

# The Effects of Abdominal Massage and Bowel Recipe for the Relief of Constipation among Residents in a Care and Attention Home for Persons with Physical Disability in Hong Kong

**Kar Yan Alice WONG, RN, PhD**

**School of Nursing,**

**The Hong Kong Polytechnic University**

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# How did this study begin ?

- **Constipation problem persists among wheel chair bound institutionalized residents**
- Nurse Coordinators and Administrator from JCRC invited nursing faculty from PolyU to conduct an evidence based practice research study to improve their nursing care services and clients' satisfaction while evaluating their cost effectiveness

# Research team members from PolyU

- Dr Kar-Yan Alice WONG (PI)
- Dr Shirley FONG (Physical Therapist)
- Ms Yuk-Kwan Fionca TSE (Clinical Associate)
- Prof Alice Yuen LOKE (Research group leader)

## Working Group from TWGHs JCRC

- Mr Allan HO (Admin.)
- Ms Bonnie TANG (KF –Supervisor)
- Kin Lok: Ms. Agnes LAM (Nurse coordinator)
- Kin Fai: Ms Ka Wai KONG (Nurse coordinator)
- Kin Yi: Ms Lisa LAU (Nurse coordinator)
- Kin Yat: Ms Mandy NG (Nurse coordinator)

# ROM III criteria

**Functional Constipation** - Symptoms  $\geq 3$  mo; onset  $\geq 6$  mo prior to diagnosis

1) Must include  $\geq 2$  of the following: \* $\geq 25\%$  of defecations with either:

- Straining\*
- Lumpy or hard stools\*
- Sensation of incomplete evacuation\*
- Sensation of anorectal obstruction/blockage\*
- Manual maneuvers to facilitate defecation (eg, digital evacuation, support of the pelvic floor)\*
- less than 3 defecations/wk

2) Loose stool rarely present without using laxatives

3) Insufficient criteria for IBS-C

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# 1.1 PREVALENCE OF CONSTIPATION

- Constipation is a common disorder particularly among the elderly, women and long term care residents

(Lamas, Lindholm, Stenlund, Engstrom & Jacobsson, 2009)

- Statistics on prevalence of constipation (in general public):

**Table 1 Prevalence of constipation in different area**

Countries	Statistics	Age
Germany	5%	18 or above
United States	18%	18 or above
South Korea	16.7%	18 or above
France	14%	18 or above
Brazil	16.7%	18 or above
Italy	7.9%	18 or above
<b>Hong Kong</b>	<b>10.8%</b>	<b>15 or above (2005)</b>
<b>Hong Kong</b>	<b>14%</b>	<b>18 or above (2007)</b>

(Department of Health, 2005; Chan, Hui, Leung, Tong, Hung, Chan, Hsu, But, Wong, Lam & Lam, 2007; Wald, Scarpignato, Mueller-lissne, Kamms, Hinkel, Helfrich, Schuijt & Mandel, 2008)

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# 1.2 IMPACT FROM CONSTIPATION

- A common problem all over the world
- A risk factor of different kinds of colorectal diseases  
(American Society of Colon and Rectal Surgeons, 2009)
- Increasing healthcare cost due to use of laxatives  
(Wisten & Messner, 2005)
- Gastrointestinal discomfort
- Psychological burden from fecal soiling and poor body image → poor quality of life  
(Wald, Scarpignato, Kamm, Mueller-Lissner, Helfrich, Schrijt, Bubeck, Limoni & Peterini, 2007)



## 2. LITERATURE REVIEW

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2.1 TYPES OF CONSTIPATION

2.2 RISK FACTORS

2.3 ABDOMINAL MASSAGE

2.4 BOWEL RECIPES

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# 2.1 TYPES OF CONSTIPATION

## A. Etiology

1. Functional
  - Slow-transit constipation
  - Outlet Delay
2. Idiopathic
  - Not caused by anatomical or physiological abnormalities
3. Structural
  - e.g. Colon cancer, diverticular disease, hemorrhoid

## B. Duration

1. Chronic
  - unsatisfactory defecation characterized by infrequent stools, difficult stool passage or both at least for previous 3 months
2. Acute
  - Duration: < 3 months

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## 2.2 RISK FACTORS

- Female
- Aging

(Talley, Jones, Nuyts & Dubois, 2003)

- Inadequate fluid intake/ excessive fluid loss

(Arnaud, 2003)

- Insufficient fiber intake

(Heizer, Southern & McGovern, 2009)

- Immobility

(Petticrew, Rodgers & Booth, 2001)

- Poor toilet facilities

(Norton, 2006)

- Certain medical conditions

(McCrea, Miaskowski, Stotts, Macera & Varma, 2008)

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## 2.3 ABDOMINAL MASSAGE

### Constipation does not relieved by abdominal massage

- No significant change of stool frequency
- Stool consistency did not show significant improvement
- No significant ↓ laxatives used

### Constipation relieved by abdominal massage

- Stool frequency ↑
- Stool consistency showed significant improvement
- Bowel movement could be improved
- Symptoms of constipation were improved
- Improved quality of life
- Abdominal massage is cost-effective

(Harrington & Haskvitz, 2006; Ayas, Leblebici, Sozay, Bayramoglu & Niron, 2006 ; Moss, Smith, Wharton & Hames, 2007; Lamas & et al., 2009; McClug, Hagen, Hawkin & Lowe-strong, 2011)



## 2.4 BOWEL RECIPE

### **Constipation does not relieved by bowel recipes**

- Rye bread increased the unpleasant gastrointestinal symptoms

### **Constipation relieved by bowel recipes**

- Bowel recipes improved symptoms of constipation
- Bowel Recipes was more effective than Psyllium at reducing straining
- Stool frequency and consistency were improved by bowel recipes
- Recipes were as effective and nearly half as expensive as the commercial psyllium product
- Fiber supplementation is a safe and convenient alternative to laxatives in a geriatric hospital

(Drewes, DreadinHull, Atnip, Dreadin, McIntire, Nihira, & Schaffer, 2006; Hongisto, Paajanen, Saxelin & Korpela, 2006; ; Sairanen, Piirainen, Nevala and Korpela, 2007; Sturtzel, Mikulits, Gisinger & Elmadfa, 2008)

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# 3. Research Problems and Research Questions

3.1 Research Problems

3.2 Research Questions

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## 3.1 RESEARCH PROBLEMS

- Limited research about the effectiveness of abdominal massage and fiber supplement over constipation of institutionalized residents in Hong Kong
- It is conflicting for the effectiveness of abdominal massage on stool frequency and consistency by different literatures



## 3.2 RESEARCH QUESTIONS

- What is the effectiveness of the **bowel recipe** on relieving functional constipation suffered by the long-term care residents (LTCR)?
- What is the effectiveness of the **bowel recipe and abdominal massage** on relieving functional constipation suffered by the LTCR?
- Is there any relationship between the **age, gender, mobility, fluid intake, use of fiber supplement, use of laxative, medication and medical conditions** and constipation of LTCR?



# 4. Aim and Objectives

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# 4. AIM AND OBJECTIVES

## Aim

- To reduce and prevent constipation among long term care residents

## Objectives

To study the effects of

- The bowel recipe
- The bowel recipe and abdominal massage

on constipation by comparing the stool consistency, bowel frequency and the number of laxative used

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# 5. Conceptual Framework

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# 5. Conceptual Framework

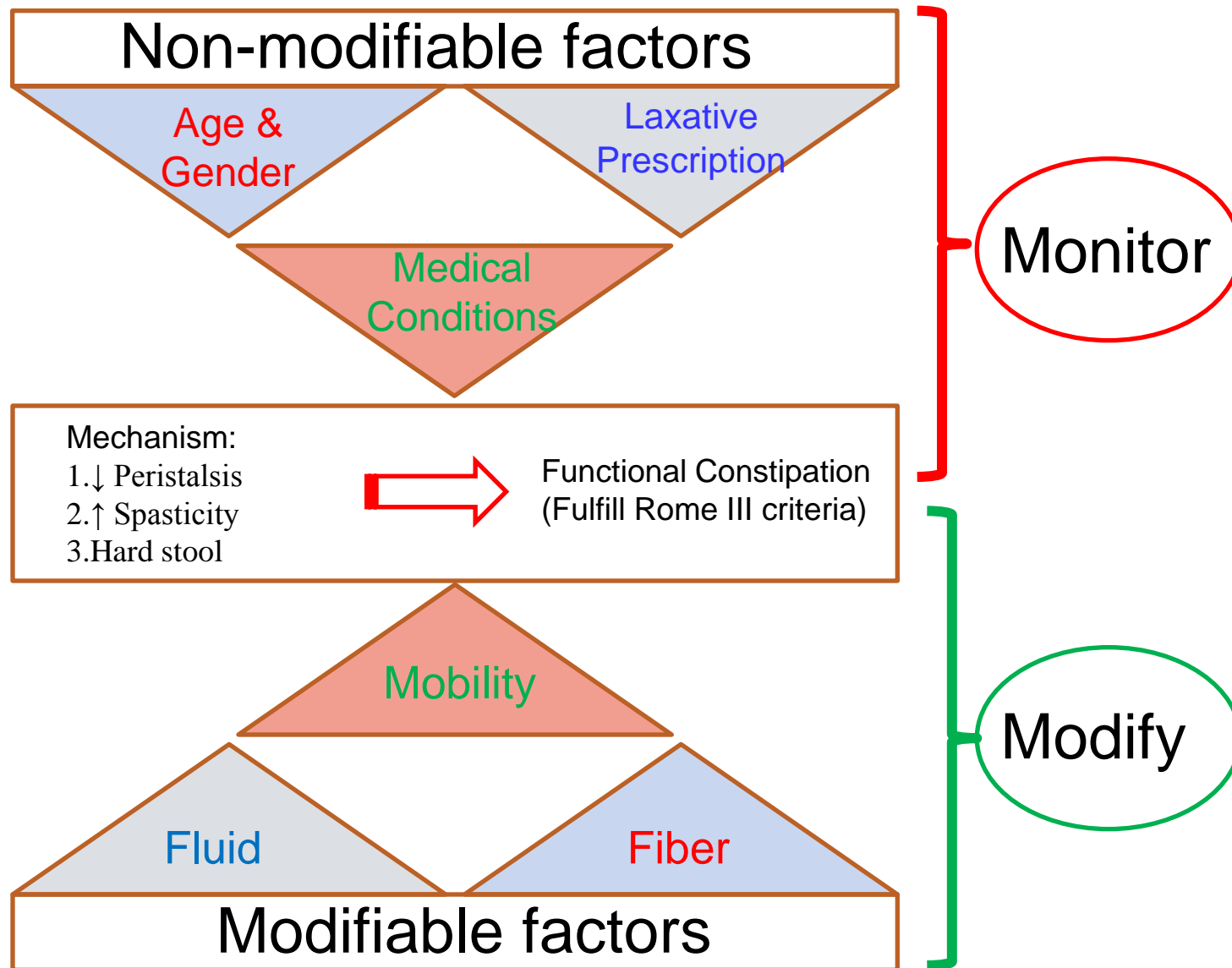


Figure 1: Conceptual framework of this study

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# 6. Methodology

- 6.1 Research Design
- 6.2 Participants
- 6.3 Ethical Considerations
- 6.4 Intervention
- 6.5 Instrument
- 6.6 Procedure
- 6.7 Data Analysis

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# 6.1 RESEARCH DESIGN

- Experimental Study
- Cross-sectional
- Pretest – Posttest design

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# 6.2 Participants

## Study setting:

Setting: *Tung Wah Groups of Hospital, Jockey Club Rehabilitation Complex (JCRC)*

Location: Aberdeen, Hong Kong

Resident characteristics: LTCR with physical impairments, post accidents, stroke or severe mentally challenged

(Tung Wah Groups of Hospital, 2004)

**Table 2 Inclusion and exclusion criteria for the study**

<u>Inclusion criteria:</u>	<u>Exclusion criteria:</u>
<p><b>Rome III Criteria</b> Criteria fulfilled for at least 3 months with symptoms onset at least 6 months prior to diagnosis – MUST include 2 or more of the following:</p>	<ul style="list-style-type: none"> <li>- Abdominal pain</li> <li>- Abdominal mass or tumor</li> <li>- Abdominal surgery in past 6 months</li> <li>- Intestinal intussusception</li> <li>- Acute colitis or abdominal disease</li> <li>- Unstable spinal cord injury</li> <li>- Skin disorder or colostomy or gastrostomy tube</li> <li>- Appendicitis</li> <li>- Confusion or Unconscious</li> <li>- Bleeding tendency</li> <li>- Pregnancy</li> <li>- Behavioral problems</li> </ul>
<ol style="list-style-type: none"> <li>1. Defecation experiencing symptoms:               <ul style="list-style-type: none"> <li>- Straining at least 25%</li> <li>- Hard stool at least 25%</li> <li>- Incomplete evacuation at least 25%</li> <li>- Impaction at anal opening at least 25%</li> <li>- Digital maneuvers at least 25%</li> <li>- Less than 3 bowel opening within a week</li> </ul> </li> <li>2. Soft stool solely dependent on laxative use</li> <li>3. No prior history of irritable bowel syndrome diagnosis</li> </ol>	

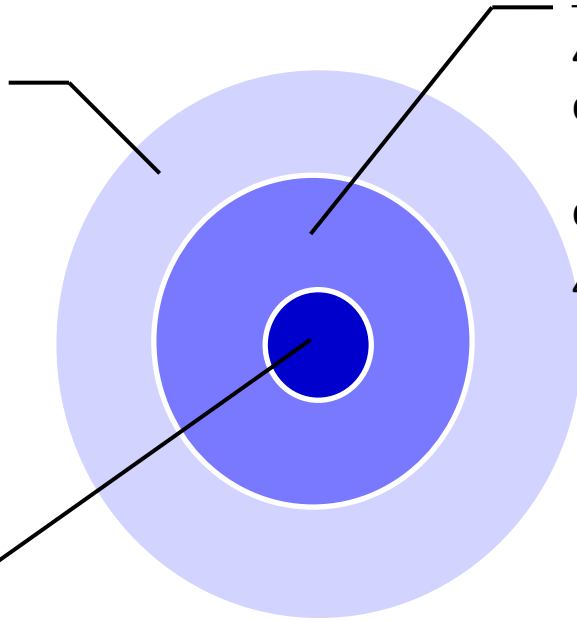
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# 6.2 Participants

## Study population:

196 residents from JCRC



## Target population:

42 residents with constipation identified by Rome III criteria

42-13 = 29 initially

## Sample:

Sampling Method: purposive sampling

- Target population is voluntary to participate in the research study

## **Randomization**

- Residents who fulfill inclusion criteria and consented for voluntary participation will be randomly allocated into either group:  
Massage group (17-1 -1-2=13) & Routine care group (12+3 = 15) → end up n=28

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## 6.3 ETHICAL CONSIDERATIONS

- The ethical approval has been obtained from the Human Subject Ethics Subcommittee of The Hong Kong Polytechnic University in July.
- **Information sheets** will be explained and given to subjects and families before participation.
- **Written informed consent** will be obtained from all subjects and/or family/ legal guardians before participation.
- Clients are recruited on **voluntary basis** thus can withdraw from the study at anytime without affecting the level of care received at JCRC
- Exclusion criteria are observed throughout the whole study period.
- **Coding system** will be adopted.
- All information collected from the clients will be **kept confidential and anonymous**.



# 6.4 Intervention

## Abdominal Massage Protocol

1. Abdominal assessment will be done to every participants before massage
2. Empty bladder and drink a small glass of water
3. Lie in supine position in bed with a small pillow placed under knees
4. Abdominal massage (20mins)

**Table 3 Abdominal Massage Protocol**

Stroke	Duration
a. Light stroking effleurage on colon	1 minute
b. Effleurage on colon	} 18 minutes -3 minutes/cycle ( repeat 6-10 times)
c. Vibration on right and left colic flexures	
d. Circular stroke	1 minute

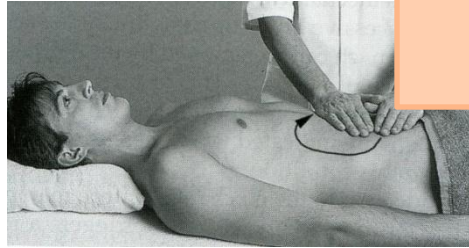
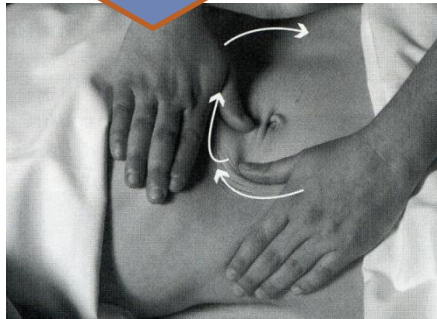
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# Protocol on abdominal massage (20 mins)

Massage in clockwise



Massage in clockwise direction gently

1. light stroking effleurage

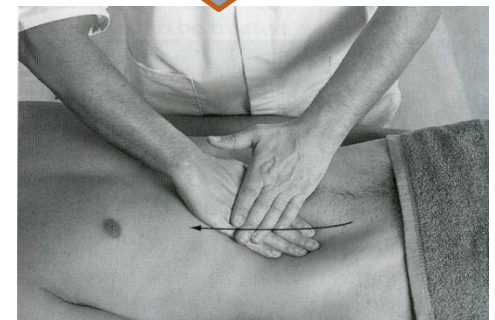
2.1. effleurage on colon

Effleurage from descending colon; then transverse to descending, then ascending to transverse to descending colon (repeat 6-10 times)

3. circular stroke

2.2. Vibration on when reach right and left colic flexures

Vibrate in a high frequency with finger pad



## 6.4 Intervention

### Abdominal Massage Protocol

- If participants refuse massage, massage therapist will consider them the last clients on that day
- Participant's condition will be discussed with primary nurse
- Given failure twice on that particular day, it will be recorded for future reference.
- Given failure twice or more a week, the voluntary participation involved will be dropped out and participant's family and the nursing staff will be informed.

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# 6.4 INTERVENTION

## Bowel Recipe

**Table 4 Calculation of dietary fiber provided in bowel recipe**

	All bran	Apple sauce	Prune juice
Ratio	1	1	0.25
Content used in 4 tablespoons	26.7g	26.7ml	6.7ml
Brand	Bob's Red Mill - Wheat bran 	Heinz Delicious Applesauce 	Sunsweet 
Dietary Fiber	40g/100g	1.9ml/100ml	1ml/100ml
Dietary fiber provided per serving (4 tablespoons)	10.68g	0.50g	0.07g
<div style="border: 1px solid black; padding: 5px; display: inline-block;"> <b>Additional dietary fiber provided: 11.25g</b> </div>			<b>(Hitt, 2006)</b>

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# 6.4 INTERVENTION

## Routine Care

1. If no bowel open for 3 days

→ LTCR are first treated with additional dietary fiber e.g. prune juice/ prune supplement

**Table 5 Calculation of routine fiber supplement in JCRC (10 servings)**

	Prune juice	Apple sauce	Instant oatmeal
<b>Fiber/ 100g</b>	0.6g	1.9g	10g
<b>Quantity used</b>	110g	110g	32g
<b>Fiber provided in the mixture</b>	<b>0.66g</b>	<b>2.09g</b>	<b>3.2g</b>

Total amount of fiber provided in the mixture =  $0.66g + 2.09g + 3.2g$   
= 5.95g

Since the mixture will be distributed to ten residents in JCRC, hence:

Amount that each residents received =  $5.95g / 10$

2. If no bowel open for 4 days = 0.595g

→ Laxative is used

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# 6.5 INSTRUMENT

- Demographic Data Collection Form
  - Age, gender, mobility, fluid intake, use of fiber supplement, laxative prescribed, medical conditions, medications
  - for case selection
- Abdominal Massage Assessment Form
  - Readiness before each massage
- Daily Bowel Record
  - Bowel frequency and consistency, laxative used, fluid intake goal achievement, intervention compliance, remarks
  - Continuously record for 18 weeks

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# 6.6 Study Procedure

**Participants**

**Baseline Data Collection**

**Bowel Recipe**

**Routine Care**

**Data Collection 1**

**Bowel Recipe+  
Abdominal  
Massage**

**Routine Care**

**Data Collection 2**

**Bowel Recipe+  
Abdominal  
Massage**

**Routine Care**

**Data Collection 3**

**Phase 1:  
(week 1-6)  
Single  
Effect**

**Phase 2:  
(week 7-  
12)  
Combine  
d Effect**

**Phase 3:  
(week 13-  
18)  
Continue  
interventi  
on**

Figure 2: Flow chart of study procedure

# 6.7 DATA ANALYSIS

- Predictive Analytics Software (PASW) 17.0
- Comparison between participants fulfilling and not fulfilling Rome III criteria

## Demographic data analysis:

- Participant's characteristics (gender, age groups, mobility, fluid intake goal achievement, use of fiber supplement and laxative prescription) will be analyzed by basic descriptive data and tested by Chi square test.
- Correlations between demographic characteristics and participants fulfill Rome III are analyzed by Phi test.

## Study results analysis:

**Table 6 Statistical test for different variables**

Independent Variables	Dependent Variables	Instrument	Statistical Test
Age, gender, mobility, fluid intake goal achievement, use of fiber supplement and laxative prescription	Stool Consistency	Bristol Stool Scale	Within group: Cochran Q Test Between groups: Chi-square test
	Bowel frequency	Daily bowel record	Within group: Dependent Sample t-test Between groups: Independent Sample t-test
	Number of laxative used	Daily bowel record	Within group: Dependent Sample t-test Between groups: Independent

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# 7. Results and Findings

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# Table 7 Comparison of demographic characteristic of participants (N=196) in JCRC between two groups

	Participants fulfill Rome III criteria group (N=42)	Participants do not fulfill Rome III criteria group (N=154)	P-value
	N (%)	N (%)	
<b>Gender</b>			0.276
Male	22 (52.4)	95 (61.7)	
Female	20 (47.6)	59 (38.3)	
<b>Age groups</b>			0.960
<46	20 (47.6)	74 (48.1)	
≥46	22 (52.4)	80 (51.9)	
<b>Mobility</b>			0.030*
Mobile	6 (14.3)	48 (31.2)	
Immobile	36 (85.7)	106 (68.8)	
<b>Fluid intake goal</b>			0.057
Goal achieved	22 (52.4)	105 (68.2)	
Goal not achieved	20 (47.6)	49 (31.8)	
<b>Fiber supplement</b>			0.004*
Used	25 (59.5)	54 (35.1)	
Not used	17 (40.5)	100 (64.9)	
<b>Laxative prescribed</b>			0.000*
Used	39 (92.6)	86 (55.8)	
Not used	3 (7.4)	68 (44.2)	

**Mean age:**  
44.9±14.6  
(Range: 19-76)  
**Median:** 46

Both **gender and age** do not have significant difference (p>0.05) between two groups, hence, the participating group represent the target population in general.

\* P<0.05

Table 7.1 Comparison of mobility and use of fiber supplement between two groups

	Participants fulfill Rome III criteria group (N=42)	Participants do not fulfill Rome III criteria group (N=154)	P-value
	N (%)	N (%)	
<b>Mobility</b>			0.030*
Mobile	6 (14.3)	48 (31.2)	
Immobile	36 (85.7)	106 (68.8)	
<b>Fiber supplement</b>			0.004*
Used	25 (59.5)	54 (35.1)	
Not used	17 (40.5)	100 (64.9)	

\* p<0.05

The result shows both in use of fiber supplement and mobility level have significant difference between two groups.

→ Participants fulfill Rome III do not use fiber supplement (40.5%) and have lower mobility level (87.5%)

→ It is very likely that a low mobility level and a lack of fiber are the contributing factors for constipation in LTCR

Table 7.2 Comparison of fluid intake between two groups

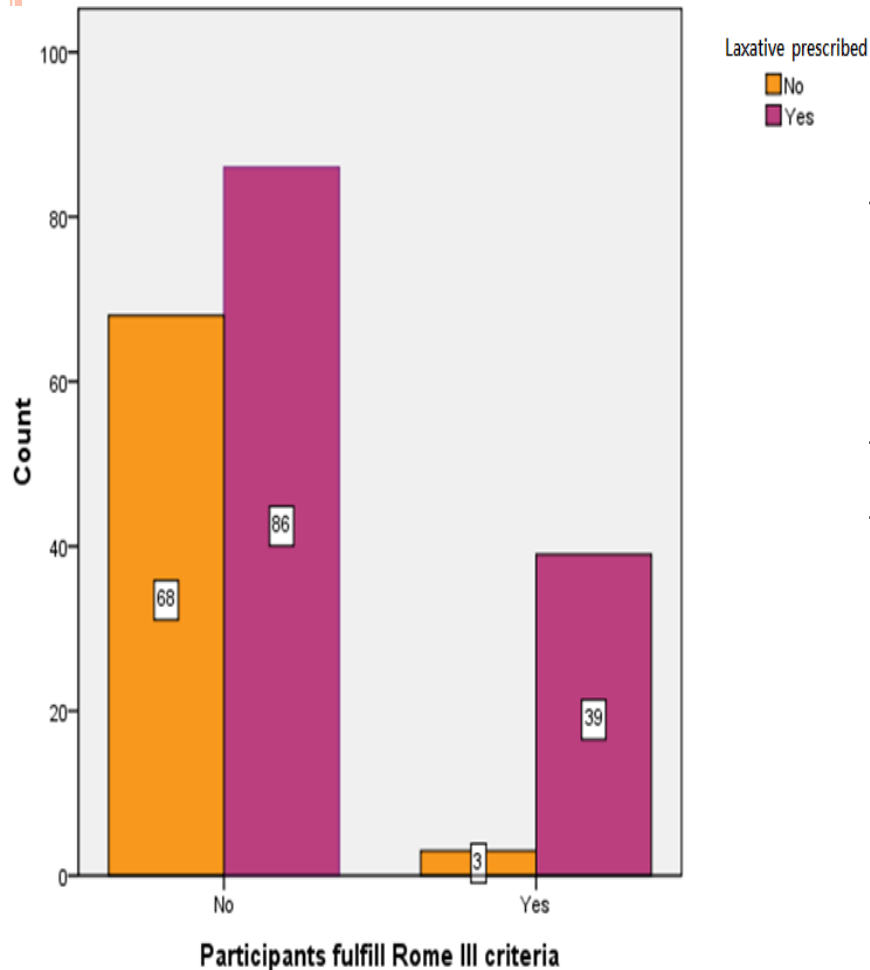
	Participants fulfill Rome III criteria group (N=42)	Participants do not fulfill Rome III criteria group (N=154)	P-value
	N (%)	N (%)	
<b>Fluid intake goal</b>			0.057
Goal achieved	22 (52.4)	105 (68.2)	
Goal not achieved	20 (47.6)	49 (31.8)	
* p<0.05			

There is no significant difference between two groups ( $p>0.05$ ) which may due to participants in JCRC center are dependent in activity of daily living, and hence the amount of their **fluid intake** highly depends on staff administration.

**Table 7.3 Comparison of laxative prescription between two groups**

	Participants fulfill Rome III criteria group (N=42)	Participants do not fulfill Rome III criteria group (N=154)	P-value
	N (%)	N (%)	
<b>Laxative prescribed</b>			0.000*
Used	39 (92.6)	86 (55.8)	
Not used	3 (7.4)	68 (44.2)	

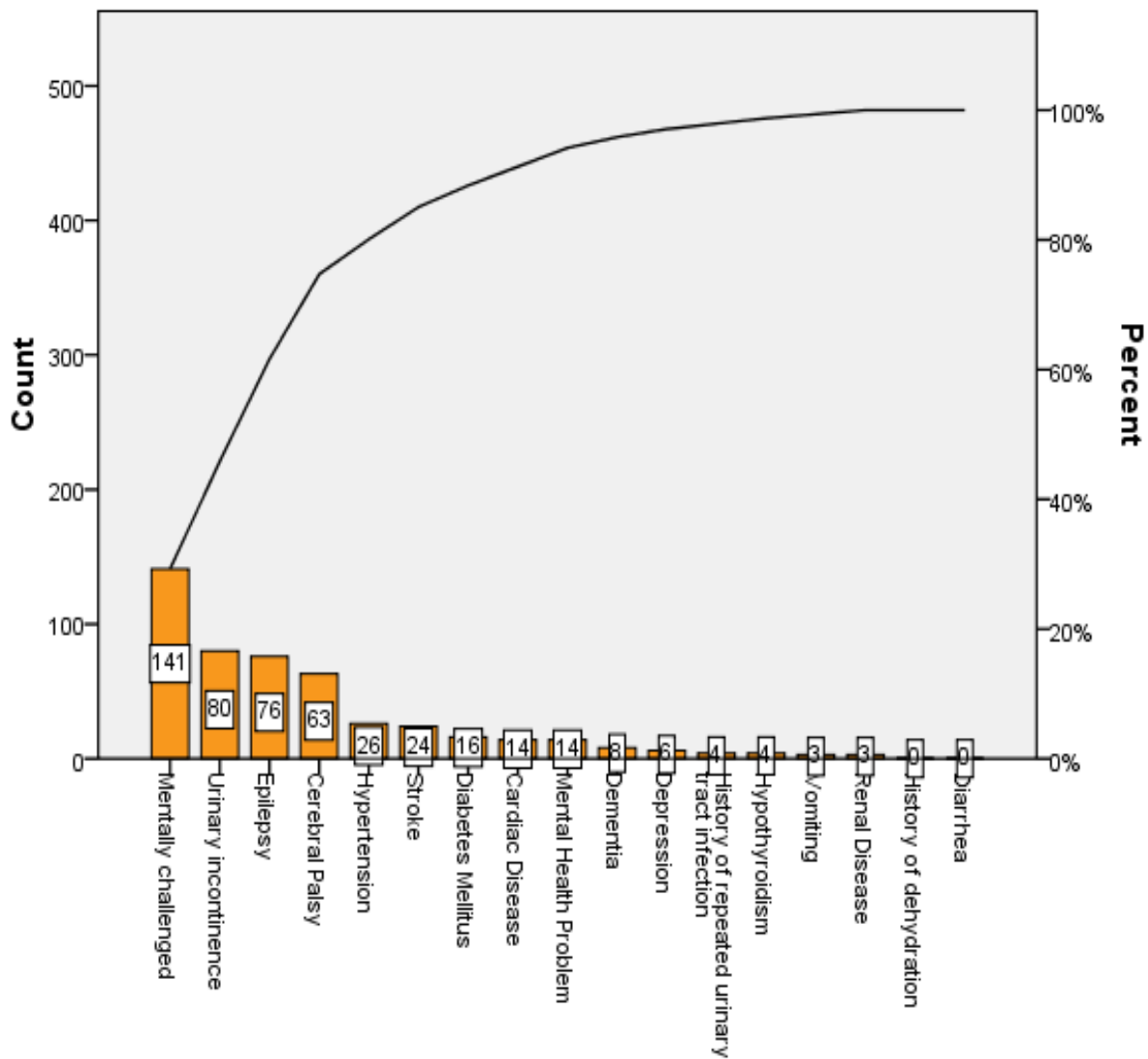
\* P<0.05



**Figure 3: Frequency of laxative prescribed between two groups**

There is a significant difference between two groups ( $p < 0.05$ ), 92.6% of the residents fulfilled the Rome III are **prescribed with laxative** which indicated that their constipation cannot be relieved even with the use of laxatives.

\*\* 55.8% of those **do not fulfill Rome III criteria** are also **dependent** on laxatives to relieve their constipation. (Constipation is a common problem among LTCR in JCFAC)

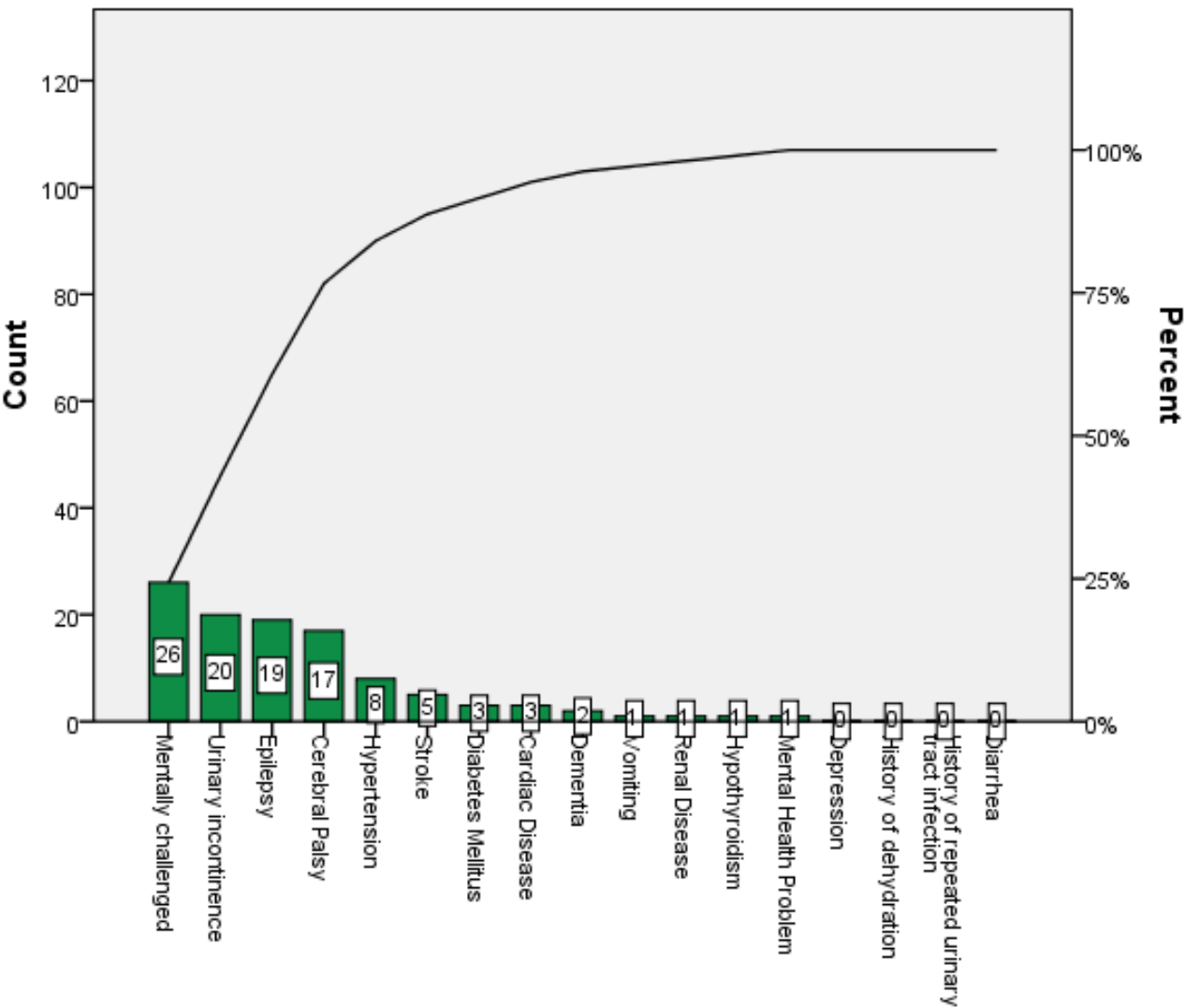


The 5 most common medical conditions (80.1%) of LTCR in JCRC are :

- Mentally challenged
- Urinary incontinence
- Epilepsy
- Cerebral palsy
- Hypertension



Figure 4: Medical conditions of LTCR in JCRC (N=196)



The 5 most common medical conditions (84.1%) in LTCR fulfill Rome III criteria are:

- Mentally challenged
- Urinary incontinence
- Epilepsy
- Cerebral palsy
- Hypertension

Same with participants in JCRC (N=196)  
 → Represent the target population

Figure 5: Medical conditions of LTCR fulfill Rome III criteria (N=42)

Mentally challenged, epilepsy and cerebral palsy will affect their mobility level and that may be a contributing factor to constipation.

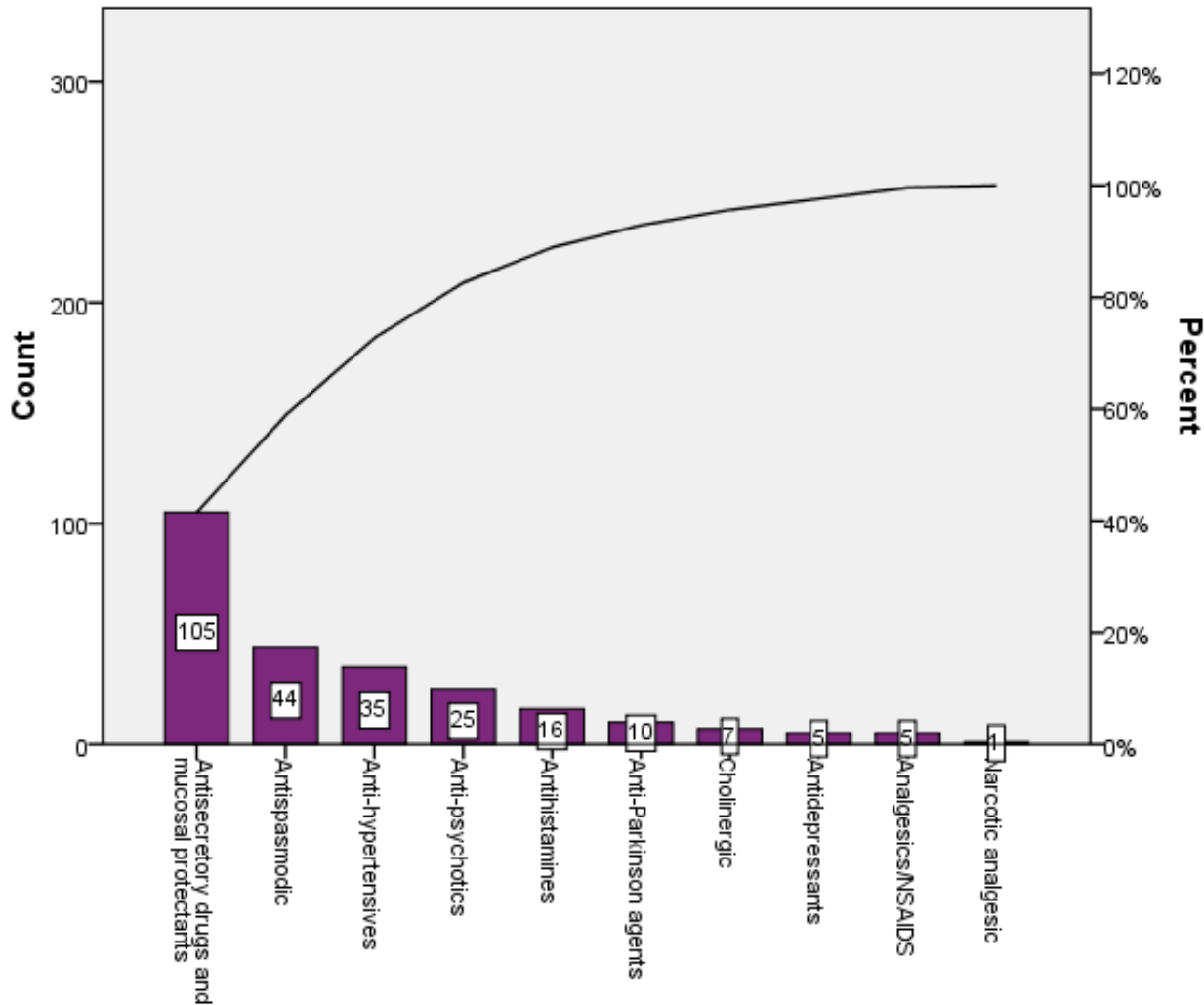
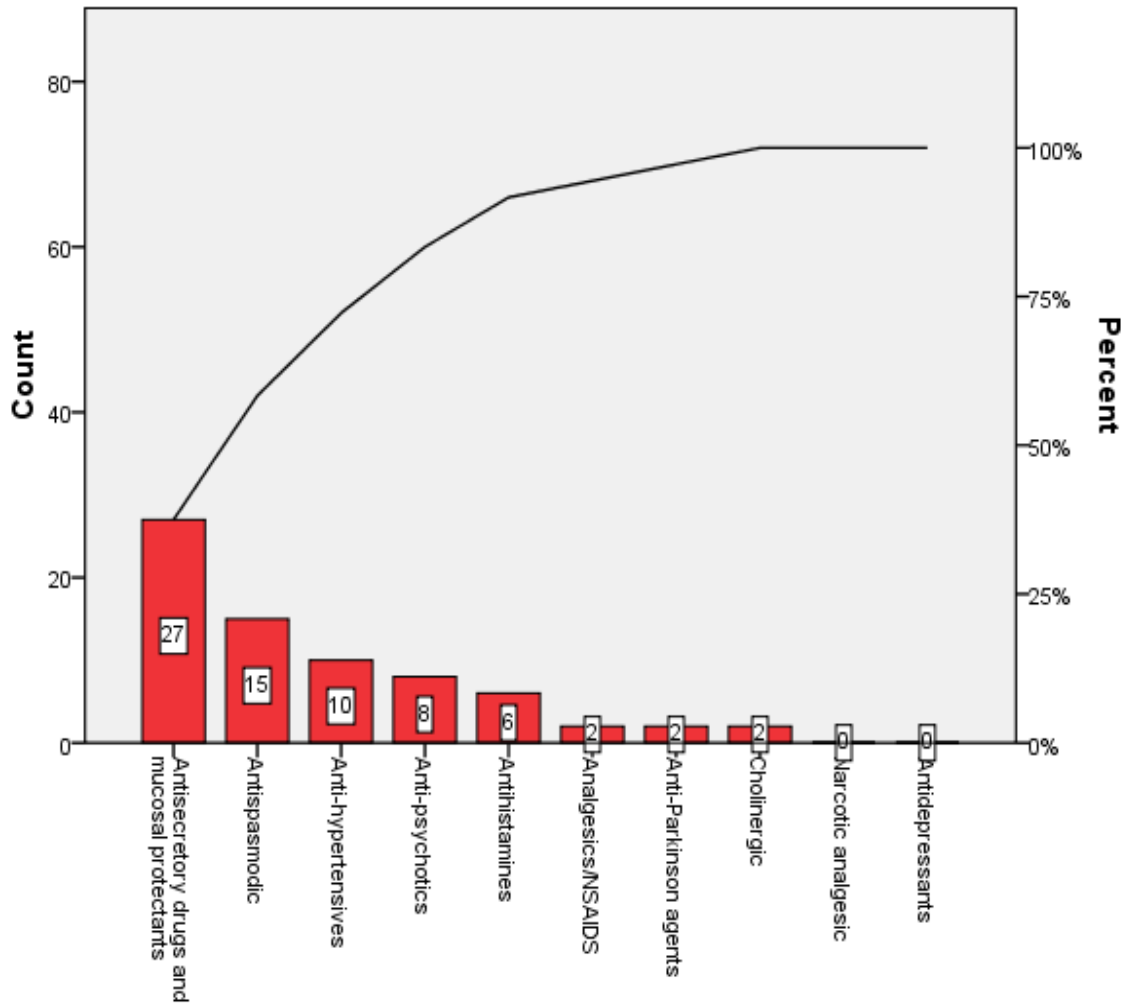


Figure 6: Use of medications of LTCR in JCRC (N=196)

The 5 most common medications (88.9%) used by LTCR in JCRC are:

- Antisecretory drugs and mucosal protectants
- Antispasmodic
- Antihypertensive
- Antipsychotics
- Antihistamines



The 5 most common medications (91.7%) used by LTRC fulfill Rome III criteria are:

- Antisecretory drugs and mucosal protectants
- Antispasmodic
- Antihypertensive
- Antipsychotics
- Antihistamines

Same pattern as LTRC in JCRC (N=196)  
 → Represent the target population

Figure 7: Use of medications of LTRC fulfill Rome III criteria (N=42)



**Table 8: Correlation between demographic characteristics and participants fulfill Rome III**

	<b>Phi Coefficient (<math>\phi</math>)</b>	<b>P-value</b>
<b>Gender</b>	0.078	0.276
<b>Age</b>	0.004	0.960
<b>Mobility</b>	-0.155	0.003
<b>Fluid intake goal achievement</b>	0.136	0.057
<b>Fiber supplement</b>	0.205	0.004
<b>Laxative prescribed</b>	0.316	0.000

Other underlying factors e.g. co-morbidity, mask gender and age's effect

Fluid intake and use of fiber supplement highly depend on the nursing care of each home in JCRC  
 → standardize the research protocol for the participants so that nursing care are consistent among 4 homes

The definitions of constipation in this study and in clinical practice are different → mask the scale of constipation

All the above variables have weak/ poor correlation ( $\phi < 0.7$ ) with constipation.

# 8 DISCUSSION

## 8.1 CHALLENGES

## 8.2 RECOMMENDATION

Background	Red
Literature Review	Orange
Research P/	Yellow
Aim & Objectives	Green
Conceptual Framework	Bright Green
Methodology	Blue
Results & Findings	Purple
<b>Discussion</b>	Cyan
Sig. of Study	Red
Conclusion	Dark Purple



# 8.1 Challenges

**Table 9 Challenges in study and corresponding resolutions**

Challenges	Resolutions
Laxatives used in intervention groups intervene the effect of result measurement	Stop administering laxatives as soon as constipation symptoms subside and record laxatives used in every participant during the studies
High cost for buying ingredients of bowel recipe	Seek funding or sponsorship; buy in bulk
Underlying medical conditions and unexpected diseases might happen	Record and evaluate the effect of those conditions on the participants in different phases

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# 8.1 Challenges

**Table 9 Challenges in study and corresponding resolutions (cont'd)**

Challenges	Resolutions
Difficulty in building up trust relationship between massage therapists and non-expressive participants	Arrange the same therapist to perform massage to build up a trust relationship
Limited control on the psychological and behavioral status of the participants	Close communication with primary nurse for any changes in participants' conditions
Limited control for additional food brought from family intervening participants' daily fiber intake	Educate family when giving inform consent Enhance nurses' communication with participants' family members, explain additional fiber can affect results of study
Rely on nursing staff from JCRC in recording	Discuss the use of daily bowel record charting with nurse coordinators of JCRC to increase understanding and reduce bias Assign duty officer to sign after daily case

- Background
- Literature Review
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# 8.2 RECOMMENDATION

## Reduce Drop Out Rate

JCRC staff:

- Coordinate abdominal massage intervention with the daily nursing care to avoid crushing of routine schedule of JCRC
- Communicate closely with JCRC staff to facilitate the adherence of study protocol

Participants:

- Using the same therapist to perform massage to build up a trust relationship

Participants' family members:

- Explain the adverse effects brought by chronic constipation
- Update the progress of participant if improvement is shown

Background	Red
Literature Review	Orange
Research P/	Yellow
Aim & Objectives	Green
Conceptual Framework	Light Green
Methodology	Blue
Results & Findings	Purple
Discussion	Cyan
Sig. of Study	Pink
Conclusion	Purple



# 8.2 RECOMMENDATION

## Increase data accuracy

- Discuss the use of daily bowel record charting with nurse coordinators of JCRC to increase understanding and reduce bias
- Visit JCRC twice per month to ensure the data is correctly recorded
- Remind the nurses to fill in the record everyday
- Ensure inter-rater reliability on using Bristol stool scale
- Advise nurses to remind relatives not to give extra fiber supplement to participants

## Minimize the possible influencing factors

- Use of fiber: follow the bowel recipe, advise family members or staff not to give additional fiber to participants
- Mobility: follow the abdominal massage protocol
- Administration of laxative: follow doctor's prescription

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# 9 SIGNIFICANCE OF THE STUDY

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# 9 SIGNIFICANCE OF THE STUDY

To LTCR/ family	To nurses
A non-invasive method to reduce risk of experiencing GI discomfort and related colorectal diseases	Reduce medical cost of laxative and nursing hour used in managing constipation
Enhance communication with family members' involvement through massage	Has clinical value to be promoted in institution and community settings
Improve quality of life of clients with constipation	Provide a holistic nursing intervention by health promotion & prevention of constipation





# 10 CONCLUSION

Background	Red
Literature Review	Orange
Research P/	Yellow
Aim & Objectives	Green
Conceptual Framework	Bright Green
Methodology	Blue
Results & Findings	Purple
Discussion	Cyan
Sig. of Study	Pink
<b>Conclusion</b>	<b>Purple</b>



# 10 CONCLUSION

- Out of 196 LTCR, 42 cases fulfill Rome III criteria of having constipation:
  - The most common medical condition of LTCR in JCRC is **mentally challenged**.
  - The most common medication used is **antisecretory drugs and mucosal protectants**.
- Whether participants fulfilling Rome III criteria are not influenced by **gender, age and fluid intake** . In contrast, whether participants fulfilling Rome III criteria are influenced by **fiber supplement, mobility level and prescribed with laxative**.
- Intervention of bowel recipe and abdominal massage will be applied
  - Measurements of stool consistency, bowel frequency and no. of laxative used to be recorded on daily bowel record
- The effectiveness of bowel recipe and abdominal massage in relieving constipation will be further studied.



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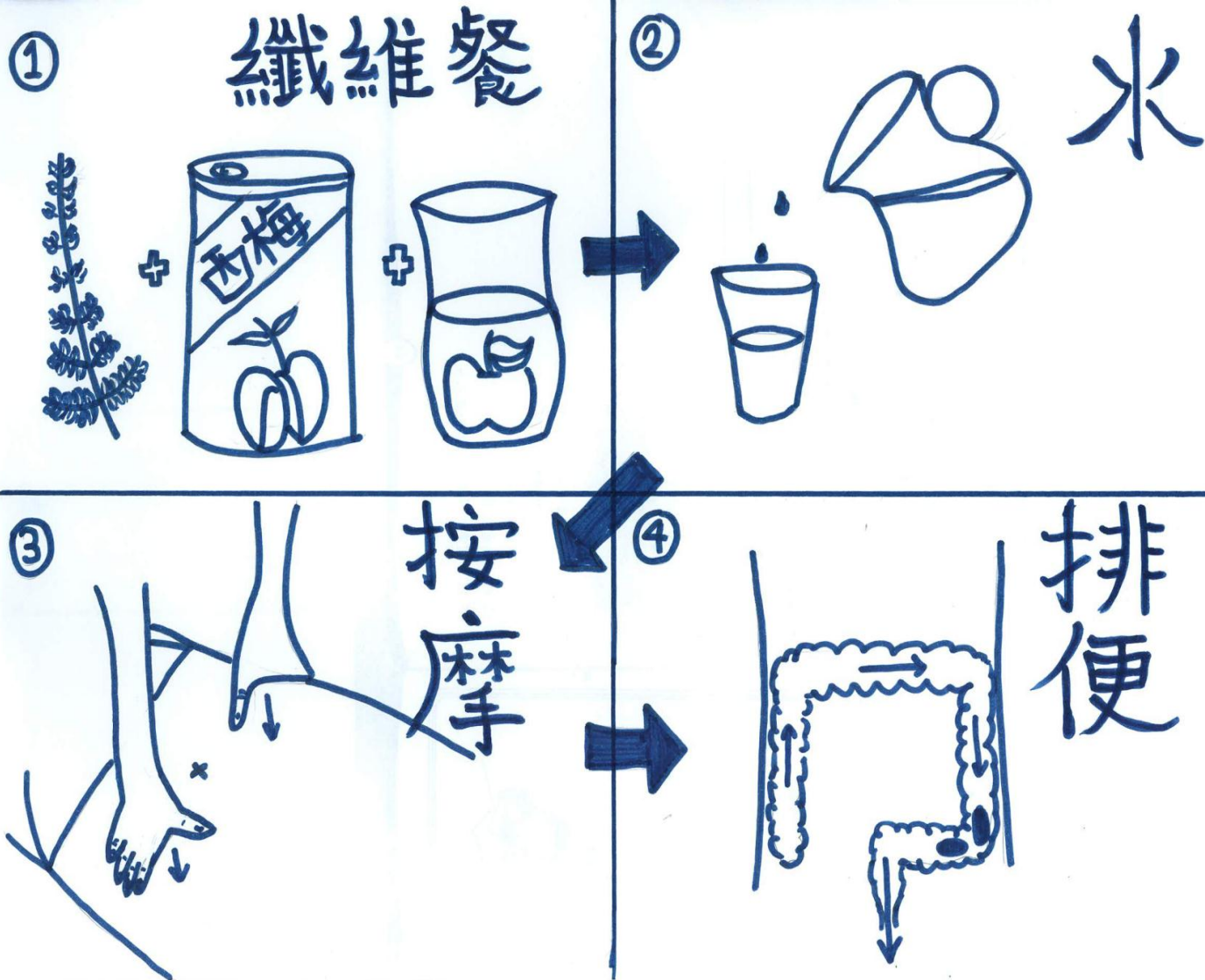
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Conclusion












# 按摩組的研究方法





Phase 1 (green) / Phase 2 (blue) / Phase 3 (yellow)

腸友排便狀況記錄表			
院舍:	德苑/德樂/德怡/德達	院友編號:	
開始日期:		結束日期:	

星期	日期	星期	排便 (✓)	大便質狀度 (1-7)	手指挖肛 (✓)	使用排便劑 Laxative(L), Suppositories(DS), Enema(E)	*額外進食 高纖助排便 (✓)	進食時鬆 軟糞便 (2 + 2 tsp)	按摩前進水 (✓ / X)	腹部按摩 (✓)	每日 總進水量 (mL)	**備註欄 ["西藥 (S) / 西藥汁 (P)] ["藥物或治療更新"]		
1		早												
		午												
		晚												
2		早												
		午												
		晚												
3		早												
		午												
		晚												
4		早												
		午												
		晚												
5		早												
		午												
		晚												
6		早												
		午												
		晚												
7		早												
		午												
		晚												
大便形狀及顏色圖解	第一型 (1) 一團團硬球 (如玻璃球)		第二型 (2) 硬團圓， 但表面凹凸		第三型 (3) 硬團圓， 但表面有裂痕		第四型 (4) 像香蕉/ 飽一硬， 且表面很光滑		第五型 (5) 較進光滑的軟狀糞狀， 較易進食		第六型 (6) 滋潤軟， 稍糞大便		第七型 (7) 水狀， 無固體糞	
														

# 腹部按摩步驟

(在進行首次按摩前必須做腹部健康評估)

1. 於按摩前排空膀胱，或先喝一少杯水
2. 在床上仰臥，膝蓋下放置一個小枕頭
3. 腹部按摩(15-20 分鐘)

## Abdominal Massage Protocol



Stroke	Duration
a. Light stroking effleurage on colon	1 minute
b. Effleurage on colon	} 18 minutes -3 minutes/cycle ( repeat 6-10 times)
c. Vibration on right and left colic flexures	
d. Circular stroke	1 minute

# 布里斯托大便分類法 (BRISTOL STOOL SCALE)

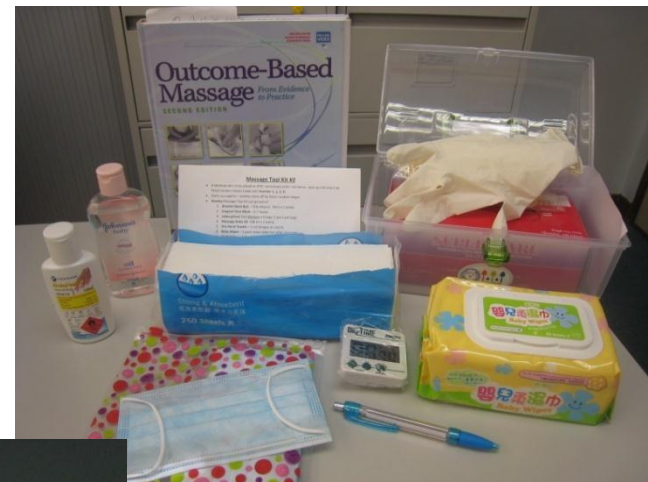
用來判斷食物經過大腸所需的時間

第一型	便秘
第二型	便秘
第三型	理想的便形
第四型	理想的便形，是最容易排便的形狀
第五至七型	腹瀉




布里斯托大便分類表

第一類		粒狀、硬身
第二類		腸狀、起塊
第三類		腸狀、表面有裂紋
第四類		長條狀、光滑而柔軟
第五類		一抹抹、但有清晰分界、柔軟
第六類		鬆軟小塊、呈糊狀
第七類		流質、沒有粒塊

# 按摩工具箱



(1) 先用掌摩腹 起式 順時針環繞 2-3 分鐘 敷整个腹部

(2) 推法 ① 6-8 次  ✓ Aw  
 + ② → ① 6-8 次  X Aw  
 『震動』 ③ → ② → ① 6-8 次 

(3) 推腹法

(4) 按揉法 (打小圈) 升 = 1 分鐘

橫 = 1 分鐘

降 = 1 分鐘

(5) 收式 = 掌摩腹

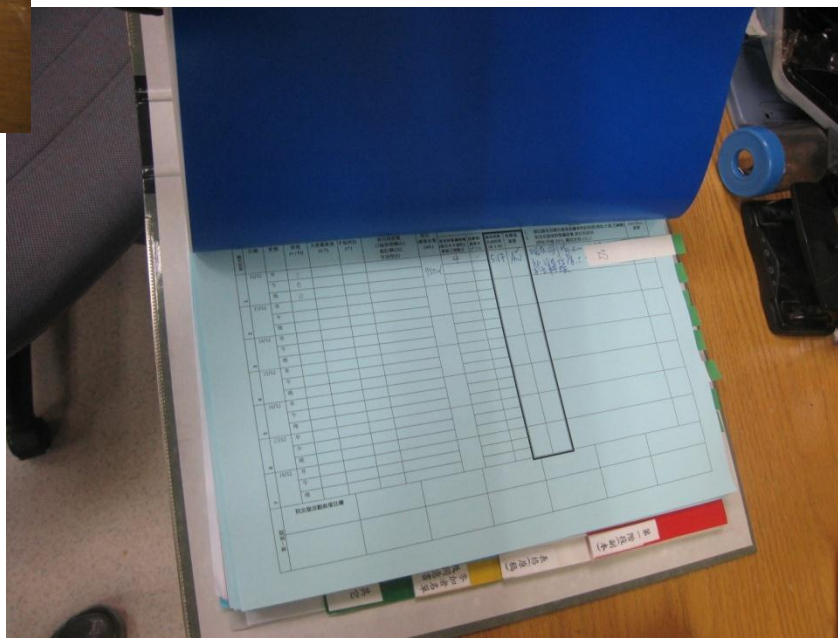
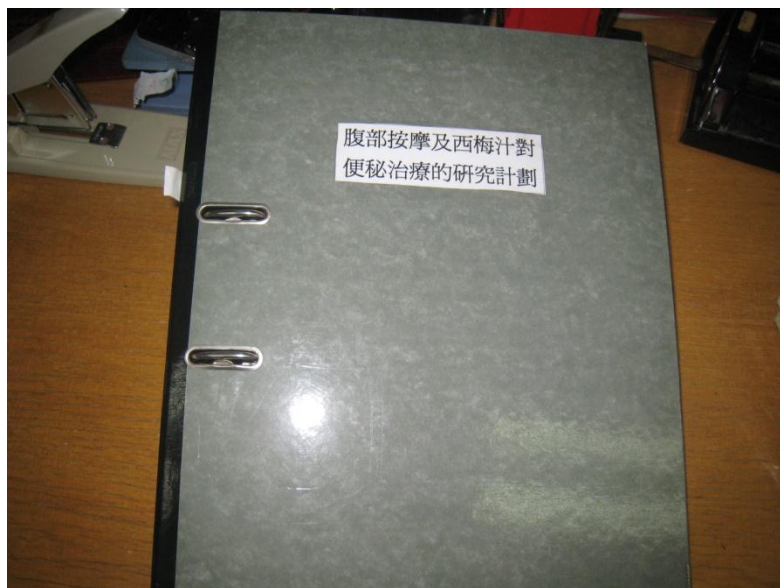


# 收集到按摩隊之意見





# 收集到前線同工之意見 (N=75)



# Snapshots with clients undergoing abdominal massage

