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publication no. kc003

Early intervention, parastomal hernia and quality of life: a research study

An extract from S20 British Journal of Nursing, 2014
(Stoma Supplement), Vol 23, No 5
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Support Wear That Hugs



Parastomal hernia continues to be a common and distressing problem for stoma patients. But are they preventable? In 2005 and again in 2007, Thompson and Trainor reported that by introducing a simple prevention programme that advised the wearing of support garments for heavy lifting for 1 year after stoma surgery, they significantly reduced the incidence of parastomal hernias. They also found that most of the hernias occurred in the early months after stoma surgery (their intervention programme started 3 months after surgery). The current study builds on Thompson and Trainor's work by introducing an intervention programme at a much earlier stage, with specific advice to wear a lightweight support garment on discharge from hospital in place of normal underwear. Advice was also given about lifting and participants were started on an abdominal exercise programme. Quality of life was monitored at discharge, 3 months, 6 months and 1 year. The results show reduced hernia rates and an increased quality of life for these patients. The aim was to improve on the results of Thompson and Trainor in reducing parastomal hernias, improving quality of life and reducing costs to the NHS through fewer complications associated with hernias, and wasted prescriptions for unused, inappropriate or ill-fitting support wear.

Key words:

Parastomal hernia / Prevention / Early intervention / Stoma / Support wear / Quality of life

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Parastomal hernia is a common and distressing problem for stoma patients. It is also a potentially costly one for the NHS with readmissions, expensive support wear and the occasional need for further surgery. According to the Health and Social Care Information Centre (2012), there were 648 100 emergency readmissions in the 2010/2011 financial year (all causes). But are they preventable?

A literature review revealed limited research into the prevention of parastomal hernia before the Thompson and Trainor (2005) study. A database search of Pubmed and CINAHL was

carried out, including the terms 'parastomal hernia' and 'hernia prevention'. Thompson and Trainor (2005) reported that the introduction of a prevention programme for 1 year after stoma formation surgery significantly reduced the incidence of parastomal hernia. Research by McGrath et al (2006) reported that the incidence of parastomal hernia varied according to the type of stoma formed.

The reported incidence of parastomal hernia varies widely (Table 1) and is related to a number of factors, including the type of stoma, age, obesity, chronic cough, the site of the



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stoma and abdominal distension (Pearl, 1989; McGrath et al, 2006). It has been suggested that a certain degree of parastomal hernia is almost inevitable (Goligher, 1984).

Carne et al (2003) reported an incidence of 1.8–28.3% for end ileostomies, 0–6.2% for loop ileostomies, 4–48.1% for end colostomies and 0–30.8% for loop colostomies. The overall incidence of parastomal hernia ranges from 0% to 48% (Porter et al, 1989; Leenen and Kuypers, 1989; Leong et al, 1994; Cheung, 1995; Arumugam et al, 2003). Surgical technique also plays an important role in the development of parastomal hernia and differing results occur in different centres.

To obtain a reliable baseline for parastomal incidence, I carried out a study in my local area, looking at parastomal incidence in 500 patients over 5 years. My local study at Queen's Hospital, Romford, showed an incidence of 23% of stoma patients with a parastomal hernia.

Inclusion/exclusion criteria

All patients discharged into my community care were included in the study, apart from children (under 18), palliative patients and immobile or wheelchair-bound patients. Patients with mental health issues were included only if they were able to understand the programme and follow it freely. All patients excluded from the study were given the same information and advice as those included—100 participants in all.

Method

All patients meeting the inclusion criteria were seen and assessed at discharge. They were measured and supplied with support wear, given detailed advice on lifting and hernia prevention, and given an exercise programme to start immediately. Quality of life assessment

Table 1. Incidence of parastomal hernia by study

20%	Pringle and Swan (2001)
16%	Lala et al (2002)
10–50%	Raymond and Abulafi
16%	Arumugam et al (2003)
28%	Thompson and Talnor (2005)
33%	Pilgrim et al (2010)
52%	Cingl et al (2006) (78% on CT scan)

Table 2. Cost of support wear

Product	Unit price (per garment)
Corsinel brief/boxer	£79.04
Fulcione girdle	£85.78
Comfizz level 3 belt	£55.63
Comfizz level 2 boxer/brief	£17.20
Comfizz level 1 boxer/brief	£12.14
Comfizz level 1 waistband	£7.08
Hi Line panty brief	£44.15
Ostomart Coolcomfort brief	£11.74
Salts simplicity brief	£12.32

(QOL) was also completed at this first community visit with a QOL questionnaire (Figure 1), which was devised by Prieto et al (2005) and is available free from the Coloplast website.

The questionnaire is specifically designed for patients with a stoma. The score indicates how they are feeling at different points in time, thereby indicating improvement or decline



in QOL. The higher the score, the better the quality of life. This questionnaire was repeated at 3 months, 6 months and 1 year. As well as a physical impact, parastomal hernia has a psychosocial one too, and it is vital that this is also measured.

A risk assessment for the potential development of a parastomal hernia was completed at discharge, which included the type of surgery (elective or emergency); the type of stoma; whether surgery was the result of cancer; the age of the patient; their mobility; their occupation; their age; their BMI; and any previous surgery or hernia. The risk assessment was carried out by a clinical nurse specialist in stoma care following a proforma to ensure reliable and valid results. The risk assessment was also used to help determine the level of support required for each individual patient. The participants were asked to score their fitness level on a scale of 0 to 10, where 0 is completely inactive (sitting all day), 5 is fairly active (walking, shopping) and 10 is very active (vigorous exercise most days). They were also asked how much exercise they took before their surgery, either daily, weekly, less than weekly, or never.

All participants were able to choose their support wear. They were shown a range of products from Comfizz and other brands (see Table 2 for price comparisons). Patients were advised to wear lightweight support garments, such as Comfizz level 1 boxershorts and/or briefs, or garments chosen from the high-street providers. Patients assessed to be at higher risk of parastomal hernia were advised to wear level

2 or 3 garments. These patients had had previous hernias, had very weak abdominal muscles, or were returning to work or pastimes that would involve lifting. The level of support they needed was reassessed at 3, 6 and 12 months.

All participants were given detailed information on parastomal hernia, including the risks and consequences of developing one. They were also given detailed information, a demonstration of lifting and hernia prevention, and were started on a programme of abdominal exercises obtained from the Oxford Radcliffe physiotherapy department (Table 3). As well as the information sheet, they were shown by me how to carry out these exercises and informed of the importance of completing them three times a day. This information was repeated at 3, 6 and 12 months.

The teaching of the exercises was discussed with a physiotherapist who suggested that they be taught by the same nurse, as the information is repeated at different stages and this ensures consistency. All the detailed information given verbally by me was supported by written material in the form of leaflets, booklets and newsletters. Written and verbal information significantly increases knowledge and satisfaction for patients (Johnson et al, 2003), and is important in providing standardised care information for patients, their carers and significant others.



A decorative banner at the bottom of the page. It features a yellow background with a red and white wavy line running across it. On the left, there are stylized figures in various poses, colored in shades of orange and red. On the right, there is a portion of the Union Jack flag.

Data analysis

The information was collected at four stages: stage 1, on discharge; stage 2, at 3 months; stage 3, at 6 months; and stage 4, at 1 year. At each stage, the participant was re-measured, BMI was checked (weight gain can increase the incidence of parastomal hernia) and compliance to the programme was examined. Patients were encouraged to comply with the programme at each stage by continuing with the abdominal exercises, wearing their support garments and avoiding heavy lifting. Patients were examined at each stage to determine the presence of a parastomal hernia. SurveyMonkey was used to analyse the data. This is a user-friendly system that is useful for the type of quantitative data collected in this study.

Of the 100 participants, 44 had a colostomy, 40 had an ileostomy and 16 had a urostomy. Elective surgery was carried out on 63 patients and 37 had emergency surgery; 60 of the 100

patients had had surgery due to cancer. The average age of the participants was 66 with an average BMI of 26. The gender split was 39 male, 61 female.

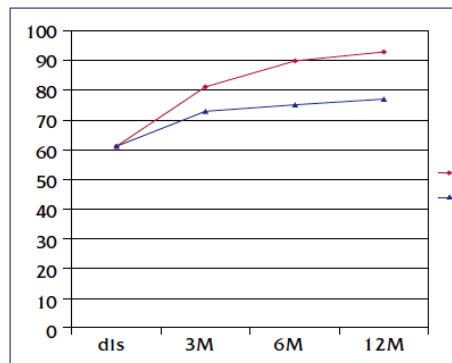


Figure 2. Quality of life score

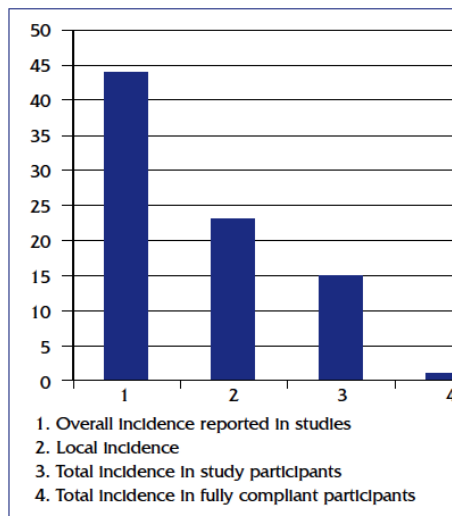


Figure 3. Incidence of parastomal hernia

Key points

- 🔑 Parastomal hernia is a common and distressing problem for stoma patients
- 🔑 An early intervention programme with advice on exercise and support wear reduces the incidence of parastomal hernia
- 🔑 Parastomal hernia reduces the quality of life of the stoma patient
- 🔑 Compliance is vital to ensure the programme is effective

Results

First, looking at the quality of life data, there was a measurable and significant improvement in quality of life for patients who did not develop a parastomal hernia over those who did (Figure 2). The average score for all patients at discharge was 60, which improved considerably for all patients over the course of the year: 81 at 3 months, 90 at 6 months and 93 at 1 year. Quality of life for the patients who developed a parastomal hernia improved at a much slower rate and was significantly lower than the average score for the whole group of participants: 72 at 3 months, 74 at 6 months and 77 at 1 year. The main factors that had an impact on the patient's recovery were mainly social, with a few indicating body image and discomfort. The results of the incidence of parastomal hernia are shown in Figure 3. The baseline axis shows the rates at each stage, as shown below. The results show a considerable reduction in the incidence of parastomal hernia for all patients recruited to the study—and an even greater reduction in the incidence for those patients who fully complied with the programme:

Limitations of the study

As the results show, compliance to the programme is vital to its effectiveness in preventing parastomal hernia. Patients often forget to do the exercises; do not wear the support garments regularly; lift heavy objects without thinking; and cough without supporting the abdomen—all of which increases the risk of developing a parastomal hernia. They

often forget, or do not comply, due to feeling unwell, and are given a large amount of information at discharge, which they can struggle to take in.

For complete compliance, the patient needs guidance and reminders on a regular basis, emphasising the importance of hernia prevention, exercise, lifting and wearing of the support wear. Such guidance involves increased visits and clinic time, but patients with a parastomal hernia often take much more time in clinic, which could then be saved. When trying to change the behavior of an individual in relation to compliance, it is worth considering how the individual views this change. People often view change as a 'perceived risk' versus 'perceived benefits' and useful information could encourage them to comply with the prescribed treatment. If they are fully aware of the benefits of wearing the support garments and doing the exercises, they are more likely to be compliant.

Compliance describes the degree to which a patient correctly follows medical advice. Patient compliance has been a common concern in medical practice for a long time; at most, only 50% of people with chronic disease comply with recommendations, irrespective of age, disease or treatment type (Bloom, 2001). More research could be done into other methods of providing guidance and reminders. For example, smartphone apps or SMS text reminders could be useful.

All the data collected and used in this study



were quantitative. Further research could use more qualitative data in the form of patient interviews and stories. These data could build on the quality of life data and develop ways of increasing the individuals' compliance, thereby improving outcomes.

Conclusion

Reducing the incidence of parastomal hernia increases the patient's quality of life and reduces costs to both the NHS and the patient themselves. The savings to the NHS include reductions in readmissions, in the need for further surgery (for hernia repair), in clinic times and in expensive support garments. Parastomal hernia is distressing for the patient, so reducing the incidence reduces distress and helps prevent social withdrawal, physical discomfort, the 'dragging' sensation and pain from a parastomal hernia, and possible back strain.

There are also costs associated with a parastomal hernia, such as increased laundry costs due to leakage, the need to buy new clothes to hide the hernia and time off work for clinic visits.

Although a little time-consuming, giving stoma patients advice on prevention clearly reduces the risk of parastomal hernia. The exercises are simple to do and lightweight support wear is relatively inexpensive (compared with bespoke garments for patients who have a hernia) and comfortable.

The brand of the support wear had no impact on the outcomes. The exercises are simple to teach and ward staff can be trained to give patients this information before discharge. Stoma care nurses can have a significant impact on parastomal hernia incidence by providing regular information and assessment, considerably improving the quality of life of this group of patients.

Examples of Comfizz Support Wear



Vests

Boxers, Briefs, Waistbands



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Conflict of interest: none declared

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