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Implementing Best Practice Guidelines: The management of constipation in the older adult living in residential care

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1. Introduction

Constipation is often regarded as a common, minor medical problem but it is a major concern for healthcare providers in residential care facilities. Constipation has a significant impact on residents' quality of life and is a challenge for healthcare providers.

The initial management of constipation involves identification and, if possible, elimination of the primary cause. Once constipation and the cause have been identified, the next step is to manage and treat (Tariq 2007). Best Practice Guidelines recommend an initiation of a diet adequate in fibre and fluid, a program of exercise and a regular toileting regime as the first line of treatment for constipation for people without underlying causes. If the resident doesn't respond to these lifestyle measures, guidelines recommend initiation of a short course of a suitable laxative. However, clinical observations by nursing staff in residential long term care reveal that residents are prescribed at least one or two laxatives as the sole management of constipation. Woodward (2002) found that approximately 76% of hospitalised elderly patients and 74% of nursing home residents are prescribed at least one type of laxative.

Best Practice Guidelines in the management of constipation in the older adult have been developed world wide, including Australia. These guidelines are used in nursing practice to deliver effective care based on the current best evidence. There is evidence that the guidelines have been shown to be effective in changing practice patterns when they are accompanied by effective implementation. Anecdotally, there is concern amongst nursing managers and clinicians that the uptake of these guidelines is suboptimal, including within WACHS, as there been no coordinated effort to implement these guidelines.

The change from best evidence to best practice can be simple; however, most of the time it is not. All potential barriers need to be addressed, and all key stakeholders need to be involved in the change process (Grol and Wensing 2004). One of the major barriers to implementing change is the practice of the nursing staff.

An example of a successful bowel hygiene programme was reported by the Sisters of Charity Nursing Home in Ottawa, Canada (Benton et al 1997). This program was implemented over a period of two years resulting in 26 out of 28 residents having patterns of normal bowel elimination without the use of laxatives. The strategy they used was to increase the overall hydration level prior to increasing dietary fibre intake. They then established a consistent toileting schedule that supported the defecation reflex. This all came about by taking a gradual approach in changing practice "one resident at a time". This gave the staff time to master the standards, acquire the skills, and develop expert clinical

decision making. This project provided evidence that by using good change processes, aged care facilities can successfully implement Best Practice Guidelines.

The present study was based in the Midwest of WA, which covers an area of more than 470,000 square kilometres, nearly a fifth of the state. The population is concentrated along the coast, with more than 70% living around Geraldton-Greenough. Whilst the population is growing along the coast, the inland population has been declining slightly. The Midwest has a high Aboriginal population and an increasing proportion of aged people. Geraldton-Greenough has three private residential aged care facilities; there are also several other aged care facilities attached to Multi Purpose Services throughout the Midwest.

This project focussed on increasing nursing staff knowledge about the management of constipation in two aged care facilities. This was done by education and the use of specific tools to adopt best practice. If successful, the strategy could be replicated in other rural facilities. If unsuccessful the project would identify additional barriers to implementation. Regardless of the outcome, the results will inform state policies on improving the care provided to older rural Western Australians.

1.2 Project Aims & Outcomes

The aim of this research project was to implement a change process by educating residential care staff on the management of constipation and to monitor the adoption of the change in two rural health care settings. To achieve these aims, the following strategies were used.

- Formation of a project reference group.
- Review the published literature to identify key sources on the management of constipation amongst the elderly in residential care.
- Review best practice guidelines for the prevention of constipation: The Johanna Briggs Best Practice Guidelines (1999) and The Registered Nurses of Ontario, Canada (2005).
- Transfer of knowledge to the nursing staff of the two residential aged care facilities in order to improve patient care outcomes for constipation management.
- Create a reference booklet and poster for the nursing staff.

The Geraldton Hospital pharmacy staff and the Dietician at Carnarvon Regional Hospital were also consulted.

The outcomes of this project will be to assist the nursing staff in employing strategies to

- increase the aged care residents fluid and fibre intake, and
- have a more regular toileting schedule for the resident resulting in more normal bowel movements.

These outcomes will assist in the management of constipation, resulting in less laxative use and an increased quality of life for the residents.

2. Project Reference Group

A project reference group was established to advise and provide support on aspects of the project planning and research. Consultation with the reference group occurred on a regular basis throughout the project. Additionally, group members reviewed project progress, promoted the project within their facilities, and recruited participants for the survey and educational sessions.

Participants of the project reference group included:

Jacki Ward	Senior Project Officer, CUCRH, Geraldton
Isabelle Ellis	Assoc. Prof. Remote & Rural Health Services, CUCRH, Port Hedland
Susan Duplex	Registered Nurse (RN), Staff Development, Nazareth House, Geraldton
Lynne Warren	RN. Clinical Nurse Specialist, Carnarvon Hospital
Sally Gutman	RN. Nurse Continence Advisor, Director of Care, Belmont Nursing Home, Perth
Mary Bell	RN. Nurse Continence Advisor, Carnarvon Regional Hospital, Carnarvon

3. Literature Review

A review of the available literature was undertaken to gain a strong knowledge base to develop material to support the change process in the management of constipation. The knowledge gained from this review also assisted in the development of an education program for the nurses and carers.

The literature search was restricted to papers directly relevant to the research topic published in the last twelve years. The data bases searched were Cochrane Library, Medline, Pub med and Google Scholar. A series of key words were used: constipation; dietary fibre and fluid; older adult; and, laxatives. The search results identified gaps between the clinical process and the Best Practice Guidelines.

There was no consensus definition of constipation used in the literature reviewed and furthermore patients and the physicians do not use the same definitions (Emily & Rochester 2006). The pathophysiology of idiopathic constipation is yet to be understood (McCrea et al 2007).

The literature reviewed found there were very few comparative studies and most of the trials were small for the management of constipation for residents in aged care facilities. This made it difficult to

determine what constitutes the best practice for the management of constipation, especially with aged care clients.

Two Best Practice Guidelines (Johanna Briggs 1999 & RNAO 2005) combine lifestyle measures together, without comparing their effectiveness. Dietary fibre and fluid are recommended to bulk the stool and increase motility; exercise to increase gut movement and toilet positioning to assist with the defecation reflex. However, the review of the scientific and medical literature suggested that evidence for lifestyle measures for the management of constipation was scant.

Lifestyle measures in most of the literature reviewed was considered the first line of management for constipation (Tramonte et al 1997). It was noted by Ramkumar and Roa (2005) that none of these lifestyle measures have been validated in a proper controlled trial. Increasing fluid slowly to hydrate the older resident before introducing fibre into the diet is a recommendation of the Best Practice Guidelines. It is the belief of some that adequate hydration is a factor contributing to the management of constipation, but this has not been authenticated in studies (Muller et al 2005; Greenfield 2007).

Research has found evidence that some food items increased the bulk and softness of stool that assisted with the defecation process (Tariq 2007). Introducing fibre into the diet is generally a safe, inexpensive, first line approach. It improves stool consistency and accelerates colonic transit time (Kavish & Loven 2007). A trial conducted in a nursing home by the introduction of the required amount of fibre in the form of a cake, resulted in the reduction of laxative use (Sturtzel & Elmandafa 2005). Another trial to determine whether the addition of a “fibre 7” supplement (6g per meal twice a day) to the diet of 92 nursing home residents resulted in the decrease of laxatives. They successfully discontinued the use of laxatives in 63 of the 92 residents. This also resulted in a decrease in the cost of medical care (Khaja et al 2005).

Physiotherapy incorporating abdominal massage has been noted to be helpful in resolving constipation (Harrington & Haskvitz 2006) but there has been no study to date on aged care clients.

Clinically, it is recognised that increased activity enhances peristalsis which assists with the defecation process. Two randomised trials investigating the effect of increased mobility in 246 institutionalised older adults showed no improvement in constipation (Kavish & Loven 2007).

Suppressing the urge to defecate, lack of privacy, inconvenience or lack of toilets all contribute to the development of constipation in residential care. Most support for consistent toileting is qualitative, supporting the belief that consistent toileting has been found beneficial in reducing constipation (Gibson et al).

In the literature reviewed on pharmaceutical intervention there is limited data, especially in elderly persons, to recommend one laxative over another (Bossard et al 2000). There was also insufficient evidence in a systematic review (Tramonte et al 1997) to establish whether fibre was superior to laxatives.

4. Method

An aged care facility in Perth was visited to gain knowledge about their bowel care program. The facility had successfully reduced laxative use by the introduction of a new menu with added dietary fibre in the form of extra fruit and vegetables. Secondly, a high fibre food supplement drink was added to the breakfast food of the cognitively impaired residents to assist with added calories and fibre, and thirdly, they introduced individual water bottles for each resident to assist with increasing fluid intake. It was also noted whilst visiting the facility that the residents were all participating in a light exercise programme with the activities coordinator.

Approval from the ethics committee of the University of Western Australia was gained prior to the commencement of this project. The research protocol was evaluated according to the Australian National Health and Medical Research Council Guidelines for ethical research involving human participants.

4.1 Recruitment of participants

Two aged care facilities in the Midwest agreed to be part of this project. The participants were nursing staff from the two facilities who attended an education session on the Best Practice Management of Constipation. The session was advertised by posters displayed within the staff areas of the residential care units (Appendix A). There were no exclusion criteria for the nursing staff. The project was supported by the management at the two facilities through the signing of a memorandum of understanding on the education of Best Practice Guidelines.

4.2 The participants

The first site, Facility A, is a public district hospital with 14 aged care beds. The residents are attended by hospital nursing staff. The second site, Facility B, is a large not-for-profit residential aged care facility staffed by registered nurses, enrolled nurses and aged care workers.

The nursing staff were presented with the information sheet explaining the data collection, the purpose of the study and what the expected outcome would be (Appendix B). Participants were also asked to sign a consent form on the understanding that data collected would be kept confidential. No identifying information would be used in reports or publications (Appendix C).

4.3 Data Collection

Two procedures were used to evaluate the change management process. The first were pre and post questionnaires (Appendix D) for all staff providing direct care to older residents, eliciting knowledge and attitudes about constipation management. A supplemental questionnaire for the Registered Nursing staff, relating only to their scope of practice in the management of constipation, was added. The second procedure was a retrospective audit of the assessment and monitoring tools for every older resident in the two facilities. The audit only recorded if specific information had been documented (e.g., assessment of fluid intake, determination of triggering times and development and adherence to the toileting regime) and not the content of that information (e.g., amount of fluid taken).

The pre questionnaire was followed by an education session for the nursing staff. These sessions were for staff to gain knowledge of the Best Practice Guidelines in the management of constipation. The education sessions were scheduled for 1.5 hours each, and were delivered by the researcher.

Three sessions were conducted at Facility B and four at Facility A, with two being on the ward with staff watching a power point presentation and discussing the key points. The Nurse Continence Advisor from Geraldton Silver Chain was in attendance for the first session at Facility B, where she gave a brief talk on positioning.

The objectives of the education sessions were for nursing staff to:

- understand the utilisation of the bowel record as a tool in the assessment of bowel function and the plan of care;
- become familiar with the use of the Bristol Stool chart to monitor the quality of bowel movements;
- understand the impact of fluid intake on bowel function;
- understand the impact of dietary fibre intake on bowel function;
- realise the importance of consistent toileting for a bowel movement; and,
- understand the importance of exercise and positioning for the urge to defecate.

The signs, symptoms and causes of constipation were also discussed.

An information booklet and poster were provided with specific tools for the nursing staff to adopt in their everyday practice.

4.4 Data Analysis

Before the education sessions were conducted, pre questionnaires were completed by all 42 staff who attended. Twenty-nine staff completed the post questionnaires, which were returned one month later. The audit measured the success of the change management process.

5. Results and Discussion

5.1 Nurses' knowledge of constipation and Best Practice Guidelines

The pre education survey found that 38 of the 42 staff (90%) knew very little about Best Practice Guidelines (BPG) and the management of constipation. However, the majority of staff thought the management of constipation for their residents was extremely important. The post education survey had fewer participants, but all 29 of the staff indicated they now had access to The Johanna Briggs Best Practice Manual *Management of Constipation in Older Adults*. All staff stated they had better knowledge about constipation and its management.

5.2 Nursing assessment

Best Practice Guidelines state Registered Nurses should complete a medical history and physical assessment before introducing any form of constipation management. This recommendation requires the nurse to complete a physical examination to listen for bowel sounds, check for abdominal distension and palpate the lower abdomen to feel for the presence of hard faecal masses in the colon. The nurse should check the resident's chart for reports of the patient's daily bowel habits to gain some indication of the resident's bowel function. The nurse must also check the resident's medical history in the nursing notes for information about any other underlying issues. Medical diagnostic interventions need to be ordered by the physician.

Case Study A

Female 78 years old.

History: Confusion, Memory Loss, Poor eye sight, unsteady on feet, falls risk, weight loss.

Mobility: Transfers to the toilet with assistance using a walker during the day. Transfers to the commode beside her bed at night with no assistance. Will ask to go to the toilet.

Medications: Five days prior to the assessment, long term Oxycontin had been discontinued. FGF 1 tab daily, Panadol 2 tabs QID.

Bowel History: Hard pellet like stool, staining with some bleeding every three to four days. Her bowel movements were becoming more regular and softer due to the opioid being discontinued

Fluid Intake: Approximately 1000 mls daily.

Fiber Intake: Approximately 15 – 20 grams daily

Laxatives: Coloxyl 2 tabs BD, Sennekot 1 tab daily, Movicol daily.

One month after the education sessions and with assistance from the researcher the resident's fluid intake improved slightly with the introduction of fresh fruit drinks. The resident was also given the prune, apple & bran supplement for 3 days. For those 3 days it was noted the resident's laxatives had to be withheld as 3 of the 7 days she had loose stool.

Suggestion: the resident is taken off her laxatives and to continue with the fresh fruit drinks. This could be assessed for 7 days by the use daily food and fluid chart along with the bowel chart.

The staff at both sites indicated in the pre education survey that their residential facility had a reporting system in place. The carers reported directly to the Registered Nurse when the resident's bowel diary indicated they had not had a bowel movement in three days.

At Facility A a few staff indicated that the reporting system on the bowel chart was not being utilised properly, as there was no space to indicate the type, time and consistency of stool. Facility A also had two reporting systems in place, a Comprehensive Daily Bowel Record form, plus utilising the "bowel movement" area on the daily Aids to Daily Living chart for every resident.

The audit found these systems would often show conflicting observations.

Facility B used a more complete bowel diary which had referrals to track the amount, the Bristol Stool Scale, bowel interventions, impacting behaviour and the level of assistance given. The audit of the bowel charts supports this statement.

A very small percentage of the Registered Nursing staff completed a full physical examination and/or medical history. The rest stated they would mainly refer the constipated resident to the doctor. In the post education survey, 99 % of the staff were aware of the reporting procedure. When asked to write down the procedure for reporting signs of constipation, most of the staff still reported to the Registered Nurse to perform a more complete assessment. This was indicated in the audit of the residents' notes at Facility A. It was also indicated in the supplemental survey for Registered Nurses.

The post education survey supplement was completed by 11 Registered Nursing staff. All of the 11 staff were aware of the constipating medications that the residents were prescribed. Also, all of the 11 staff assessed the residents for bloating, pain or any other symptom when a report of constipation was

made. In the pre survey not all staff indicated they did a full assessment. In the post survey seven out of the 11 said they listened for bowel sounds when assessing a constipated resident.

5.3 *Hydration*

The audit of the fluid charts showed that the residents in both facilities received adequate fluid intake, but not the National Health and Medical Research Council (NH&MRC) recommendation of 1000 – 1500mls daily. The most common types of fluids taken were tea, coffee and juice, with water being the least consumed. It is also recommended by BPG to increase fluid slowly to the 1000 - 1500mls required daily, unless contraindicated, when increasing fibre in the diet.

In the pre education survey 36 of the 42 staff said residents have daily drink times. However, only 12 staff recorded these times outside of the meal times. Six staff said the residents didn't have extra drink times. All 42 staff indicated that residents had good access to extra fluid with staff assistance, meal times, medication, and drink rounds. Thirty seven staff were aware of the correct amount of fluid to be consumed, five were not aware, or they thought the amount drunk by the residents they cared for was adequate. It should be noted that it is the opinion of some of the nurses that the cognitively impaired resident can be very difficult to hydrate, as they rely on the nursing staff for assistance. The majority of the staff indicated they would spend between 3 – 7 minutes giving a cognitively impaired resident a drink.

After the education session 26 staff spent more time giving drinks and all knew the correct amount of fluid required for adequate hydration. All the staff indicated that extra fluid was given by staff, mainly with medications and at meal times. Eighteen staff put down the actual extra drink times. Facility B introduced an extra drink time for residents. This was instigated by staff after attending the education session to improve hydration levels. Facility A, with the assistance of the researcher, introduced extra fluid by making fresh fruit smoothies. There was support for this practice to continue.

5.4 *Fibre*

Fibre should be encouraged in the diet of all nursing home residents. According to the Nutrient Reference Values for Australia and New Zealand, developed by the NH&MRC and the Department of Health, adults should eat at least 25 – 30 grams per day. It is recommended by BPG to start slowly

and increase dietary fibre 5 – 10 grams at a time. This should only occur after it is indicated that the resident is receiving an adequate amount of fluid.

An audit of dietary fibre intake was performed on two residents at Facility A. This entailed the measurement of their daily intake from the residents' daily menu for five days. Depending on the menu for the day, plus the amount consumed by the resident, it was found that most days they were not receiving the 25 – 30 grams/daily, but were only getting half the amount (refer to case studies A and B).

The pre education survey indicated most of the staff had little knowledge of the amount and what, in the form of dietary fibre, their residents received. The education session and the booklet were well received by all the staff, who indicated they wanted to implement some of the suggested recipes.

Case Study B

Male 61 years old.
History: Spastic paresis, Acquired brain Injury from hypoxia, Epilepsy. Partial gastrectomy
Mobility: A hoist transfer, needs to be secure on the commode. Will occasionally ask to go to the toilet
Medications: Epilum BD, Diazepam BD, Omperazole BD.
Bowel History: Toileted twice daily on the commode after meals. Normal bowel movement every 2nd day.
Fluid Intake: 1300 – 1500 mls daily with assistance from the nursing staff.
Fiber Intake: 12 – 15 grams daily.
Laxatives: Lactulose BD, Movichol BD
Post education sessions saw the laxatives being withheld at different times not regularly. The resident had loose stool when a combination of laxatives, high fiber fruit drinks and the prune supplement was given.
Suggestion: Discontinue the Lactulose and make the Movichol PRN with the Doctors permission. Follow with a 7 day assessment of fluid, diet and toileting. Continue to toilet twice daily or more. Refer to the occupational therapist for positioning and the physiotherapist for a passive exercise program. Refer to the dietician for extra fiber supplements in the residents' diet.

The post education survey, even though it had a smaller response, indicated that everyone was aware of dietary fibre in their residents' diet. One change implemented post education was a staff member giving crushed daily medications with mashed banana instead of the fruit gel provided. This gave the residents extra fibre at least three times a day and made the medication taste more palatable.

Facility A tried the prune supplement recommended by Johanna Briggs BPG, in conjunction with the high fibre drinks and with the regular prescribed

laxatives. This proved to be too much fibre, too quickly, for some residents. Facility B was given the recipe for the "Get Up and Go Cookies", each high fibre biscuit containing 1.97 grams of dietary fibre, to be baked for the residents in the facilities kitchen. There was no data collected to see if they were made and given to the residents.

In both surveys only a small number of staff indicated that they would refer a constipated resident to the dietician.

5.5 *Toileting, Positioning and Exercise*

Best Practice Guidelines recommend staff encourage regular activity, within the resident's abilities, to decrease the risk of constipation. The nursing staff at Facility B discussed the restrictions of many disabilities which made it difficult to encourage many of their residents to do even the smallest amount of exercise. In both the pre and post survey everyone mentioned that all their capable residents engaged in an exercise program tailored to their ability.

The defecation process for the elderly in aged care facilities has many constraints; some examples include not enough privacy, lack of time, assistance not available when needed, and toilet facilities not in close proximity. In both the pre and post survey, the nurses stated that the residential facilities had individual toileting times for the cognitively impaired, and these residents all had a toilet facility close by. Privacy was a concern for many residents, as the nurses felt they had to remain with residents suffering from dementia for safety reasons.

When auditing the charts at Facility A, it was noted that one resident had the use of a restraint for toileting, which was approved and signed by a relative and their doctor. The resident was toileted daily at the same time, left to sit for a good while and usually defecated at least every second day. This resident was very rarely incontinent of faeces.

Only half of the staff would refer a resident to the physiotherapist or occupational therapist for assistance in the treatment of constipation. It was explained in the education session that the occupational therapist could be of assistance to help with positioning, either on the toilet or in bed, as positioning is very important in promoting defecation.

Issues such as ensuring the toilet is at the correct height, and the use of foot raisers, help to minimise the need for straining can be addressed by an occupational therapist.

6. *Recommendations*

Recommendation 1: Initiate regular education sessions for staff

In discussion with the Nurse Managers, it is recommended that regular education sessions relating to constipation would be a helpful reminder to nurses to reflect on their own daily practice. The nursing staff could then continue to give the best care based on the best available evidence. The Registered

Nurses asked for more information on performing physical examinations, particularly the technique associated with listening for bowel sounds. It would be recommended to have a Nurse Continence Advisor provide an in-service education session on assessing the constipated resident.

Recommendation 2: Increase fluid intake

Fluid needs to be more accessible to all residents. This could be achieved by each resident purchasing their own water bottle to keep close by, rather than managing a heavy water jug or waiting for a periodic drink round.

The challenge is the cleaning and sterilisation of the plastic water bottles. Facility A has utilised a successful program with the use of water bottles for each resident. However, Facility A is a smaller unit with only 14 residents, and the use of water bottles had been initiated well before this project started. This was not a viable option in the larger facility due to cost and infection control issues. However one extra drink round was initiated as a result of the education given.

Recommendation 3: Increase fibre consumption as required

Overall, it would appear that studies in the review of the literature indicated that increasing fibre can make a difference to the management of constipation. It appears to make a further improvement in the management of constipation when combined with an increase in fluid intake. The difficulty in implementing this strategy will depend on each individual resident.

Recommendation 4: Consider promoting regular exercise

It is hard to confirm from the available evidence that the elderly would benefit from regular exercise for the management of constipation. However, there are findings from observational studies that have found exercise to be beneficial (Bossard et al 2004), not only in the management of constipation but in the residents' feeling of well being.

Due to some extra funding, Facility A has introduced an activities coordinator. As part of their duties, the coordinator will work with both the staff and residents to increase levels of activity, especially for the more constipated residents.

Facility B has an activities coordinator who works with the ambulant residents and has a walking program for each. As a result of this research, consideration was being given to utilise a physiotherapist to teach the staff some passive exercises for the bedridden residents, and especially those suffering from constipation.

Recommendation 5: Utilise occupational therapists to advise on improved toilet positioning

In discussion with the Nurse Managers at both facilities, it was agreed that some, but not all, of the residents would benefit from the use of a foot stool for better positioning on the toilet. The occupational therapist at Facility A was consulted, and gave advice on which type would be the best to purchase.

Residents that are at risk for falls, and/or cognitively impaired, would benefit from a toilet at the correct height. A consultation with the occupational therapist would also help to find the correct and safest position for these more challenging residents.

7. Conclusion

The trio of fluid, fibre and exercise is considered an efficient treatment for constipation but not well validated. How to implement the lifestyle measures of fibre, fluid and exercise to reduce laxative use in residential care may be a challenge, but is achievable. The results from the survey validated that changing practice has many obstacles, but many of the nursing staff surveyed felt a lot of the obstacles could be overcome.

Benton et al (1997) found that a multi-disciplinary team approach was the optimal way to change practice. In Ottawa they consulted with the doctor, continence advisor, dietician, pharmacist, physiotherapist and occupational therapist for the management of constipation. They also implemented the change slowly, taking the approach of one patient at a time and using support from the team.

Updated education programs are continually needed to assist with changing practice. Strong, dedicated leadership is needed to implement the change. The leader needs to be well prepared, have strategies in place, measure success and monitor progress continuously. This in turn is a recipe for success and will make the residents' care more comfortable, efficient, safe and friendly. Future studies

and controlled trials are needed to test best practice bowel care programs in aged care facilities where the problem of constipation seems to be prevalent.

Acknowledgements

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9. Appendices

- A. Training Poster
- B. Information Sheet
- C. Consent Form
- D. Questionnaire