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Review

Expanding the role of Australian pharmacists in community pharmacies in chronic pain management - a narrative review

John MISHRIKY^{ID}, Ieva STUPANS^{ID}, Vincent CHAN^{ID}.

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Abstract

Chronic pain is a condition where patients continuously experience pain symptoms for at least 3 to 6 months. It is one of the leading causes of disabilities across the globe. Failure to adequately manage chronic pain often results in additional health concerns that may directly contribute to the worsening symptoms of pain. Community pharmacists are an important healthcare resource that contributes to patient care, yet their roles in chronic pain management are often not fully utilised. This review aimed to investigate and explore pharmacist-driven chronic pain educational and medication management interventions in community pharmacies on an international level, and thereby identify if there are potential benefits in modelling and incorporating these interventions in the Australian community. We found a number of studies conducted in Europe and the United States investigated the benefits of pharmacist-driven educational and medication management interventions in the context of chronic pain management. Results demonstrated that there were improvements in the pain scores, depression/anxiety scales and physical functionality in patient groups receiving the pharmacist driven-interventions, thereby highlighting the clinical benefit of these interventions in chronic pain. In conclusion, pharmacists are trustworthy and responsible advocates for medication reviews and patient education. There are currently very limited formal nationally recognised pharmacist-driven intervention programs dedicated to chronic pain management in Australian community pharmacies. International studies have shown that pharmacist-driven chronic pain interventions undertaken in community pharmacies are of benefit with regards to alleviating pain symptoms and adverse events. Furthermore, it is also clear that research around the application of pharmacist-led chronic pain interventions in Australia is lacking. Modelling interventions that have been conducted overseas may be worth exploring in Australia. The implementation of similar intervention programs for Australian pharmacists in community pharmacies may provide enhanced clinical outcomes for patients suffering from chronic pain. The recently implemented Chronic Pain MedsCheck Trial may provide some answers.

Keywords

Pain Management; Professional Role; Community Pharmacy Services; Pharmacies; Nonprescription Drugs; Pharmacists; Review Literature as Topic; Australia

Introduction

Pain is a commonly presenting condition that can affect patients of all age groups. The International Association for the Study of Pain (IASP) defines pain as an 'unpleasant sensory and emotional experience associated with actual or potential tissue damage'.^{1,2} Although there is no clear definition of chronic pain, it is commonly defined as pain that has been present for at least 3 to 6 months. An estimated 20 per cent of Australian adults suffer from chronic pain.³ Even though physical injuries appear to be the most common cause of chronic pain, one third of individuals have been unable to identify the original cause.⁴ Inadequate diagnosis and treatment gives rise to clinical as well as practical health concerns for chronic pain sufferers, resulting in significant costs to the healthcare system and also causing financial strain on sufferers and their families in dealing with pain management.⁵ Several studies have also revealed links between chronic pain and other

conditions, such as depression, anxiety and sleeplessness/insomnia, which further contribute to the deterioration of the quality of life of chronic pain sufferers.⁶⁻⁸

This narrative review will only briefly cover the impacts caused by chronic pain, particularly relating to the health and wellbeing of patients and their families. This review will focus on investigating and exploring the potential pharmacist roles and pharmacist-driven chronic pain education and medication management interventions in community pharmacies on an international level, and thus identify if there are potential benefits in modelling and incorporating these interventions in the Australian community where the current roles in specific chronic pain management are quite limited.

With the aim to provide an evaluation of the current knowledge on the role of pharmacists in chronic pain management, systematic searches of the following electronic databases were carried out; Pubmed, Medline, Science Direct, Proquest and Google Scholar. Results were limited to January 1988 to October 2018. Search items used for each database included: 'chronic pain', 'chronic pain management', 'education', 'medication management' 'pharmacist intervention' and 'community pharmacist.' References from identified journal articles were also screened to identify further relevant articles. Studies were

John MISHRIKY. BPharm(Hons). School of Health and Biomedical Sciences, Discipline of Pharmacy, RMIT University. Bundoora, VIC (Australia). john.mishriky@rmit.edu.au

Ieva STUPANS. BPharm, PhD. Professor and Discipline Head of Pharmacy. School of Health and Biomedical Sciences, Discipline of Pharmacy, RMIT University. Bundoora, VIC (Australia). ieva.stupans@rmit.edu.au

Vincent CHAN. BPharm, MPH, PhD. Senior Lecturer. School of Health and Biomedical Sciences, Discipline of Pharmacy, RMIT University. Bundoora, VIC (Australia). vincent.chan@rmit.edu.au



included if they assessed the impact of educational or medication management interventions in community pharmacies provided by pharmacists in the context of chronic pain management.

The health burden of chronic pain

As is the case with many other chronic illnesses, chronic pain can potentiate negative health outcomes and introduce additional health concerns.^{3,7,9} Research has suggested that chronic pain substantially affects physical functionality. A European large-scale study demonstrated that of the participants who suffered from pain, 23% were no longer able to drive and around 40% were less able to walk and perform household daily chores due to their pain symptoms.¹⁰ Additional studies have indicated that mental health disorders are common amongst chronic pain sufferers, resulting in a greater disease burden and a downwards spiral in the quality of life.^{6,7} It is for these reasons that chronic pain sufferers express the desperate need to seek help from numerous healthcare providers, and in particular, pharmacists for pain relief.¹⁰ It is therefore essential to understand the important and significant role of Australian community pharmacists in chronic pain therapy, given the fact that community pharmacists are often considered one of the most trusted health professionals in Australia. Before beginning to implement a much broader adoption of pharmacist-specific therapeutic approaches to managing chronic pain in a community pharmacy, an in-depth analysis of the current roles and responsibilities of Australian pharmacists is necessary.

The role of community pharmacists

Over time, the position of a community pharmacist in the healthcare system has evolved and will continuously evolve. Traditionally, the primary focus of a pharmacist has been to dispense medications as prescribed by a physician and to ensure that the drugs prescribed meet the required legislative standards.¹¹ Now, pharmacists often play a more proactive and significant role of consulting on pharmacotherapy. In Australia, pharmacies are considered to be important sources of a wide range of healthcare services in the community.^{12,13} Australian pharmacists are unique in that they are educated at university level, undergo internship, become registered health professionals by the Australian Health Practitioner Regulation Agency (AHPRA), work in an accessible retail environment handling a multiplicity of medicines and have extensive interactions with other healthcare professionals.¹² The provision of professional health services and pharmacist-driven clinical interventions from the community pharmacy destination can serve the cost-effective, simple and imperative contribution to improved health outcomes.¹⁴ It is therefore unsurprising that people perceive pharmacists as highly reliable and accessible advisers on many health related issues, whilst also being trustworthy purveyors of healthcare products and steadfast partners of the medical profession.^{12,14}

For many chronic illnesses, medicines remain the major modality of treatment.^{15,16} Chronic pain is no different in

this context. It is inevitable that pharmacists should contribute to the management of chronic illnesses through the conduct of medication reviews, with the view to achieving the quality use of medicines.^{12,14} A published systematic literature review explored the extensive roles of community pharmacists regarding the supply and management of medicines.¹⁷ It was found that interventions involving pharmacists in medication management were generally effective in improving medicine use, adherence, adverse event detection and harm minimisation producing positive health outcomes.¹⁸ The fact that pharmacists are experts in the supply and use of medicines suggests that they too have a key role in educating patients on the appropriate use of their medications.

Pharmacists can indeed provide education, counselling and advice on medication management to patients, with the goal of equipping patients with self-management skills aiming to have positive effects on adherence, appropriate medicinal use and clinical outcomes.^{12,13,19} The important role of pharmacists in the quality use of medicines is further highlighted given the high likelihood that patients who suffer from chronic pain are using multiple analgesic medications. While treating chronic pain with different medications for synergistic effects may assist with the management of pain relief, this therapeutic strategy accentuates potential harm exposure.²⁰ The pharmacist's role in profiling all pain medications contributing to 'polypharmacy' has been reviewed in a number of studies, and it is unsurprising that pharmacists who are recognised as medication experts, can in fact play an active role in minimising harmful exposure due to medication misuse and abuse.^{12,20,21}

The literature also contains numerous studies outlining the beneficial components of community pharmacist interventions in chronic illnesses. For example, pharmacists in community pharmacies have played key roles in minimising primary as well as secondary cardiovascular events in high risk patients to developing cardiovascular disease.²²⁻²⁴ These community pharmacist-driven interventions in cardiovascular health showed significant improvements in hypertension as well as improved control of hyperlipidaemia.^{22,23} Likewise, community pharmacist interventions focusing on patient education and healthy lifestyle promotion in type 2 diabetes have also resulted in significant reductions in HbA1c levels and improved glycaemic control.^{25,26} Additional studies investigating community pharmacist interventions in asthma resulted in enhanced asthma control as well as improved medication adherence and inhaler technique.²⁷⁻²⁹ Taken together, such research supports that pharmacists are indeed capable of carrying out interventions in community pharmacies which can improve patient health outcomes in a variety of different chronic disease states. As chronic pain is no different in this context, there are potential benefits to be expected from chronic pain interventions carried out by pharmacists in a community pharmacy, as well as lessons that can be learnt. This is particularly true for the Australian context where research around the application of pharmacist-driven chronic pain interventions is lacking.

Pharmacist-driven chronic pain interventions: a look at the roles of pharmacists in education and medication management

A systematic review and meta-analysis published by Bennett *et al.* in 2011 identified studies investigating the effectiveness of educational interventions by pharmacists in community pharmacies to patients with chronic pain.³⁰ Pharmacists delivering these educational interventions aimed to increase patient knowledge and understanding by relaying information, behavioural instructions or advice in relation to the management of chronic pain, thereby enabling patients to manage their pain more effectively.³⁰ Studies included in this systematic review consisted of patients suffering from chronic pain associated with knee pain, arthritis pain and cancer pain.³⁰ The mode of delivery of the pharmacist-driven educational intervention was comprehensive and involved patient follow-up during the study period. In two prospective studies, the pharmacist educational intervention comprised of face-to-face clinical consultations throughout the study period.^{31,32} One study, however, also provided group educational sessions run by pharmacists on arthritic pain relief, whereas the second study only included two individualised face-to-face consultations on cancer pain, as well as follow-up daily telephone consultations as part of the educational intervention.³² The daily telephone calls included advice and recommendations with regards to drug information, dosage adjustments and supportive counselling. Patients receiving these interventions experienced significant benefits in a reduction of pain intensity and in adverse effects.³⁰⁻³² Results also indicated that the greatest impact the pharmacist educational interventions had was mainly on patients experiencing chronic low back pain.³⁰

There was some degree of overlap amongst the studies included in the systematic reviews on pharmacist-driven medication management interventions and pharmacist-driven educational interventions. Two individual studies included an educational and thorough medication review as part of the pharmacist-driven intervention.^{32,33} Additionally, a systematic review and meta-analysis published in 2014 identified studies investigating the effectiveness of pharmacist-led medication review interventions in chronic pain. Studies included in this systematic review consisted of randomized control trials involving more than 1000 patients suffering from persistent pain with differing aetiologies.³⁴ The mode of delivery of the pharmacist-led medication interventions differed amongst the published studies. One longitudinal randomised exploratory study consisted of a control group receiving standard primary care, and two intervention groups, one of which included an in-depth medication consultation arranged by a pharmacist with prescribing rights.^{35,36} The prescribing pharmacist intervention involved pharmacists completing a paper-based medication review of each patient's medical record. Patients were also asked to complete a pain diary for follow up consultations. Similarly, another published study also consisted of two groups, one of which included an intervention group of patients receiving a face-to-face consultation with a pharmacist on osteoarthritic pain, followed by an in-depth medication review.³⁷ Patients suffering from osteoarthritic pain who were placed in the control group only received an

educational leaflet on knee osteoarthritis.³⁷ Pharmacists included in this particular study offered an educational leaflet on osteoarthritis to the control group, whereas the patients assigned to the intervention group received self-management education, medication reviews and a referral to a physiotherapist-guided exercise program. Outcomes from the pharmacist-patient consultation were then communicated to the patient's primary care physician. Pharmaceutical care plans were prepared by the pharmacists that included any necessary referrals to medical practitioners, recommendations for changes to medication regimens and whether non-pharmaceutical treatments had been considered previously by the patient.³⁷

Prospective randomized control trials conducted in England and Northern Germany also investigated the perceived benefits of a pharmacist-led medication management intervention for pain.³⁸⁻⁴⁰ In one of these studies, the mode of delivery of the pharmacist-led intervention was unique, in that patients who were assigned to the intervention group were either screened before and/or after receiving the intervention via telephone.^{38,39} An additional published study investigated migraine and headache pain. Patients suffering from these specific types of pain who were assigned to the intervention group were interviewed via telephone before receiving the 'pharmaceutical care' intervention (defined as intensified structured counselling between patient and pharmacist).³⁹ Patients were then followed up via telephone four months after receiving the intervention. Despite reports of improved mental health and self-assessment of headache and migraine pain, there was no significant change in the number and severity of headache attacks reported by patients.³⁹ It was also reported that the lack of significance in this case could be due to the limitation in time of this particular study.³⁹

The effectiveness of the pharmacist-led medication management interventions in these studies was assessed via different primary endpoints, with pain intensity and physical functioning being the major endpoints.³⁴ Pain intensity was recorded before and after receiving the pharmacist-led intervention in all of these studies using different scales.³⁴ One study reported a statistically significant reduction in pain scores at 3-month follow up.³³ However another trial reported a statistically significant reduction in pain score at both the 3 and 6 month follow-up in their prospective study.³⁷ Results from one clinical trial also demonstrated that there was a statistically significant improvement in the 'Chronic Pain Grade' (CPG) and depression/anxiety scales in groups receiving the pharmacist-intervention.^{35,36} Pharmacists and GPs who were involved in this trial were later interviewed and reported that they were pleased with the improvements this intervention had provided in chronic pain management.^{35,36} Physical functioning was also measured in all of the studies via the use of different validated questionnaires (such as SF-12, SF-36 and WOMAC).⁴¹⁻⁴³ Of the pharmacist-led intervention studies, only one reported a statistically significant improvement in physical functioning at both the 3 and 6 month follow up in the intervention group compared to the control group.³⁷ Results demonstrated that the group receiving the intervention gained an improvement in their physical

functionality and quality of life while also decreasing pain symptoms.³⁷ There were statistically significant improvements observed in the 'Lower Extremity Function Scale (LEFS), where a higher LEFS score indicates decreased physical disability.³⁷

Despite reports from pharmacists on their views of the benefits of a pharmacist-led medication intervention in these studies (excluding Marra's trial), there appears to be some uncertainty around the clinical significance of these benefits due to the limitation of literature in this space.^{34,37} However, as recognised internationally, pharmacist-driven interventions have demonstrated that pharmacists can and do play an important, key and necessary role in chronic pain management.

Community pharmacy and pain management in Australia: implications for future research

As previously indicated, approximately 20% of Australians experience chronic pain.⁴⁴ This figure is set to rise as the population ages. Inadequately treated chronic pain has significant impacts on function and quality of life. There are a number of specialised pain clinics throughout Australia that provide care and specialized treatment and incorporate a multidisciplinary approach to chronic pain therapy. However, with the growing number of chronic pain patients, the capacity for these clinics to manage people with chronic pain is already diminished with high waiting lists and the care of such patients will likely shift to other healthcare practitioners. This is where the role of an Australian community pharmacist may further be appreciated and better utilised in chronic pain management.^{44,45} Evidently, community pharmacies across Australia are considered one of the most frequently and easily accessed primary healthcare services and are regularly the first point of contact for many Australians.⁴⁶

Additionally, chronic pain patients tend to use over-the-counter (OTC) non-prescription drugs to self-medicate and manage pain.^{47,48} The accessibility of these OTCs from pharmacies (and many also outside of pharmacies), often leads to patients purchasing analgesic medicines without the valuable advice provided by pharmacists.¹⁸ Pharmacies are considered important checkpoints whereby the appropriateness of non-prescription medications can be validated, the patient's queries attended to and clinical interventions made if necessary.¹⁸ Research has suggested that failure to receive professional pharmaceutical advice can lead to incorrect use of medicines by the consumer, inadequate chronic pain management as well as increasing the likelihood of experiencing adverse effects from self-management.⁴⁹

As primary healthcare professionals, pharmacists can address this health concern by effectively engaging with the patient at each purchase and supply of analgesic medication and improving patient knowledge regarding the appropriate use of OTC medicines. This can be achieved by developing a good understanding of chronic pain management and becoming aware of the factors that deter patients from seeking and receiving appropriate advice. It is timely and appropriate that the issue of chronic pain management is addressed by the health professions more

broadly and at least in the short to medium term, pharmacists delivering more optimal care and service to their patients suffering from chronic pain.

Lastly, it is of interest and indeed opportune to note that there have been recent developments for Australian community pharmacies in the chronic pain management space. In 2018, the Australian Government has announced the implementation of The Chronic Pain MedsCheck Trial. This initiative is funded by the Australian Department of Health as part of the Sixth Community Pharmacy Agreement (6CPA) Pharmacy Trial Program (PTP).⁵⁰ The main objective of The Chronic Pain MedsCheck Trial is to examine the effectiveness of a specialised Chronic Pain MedsCheck service in patients with chronic pain, specifically delivered by pharmacists within community pharmacies.⁵⁰ The intervention will include components such as specialised consultation, education, self-management, medication review, provision of an action plan, appropriate referrals, and follow up.⁵⁰ This is an exciting new initiative and the pending outcomes from this trial program will provide valuable insights and evidence on the expanding role of community pharmacists in the context of delivering primary healthcare services, especially for chronic pain management.

Conclusion

Pharmacists make trustworthy and responsible advocates for medication treatment and management.¹⁴ However, the role of pharmacists in chronic pain management requires further exploration, especially in Australia where research is lacking. International studies investigating the effectiveness of pharmacist-driven interventions have demonstrated that there are benefits of pharmacists going beyond standard primary care practice in the context of chronic pain management. Current evidence suggests that pharmacist-led educational and medication reviews in community pharmacy settings are effective in reducing pain intensity, whilst improving physical functionality of chronic pain patients.

The high prevalence of chronic pain in Australia and its associated burden on the health and wellbeing of patients and their families demands for high quality research in this space to broaden the roles and responsibilities of pharmacists in Australian community pharmacies. Studies demonstrating positive health outcomes in the roles of European pharmacists should be considered and adopted in Australia to further expand the current, and often informal, Australian pharmacists' healthcare provision. This could help positively influence and benefit chronic pain sufferers in the provision of easily accessible support in chronic pain management from a trusted and expertly trained pharmacist professional.

Finally, research needs to be extended to further demonstrate the clinical benefit of pharmacist-led interventions in chronic pain management. With the recent implementation of the Chronic Pain MedsCheck Trial in Australia, this is a start. It would be of interest and importance to further explore the benefits of broadening the roles of community pharmacists in Australia in this space, especially when considering the fact that there is

limited published literature outlining the perceived benefits of pharmacist-led chronic pain interventions in Australian community pharmacies. As such, the implementation of similar community pharmacy intervention programs for Australian pharmacists may provide enhanced clinical outcomes for patients suffering from chronic pain. This may in turn prove to positively impact and benefit how chronic pain sufferers are provided with easy access to beneficial healthcare services for their pain management provided by Australian community pharmacists.

CONFLICT OF INTEREST

Authors have no conflicts of interest to disclose.

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