

Pharmacognosy Research - Indexed on PubMed Central

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I am delighted to bring you the good news that our journal Pharmacognosy Research is now indexed on PubMed Central (PMC) and on the PubMed list. This is a wonderful achievement and a tribute to the hard work and dedication of all our editorial board members most especially the trojan work of our Managing Editor Prof. Muneen Ahmed KK.

PubMed is a free database that was first made available in 1996, which permits access to the invaluable MEDLINE database (maintained by the United States National Library of Medicine). There are over 5,000 biomedical journals indexed in MEDLINE and inclusion in the database is not automatic for new journals but based on the findings of an adjudication panel (the Literature Selection Technical Review Committee) who assess the quality and relevance of the journal, so this is a big step for our journal. The quality of the work submitted by our contributors in the past and present is of course what has made our inclusion possible, so I would very much like to extend my heartfelt thanks to them on behalf of everyone involved in the publication.

In this current issue, we have again a diverse and interesting array of articles, forming the foundation of many of these works is the selective extraction, the determination of the bioactivity and the identification of the active components. The most common modes of extraction used amongst researchers in the Pharmacognosy field would seem to be simple solvent (commonly simple alcohol), simple

distillation and Soxhlet extraction of dried or pulverized plant material. This is expected as most of the research is conducted on the microscale. However, it is fair to say (and not in any way as a criticism to researchers) that since bioactives are usually present in plants at moderate to low concentrations, it is necessary and prudent to explore extraction techniques with enhanced selectivity and efficiencies. This is especially important where scale up follows on from fundamental research as plant materials are a limited resource and as more plant species face extinction and where environmental concerns restrict the usage of large volumes of solvent. To this end, a technology like super critical fluid extraction (SFE) comes into its own.

Many of the conventional methods of extraction involve significant losses of bioactives or simply lack the selectivity toward the more volatile plant components. For example, in heat-dependant extractions, many thermally fragile components are degraded, hydrolyzed, oxidized etc. leading to abysmal yields. Many conventional methods also require considerable quantities of plant materials (my team and I have worked with plant materials in the kg scale for simple solvent extraction protocols) whereas quantities of < 1 g can be extracted to 'completeness' for a wide range of polarities using SFE by progressive modification of the CO₂ fluid system (comprising only a few milliliters of solvent).

My personal experience of SFE has been mixed; early on I experienced restrictor clogging when extracting fresh plant material for volatiles and this was sorted out by adding anhydrous Na₂SO₄ to the plant material. Miller *et al.*, suggests that anhydrous Na₂SO₄ helps by providing better contact between the supercritical fluid and the plant material and by helping to retain the moisture.^[1] Other approaches for improving the extraction of fresh plant material include the addition of silica gel^[2] or the addition of acetals such as 2,2-dimethoxypropane (DMP).^[3] I think it is a certainty especially with the rapid growth in the commercial herbal remedy industry and in the search for new drug targets that SFE techniques will expand and improve in the future and eventually supersede the traditional approaches.

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Announcement

iPhone App



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