

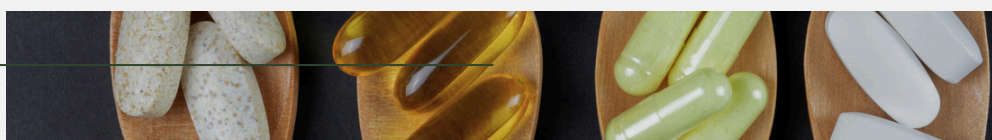
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ALUMNI COLUMN

The Need for Pharmacist-led Medication Reviews for Herbal and Dietary Supplements

The growing use of herbal and dietary supplements (HDS) reflects a significant shift in users' behavior towards proactive health management. This trend is driven by increased awareness of health issues and a desire for alternative or complementary therapies (1). While the benefits of HDS can include improved health outcomes and chronic disease prevention, there are also significant risks associated with their use. The use of HDS was reported to cause adverse effects and drug-HDS interactions (2).

Pharmacists are well-positioned to discuss the efficacy and safety of HDS with users, particularly those managing chronic conditions (3). Pharmacist-led medication reviews play a vital role in identifying and addressing issues related to the use of HDS. Pharmacists need to conduct medication reviews of HDS for several reasons, including identifying adverse reactions and interactions, addressing regulatory and safety concerns, and providing knowledge and counseling, as shown in Figure 1.



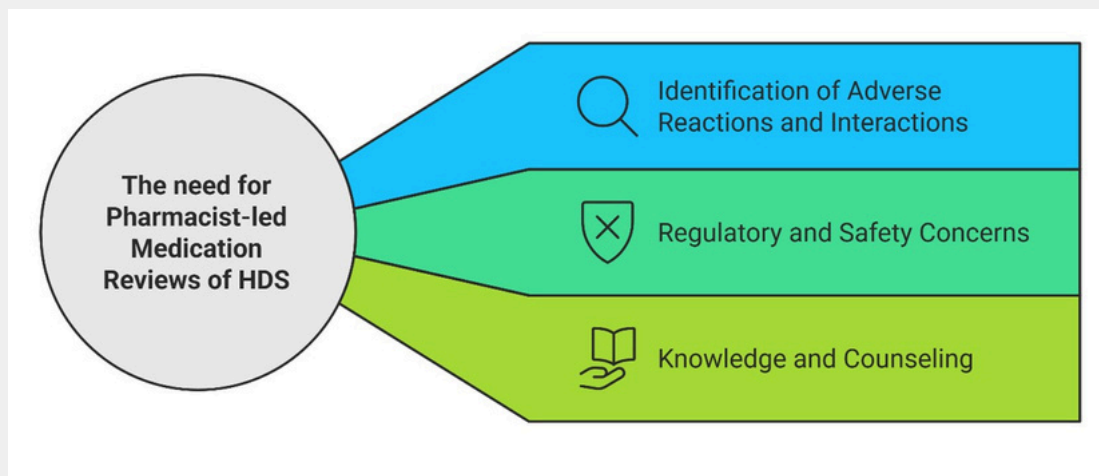


Figure 1: Importance of pharmacist-led medication review

HDS can cause significant adverse drug reactions (ADRs) and drug interactions. A study conducted by the National Pharmacovigilance Centre in the Netherlands reported that HDS caused 789 ADRs with 15% being serious (4). Additionally, HDS can interact with prescription drugs, potentially altering drug pharmacokinetics and leading to adverse effects (5, 6). Certain HDS have been reported to induce or inhibit cytochrome P450 enzymes, leading to unexpected drug levels in the body (5). Given these risks, it is concerning that pharmacists frequently remain unaware of the usage of HDS, as these products are generally bought over the counter. This lack of awareness highlights the need for pharmacist-led medication reviews to ensure the safe use of HDS.

Moreover, HDS are not as strictly regulated as prescription drugs. As a result, HDS can be marketed with less stringent proof of their safety and effectiveness (7). This allows manufacturers to make health claims that may not be substantiated by scientific evidence, leading to potential misinformation among users (8). Pharmacists can offer guidance and information on the appropriate use of HDS, thereby empowering users to make safer choices regarding their health (9, 10).

Next, pharmacists can educate users about the potential risks and benefits of HDS, ensuring informed decision-making. This includes discussing the safety, efficacy, and potential interactions of these HDSs (11, 12). Studies have shown that users who receive education from pharmacists regarding their medications, including HDS, tend to have better health outcomes and increased adherence to treatment regimens (13, 14). This is particularly important in managing chronic conditions, where patients may seek complementary therapies alongside conventional treatments (15). This proactive approach is vital, as many users do not disclose their use of HDS to healthcare providers, which can lead to unrecognised interactions and ADRs (16, 17).

In conclusion, the growing use of HDS highlights a significant shift in user behavior towards proactive health management, driven by increased health awareness and a preference for alternative therapies. While HDS can offer health benefits, they also pose risks such as adverse effects and drug interactions. Pharmacists are crucial in discussing the efficacy and safety of HDS, especially for patients with chronic conditions. Pharmacist-led reviews have been shown to improve clinical outcomes by reducing inappropriate prescribing and medication-related problems (18, 19). This approach can be extended to include HDS, ensuring comprehensive medication management.

References:

1. Damnjanović I, Kitić D, Stefanović N, Zlatković-Guberinić S, Aleksandra C-Đ, Veličković-Radovanović R. The use of herbal dietary supplements in diabetic patients: Role of healthcare professionals. *Acta Medica Medianae*. 2017;56(4):25-30.
2. Brunelli L, Arnoldo L, Mazzilis G, D'Angelo M, Colautti L, Cojutti PG, et al. Food supplements consumption and the role of pharmacies: A North-Eastern Italy Observational Study. 2022.
3. Catic T, Jusufovic R. Use of food supplements in diabetes mellitus treatment in Bosnia and Herzegovina from the pharmacists perspective. *Materia Socio Medica*. 2019;31(2):141.
4. van Hunsel FP, van der Kooi D, van de Koppel S, Kroes BH, Woerdenbag HJ. Analysis of reports on adverse drug reactions related to herbal medicinal products and herbal supplements in the Netherlands received by the national pharmacovigilance centre Lareb. *Drug Safety*. 2022;45(6):651-61.
5. Wang Y-K, Li WQ, Xia S, Guo L, Miao Y, Zhang B-K. Metabolic activation of the toxic natural products from herbal and dietary supplements leading to toxicities. *Frontiers in pharmacology*. 2021;12:758468.
6. Berginc K. Pharmacokinetic interactions between drugs and dietary supplements: herbal supplements. *Dietary Supplements*. 2015:47-68.
7. Zakaryan A, Martin IG. Regulation of herbal dietary supplements: Is there a better Way? *Drug Information Journal*. 2012;46(5):532-44.
8. Saleem F, Aljadhey H, Khan TM. Evaluating the content of advertisements for dietary supplements in Malaysian Women's Magazines. *Drug Information Journal*. 2012;46(6):723-8.
9. Robinson N, Lorenc A. Responding to Patient Demand: Community pharmacists and herbal and nutritional products for children. *Phytotherapy Research*. 2010;25(6):892-6.
10. Ung COL, Harnett J, Hu H. Community pharmacist's responsibilities with regards to traditional medicine/complementary medicine products: A systematic literature review. *Research in Social and Administrative Pharmacy*. 2017;13(4):686-716.
11. Lin H-W, Pickard AS, Mahady GB, Karabatsos G, Crawford SY, Popovich NG. An instrument to evaluate pharmacists' patient counseling on herbal and dietary supplements. *American Journal of Pharmaceutical Education*. 2010;74(10):192.
12. Jordan MA, Foster K, Gandhi A, Mohebbi N, Tehrani L. Assessment of herbal weight loss supplement counseling provided to patients by pharmacists and nonpharmacists in community settings. *Journal of the American Pharmacists Association*. 2011;51(4):499-509.
13. Donald GP, Scott SS, Broadfield L, Harding C, Meade A. Optimizing Patient Education of Oncology Medications: A descriptive survey of pharmacist-provided patient education in Canada. *Journal of Oncology Pharmacy Practice*. 2017;25(2):295-302.
14. Wang K-Y, Chian C-F, Lai H-R, Tarn Y-H, Wu C-P. Clinical pharmacist counseling improves outcomes for Taiwanese asthma patients. *Pharmacy World & Science*. 2010;32(6):721-9.
15. Erku DA, Belachew SA, Mekuria AB, Haile KT, Gebresillassie BM, Tegegn HG, et al. The role of community pharmacists in patient counseling and health education: A survey of their knowledge and level of involvement in relation to type 2 diabetes mellitus. *Integrated Pharmacy Research and Practice*. 2017;Volume 6:137-43.
16. Chiba T, Kobayashi E, Okura T, Sekimoto M, Mizuno H, Saito M, et al. An educational intervention improved knowledge of dietary supplements in college students. *BMC Public Health*. 2020;20(1).
17. Islam MA. An elective course on the basic and clinical sciences aspects of vitamins and minerals. *American Journal of Pharmaceutical Education*. 2013;77(1):17.
18. Desborough J, Twigg M. Pharmacist-led medication reviews in primary care. *Rev Clin Gerontol*. 2014;24(1):1-9.
19. Jokanovic N, Tan EC, Sudhakaran S, Kirkpatrick CM, Dooley MJ, Ryan-Atwood TE, et al. Pharmacist-led medication review in community settings: an overview of systematic reviews. *Research in Social and Administrative Pharmacy*. 2017;13(4):661-85.

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