

Original Article

Bridging the gap between research and practice for nutrition support after pelvic exenteration surgery

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Background and Objectives: Current best practice for postoperative feeding in surgical patients is well established, however implementation of evidence-based practice comes with many challenges. A common barrier is surgeon adherence to guidelines and the reasons behind this are not well understood. Pelvic exenteration surgery is a complex surgery and postoperative feeding methods in this patient cohort vary significantly from patient to patient. The aim of this study was to identify barriers and enablers for surgeons to implement evidence based feeding methods after pelvic exenteration surgery and provide practical strategies for non-surgeon healthcare workers to improve compliance. **Methods and Study Design:** A qualitative study was conducted by performing semi-structured interviews with 12 Consultant Surgeons at hospitals in Australia and New Zealand with dedicated pelvic exenteration services. Deductive and inductive thematic analysis was performed in line with the Theoretical Domains Framework and Behaviour Change Wheel model to identify relevant domains, themes and intervention functions. **Results:** Culture was identified as an overarching theme that influenced postoperative feeding practices, surgeon behaviours and sub-themes. Identified sub-themes included motivation, relationships and expectations, environment and 'moving forward'. Motivations to use different types of feeding routes postoperatively varied across hospitals. Relationships, surgeons' expectations and the environment all influenced the way in which patients were fed postoperatively. Practical strategies were identified to assist non-surgeon healthcare workers achieve positive change moving forward with postoperative feeding. **Conclusions:** Practical strategies to promote enablers and reduce barriers are required to bring about positive change and align practice with the evidence.

Key Words: postoperative care, qualitative research, nutritional support, evidence-based practice, translational medical research

INTRODUCTION

Pelvic exenteration surgery is a radical procedure performed on patients with advanced primary or recurrent cancer of the pelvis.¹ It is a high-risk surgery that is the only curative treatment option for this patient group.^{1,2} Pelvic exenteration surgery continues to evolve and survival rates are improving, however the surgery is still associated with high morbidity rates.³

Pelvic exenteration surgery has also been associated with a decrease in nutrition status. Beaton et al⁴ reported out of 88 patients, 76% were well nourished prior to pelvic exenteration surgery compared to 49% on discharge from hospital, indicating 27% of well nourished patients became malnourished during their hospital stay (average length of stay was approximately 30 days). This demonstrates the increased risk of malnutrition associated with having pelvic exenteration surgery and highlights the importance of postoperative feeding methods after complex surgeries to assist with reducing this risk.

Guidelines around postoperative feeding for general surgical patient groups are well established.⁵⁻⁸ The use of Enhanced Recovery After Surgery (ERAS) protocols following rectal, pelvic and colonic surgery are recommend-

ed to aid recovery.^{7,8} These protocols encourage feeding via the oral route within hours after surgery. If oral intake is inadequate (i.e. less than 60% of nutrition requirements) for more than ten days after surgery or if the patient is malnourished at the time of surgery, then tube feeding is recommended.⁶⁻⁸ Parenteral nutrition should be reserved for patients who cannot tolerate enteral nutrition or have impaired gastrointestinal function after 7 days.⁵ Enteral feeding alone or a combination of enteral and parenteral feeding should always be considered before parenteral feeding alone.⁵

A well documented barrier to implementing guideline recommendations is poor surgeon adherence.⁹ Surgeons face many barriers in the clinical setting that hinder their

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compliance with best practice, and the reasons are multifactorial.¹⁰ The identification of barriers and enablers for surgeons to implement best practice is important, particularly for non-surgeon health care workers to be able to facilitate change. Therefore, the aim of this study was to identify barriers and enablers for surgeons to implement evidence based feeding methods after pelvic exenteration surgery and provide practical strategies for non-surgeon healthcare workers to improve compliance.

METHODS

Design

A qualitative study using semi-structured interviews was performed.¹¹

Participants

Purposive sampling was used to identify Consultant Pelvic Exenteration Surgeons at all hospitals with established pelvic exenteration services in Australia and New Zealand.¹² Fifteen participants were identified as eligible to take part in the study. The Head of Pelvic Exenteration Surgery at a large, quaternary referral hospital in Sydney, Australia contacted all eligible participants to inform them of the study and invite them to participate. The lead researcher subsequently contacted all eligible participants to arrange an interview time. Participants were excluded if response time to the lead researcher exceeded four months or interviews could not be arranged. Informed consent was obtained from all participants.

Ethics approval

This study was conducted according to the guidelines laid down in the Declaration of Helsinki and all procedures involving human subjects were approved by the Sydney Local Health District Human Ethics Review Committee; No.X17-0328 & LNR/17/RPAH/496. Written informed consent was obtained from all subjects.

Processes and data collection

The interview schedule (Table 1) was developed based on the Theoretical Domains Framework (TDF) to explore influences on surgeon behaviours around postoperative feeding methods used after pelvic exenteration surgery.¹³ The TDF was developed to identify influences on behaviours around implementation of evidenced based practice in the healthcare setting.¹⁴ The TDF is a synthesis of 33 behavioural change theories resulting in 14 domains that describe the physical, social and psychological influences on behaviour.¹⁴ Atkins et al¹⁵ later developed a TDF guide to assist researchers and clinicians implement the framework on a targeted behaviour, which was utilised in this study. Domains determined to influence the targeted behaviour, use of postoperative feeding methods, were then linked to the Behaviour Change Wheel (BCW), which identifies relevant intervention techniques to assist change.^{13,15}

The interview schedule was peer reviewed by an experienced translational researcher and pilot interviews were conducted with two consultant surgeons who specialised in other colorectal surgical procedures. Following the pilot interviews, minor changes were made to the inter-

view schedule to ensure the target behaviour was addressed with each question.

One-on-one semi-structured interviews were conducted by the lead researcher by telephone, videophone, or face-to-face. Immediately after each interview, notes were taken by the interviewer to capture impressions of the interview. Interviews were conducted between January and April 2018, and took between 21-40 minutes to complete. Neutrality was ensured with the use of open-ended questions, withholding researcher's assumptions/bias and by transcribing all interviews in participant's own words. In line with an inductive approach, interview questions were altered based on participant responses as themes emerged during the data collection process. Overall data saturation was reached during the interviews. All interviews were audio-recorded and transcribed verbatim. Transcriptions of the interviews were provided to the participants for review.

Data analysis

De-identified interview transcripts were uploaded into NVivo version 10.0.641.0 SP6 (32 bit) software (QSR International 1999-2014). A coding guide, based on the TDF, was developed by two researchers (SH and SC).¹³ Both researchers independently conducted deductive analysis of the data into theoretical domains.¹³ Discussion between the two researchers took place to come to a consensus on coding the data into theoretical domains. Once this was complete, SH and SC then independently conducted inductive thematic analysis in order to identify themes.^{11,13} Discussion on themes took place between the researchers until consensus was reached.

Recommendations on successful implementation strategies to influence change in current postoperative feeding methods were identified by linking theoretical domains and themes to relevant intervention functions outlined in the BCW.

Quotations were extracted from the data to emphasise the major themes by providing examples.

RESULTS

Twelve out of 15 eligible participants were interviewed from all five hospitals contacted (Table 2). Three eligible participants did not respond to coordinate an interview time within four months of being contacted.

Nine theoretical domains were identified as influencing surgeon behaviour, based on deductive analysis from the TDF; knowledge, beliefs about consequences, emotion, reinforcement, goals, 'memory, attention and decision processes', social influences, environmental context and resources, and behavioural regulation. These theoretical domains were then further analysed using an inductive thematic approach into themes.

One overarching theme and four sub-themes were identified to influence surgeons' practice regarding postoperative feeding methods after pelvic exenteration surgery. Culture was an overarching theme that influenced all other themes, domains and interventions. The four sub-themes included motivation, relationships and expectations, environment and 'moving forward'.

Based on the theoretical domains under the 'moving forward' theme, six intervention functions were identified

Table 1. Interview schedule based on the theoretical domains framework

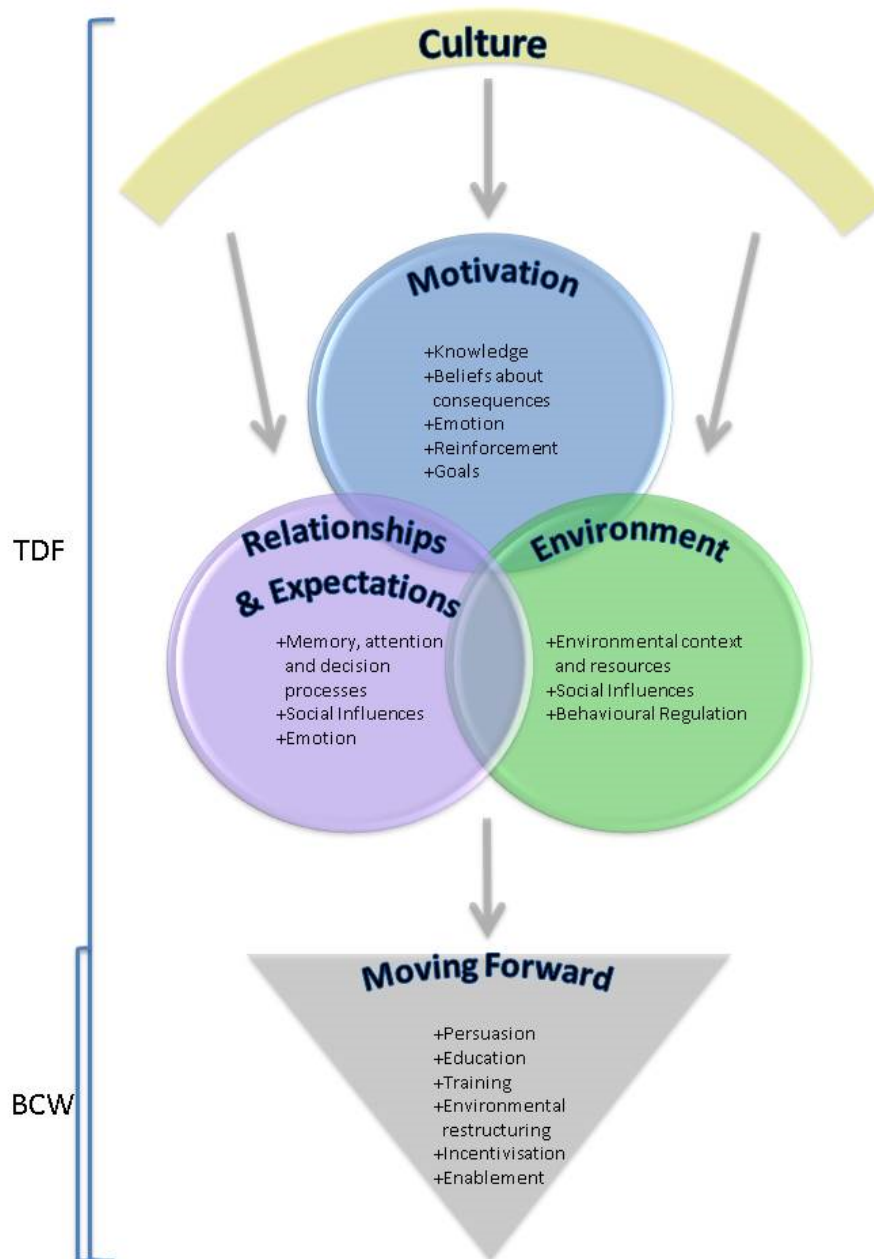
Knowledge	Can you tell me what the procedures are for feeding patients in your hospital after pelvic exenteration surgery? Why do you feed your patients that way? What do you think about the current evidence compared to the way you feed patients? Are you aware of any best postoperative feeding practice guidelines and what they recommend? How do you know about them? <i>Or</i> Do you know how you would find them? Do you think other multidisciplinary team (MDT) staff would know about these guidelines? Do you trust that their knowledge is adequate? Do you believe that other MDT staff have the skills to be implementing different processes?
Skills	Do you know what other MDT staff would recommend in regards to postoperative feeding? Is there an opportunity for them to communicate this with you? Do you ever ask them? Do you think there is any question of competence regarding other staff implementing best practice?
Social and Professional Role/Goals/Memory, Attention and Decision Processes/Social Influences/ Emotion	What are the roles and responsibilities of staff when feeding a patient postoperatively? What is your role? What other professions are involved? What is their role? Are there clear boundaries between professions? How do you envision a more collaborative team approach? <i>Or</i> What makes your team work so collaboratively together? <i>Or</i> Should there be a more structured approach to ensure every team member knows their role? Who makes the decision on the route of feeding? How is that decision made? Would other staff be consulted? Who makes the decision to stop feeding? How is that decision made? Is there anything that influences your decision making when deciding to feed a patient? Do you identify as a group or an individual when it comes to feeding postoperatively? I.e. would you feed patients differently from other surgeons in your hospital? Is there a model or protocol you follow? Would you ever go against it?
Beliefs about capabilities	Do you believe surgeons should ultimately have control of how to feed patients? What would you recommend to other staff in order for them to inform you about new research or processes in their area? What would you do if they recommended a different approach to what you wanted? Why? Should they approach you differently?
Optimism	If you were to change the way you feed patients after surgery what are your initial thoughts/feelings? Positive or negative?
Beliefs about consequences	What do you think the consequences would be if practice changed? Do you think the guidelines are relevant in this group? If you have had/had a bad experience would that or has that changed your mind on how to feed all patients? Do the potential bad consequences outweigh the good consequences?
Reinforcement	If you were to change practice how can you get staff to change? How do you make sure this is sustainable? Do you see yourself playing a part in changing practice?
Intentions	What else should you put in place to reinforce best practice on an ongoing basis?
Environmental context and resources	Do you have the resources and materials to make changes? What do you think the barriers are?
Behavioural regulations	How would you monitor performance and outcomes?

Please note all questions relate to pelvic exenteration patients.

by using validated linkages, described in the BCW approach. The intervention functions included persuasion, education, training, environmental restructuring, incentivisation and enablement (Figure 1).

Table 2. Recruited participants from Australia and New Zealand with an established pelvic exenteration service

Site number	Number of participants recruited	Number of participants excluded
Site 1	5	0
Site 2	2	1
Site 3	1	1
Site 4	2	1
Site 5	2	0

**Figure 1.** Themes, theoretical domains and intervention functions identified to influence and change surgeon behaviour**Culture****Overarching theme**

Culture was the overarching theme that influenced enablers and barriers to surgeons' behaviour and intervention strategies recommended to facilitate change. Motivation to postoperatively feed patients differed between sites, which demonstrated site-specific culture impacted surgeon behaviour significantly. Relationships and expectations were influenced by the culture of the medical pro-

fession and again varied between each site. The environment and set up of the pelvic exenteration service was influenced by the hospital culture in which the surgeon worked; and suggestions made by the surgeon to change their own behaviour was influenced by their experiences within the service.

Well, the consultants at the, you know, at the top of the team, we have a very consultant led service here at this hospital (Participant 3)

If you wanted to change policy I'd arrange a meeting with all the stakeholders, get them there, have a discussion, look at the evidence, formulate plan of what you want to do in terms of the governance (Participant 7)

Motivation

Sub-theme

Motivation around the implementation of current feeding practices was influenced by several contributing factors. Knowledge, beliefs about consequences, emotion, reinforcement and goals all influenced the motivation of methods used to feed patients.

Knowledge domain

Current feeding practices after pelvic exenteration surgery varied significantly across hospitals and occasionally within each hospital depending on individual patient care needs. Practices included parenteral, enteral, oral nutrition or nil by mouth and combinations of all four. The majority of participants recognised there was no specific evidence for postoperative feeding in pelvic exenteration patients, however some participants were unaware of the current literature in postoperative feeding methods and therefore did not know if any research had been conducted investigating pelvic exenteration surgery.

Look, I can't tell you when last I looked at the literature but, um I don't know if there's evidence out there for feeding exenteration patients now (Participant 4)

Most participants were aware of the principles of evidence for postoperative feeding in general oncology surgical patients and tried to adapt these to pelvic exenteration patients. The majority of participants believed there was a gap in evidence, highlighting ERAS was often not possible in this patient cohort. They believed pelvic exenteration surgery was far more extensive than general colorectal surgery and rates of complications, including risk of ileus, were much higher and needed to be addressed. Some suggested that there were categories of pelvic exenteration patients and therefore could be managed based on the type of surgery they received. Many suggested that waiting to commence enteral or parenteral nutrition in line with current guidelines is too long for these patients due to their increased requirements.

Well, I think an exenteration is very different to an enhanced recovery patient. About using physios and using OTs and feeding if they're tolerated does apply, but I'm not expecting exenterations to go home on day 3 or anything ridiculous. They're going to be there for 14 days or 16 days (Participant 11)

The theory is if you sort of miss that crucial window of nutrition, you sort of weaken, and push it out longer than a week and you haven't already started TPN, and then you may run into problems with nutrition, healing, and

breakdown – all the things dietitians usually talk about (Participant 10)

Because of this lack of evidence, participants reported that their knowledge on postoperative feeding in pelvic exenteration surgery came from their experience.

I think a lot of it has been, it's taken from experience rather than, you know, the literature per se (Participant 10)

Beliefs and consequences domain

Although methods of feeding were not consistent between each site, all surgeons had the same aim, which was to reduce complications. A common perceived risk associated with feeding was ileus, which induced certain methods of management. There were conflicting beliefs between sites around routes of feeding and whether they induced ileus. Feeding methods based on these reasons varied greatly depending on which hospital participants performed surgery.

It's TPN initially because we know that return to gut function takes a long time, up to three weeks in patients who have had an operation that goes for eight to 10 hours. And therefore we've tried feeding in the past, but have learned from experience that TPN is the best way to give nutrition, ah, to avoid a prolonged, even more, prolonged ileus and also patients who may vomit and cause aspiration (Participant 2)

We're all very keen enteral feeders where at all possible, that's our default setting. I don't believe that early feeding creates complications, they occur regardless so – so there's no harm and I think the gut's better off being fed, I'm very pro that. (Participant 6)

Emotion and reinforcement domains

Fear was a common emotion shared by many participants due to their beliefs around feeding methods and complications. Postoperative complications also reinforced feeding practices. While the degree of fear varied between individual participants, it was dependent on the culture in which they worked, and how complications were viewed.

I am more progressive (with feeding) than (others) – I'm not too worried to see how they go (Participant 11).

I think everyone's very mindful and fearful of public humiliation (Participant 1)

Goals domain

All participants shared common goals, which ultimately was driven by the need to provide excellent patient care. Patient safety and enhanced recovery was an underlying goal for each participant which resulted in feeding practices they believed help achieve that.

You want to maximise the patient recovery (Participant 3)

Relationships and expectations

Sub-theme

Multidisciplinary team (MDT) relationships played a significant role in influencing surgeon behaviours around postoperative feeding. Both personal and professional relationships impacted the value surgeons placed on information provided to them. Surgeons' expectations of different disciplines hindered or facilitated best practice feeding methods, particularly around communication.

Memory, attention and decision processes domain

All participants reported they were ultimately responsible for the patient. Decision-making around feeding routes was generally surgeon led with little input from other MDT staff. Decision-making was primarily influenced by what motivated the surgeon to feed the patient and the culture they were accustomed to.

The initial path is certainly surgeon driven, and the last little bit is by the nutrition team (Participant 10)

Social influences

Social influences including culture and social norms around roles and responsibilities within the MDT influenced feeding practices in pelvic exenteration surgery. The majority of participants believed MDT members should advise surgeons on current evidence so they can make informed decisions on how to feed patients. All participants welcomed MDT advice on a case-by-case basis if it was believed that patient care could be improved. The majority of participants believed there were many communication pathways available to access surgeons and the expectation was that MDT members were responsible to use them.

The MDT staff have a very strong input on it, and would advise us, and we'd be mad not to take their advice (Participant 12)

Emotion domain

Whether participants changed their postoperative feeding practice based on advice given by other MDT staff varied between individuals. This was often influenced by the participant's relationship with the individual and if they trusted them. Trust of MDT staff was based on several factors, which included experience with pelvic exenteration patients, personality or if they were up to date on the literature. This would often also be influenced by hospital culture.

Yes I trust people and no I don't. It depends on who it is. You will trust individuals who you think are good. You will never trust individuals that you don't trust. Does that make sense? (You trust people if) they are good at their job, are liked by other people, have a bit of a reputation, have published data before or supported by someone else that you know is credible (Participant 1)

Environment

Sub-theme

Social, physical and structural environments influenced surgeon behaviour regarding postoperative feeding. Envi-

ronment was influenced by the culture engrained in the healthcare setting and the medical profession. The overall set up of services influenced feeding practices and varied significantly between sites.

Environmental context and resources domain

The environment influenced the way in which participants fed patients. Different sites had different nutrition services, which impacted surgeon decision-making, relationships and the amount of influence MDT staff had on feeding practices. Nutrition services included TPN or nutrition teams, which were both made up of different combinations of MDT staff, or individual dietitians. Majority of surgeons believed their teams or individuals had the skills to implement any method of feeding, however, funds to support human resources was often reported as a barrier.

They (nutrition department) routinely rotate the dietitians through so there is a little bit of variation and experience and that is the approach of their department, that they rotate people through whereas we can get some we are very comfortable with, but then you always listen and appraise the information that's put across. It would be easier to keep the same dietitian or same number of dietitians who go through (Participant 7)

Social influences

The perceived social beliefs on the roles and responsibilities of MDT members influenced the environment in which participants practiced. Hierarchies between disciplines and even within consultant surgeon groups played a role in determining how surgeons fed their patients.

Well, there is – there is a – a hierarchy even amongst the consultants, so if the professor is speaking loudly about why are you feeding the patient so quickly, then you do sometimes, even as a more junior consultant do have to ... let him control you (Participant 11)

Behavioural regulation domain

Participant's behaviour was regulated through protocols or previous experience at all hospitals. Evaluation of outcomes due to this behaviour was rarely conducted at any site. Protocols and previous experience often resulted in habitual processes leading to routine patient review periods and feeding methods.

There will be a protocol, I mean, like everything in this hospital, there'll be protocols and guidelines about how to set up TPN, how to run TPN, when to stop TPN, what to do, this, that and the other, there's a million protocols for everything. (Participant 3)

'Moving forward'

Sub-theme

Practical strategies for non-surgeon healthcare workers recommended to influence surgeon behaviour and feeding practices are outlined in Table 3. Previously identified theoretical domains and methods described by participants were linked to relevant functional interventions outlined in the BCW. Persuasion, education, training,

Table 3. Functional interventions and practical strategies recommended for non-surgeon healthcare workers to encourage evidence based practice

Functional intervention	Practical strategies recommended for non-surgeon healthcare workers to influence postoperative feeding practices
Persuasion	<ul style="list-style-type: none"> - Use data to justify your recommendations - Conduct research trials to change practice - Know your allies and the people who will resist change before presenting new ideas to the entire medical team
Education and Training	<ul style="list-style-type: none"> - Every staff member involved in postoperative feeding needs to be educated on new processes and practice in order to implement change successfully - Use protocols to enhance compliance
Environmental Restructuring	<ul style="list-style-type: none"> - Ensure non-surgical roles are dedicated to the service - Avoid frequent rotation of individual clinicians through services so surgeons can build trust with their colleagues - Create environments that increase the opportunity for communication with surgeons. For example, attend all MDT or research meetings
Incentivisation	<ul style="list-style-type: none"> - Ensure patient safety is never compromised. Explain to surgeons the risks of any proposed intervention - Describe the potential benefits interventions have on patient outcomes
Enablement	<ul style="list-style-type: none"> - Surgeons encourage an MDT approach to patient care so non-surgeons should facilitate communication in order to achieve this - Inform surgeons of the current evidence. They want to know - Inform other members in your team of the evidence so everyone is enabled to implement evidence based practice

environmental restructuring, incentivisation and enablement were all identified as intervention functions to help change feeding practices to align with best practice. Intervention functions varied between sites and individuals. Majority of the approaches suggested by participants were high-level implementation strategies.

DISCUSSION

The aim of this study was to identify barriers and enablers for surgeons to implement evidence based feeding methods after pelvic exenteration surgery and provide practical strategies for non-surgeon healthcare workers to improve compliance. Drawing on the TDF and the BCW, four sub-themes and one overarching theme were identified to influence postoperative feeding practices and surgeon behaviour. Culture was the overarching theme, which influenced the four sub-themes: motivation, relationships and expectations, environment and 'moving forward'. Practical strategies were identified to influence surgeon behaviour around postoperative feeding.

Culture in the healthcare environment is extremely complex and is influenced by many factors.^{16,17} In order to change culture many contributing factors need to be considered and understood including the current structure, process and context of the healthcare environment.¹⁷ There are many theories and strategies described to shift culture however the difficulty and uncertainty of success when they are applied are still a challenge to overcome.¹⁷ Culture change must come from the 'top down' to assist with any chance of successful implementation.^{16, 17} Culture influenced all aspects of surgeon behaviour around postoperative feeding methods in pelvic exenteration surgery. Although this should be addressed by organisational leaders, there are aspects of culture on a smaller scale that can be addressed by non-surgeon healthcare workers to shift postoperative feeding methods to a more evidence based approach. These interventions will contribute to

positive culture change and compliment large culture shifts in the healthcare environment.

Motivation to feed patients using particular methods was driven by surgeons' current knowledge of best practice, associated expected outcomes and beliefs. Surgeons' knowledge of postoperative feeding guidelines varied. Overall surgeons reported a general knowledge of the current guidelines but some could not recall any relevant literature. Knops et al¹⁸ reported surgeons routinely did not have time to read the literature and therefore were unable to implement change. This highlights the importance for non-surgeon healthcare workers to be up-to-date with current evidence in their clinical specialty and inform surgeons of best practice.

Surgeons' lack of expectancy of positive outcomes from implementing current guidelines influenced postoperative feeding practices. Cabana et al⁹ reported this was common, which resulted in poor adherence to guidelines unless it was believed it would benefit the patient. The complexity of pelvic exenteration surgery and the high rate of complications associated with the surgery provoked a belief among surgeons that current best practice feeding methods would not decrease complications and in some cases increase them, therefore guidelines were not adopted at several sites.

These beliefs led to many variations of feeding practices across the different hospitals. This was attributed to lack of agreement with current guidelines, which has also been identified as a common barrier to implement best practice guidelines.^{9,19} Interestingly, in this study, there was a common belief among surgeons that there was an overall gap in the evidence around postoperative feeding in pelvic exenteration patients.

Pelvic exenteration surgery is a complex surgery associated with high rates of complications including ileus. Amstrup et al²⁰ reported 28% of patients undergoing major surgery for advanced pelvic cancers, including pelvic

exenteration experienced prolonged ileus. Although enhanced recovery processes involving nutrition support are well documented, they do not seem to be applicable to these major surgeries and further investigation is required. The majority of surgeons reported this was a major concern that impacted the way they fed patients and suggested trialling other methods of feeding to reduce complications would need to be done in a safe manner. This involved either conducting audits or commencing research trials. In order to change practice led by surgeons, other healthcare workers must collaborate with them and integrate surgeon feedback.^{21,22} Therefore, non-surgeon healthcare workers need to continue to work with surgeons to develop trial and audit protocols to safely and successfully implement and sustain change in surgeon led environments.

To successfully work with surgeons, strong relationships must be built and clear expectations of roles must be obtained. Surgeons are quite open to receiving advice from other healthcare professionals and there is an expectation that they would be informed of current evidence and how to improve patient outcomes. Surgeons are aware of several communication avenues that should be utilised to facilitate conversations including telephone, face-to-face, small meetings and joint consultation that are in line with other evidence.^{10,21} Specialist surgeons are known to be more hierarchical than other physicians,²³ therefore non-surgeon healthcare workers must continue to communicate and build strong working relationships with surgeons in order for them to trust and collaborate with them.

To further build on developing trust with surgeons, environments must be conducive to collective MDT patient care. Physical, structural and social environments can either be a barrier or enabler to implement best practice feeding methods. Pelvic exenteration surgeons are responsible for patient care and will ultimately make final decisions on feeding practices. It is therefore essential non-surgeon healthcare workers create an environment that encourages multidisciplinary teamwork. Organisational structure has been well documented as a barrier to guideline adherence.^{19,23} Any factor contributing to delayed implementation or disagreement of patient care due to organisational structure can impact the MDT's ability to influence surgeon decision-making.^{19,23} This was evident among pelvic exenteration services with the way nutrition teams functioned. Accessible team members and staff with long term experience in pelvic exenteration surgery will contribute to surgeons being more likely to listen to advice. This will not only enable discussion and encourage MDT collaboration but challenge inertia of previous practice and routine protocols to improve patient care.⁹

To continue collaboration on a larger scale and change surgeons' behaviours around postoperative feeding methods, implementation strategies must be supported and led by non-surgical staff in order for it to be successful.¹⁰ Local barriers and enablers must be understood by local healthcare professionals in order to implement practical strategies. Intervention functions were identified using the BCW to address barriers around implementing best practice feeding methods. Pelvic exenteration surgeons re-

ported the same interventions but from a high-level of implementation science. Taylor et al²² suggested local protocols and guidelines be developed by the MDT in order for them to be functional. As surgeons understand the overall concept of how to implement change it is up to the non-surgeon healthcare worker to fill the gaps in regards to the practical implementation of the intervention functions to achieve evidence based practice.

There were limitations to this study. All participants were pelvic exenteration consultant surgeons; therefore transferability of the study to other clinical areas is reduced. The number of eligible participants for this study was small; therefore the scalability of the results of this study to the broader surgical profession is limited. Despite this, this study highlighted important barriers and enablers for surgeons to implement best practice feeding guidelines and provided insight for non-surgeon healthcare workers on what to target to assist change in practice.

Many factors contribute to the barriers and enablers for surgeons to implement postoperative feeding methods in pelvic exenteration surgery. Culture underpins all postoperative feeding practices. Motivations to feed patients, the environment in which the MDT work and the relationships they have with each other all play a prominent role in postoperative feeding practices. Practical strategies to promote enablers and reduce barriers are required to bring about positive change. Non-surgeon healthcare workers need to continue to inform, collaborate and build strong professional relationships with surgeons in order to influence their behaviour. They also need to foster an environment that encourages MDT patient care in order to change postoperative feeding methods to align with best practice.

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