

# A qualitative evaluation of the STOMA psychosocial intervention programme for colorectal cancer patients with stoma

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## Abstract

**Aims:** To explore the experiences of patients who underwent a Support availability, Thinking positively with acceptance, Overcoming social stigma, Minimizing negative feelings, Analyzing self-efficacy in stoma care (STOMA) psychosocial intervention programme for people with colorectal cancer with stoma.

**Background:** The STOMA psychosocial intervention programme was developed to improve stoma-related health outcomes for patients with colorectal cancer and stoma. Evaluation was carried out to explore their experiences.

**Design:** A qualitative exploratory approach was adopted.

**Methods:** A total of 13 people with colorectal cancer, who were: (a) scheduled for surgery that resulted in a surgical formation of stoma at a tertiary public hospital in Singapore, and (b) were allocated to the intervention group and received the STOMA psychosocial intervention programme, were recruited for the qualitative evaluation study (September to November 2016). Participants were asked to comment on the contents and delivery methods of the intervention, and the effect of the presence of family members during the sessions. Thematic analysis was used to analyse the data.

**Findings:** Four themes were generated: (a) individual attitudes towards stoma, (b) benefits of the STOMA psychosocial intervention programme, (c) strengths of the STOMA psychosocial intervention programme, and (d) recommendations for future programmes.

**Conclusion:** The qualitative evaluation reflected the benefits of the intervention programme in improving the outcome of people with colorectal cancer with stoma with its multimodal and multidimensional approach.

**Trial Registration Number:** ISRCTN41915584.

## KEYWORDS

anxiety, colorectal cancer, depression, experiences, nursing, psychosocial intervention, quality of life, self-efficacy, stoma

## 1 | INTRODUCTION

It remains a challenge for patients with a newly formed stoma to accept and adapt on returning home after their surgical treatment for colorectal cancer (Lim, Chan, & He, 2014). The quality of life

(QoL) in these patients deteriorate as their physical, cognitive, emotional, and social functions are affected (Brown & Randle, 2005; Da Silva, Faustino, & Oliveira, 2012; Juul & Prieto, 2008; Notter & Chalmers, 2012), especially during the initial preoperative and postoperative periods (Brown & Randle, 2005). Findings from previous studies

revealed that patients without sufficient preoperative preparation can result in poor acceptance of stoma, which influenced their ability to adjust to the stoma and their self-efficacy in stoma care (Lim et al., 2014; Simmons, Smith, Bobb, & Liles, 2007).

Psychosocial strategies from self-care and psychoeducational interventions have been reported to have a positive effect on health outcomes, including improving overall QoL, minimizing stress, reducing fatigue, depression, anxiety and improving social relationships (Carlson et al., 2004; Devine & Cook, 1983; Raingruber, 2011; Rehse & Pukrop, 2003).

## 2 | BACKGROUND

A theory-based, culturally appropriate, multimodal and multidimensional STOMA psychosocial intervention programme was developed in addition to the routine stoma care to promote stoma self-care efficacy, acceptance of stoma, psychological well-being and quality of life in people with colorectal cancer (Lim, Chan, Lai, & He, 2015). The theoretical framework of the programme was built on Bandura (1977) self-efficacy theory and Simmons et al. (2007) stoma acceptance conceptual framework. The programme included an individual psychoeducation face-to-face session (preoperatively) with an educational booklet provided and five telephone follow-up sessions (one preoperatively and four postoperatively). The main contents included: (a) an introduction to psychosocial interventions, (b) an outline of the STOMA (Support availability, Thinking positively with acceptance, Overcoming social stigma, Minimizing negative feelings, Analyzing self-efficacy in stoma care) psychosocial intervention programme, which focuses on encouraging open communication, identifying family resources, encouraging positive attitudes, promoting acceptance, effective and healthy coping with continuity of lifestyle behaviours, handling overwhelming stress, sharing fears and negative feelings, reducing and adapting to uncertainty, assessment of needs and empowerment with self-care strategies, (c) the availability of community resources and support services, (d) common issues and concerns in resuming activities postoperatively with a stoma, (e) a step-by-step guide in stoma care training and (f) a stoma education protocol to guide participants in setting goals. More details on the intervention can be found in the study protocol (Lim et al., 2015). Quantitative findings supported the effectiveness of this programme in improving the outcome of people with colorectal cancer with stoma, with significant improvements in stoma care self-efficacy and acceptance levels of stoma after the intervention (Lim et al., 2018 under revision). However, it is also important to know how patients perceived the contents and delivery methods of the programme.

## 3 | METHODS

### 3.1 | Aim

The aim of this study was to explore experiences of patients who underwent the STOMA psychosocial intervention programme, which was

### Why is this research needed?

- To evaluate whether a theory-based culturally appropriate STOMA psychosocial intervention programme developed for people with colorectal cancer with stoma can address their physical and psychosocial challenges.
- To evaluate whether the delivery methods, with family members involved, were appropriate and whether the patients had any recommendations for improvement.

### What are the key findings?

- The findings reflected the positive outcomes of the programme in providing patients with mental preparation preoperatively and enhancing their confidence levels and knowledge on stoma self-care.
- Patients reported that they received adequate follow-ups after discharge with sufficient support and resources, which also improved their positive attitudes and provided feelings of being cared for.
- This programme is applicable in the clinical setting from the preoperative to postoperative period with the presence of family members, a comprehensive educational booklet and convenient telephone follow-ups.

### How should the findings be used to influence policy/practice/research/education?

- The programme is beneficial for integration into routine care in current clinical settings to support patients' psychosocial needs and to ensure smooth transition of recovery from preoperative to postoperative period.
- Future programmes should involve more comprehensive information and use more convenient and cost-effective technology-based strategies to convey the programme.

developed for improving the outcome of people with colorectal cancer with stoma and to identify the strengths and limitations of the programme.

### 3.2 | Design

A qualitative descriptive exploratory approach was adopted to capture and understand the unique experiences of patients with stoma who had received psychosocial based interventions to enhance their quality of life and health. In-depth interviews were conducted with patients on completion of the programme at 1 month after their discharge from the hospital.

### 3.3 | Participants

Purposive sampling was carried out to recruit participants, who were allocated to the intervention group of the main study, from the

tertiary public hospital in Singapore from September to November 2016. The inclusion and exclusion criteria of patients who received the interventions can be found in the study protocol (Lim et al., 2015), with an additional inclusion criterion: patients who received the intervention (Lim et al., 2018 under revision). The recruitment of the participants stopped at 13, when the data were perceived to reach saturation (Gillis & Jackson, 2002). No patients approached refused participation in the interview.

### 3.4 | Data collection

The first author (LSH) made an appointment with the participants on the completion of the intervention to collect data at a time convenient for them, either in a private room at the outpatient clinic or at the patient's home. Family members were asked to wait in another room for the patient privacy. The first author was a Registered Nurse who had previous experience in conducting qualitative interviews. She was not working in the inpatient wards or outpatient clinic of the study hospital during the data collection period. The face-to-face interviews consisted of open-ended questions whereby the participants were asked to comment on the contents and delivery methods of the intervention programme, and the effect of the presence of family members during the individual sessions. The semistructured interviews were conducted by the first author (LSH), with the help of an interview guide and were audio-recorded (Table 1). The interview guide was developed after a review of relevant literature on the evaluation of interventions which addressed the intervention as a whole, and individual component including the face-to-face individual session, follow-up telephone session and the educational booklet. The opinion of a qualitative researcher was sought regarding the appropriateness and applicability of the questions. The developed guiding questions were generally broad and open-ended to allow free-flowing conversations (Gillis & Jackson, 2002). Field notes were taken down during the interview to enrich the contents of the interview data and for clarification purposes. No repeat interviews were needed in this study.

**TABLE 1** Semistructured interview guide

No.	Interview questions
1.	How did you feel about participating in the STOMA psychosocial intervention programme?
2.	How did you find the contents of the STOMA psychosocial intervention programme?
3.	How did you find the different delivery methods in the STOMA psychosocial intervention programme (face-to-face individual sessions, follow-up telephone sessions, or the educational booklet)?
4.	What were the main strengths and weaknesses of the STOMA psychosocial intervention programme?
5.	Do you have any suggestions to improve the STOMA psychosocial intervention programme?

### 3.5 | Ethical considerations

Research Ethics Committee approval was obtained from the Institutional Review Board of the hospital. Written consent for participation and audio-recorded interviews was obtained from all participants (Lim et al., 2015) by the first author (LSH). Voluntary participation and confidentiality of identity and data were guaranteed. Participants were reassured that their medical care would not be affected in any way whether they agreed to participate in this study.

### 3.6 | Data analysis

Data transcription was conducted concurrently with the data collection process. Interviews were conducted in either English or Mandarin as preferred by the participant. The interview data, which were in English, were processed and transcribed verbatim by the first author (LSH). The transcription of data began with the verbatim transcription of interviews that were conducted in Mandarin Chinese, before further analysis. The original meaning and intents of the interview data were maintained by checking the transcripts against the audio-taped data by the first author (LSH) and the last author (HHG). Thematic analysis was performed to analyse the transcribed English and Mandarin Chinese interview data. This was performed by two authors (LSH and HHG) who were proficient in both English and Mandarin.

Thematic analysis is a method to identify themes, essences, or common patterns in the data to inform the research questions (Taylor, Kermode, & Roberts, 2006). The collection of essential themes and subthemes formulated the structures of the experiences and perceptions that were investigated in this study. During the process of thematic analysis, meaning units encompassing one meaning were highlighted from each transcript, which could be part or whole of a sentence, few sentences, or even the entire paragraph (Lindseth & Norberg, 2004). The "colour coding" technique was used to extract a series of meaning units which appear to be related. Similar meaning units were summarized and grouped into subthemes and themes. There was no disagreement between both authors with regard to the translated contents of the interview data and the themes generated from the analysis.

### 3.7 | Rigour

The principles of qualitative rigour were maintained to ensure the trustworthiness of the findings (Lincoln & Guba, 1985; Noble & Smith, 2015). Credibility of the data was ensured using robust methods of data collection, analysis, and peer appraisal. Dependability was enhanced by cross-checking the themes among the research team. Transferability was established through generating rich descriptions of participants' experiences of the intervention programme. Confirmability was attained by establishing a clear and adequate "decision trail" throughout the research process. Audit trail linkages were sufficiently provided throughout to explicitly explain

the choice of exploratory qualitative research, purposive sampling and thematic analysis technique.

## 4 | FINDINGS

All 13 participants who were approached participated in the interview either alone or accompanied by their spouse. The details of

**TABLE 2** Demographics characteristics of the interviewed participants ( $N = 13$ )

Demographics	n	%
<b>Gender</b>		
Male	10	77
Female	3	23
<b>Marital status</b>		
Married	9	69
Single <sup>a</sup>	4	31
<b>Ethnicity</b>		
Chinese	12	92
Malay	1	8
<b>Education level</b>		
Primary school	7	54
Secondary school/ITE/Polytechnic/Junior college/University	6	46
<b>Employment status</b>		
Employed	8	62
Unemployed	5	38
<b>Staying with</b>		
Spouse	9	69
Children	1	8
Others <sup>b</sup>	3	23
<b>Caregiver</b>		
Spouse	6	46
Children	3	23
Others <sup>b</sup>	4	31
<b>Types of cancer</b>		
Sigmoid cancer	1	8
Rectal cancer	12	92
<b>Types of operation</b>		
Anterior resection	10	77
Abdominoperineal resection	2	15
Anoproctocolectomy	1	8
<b>Type of stoma</b>		
Ileostomy	8	62
Colostomy	5	38
<b>Stoma status</b>		
Permanent	3	23
Temporary	10	77

<sup>a</sup>Including divorced and widowed.

<sup>b</sup>Including domestic helpers, siblings, and alone/own self.

the sociodemographic and clinical data are depicted in Table 2. The duration of the interviews ranged from 11–56 minutes. Four themes were generated: (a) individual attitudes towards stoma, (b) benefits of the STOMA psychosocial intervention programme, (c) strengths of the intervention programme, and (d) recommendations for future programmes (Table 3). Quotations with the participant's serial number and line numbers in the transcription are provided.

### 4.1 | Theme 1: Individual attitudes towards stoma

#### 4.1.1 | Subtheme 1: Acceptance of stoma

Participants highlighted that acceptance of stoma was a key element in the process of managing their stoma. When they were able to accept the stoma, stoma management was integrated into their daily lives. Patients reported that they were ready to accept their stoma from the very first day of stoma formation, which helped them to get used to the stoma:

I mean, I don't know, stoma is really... If the person can accept (the) stoma and (has) no leak, no itchi-ness, no skin soreness, all these things, right, then you don't have (a) problem. If a person doesn't accept, right, that this stoma is here, forever, whatever method you use, you cannot satisfy (the patient). (P4.175)

#### 4.1.2 | Subtheme 2: Negativity versus positivity

Whether patients' attitudes were positive or negative towards their stoma was a key factor that influenced the way patients managed their own stoma even before the operation. Participants deduced that a patient might not even make an effort to attend any preoperative sessions if he or she possessed a prior negative attitude, whereas one with a positive attitude would be able to better adjust and adapt to their stoma postoperatively:

...from pre-operatively, I already carry a positive mood to look at this matter. Just saying, I did not have the fear of operating, or having fear of me having the stoma. Of course, initially, I did not hope to have this stoma issue. At first, (I felt) a little repulsive (towards the stoma)... This way, you need to adapt to the problem yourself... Most importantly, (it) is depending on how you use the type of attitude to face life. I say, if you think you are positive, there is nothing, then there is nothing much. Some people, people who are very negative, like this cannot, that also cannot... (P9.6)

**TABLE 3** Themes and subthemes generated from the thematic analysis (N = 13)

Themes	Subthemes
Theme 1: Individual attitudes towards stoma	Subtheme 1: Acceptance of stoma Subtheme 2: Negativity versus positivity
Theme 2: Benefits of the STOMA psychosocial intervention programme	Subtheme 1: Mental preparation before surgery Subtheme 2: Increased confidence Subtheme 3: Feelings of being cared for Subtheme 4: Improved positive attitudes Subtheme 5: Enhanced knowledge on stoma management
Theme 3: Strengths of the STOMA psychosocial intervention programme	Subtheme 1: Reminding the availability of support and assistance from family and friends Subtheme 2: Establishing available resources upon discharge Subtheme 3: Convenient and comprehensive approach
Theme 4: Recommendations for future programmes	Subtheme 1: More comprehensive information Subtheme 2: Other strategies to include in future programmes

## 4.2 | Theme 2: Benefits of the STOMA psychosocial intervention programme

Multiple positive aspects from involvement in the programme were reported. These benefits were categorized into five subthemes: mental preparation before surgery, increased confidence, feelings of being cared for, improved positive attitudes and enhanced knowledge in stoma management.

### 4.2.1 | Subtheme 1: Mental preparation before surgery

Most patients verbalized that they did not have prior knowledge about stoma before the programme. Patients reported receiving sufficient information regarding the entire process from the preoperative preparation to the postoperative recovery, especially regarding stoma and its management. This helped to improve their ability to handle their stoma with enhanced mental preparedness preoperatively. Understanding the surgery process beforehand helped to alleviate worries, fears, and postoperative shock of having a stoma. Knowing what to expect during the surgery and postoperative

rehabilitation process empowered participants for decision-making in their stoma care:

Knowing before the operation, act as a mental preparation, then there is no need to be so worried. Knowing beforehand is better than, I feel that before you go through the operation... Somebody tells you once about this and this, of course, you will feel more calm. You do not want when the time comes, you really can't accept... You do not wish to wake up asking why there is a hole inserted for me, what has happened, in a shock or something... (P2.7)

### 4.2.2 | Subtheme 2: Increased confidence

Participants reported that their confidence levels greatly increased from the knowledge gained from the programme and having a better understanding of the overall process. High levels of satisfaction and positive feelings were reported when participants were able to handle their stoma, especially when there was a need to troubleshoot, for example, knowing what to do when faeces leaked from the stoma:

It helps me to have confidence. It just feels (like I am) not so scared, (it is) not so troublesome... Because knowing this phase is like this... (P6.300)

### 4.2.3 | Subtheme 3: Feelings of being cared for

Participants felt that the telephone follow-up calls gave them feelings of being cared for. It improved their overall morale and coping, especially when they could raise questions over the phone when in doubt. They felt consoled that they were not alone after they were discharged and were able to tell someone about their current situation:

Just saying that you called, to just show us concern, to send us your regards, I am very grateful to your concern... Asking about me, it may have helped my condition to recover faster or something. I felt different. (P1.17)

### 4.2.4 | Subtheme 4: Improved positive attitudes

Undergoing the individual sessions and receiving follow-up calls on their discharge helped in improving the participants' attitudes and positivity when facing their new situations of managing a new stoma. They felt encouraged to resume their previous lifestyles. Their moods were improved with enhanced motivation:

This phone call should be giving the patient a type of concern, (a) feel(ing) that this support is very essential... Because you are so concerned, we also recover faster. I feel that this disease really requires many people to care about you. You will not be thinking very negatively on the inside, isn't it? (You) will not think about (it). (You) will not think until so negatively. Then, (you) will face positively, isn't it, saying, "It will be all right very soon." (P6.484)

#### 4.2.5 | Subtheme 5: Enhanced knowledge on stoma management

Participants reported gaining of knowledge from both the individual sessions and educational booklet. They understood the steps in managing the stoma, signs and symptoms to look out for, what they needed to do when issues occurred and diet restrictions:

You told me... like, what to look out for. Actually, what to eat, like high fibre, what food can result in what. The doctor in the hospital says high fibre, you, your side still has instructions that say, that books still say, which type, list of food, causing gas, causing odour or something... Actually, the knowledge on stoma, most importantly is to empty when full, bloated up like this, how to clean it to be more hygienic... (P2.28)

### 4.3 | Theme 3: Strengths of the STOMA psychosocial intervention programme

#### 4.3.1 | Subtheme 1: Reminding the availability of support and assistance from family and friends

All participants highlighted the importance of the presence of family members during the individual sessions. They felt that it was essential for their family members to understand and have sufficient knowledge on the stoma management. The presence of social support postoperatively provided a source of motivation and improved participants' confidence levels. They felt reassured that assistance was always available when needed during the process of caring for their stoma:

Because with the company of family members... At least (the) family members will give you more confidence. In that way, if there are family members to give you confidence, our burden will not be that heavy. That mood will be more positive, we will (be) less likely to think otherwise... Most importantly, there are family members to give you confidence, to give you some motivation. (P9.114)

#### 4.3.2 | Subtheme 2: Establishing available resources on discharge

Participants verbalized the importance of having follow-up telephone calls as one of the channels to receive assistance after they returned home and weekly follow-up calls were highlighted as one of the essential components of the programme. They were able to know where to seek for help whenever they needed any and provide updates of their current situation while raising queries when in doubt or when issues arose. Participants preferred someone to call them weekly after their discharge to ensure that they were coping well. It was highlighted that the follow-up calls serve as a reminder for stoma management issues to take note of:

Before that, there is some understanding, you are still in a state of fuzziness, do not know that is the matter. After that (postoperatively), when I have questions, do not understand, am able to, more able to, like, there is a channel available to enquire, to obtain assistance. (P2.4)

The educational booklet provided to the participants served as a useful tool for reference, especially postoperatively after returning home. Participants referred to the booklet whenever they encountered any issues and mentioned that the booklet was an essential component in the STOMA psychosocial intervention programme:

...conversing with you... okay, putting down the phone, after two days or suddenly, there are some questions, why not find the booklet to take a look... Where is the issue I am looking for, that aspect, seeing if I can obtain the information that I need. If I really do not understand, I just give you a phone call. I am saying I feel that the three types (face-to-face individual session, educational booklet, and follow-up phone call) should not do with any one (aspect) removed, there is a need to carry out all three at the same time. (P7.437)

One participant felt that he was informed of the availability of resources that he could refer to with the contact numbers of the colorectal ward, stoma nurse clinician, and the availability of a support group that he could attend:

Actually, you just give a call... They are there for you, just pick up the phone, can WhatsApp or SMS, "I need to find out more about this, can you please..." Then, there is a talk every Wednesday, (at) three o'clock. You go there, you feel more confident, because why? There are people (who have a stoma for) six years already, (have a stoma for) ten years already. (P13.136)

### 4.3.3 | Subtheme 3: Convenient and comprehensive approach

Most participants preferred the face-to-face sessions preoperatively as they felt it was a more direct approach whereby they could raise questions easily, especially since it was not a group approach. Participants expressed that the information received from the individual session and the educational booklet was comprehensive and clear, which was easy to understand. Participants also emphasized the need for timely follow-up telephone calls after discharge. One participant mentioned that the follow-up calls were particularly useful for updating their current situation and served as a form of guidance:

It is like you called every week, that is very good as well. Because you give explanations, sometimes when (the) patient has some issues but do not know where to call to ask. If the family members also do not understand these situations like this, it will also be good very good... Sometimes when there are questions, (the patient) can also readily ask you about this and that matter like this. (P10.330)

## 4.4 | Theme 4: Recommendations for future programmes

### 4.4.1 | Subtheme 1: More comprehensive information

Some participants felt that diet was a major concern as they were constantly worried about what they could or could not eat. Participants hoped to see more information in the education booklet about diet, different scenarios of stoma issues experienced by other patients, including leaking of faeces from stoma and ways to handle these problems when they were not at home. One participant mentioned that he would feel more reassured if he could learn about how other patients were coping. Some felt it would be useful to have more practical information on the range of different types of bags and their costs and other channels to purchase stoma appliances according to patients' convenience:

A little more on the diet aspect... Where to absorb (nutrients) from, not necessary from food, from what type of diet, other channels, like nutritious pack or something. Or pill, this sort. Because otherwise you will be worried, really, really, every day, like this is sufficient for your nutrients? Because often when we eat, last time the way we eat, helps, now there is no high fibre, you will be worried that you did not eat. Not worrying about the stoma, worrying about your body, immunity, you understand? (2.146)

### 4.4.2 | Subtheme 2: Other strategies to be included in future programmes

One participant mentioned it would be useful to have physical assistance when he encountered issues in his stoma management:

I want to see more when follow-up, right, when I say I have problem, I want to see more of the physical help, coming down and see what's wrong. (P3.151)

Stoma management videos in the form of a thumb-drive (USB flash drive) given to patients or a smartphone application was suggested as an alternative for patients to refer to:

Maybe you all can have a, the, what you call, the thumb-drive with the video in it. What is it all about, everything. Then, we just plug in and then we can view already... See how they change, different type of bags, different type of... phone application with the, maybe some knowledge video, some contact will be considered good also. Another way of doing it... (P11.346)

## 5 | DISCUSSION

The current study explored the experiences of newly diagnosed people with colorectal cancer with stoma in Singapore who underwent the STOMA psychosocial intervention programme. Participants highlighted that the acceptance of stoma was a key element in the process of managing and coping with their stoma. This was consistent with findings from previous studies (Li & Moore, 1998; Simmons et al., 2007) where acceptance of limitations from chronic conditions enhanced the likelihood of patients engaging in self-care and better management of their conditions.

Providing opportunity for patients and family members to understand and adopt habits related to stoma care during the preoperative period enabled early mental preparation and acceptance of their new body images. They acknowledged the importance of providing sufficient information about the stoma itself, stoma management, and the entire process during the individual sessions, which helped to allay their anxiety and fear. Consistent with previous studies, colorectal cancer patients' concerns were found most predominant before their stoma formation surgery, with the uncertain nature of the disease as one of the top concerns (Carlsson, Berndtsson, Hallén, Lindholm, & Persson, 2010; Lim et al., 2014). It was a significant milestone for patients to see how a stoma looks like, to be able to discuss about it and to touch the stoma pouches with the involvement of their family members during the preoperative phase (Borwell, 2009). Our participants reported increased confidence and satisfaction levels with the knowledge gained. Better understanding of the overall process aided in better coping and management of

stoma care. Enhancing one's self-efficacy was essential in promoting adjustment and coping in people with cancer (Beckham, Burker, Feldman, & Costakis, 1997; Zhang et al., 2014).

Many participants described feelings of being cared for from the follow-up telephone calls. They reported better coping with improved morale and less feelings of isolation, which were consistent with previous studies on the exploration of telephone follow-ups for people with colorectal cancer after discharge (Beaver et al., 2010; Zhang, Wong, You, & Zheng, 2012; Zheng, Zhang, Qin, Fang, & Wu, 2013). Patients in these studies reported high levels of satisfaction regarding the information and advice provided and appreciated personal experience of care. Participants reported that with current programme, their attitudes in facing a new life of managing a stoma had improved with better mood and motivation. They felt positive and were encouraged to resume their lives. Similar to previous studies, patients reported that they were encouraged to achieve stoma self-care when nurses reinforced their confidence and self-management behaviours (Zhang et al., 2012; Zheng et al., 2013). Through the intervention programme, participants were assisted in establishing routine related to the maintenance of normal daily living and social life according to individual needs. Participants had predominant concerns during the preoperative and postoperative periods, such as showering, diet, seating, dressing, sleeping adjustment, doing household chores, going out and work, which were discussed during the preoperative session and through telephone follow-up calls (Lim et al., 2015, 2018 under revision).

Participants who attended the intervention programme reported enhanced knowledge on stoma management, mainly in three main aspects: management of stoma itself, stoma care issues and psychosocial adaptations relating to stoma. In the management of stoma, participants reported learning how to change, clean, and empty stoma appliances and the choice of materials. In the aspect of understanding stoma care issues, participants were able to identify signs and symptoms such as constipation, diarrhoea, skin infection, stoma bleeding, and diet restrictions, including low fibre diet during initial postoperative period. Understanding stoma care and acceptance of stoma were also highlighted. These knowledge categories were consistent with findings from a previous study (Zhang et al., 2012).

Our participants also highlighted several positive effects of the programme including the establishment of available social support and available resources on discharge, and being a convenient and comprehensive approach. One of the psychosocial elements integrated in this programme was the availability of social support through involvement of family members, which helped in the improvement of motivation and confidence level in stoma management. Previous studies highlighted the influence of social support on stoma patients' psychosocial adjustment (Altschuler et al., 2009) and stoma acceptance (Simmons et al., 2007).

Establishing available resources on discharge via follow-up telephone calls seemed to empower participants in accessing suitable information and support when required. Similar to previous findings, participants felt the need for the availability of a nurse via

telephone for advice (Beaver et al., 2010; Zhang et al., 2012). Patients with stoma experienced issues in the physical, psychological, and social aspects which called for the need for intense follow-up care, which would be ideal to occur within 7 days of discharge from hospital (Pringle & Swan, 2001). Another useful resource was the educational booklet that was specially developed for the programme. This written material was aimed as a supplement to reinforce and summarize the contents that were discussed during the individual face-to-face sessions. Common areas in the booklet that the participants referred to include the signs and symptoms of stoma issues, dietary advice, official stoma support group information, and colorectal ward contact numbers. Written materials have commonly been used in psychosocial teaching interventions (Beaver et al., 2010; Chaudhri, Brown, Hassan, & Horgan, 2005; Jefford et al., 2011; Zhang et al., 2014). Most participants preferred the face-to-face sessions preoperatively as they felt that the sessions were an effective and direct approach to clarify all their issues and concerns. This one-to-one method has been widely used as an intervention in psychosocial studies for people with colorectal cancer (Anderson, Caswell, Wells, Steele, & MacAskill, 2010; Bryan & Dukes, 2010; Chaudhri et al., 2005; Ross, Thomsen, Karlsen, Boesen, & Johansen, 2005) whereby sessions can be personalized to suit individuals' needs.

Participants strongly recommended for the programme to be integrated into routine care in current clinical settings to support patients' psychosocial needs and to ensure smooth transition of recovery from the preoperative to postoperative period. Most participants felt that all three components of the programme (the individual sessions, educational booklet, and telephone follow-up calls) were essential and they complemented each other. Participants suggested more information to be incorporated into future programmes, such as dietary advice for the recovery phase, scenarios of stoma issues experienced by other patients and their ways of coping, more information preoperatively on the range of bags and their costs and alternatives to purchase stoma appliances according to patients' convenience and preferences. A participant expressed the need for physical assistance with stoma care via home visits. Participants also suggested providing videos about stoma management, either stored in a thumb-drive (USB flash drive) or integrated into a web-based learning application in devices. Hence, future full-scale studies should improve the current programme by incorporating these suggestions. Cost-effective and convenient strategies to convey the intervention programme should be explored and developed so that the programme is more sustainable and widely assessable by patients and their family members. In the intervention study, the STOMA psychosocial programme consisted of one face-to-face individual session, five telephone follow-ups and the educational booklet (Lim et al., 2018 under revision). The manpower cost for delivering the programme per individual patient by a trained nurse will need to be taken into consideration and the material cost of printing the educational booklet (about SGD10 per copy).



## 5.1 | Limitations

This qualitative evaluation study had some limitations. First, the generalizability of the study findings is limited due to the sample criteria, which only included English and Mandarin Chinese speaking patients with no existing cognitive and mental disorders from a public hospital (Polit & Beck, 2008). Second, interviewer bias could not be totally excluded as the researcher who conducted the intervention (LSH) also performed the process evaluation interviews. This might affect the credibility of the interview findings as participants might provide positive answers as a result of obligation (Polit & Beck, 2006). However, to minimize the possibility of providing favourable response, participants were instructed to respond in the most honest and objective manner, with the aim of providing useful feedback to assist in improving future programmes. They were also reassured their responses would not affect their treatments in any way. All interviews were audio-recorded and reviewed by another author (HHG) with the aim of minimizing possible bias. The findings from the interviews were consistent with the quantitative results (Lim et al., 2018 under revision), enhancing the credibility of the qualitative data. There is a need for future large scale intervention study to explore the effects of the STOMA psychosocial programme on patients who might have different degree of positivity and attitude towards the formation of stoma, thus influencing the patients' response to the intervention.

## 6 | CONCLUSION

This study provided valuable insights of patients' experiences of the psychosocial programme which acted as a convenient and useful approach that providing adequate follow-up on discharge and establishing available support and resources. This programme has the potential to be incorporated into current practice to improve the health outcomes of patients. A full-scale study is needed with the programmes being improved to include more comprehensive information and being conveyed via more sustainable and cost-effective strategies.

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### CONFLICT OF INTEREST

No conflict of interest has been declared by the authors.

## AUTHOR CONTRIBUTIONS

All authors have agreed on the final version and meet at least one of the following criteria (recommended by the ICMJE [<http://www.icmje.org/recommendations/>]):

- Substantial contributions to conception and design, acquisition of data, or analysis and interpretation of data.
- Drafting the article or revising it critically for important intellectual content.

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