (2004). 2—The functional role of herbal spices. In K. V. Peter (Ed.), *Handbook of Herbs and Spices* (pp. 11–21). Woodhead Publishing.



<https://doi.org/10.1533/9781855738355.1.11>

26. Wanchai, A., Armer, J. M., & Stewart, B. R. (2016). A Qualitative Study of Factors Influencing Thai Women with Breast Cancer to Use Complementary and Alternative Medicine. *Pacific Rim International Journal of Nursing Research*, 20(1), Article 1.
27. Welz, A. N., Emberger-Klein, A., & Menrad, K. (2018). Why people use herbal medicine: Insights from a focus-group study in Germany. *BMC Complementary and Alternative Medicine*, 18(1), 92. <https://doi.org/10.1186/s12906-018-2160-6>
28. Xiong, Y., Gao, M., van Duijn, B., Choi, H., van Horssen, F., & Wang, M. (2021). International policies and challenges on the legalization of traditional medicine/herbal medicines in the fight against COVID-19. *Pharmacological Research*, 166, 105472. <https://doi.org/10.1016/j.phrs.2021.105472>
29. Yan, Y., Zhang, J., Liu, H., Lin, Z., Luo, Q., Li, Y., Ruan, Y., & Zhou, S. (2022). Efficacy and safety of the Chinese herbal medicine Xiao-qing-long-tang for allergic rhinitis: A systematic review and meta-analysis of randomized controlled trials. *Journal of Ethnopharmacology*, 297, 115169. <https://doi.org/10.1016/j.jep.2022.115169>
30. Yimer, E. M., Tuem, K. B., Karim, A., Ur-Rehman, N., & Anwar, F. (2019). *Nigella sativa* L. (Black Cumin): A Promising Natural Remedy for Wide Range of Illnesses. *Evidence-Based Complementary and Alternative Medicine*, 2019, e1528635. <https://doi.org/10.1155/2019/1528635>