

People with dysphagia suffer more drug administration errors than the general population. Individualised guides were developed to boost nurses' confidence and improve safety

Drug administration guides in dysphagia

In this article...

- › Safety issues in medicines administration in dysphagia
- › Introducing individualised medication administration guides
- › How the guides impacted on nursing practice

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Abstract Serrano Santos JM et al (2012) Drug administration guides in dysphagia. *Nursing Times*; 108: 21, 15-17.

Background Patients with dysphagia are more likely to suffer medication administration errors than those without swallowing difficulties.

Aim To evaluate the use of individualised medication administration guides (I-MAGs) for patients with dysphagia on one stroke ward over six months.

Method A specialist pharmacist in dysphagia designed a software package supported with data on national guidelines on administering medicines to this group, which enabled the pharmacist to create I-MAGs. Once the pilot was completed, a questionnaire was given to all nurses, pharmacists and speech and language therapists who had used the guides.

Results Of 26 health professionals approached, 19 returned questionnaires. Eight (62%) nurses felt more confident in their practice when I-MAGs were in place.

Conclusion I-MAGs were well received and supported individualised care. However, they needed additional pharmacist input and greater nursing time. Research to determine the guides' cost-effectiveness is needed.

diseases (Morris, 2005; Schindler et al, 2003), administration of medicines to such patients becomes increasingly difficult. This is because they are often prescribed as tablets and capsules, which are designed for patients with an intact swallow. To ensure those with dysphagia receive their medicines, nurses often crush or disperse tablets and/or mix them with foodstuff (Kelly and Wright, 2010). However, this practice is not always optimal (Kelly et al, 2011a).

Aim

The aim of this evaluation was to explore how the provision of individualised medication administration guides (I-MAGs) was delivered and its effect on nurses' practice.

Literature review

Interviews with patients with dysphagia and focus groups with health professionals identified a need for more information on how to administer medicines to this group (Kelly et al, 2009). This finding was supported with observational work that identified people with dysphagia are around three times more likely to experience administration errors than those without swallowing difficulties (Kelly et al, 2011a). Furthermore, from observing the administration of the same medicines by different nurses to the same patient, a need for standardisation was also identified (Kelly et al, 2011b).

Although the National Patient Safety Agency (2007) produced resources on managing patients with learning disabilities and dysphagia, no guidance on administering solid-dose medicines was included.

Developing I-MAGs

The research team at the University of East Anglia, in collaboration with colleagues

5 key points

1 Nurses may benefit from specific training in the administration of medication to patients with dysphagia

2 An individualised medication administration guide (I-MAG) can help nurses to administer medication to this group and increase safety

3 Nurses often feel more confident in their practice when I-MAGs are in place

4 Time and safety are nurses' main concerns when administering medication to patients with dysphagia

5 Research to determine the cost-effectiveness of I-MAGs is needed



The need for more information on dysphagia was noted

With the increase in the UK's older population and the relationship between dysphagia and degenerative

from the Norfolk and Norwich University Hospital, subsequently devised the concept of I-MAGs for nurses to use at the bedside when administering solid- and liquid-dose medicines to patients with dysphagia. The design of the guides aimed to standardise and optimise the administration process.

Each I-MAG contained specific information about how to administer every medication and other individualised instructions for patients and nurses/carers, such as foods the medication can or cannot be mixed with, amount of water to use on each administration and so on. These guides were placed in patients' medication charts during hospital admission and, in some cases, given to them on discharge to help the transition from acute to primary care. The part-time dysphagia pharmacist provided the service in liaison with other staff.

During 23 consecutive weeks, 75 patients with dysphagia received I-MAGs including more than 1,000 recommendations for nurses on how to administer medication correctly.

This service evaluation was developed to follow up that trial to assess the delivery of the guides. I-MAGs have not been provided before and their design may not be optimal. As no previous standardised policies on administering medicines to this group had been successfully implemented on the hospital wards, health professionals' opinions on the relevance and acceptability of the I-MAGs were explored.

Method

Design

The questionnaire covered six main aspects of the service in 26 questions:

- » Preparation and training sessions before I-MAGs were introduced;
- » Presentation of the guides;
- » Their practicality;
- » Delivery of the service by the dysphagia pharmacist;
- » Content of the I-MAGs;
- » Opinion of project participants.

The questionnaire consisted of a sequence of pre-coded answers followed with space for more comments at the end of every section and the whole questionnaire. All questionnaires were pseudo-anonymised to ensure confidentiality (Table 1).

All participants received the same questionnaire; two additional questions that were relevant only to nursing practice were included in the nurses' questionnaires. One of the questions related to the nurse training sessions and the other referred to the practicality of the I-MAGs when nurses were following the recommendations on the guide. The questionnaire was piloted

TABLE 1. PARTICIPANT CODES AND ROLES

Participant number	Code	Role
1	S1	SALT
2	S2	SALT
3	S3	SALT
4	P6	Pharmacist
5	P7	Pharmacist
6	P8	Pharmacist
7	N14	Nurse
8	N15	Nurse
9	N16	Nurse
10	N18	Nurse
11	N21	Nurse
12	N22	Nurse
13	N23	Nurse
14	N24	Nurse
15	N27	Nurse
16	N28	Nurse
17	N30	Nurse
18	N31	Nurse
19	N33	Nurse

SALT = speech and language therapist

with a pharmacist who indicated that it took no more than 15 minutes to complete even when adding comments. The comments and answers to the open questions were analysed using qualitative thematic analysis where codes were generated to identify common emerging themes.

Setting and participants

This service evaluation was carried out in one of the wards where most of the I-MAGs (94.5%) were implemented. Participants were nurses, pharmacists and speech and language therapists practising in one of the two intervention wards where the I-MAGs were delivered. The chosen ward counted on regular support from 20 members in the nursing team, three pharmacists and three speech and language therapists during this period. Due to the small size of the group, only their role in the ward was asked for as part of the demographic data to minimise the risk of identifying respondents.

Recruitment of participants

The dysphagia pharmacist who had been fully involved in delivering the I-MAGs approached potential participants during August and September 2011 two months after the guides were removed in the

intervention ward. The questionnaire was anonymised and then given to staff members involved during delivery of the service.

While all pharmacists (n=3) and all speech and language therapists (n=3) completed the questionnaire, only 13 members of the nursing team did so. The remaining seven did not complete it; some had moved from their job, and some were not in charge of administration of medication or were working on occasional night shifts.

Results of the nurse questionnaire

Preparation and training sessions

Six (46%) of the 13 participating nurses remembered attending the training sessions organised in September and October 2010. Five of those who attended (83%) found them adequate in terms of the information received and the time allocated. The same five respondents found the hand-out given had been helpful.

Presentation of the I-MAGs

All participants said they had seen I-MAGs in the ward and agreed the medication chart was the best place to locate the guide. Nine nurses preferred the I-MAG in portrait layout compared with four who preferred the landscape format in which it was provided. Eleven (85%) considered that their format and font size were easy or very easy to read while the rest were undecided.

Practicality of the I-MAGs

Nurses were asked whether they had used the I-MAG for administering medication. They all answered "yes" and 12 out of 13 said they would follow it very often or every time. While all reported following the I-MAG recommendations, six believed the guides increased the amount of time spent in administering medication, very often or every time. Participants also commented specifically on time-related issues:

"If we follow IMAGs, it took a lot of time to finish the meds round, but later it was easy" (N18).

"Can save time finding correct way of administering certain drugs" (N27).

However, comments also highlighted specific ways in which safety was prioritised and improved:

"More confident in my practice, knowing right way of administering each drug" (N27).

"Breakdown of the correct rate of administering medication" (N28).

Nurses were also asked whether they felt more confident in their practice when

using the I-MAGs. Eight out of 13 (62%) felt more confident in their practice, while the remaining five did not feel more confident because very often or every time they would have done the same as indicated in the guide anyway. Eleven respondents said that I-MAGs were updated according to the drugs listed in the medication chart.

Delivery of the service

Although nine nurse respondents considered that the dysphagia pharmacist's availability was adequate, this was in marked contrast to the four nurses who wanted more availability.

Content of the I-MAGs

While all respondents confirmed they found the instructions in the I-MAGs easy to understand, eight nurses accepted that mostly or every time they would have administered medication differently to the way indicated in the guides if they had not been in place.

Results from all questionnaires

Although the nurse questionnaires showed more variability in their results, 18 out of 19 respondents said they would like this service to continue, with most adding substantial comments to the open questions.

Open responses

The analysis of all additional comments highlighted many issues related to the use of I-MAGs for patients with swallowing difficulties. The most common were:

Time: This was one of the most concerning issues. Most answers made a clear distinction between the time it takes to administer medication, the time pressure that nurses feel in their routines and the time needed by the ward pharmacist who regularly visits the ward to improve recommendations on how to administer medication. The comments highlighted how I-MAGs can increase the time of administration; however, according to responses, the guides also saved time by avoiding the need for nurses to check with pharmacists on how to proceed when instructions have not been provided. For example:

"Medication given more timely (no need of checking with pharmacy about crushing etc first)" (N23).

Safety: Respondents highlighted emphatically how the use of I-MAGs could improve patient and nurse safety, because administering medication correctly may avoid harm to nurses from exposure to certain drugs. Health professionals' safety had not been considered before seeing these

comments but is clearly another important issue when nurses administer certain medicines such as steroids or cytotoxic drugs:

"Patients receive medication in the correct format/administered the correct way. Safer for patients and staff" (S1).

Usability: Some comments pointed out wider potential uses of the I-MAGs, such as for other patients without swallowing difficulties, implementing them from the time of admission, and their uses for carers or relatives of patients with dysphagia at home. Although originally I-MAGs were only being considered for use in hospitals, respondents identified many uses for them, such as in primary care and implementing them at the time of admission. For example:

"Use by the patients themselves or e.g. carers/family as appropriate either at home or if discharge to a rehab unit, residential/nursing home etc" (P6).

Presentation: Although this theme was covered in the closed questions, more comments were added confirming that only minor changes in the format would be needed:

"They are quite wordy. Maybe drug and dose in larger font" (P8).

Practicality: Participants found the I-MAGs a convenient tool for their practice. The guides were found to promote safer and more time-efficient administration of medication:

"Informative, practical and easy to use" (N33).

Training: Respondents considered that more detailed training may be needed before implementing an I-MAG service:

"More detail[ed] training sessions could improve understanding and effective use of the I-MAGs" (N27).

Other themes such as content, individualised treatment, disadvantages, demand, confidence and availability also emerged in participants' comments.

Discussion

The results indicated that the delivery of I-MAGs was generally well received by nurses, pharmacists and speech and language therapists as most said they wanted the service to continue. The guides were used appropriately and supported more informed practice in medicines administration. Health professionals also felt the guides improved safety and patient care.

The one-hour training was also well

received before the service was implemented. Only minor amendments were suggested in the presentation of the I-MAGs and respondents identified other settings for implementing these guides for patients without dysphagia, which may be useful for uncomplicated formulations. While improvements in patient safety were seen as a clear benefit, this was counteracted by the increased time taken to administer medication. Also, a part-time pharmacist specialised in dysphagia was needed to deliver the service. This raises the question about whether the additional costs are justified by the improvement in patient safety.

The fact that this evaluation was only carried out on one ward and the length of time that elapsed between the training sessions and the evaluation may have limited the results. The delivery of the service by a specialist pharmacist in dysphagia may make it difficult to reproduce.

Conclusion

This is the first study of I-MAGs. Results suggest that nursing practice could be enhanced by such an innovation to support medication administration, with minor changes to the presentation of the guides. We need to demonstrate that the time for implementation is justified by patient benefits. Research is now needed to determine the cost and effects of this. **NT**

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