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Multi-Compartment Compliance Aids: Friend or Foe?

It was with great interest that I read the article by Nunney et al.[1] on the attitudes and beliefs of older persons and healthcare professionals towards multi-compartment compliance aids (MCAs). This article highlighted many commonly encountered positive and negative associations with respect to the use of MCAs. I was surprised that the impact of these devices on patients’ medication awareness did not come to light as a result of this study. To my knowledge, there have been no prospective trials addressing this topic either. My experience working as a pharmacy co-op student in a geriatric day hospital has been that many patients regard MCAs as a trade-off; what they gain in convenience, they lose in knowledge about their medications.

One can easily postulate how medication knowledge diminishes with MCA use. The individual is no longer required to read prescription labels, identify medications by appearance, link pills with specific dosing times, or interpret auxiliary labels that may have prompted the recollection of details about their prescription.

This potential disadvantage to MCA use is concerning given that low health literacy has been shown to be related to increased hospitalizations, greater use of emergency care, lower use of preventative services and, among elderly patients, poorer overall health status and higher mortality rates.[2]

Aside from the potential to promote decreased medication awareness, a surplus of case reports demonstrate the potential for blister packs to be ingested causing serious harm and even death.[3-9] Most of these reports describe elderly patients who have swallowed unit dose packages; however, given the physical similarity to various MCAs, it seems plausible that MCAs too could be swallowed if a number of risk factors were present. Known risk factors for inadvertent ingestion include polypharmacy, advanced age, impaired vision and cognition, and edentulous state.[7]

Although MCAs appear to be a quick fix for improving adherence and maintaining independence, additional or alternative strategies should also be considered. Results from a recent systematic review on interventions to improve medication taking in the elderly found that medication reviews that focused on regimen simplification had a positive effect on adherence outcomes.[10] Instead of recommending MCAs to combat the administration difficulties associated with complex regimens, efforts should be directed at reducing polypharmacy by facilitating the discontinuation of unnecessary and inappropriate prescriptions. Comprehensive medication reviews in community pharmacies (e.g. Ontario, Canada’s MedCheck program) or in primary care (e.g. Ontario, Canada’s Family Health Teams) provide practitioners with the opportunity to determine what medications are still required and whether they are causing any adverse effects.[11,12]

In the same review article, all four studies that demonstrated a statistically significant improvement on adherence used multi-modal interventions as opposed to a single adherence enhancing method. Of note, only one of the four studies included dose administration aids as part of their intervention.[10] If MCAs are recommended, they should be just one component of a more comprehensive effort to improve adherence. Medication charts written in patient-friendly, plain language can augment MCAs by providing information on the reasons for medication use, medication goals, and patient progress. Increasing the font size on medication labels is another easy way to improve recall and understanding amongst elderly patients.[13] Using plain language and omitting unnecessary words on medication labels has also been shown to positively impact patients’ ability to interpret prescription labels.[14]

MCAs will arguably always have a place in the care of elderly patients; however, I urge healthcare professionals to thoroughly consider their motivation for use and whether or not the benefits outweigh the potential for unintended consequences. Research specifically designed to determine the impact of MCAs on medication awareness would aid clinicians in making decisions around the use of such devices.
The Authors’ Reply

We thank Ms Walsh for her interest in our paper.[1,2] She first highlights the impact of multi-compartment compliance aids (MCAs) on patients’ medication awareness. This did come to light in the study, and we noted that “dispensing medication in an MCA was seen by some participants as denying them a method of identifying the medication they have received” and that this gave rise to uncertainty for the people using the aids. Related to this is one of our main findings, concerning the wider loss of independence the use of such aids can cause. In our previous work we have noted how the issuing of an MCA takes away a key link between the patient and their medicines.

The point made regarding the possibility of ingestion of the aid, does not apply to the devices that were the topic of our paper, as these are rigid plastic containers that are too large to swallow.

Walsh then describes how an MCA can appear to be a quick fix for improving adherence and maintaining independence. This is, in fact, a point we make strongly in the paper; indeed our main conclusion is that careful multidisciplinary assessment of older people is required before an MCA is provided.

Finally, we feel that Walsh’s point about the need for further research is well made and one we fully support.

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