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Blister-packed medications: improving compliance and reducing adverse events

Abstract

After reading this article, the learner should be able to: • Describe the importance of dosage administration aids as a way to help improve medication compliance and therapeutic outcomes, as well as averting potential adverse drug events; • Identify the benefits of good communication between pharmacists, prescribing doctors and, when appropriate, hospital and/or aged care facility staff for the timely packaging, dispensing and administration of the correct medications in dosage administration aids.

Keywords

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Blister-packed medications: improving compliance and reducing adverse events

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BY ADVOCATING THE USE OF DOSE ADMINISTRATION AIDS AND THROUGH THEIR PROFESSIONAL CARE AND SERVICES, PHARMACISTS ARE WELL PLACED TO HELP IMPROVE PATIENT MEDICATION COMPLIANCE AMONG OLDER AUSTRALIANS.

BACKGROUND

People aged 65 years and older make up more than 13% (approx 2.7 million) of the Australian population.¹ Furthermore, 25% of this older cohort take an average of 4.5 medications concurrently.² Despite the fact that failing to follow recommended medication regimens results in poor health outcomes,³ between 40% and 60% of older people are not taking their medications as prescribed.⁴ According to the Australian Bureau of Statistics (ABS) in 2006, more than 90% older Australians suffered from one or several (acute or chronic) illnesses for which they took different medications concurrently.⁵

In Australia, 6% of the people aged 65 years and older and more than 26% of those aged 85 years and older live in non-private dwellings, hostels and residential aged care facilities (RACFs).² Importantly, just over 40% of the care facility residents have been diagnosed with some level of capacity impairment such as impaired cognitive states, Alzheimer's disease or some form of dementia⁶ and are prescribed an average of seven medications daily.^{7,8} It is estimated that an individual's inability to manage their medications

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Competencies addressed:
2.1.3, 3.1.4, 3.1.5, 3.2.2, 3.2.3, 7.3.2

accounts for 23% of admissions into residential aged care facilities.⁴

The use of dose administration aids (DAAs) can be used to improve medication compliance, especially among people with age related cognitive and physical impairments and poor health literacy skills.^{4,9} Pharmacists, by advocating the use of DAAs and through their increased professional care and

services, are well placed to help improve patient compliance, thus affording older people the luxury of remaining domiciled in their own homes and reducing the demand for RACF placements based on poor medication management.

Currently the Department of Health and Ageing and the Pharmacy Guild of Australia are staging the DAA Program to develop the broader use of government-sponsored DAA services within the community. The Quality Care Pharmacy Program (QCPP) offers a system of voluntary accreditation of pharmacies that comply with professional standards including comprehensive DAAs guidelines and standards, dispensing standards and counselling standards. It is timely therefore that pharmacists recognise, understand and make contingencies to mitigate against the many factors that negatively affect drug compliance in older people. As the community ages and as DAAs become more prevalent pharmacist roles will change, with greater time and attention being required in educating patients/carers, communicating with other healthcare professionals and acting as patient advocates when non compliance is an issue or to avoid adverse drug events (ADEs).

With this background, the 'Blister Packed Medication use Amongst Pharmacies in the Illawarra Region' study was undertaken. The aims and objectives of the study were as follows:

- 1. to gain an understanding of the extent to which blister-packed medications are used in the Illawarra;**
- 2. to investigate the efficiency of DAAs;**

- 3. to investigate the reasons why DAAs are supplied in the Illawarra.**

METHODOLOGY

Following ethics approval from the University of Wollongong Human Ethics Committee, a written survey was sent by mail and/or in person to the 55 licensed Illawarra-based community pharmacies between December 2007 and February 2008. The surveys were completed on a voluntary basis by community pharmacy personnel and sent back to the researchers.

Quantitative data from the survey was analysed using descriptive statistical analysis, while qualitative data was thematically analysed. The survey tool used for data collection purposes had been specifically developed for this study and had not been previously validated. Some questions within the tool, however, had been derived from the Dose Administration Aids (DAA) Program registration form (2008), while other questions related to information about the numbers of patients receiving blister packs, the number of medications per blister pack and the impact of the provision of blister pack services on pharmacy workloads.

RESULTS

Forty one of the 55 pharmacies (74.5%) completed the survey questionnaire and responded that during the time of the study they packaged medication blister packs or DAAs for 2,549 Illawarra residents, 2,261 (88.7%) of whom were aged 65 years and older. The pharmacists suggested that the most common reason for being asked

to provide a DAA was because of the patient's complex medication regimen, followed by patient forgetfulness and/or cognitive impairments such as dementia/Alzheimer's disease. Importantly, the pharmacists stated that in the majority of cases they had initially recommended the use of the DAA to either the patient and/or their carer or alternatively the patient's general practitioner had done so.

Based on the survey questions regarding the return of the DAAs (ie. blister packs returned to the pharmacy for repackaging), 77.7% of the pharmacy respondents said that blister packs were returned having been used correctly (> 75% of the medications had been removed correctly), 16.49% somewhat correctly (25–75% of medications removed), and 5.94% had not been used correctly (< 25% of medications removed). The survey respondents also suggested that an overwhelming 98.6% of DAAs returned for residents of RACFs had been used correctly.

Just over 50% of the pharmacy respondents suggested that communications about medication changes (eg. warfarin doses) requiring repackaging, between themselves and GPs was 'good'; 25% of them rated this communication exchange as 'average'; and a further 25% suggested that it was 'below average'. Similarly, communication about medication changes between pharmacies and the 22 RACFs provided with DAAs was deemed to be 'good' for 45.5% of the respondents, 'average' for 36.4% and 'below average' for 19.6%.

The efficiency of their individual pharmacy processes for dealing with these recommended medication changes were also rated by respondents, with 22.5% rating them as 'excellent', 57.5% rating them as 'good', and 20% rating them as 'average' or 'below average'.

Finally, respondents were asked to rate the impact of changes to blister pack medications on the workload

of the pharmacy staff. Some 48.6% of respondents rated the impact as between 'very heavy' and 'heavy', while the remaining 51.4% rated changes as only having a 'moderate' to 'slight impact' on their workload.

Some of the other findings of the study included comments about the efficiency of the DAA packaging and dispensing being heavily reliant on good communication between the pharmacist and the GP. Respondents also commented on poor communication from hospitals to GPs and pharmacists about changes to medications regimens which are made for patients discharged from hospital. This poor communication they felt impeded the correct and timely packaging, dispensing and administration of post-discharge medications in DAAs.

DISCUSSION

Evidence suggests that poor medication compliance, especially among older people suffering from co-morbidities and taking several different medications (polypharmacy), increases the likelihood of ADEs.^{10,11} Good medication compliance is one of the key strategies that can be used to improve therapeutic outcomes and reduce the incidence of ADEs.^{12,13} This study suggests that medication compliance can be improved by providing DAAs for patients generally, but in particular older patients with complex medication regimens and cognitive and/or physical decline, living in both community and residential aged care settings.

Good communication between the pharmacies providing the DAAs, the prescribing doctors and the residential aged care facility (for aged care residents) is a very important factor to facilitate timely packaging, dispensing and administration of the correct medications within a DAA. The hiatus in communication between hospital and community pharmacies regarding discharge patients' medications was of

concern to the pharmacists surveyed in the study. Their apprehensions represented a heightened perception of risk in dispensing errors, adverse drug reactions, and incorrect counselling of patients. A more streamlined, accurate and standard system of communication should therefore be installed to ensure the continuity of patient care after discharge from hospital.

It is noteworthy that despite the imperfections of the current systems, despite the impost of blister pack changes on pharmacists' workloads and despite the poor remuneration of pharmacists for the blister pack service, pharmacists are still willing to support and provide DAAs because they believe it is a worthwhile community service.

The Illawarra study found that approximately only 6% (2,261) of the almost 37,000 Illawarra residents aged 60 years and older were being provided with a DAA from an Illawarra-based pharmacy. It should be acknowledged that some patients could have been provided with a DAA from a pharmacy outside of the region, and others would not have required a DAA.

It appears however, that the service is being grossly underutilised, especially considering the benefits that can be derived from such a service for 'at risk' patients with complex medication regimens and/or suffering from cognitive and/or physical impairments. One respondent suggested an awareness campaign to endorse and inform the public of the benefits of DAAs should be undertaken.

The Illawarra study, although limited in its scope, shows that there is undoubtedly a case for collective professional improvement of pharmacy practice in respect of DAAs with a view to improving patient compliance and reducing ADEs. Dylan was right, 'For the times they are a changing', and the profession must take heed.

CONCLUSION

The Illawarra study is a snapshot of DAA usage which will continue to increase into the near future and provide considerable benefit to the community particularly with regard to increasing compliance rates, reducing ADEs and keeping people domiciled in their own homes for longer or for life. To that end pharmacists will continue to increase their professional role as educators and communicators, facilitating the medication management process and advocating on behalf of patients.

Pharmacists are no longer simply dispensers or sellers of medicines. Hopefully in the not-too-distant future pharmacists will be recognised and remunerated justly for the professional role they play.

Recommendations based on the study include: the investigation and standardisation of discharge procedures with emphasis on the continuity of care; the introduction of a nation-wide database to limit adverse outcomes due to polypharmacy and the continued education of all medical personnel involved in the continuity of patient care.

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References available on request from the AJP.

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