

PREVALENCE AND ASSOCIATED FACTORS OF CHRONIC CONSTIPATION AMONG ADULTS IN **PENANG**

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Definition chronic constipation

Rome III criteria

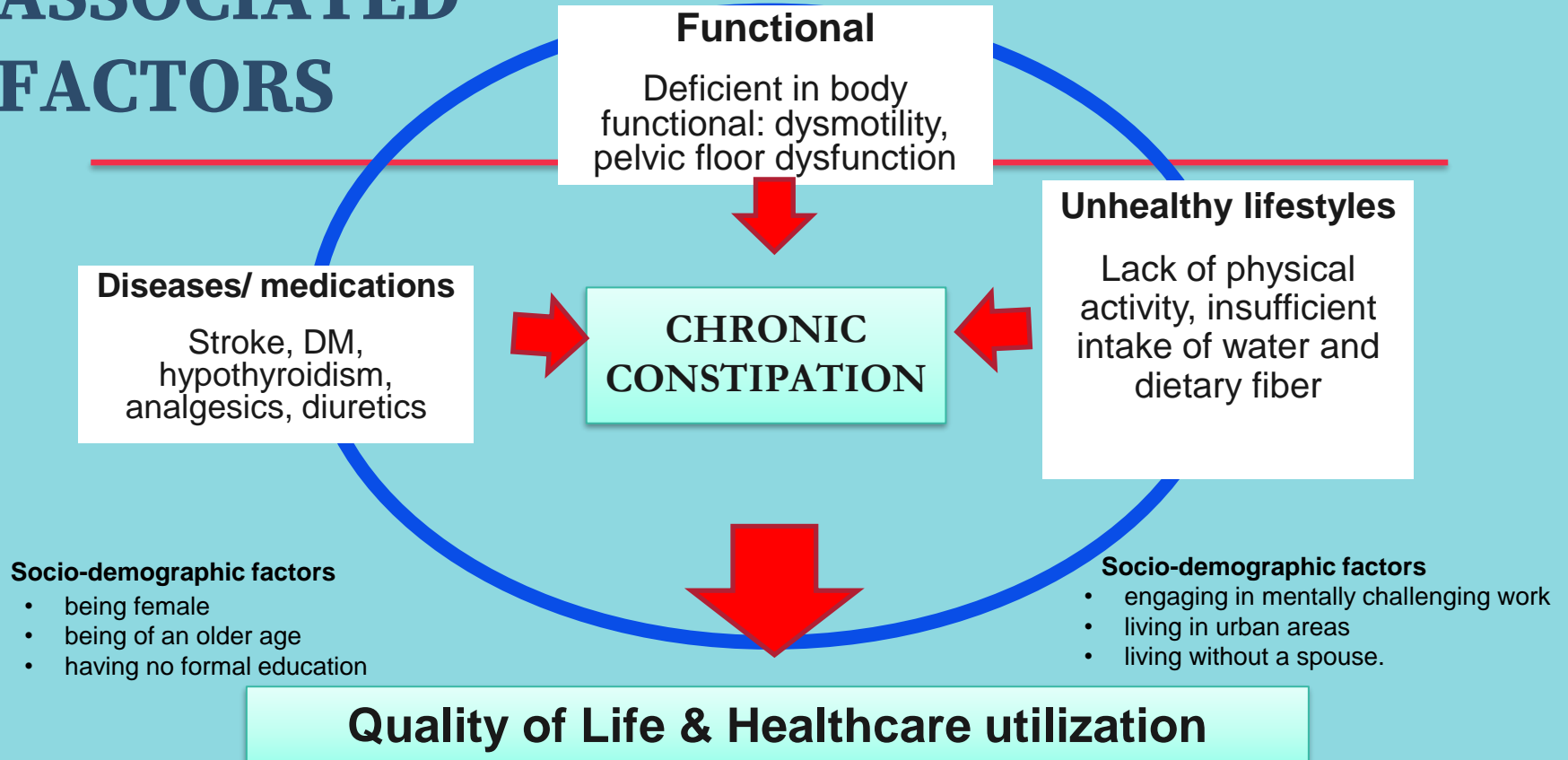
- **Constipation symptoms:**
 1. Fewer than three spontaneous bowel movements per week.
 2. Lumpy or hard stool
 3. Straining
 4. Sensations of incomplete evacuation
 5. Sensations of anorectal blockage
 6. Using manual manoeuvres to facilitate defecations
- **Time duration:**
 - 2 or more symptoms persist for at least three months.

LITERATURE REVIEW

• PREVALENCE OF CHRONIC CONSTIPATION

- **Worldwide:** General adult population ranged from 0.7% to 79%
(Forootan, Bagheri & Darvishi, 2018)
- **Asia:** Adults population ranged from 4.9% to 28%
(Huang et al., 2017)
- **Malaysia:** Among older adults in Kelantan was 14.8%
(Patimah et al., 2021)

ASSOCIATED FACTORS



Moezi, P., Salehi, A., Molavi, H., Poustchi, H., Gandomkar, A., Imanieh, M. H., & Malekzadeh, R. (2018). Prevalence of chronic constipation and its associated factors in pars cohort study: A study of 9000 adults in Southern Iran. *Middle East journal of digestive diseases*, 10(2), 1790-6.

Song HJ. Constipation in community-dwelling elders: Prevalence and associated factors. *J Wound, Ostomy Cont Nurs*. 2012;39:640-5.

Suares NC, Ford AC. Prevalence of, and risk factors for, chronic idiopathic constipation in the community: Systematic review and meta-analysis. *Am J Gastroenterol*. 2011;106:1582-91.

Zhang M, Yang X-J, Zhu H-M, Tang Z, Li B-Y, Zhao D-D. Epidemiological study of elderly constipation in Beijing. *World J Gastroenterol*. 2015;21:13368-73.

OBJECTIVES

1. To measure the prevalence of chronic constipation among Malaysian adults in Penang.
2. To examine the associated factors (socio-demography, health status, and lifestyle) of chronic constipation among adults in Penang

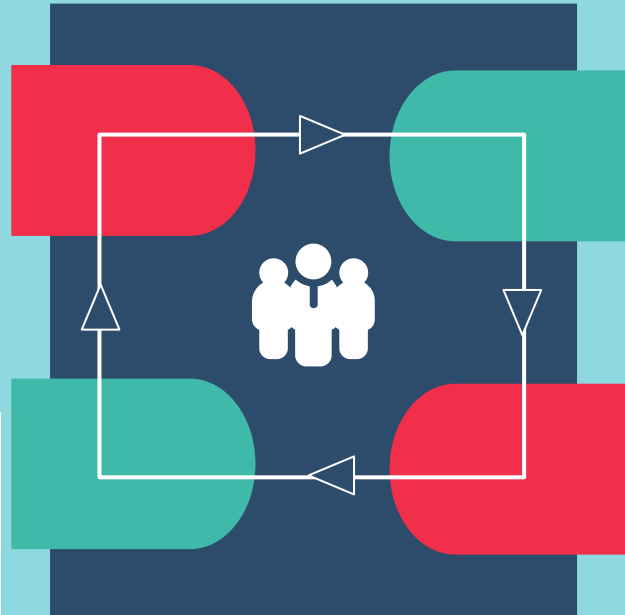
RESEARCH METHODS

Research

- An online survey
- Conducted from October to December 2020

Sample & sampling

- Malaysian adults who lived in Penang
 - Convenience sampling



Study setting

Penang, Malaysia

Data analysis

- Descriptive (frequency & percentage) for prevalence
- Pearson Chi-square test for associated factors
- Significant findings = p -value of <0.05

Inclusion and exclusion criteria

The inclusion criteria:

- 1) Age above 18 years old
- 2) Live in Penang
- 3) Have access, able and know to use the Google form and social media such as WhatsApp, Instagram and Facebook

The exclusion criteria:

- 1) Illiterate
- 2) Have stoma or gastrointestinal disease, had indications of colorectal cancer, such as weight loss, rectal bleeding, changes in bowel habits in less than three months and abdominal pain

QUESTIONNAIRE

Part A: Socio-demographic data

Part B: Health status

Part C: Chronic constipation (Rome III)

Part D: Fluid and dietary fiber intake

Part E: International Physical Activity
Questionnaire (IPAQ)

Part F: Fagerstrom Test for Nicotine
Dependence (FTND)

IPAQRC. (n.d.). International Physical Activity Questionnaire. Retrieved from <https://sites.google.com/site/theipaq/home>

Lim, K. H., The, C. H., Lim, H. L., Khoo, Y. Y., Lau, K. J., Yusoff, F. M. (2016). Reliability and validity of the fagerstrom test for cigarettes dependence among Malaysian adolescents. *Iranian Journal of Public Health*, 45(1), 104–105.

Patimah, A. W. (2018). *Chronic constipation among the elderly in Kelantan, Malaysia: Experience, prevalence and the impacts on quality of life*. Universiti Sains Malaysia.

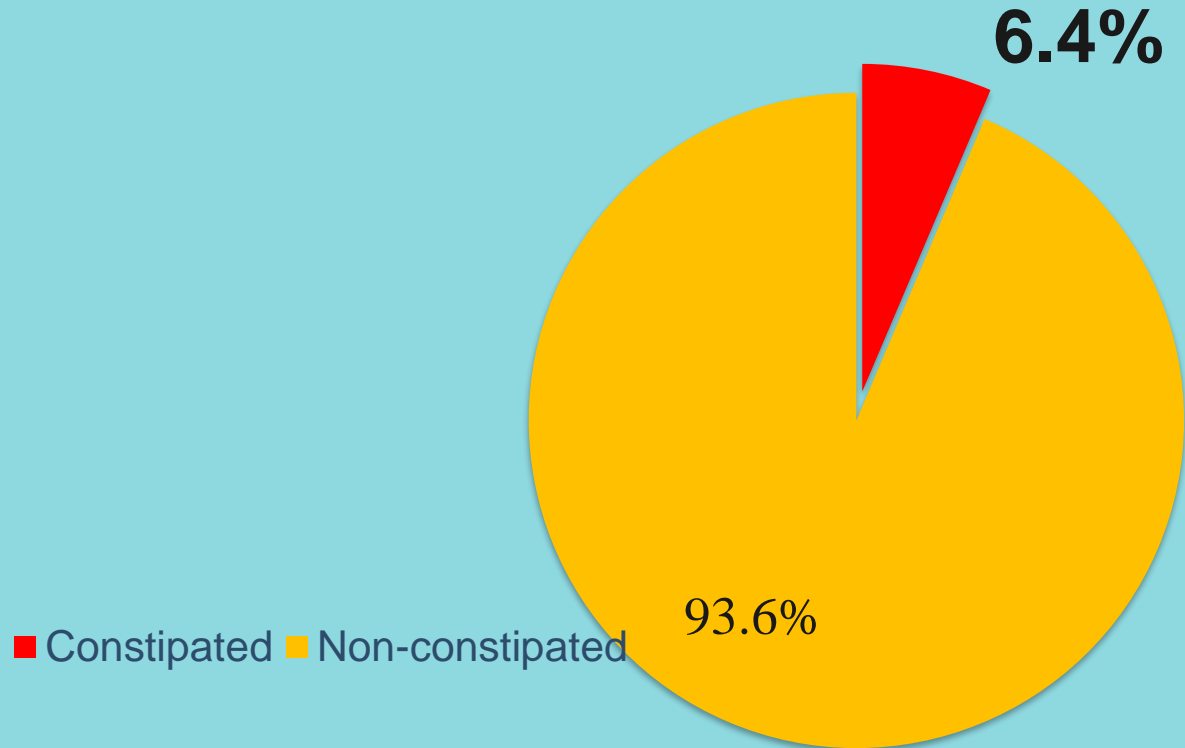
Rome Foundation. (2018). *Rome (III) questionnaires* <https://theromefoundation.org/questionnaires/>

RESULTS

- A total of 220 participants.
- Their age ranged from 18 to 65 years old with the mean was 31.5 ($SD = 13.1$).

Variables		Frequency (n)	Percentage (%)
Age	18-59	216	98.2
	>60	4	1.4
Sex	Male	105	47.7
	Female	115	52.3
Race	Malay	213	96.8
	Chinese	5	2.3
	Indian	2	0.9
Employment status	Employed/Retired	116	52.7
	Unemployed	104	47.3

Prevalence Chronic Constipation



Associated Factor: Socio-demographic Factor

Variables	Chronic constipation		p-value
	Yes	No	
Sociodemographic factors			
Age (years)			
18-59	14	202	0.767
>60	0	4	
Sex			
Male	3	102	0.042
Female	11	104	
Employment status			
Employed	6	98	0.788
Unemployed	8	108	

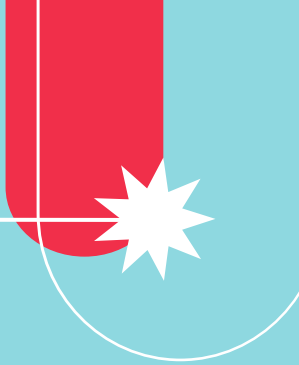
Associated Factor: Health Status Factor

Variables	Chronic constipation		p-value
	Yes	No	
Health status factors			
Diabetes	1	10	0.453
	13	196	
Hypertension	3	14	0.070
	11	192	
Hyperlipidemia	3	15	0.095
	11	191	
Heart disease	0	3	1.000
	14	203	

Associated Factor: Lifestyle Factor

Variables	Chronic constipation		p-value
	Yes	No	
Lifestyle factors			
Physical activity			
Low	4	35	0.127
Moderate	2	84	
High	8	86	
Fluid intake			
Adequate fluid intake	4	132	0.008
Inadequate fluid intake	10	74	
Dietary fibre intake			
Adequate fibre intake	1	80	0.017
Inadequate fibre intake	13	126	
Smoking status			
Smoker	2	11	0.196
Non-smoker	12	195	

DISCUSSION



Prevalence of Chronic Constipation

- 6.4%
- Low but still within the range prevalence of chronic constipation reported in the literature review



Associated Factors of Chronic Constipation

Socio-demographic factor of sex and **lifestyle factors** of fluid intake and dietary fiber intake associated with chronic constipation

- **Women:** due to progesterone hormone that will result in slow transit of stool (Song et al., 2019).
- Low **fluid intake** hardens the stools and contributing to constipation and aggravating the chronic constipation complications (Jangid et al., 2016).
- **Fibre intake** encourage bowel movements and accelerating transit times through the colon (Abdullah et al., 2015).

Abdullah, M. M., Gyles, C. L., Marinangeli, C. P., Carlberg, J. G., & Jones, P. J. (2015). Dietary fibre intakes and reduction in functional constipation rates among Canadian adults: a cost-of-illness analysis. *Food & nutrition research*, 59(1), 28646.

Jangid, V., Godhia, M., Sanwalka, N., & Shukl. a, A. (2016). Water intake, dietary fibre, defecatory habits and its association with chronic functional constipation. *Current Research in Nutrition and Food Science*, 4(2), 90–95.

Song, J., Bai, T., Zhang, L., & Hou, X. H. (2019). Clinical features and treatment options among Chinese adults with self-reported constipation: An internet-based survey. *Journal of Digestive Diseases*, (May), 1–6.



CONCLUSION & RECOMMENDATION



Chronic constipation was common in our study associated mainly with lifestyle factor.



There is a need for the health care providers to highlight on the dietary modification in prevention and management of chronic constipation among the adult people.





THANK YOU

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