

Supplementary Material 2 – Systematic review methods – additional details

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Differences between protocol and review

Risk of bias tool

Within our **original** Detailed Research Plan (Section 5.3.4) we stated that we would use the new Cochrane Risk of Bias tool (ROB 2 tool) to assess risk of bias of randomised trials included within our review of effectiveness. This proposal was based on the information available at the time, including the Cochrane Scientific Committee recommendation from July 2017

(https://methods.cochrane.org/sites/default/files/public/uploads/scientific_committee_statement_report_rob_2.0_final_301017.pdf). The information available at the time led us to believe that by the start date of our review update (January 2020) the new ROB 2 tool would be mandatory for new Cochrane reviews and that there would be full functionality for this within RevMan 5, along with fully developed training and support.

However, as was confirmed in a November 2019 update from Cochrane Methods (<https://methods.cochrane.org/risk-bias-2>), the new ROB 2 tool remains within the pilot phase, there is no mandate for it to be used in Cochrane reviews, and functionality for this has not been built into RevMan 5. Furthermore, the piloting is highlighting a number of issues relating to implementation, and the need for training and tools to support authors in use of ROB 2. Given the absence of a date by which this new tool will be mandated by Cochrane, the limited support and training currently available, and the lack of software functionality for using ROB 2, we felt that it was inappropriate to attempt to use this new ROB 2 tool. We therefore used the original risk of bias (ROB 1) tool to assess risk of bias of randomised controlled trials.

Mapping tools

We originally planned to use Tableau for mapping of data. However, EPPI-mapper software became available during the project and was the preference of the stakeholders for providing evidence maps when comparing them. Maps were therefore created in EPPI-mapper.

CFIR (consolidated framework implementation research)

Best fit framework synthesis was planned for the implementation review. After discussion with the review team, it was felt that the CFIR (consolidated framework implementation research) was a better framework for our best-fit' framework, rather than the planned amalgam of different frameworks planned in the protocol.

Logic Model

Logic models are commonly used within a scoping review to describe the outcomes that an intervention is expected to have ⁴⁶. A first iteration of our logic model was developed at the protocol stage of our scoping review by three members of the research team (ATB, CT, DM) (Figure 1). This version of the logic model was used to further inform aspects of study selection, data charting and collation.

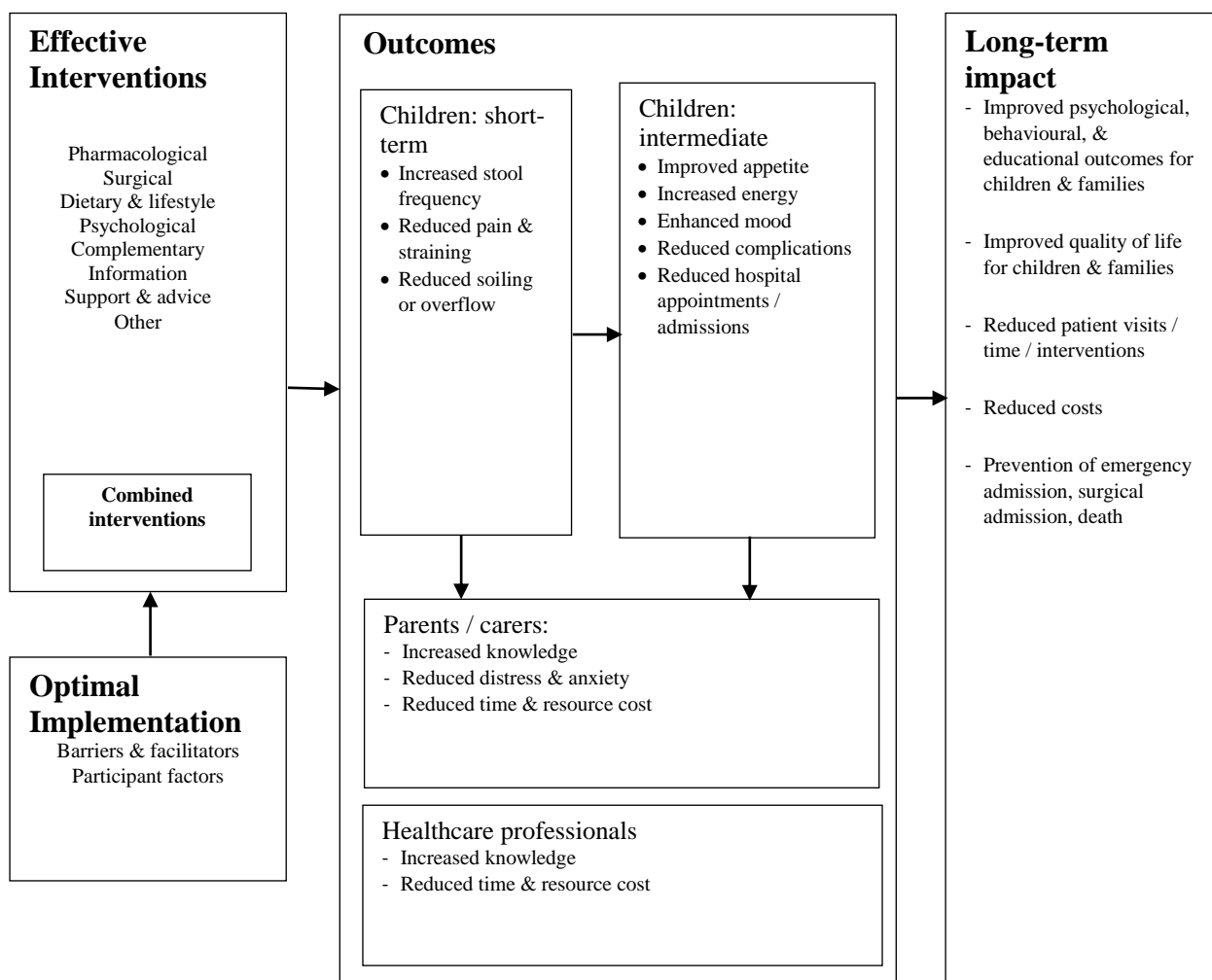


Figure 1: First iteration of Logic Model, used to inform scoping review

Scoping review methods

Participant inclusion criteria (details)

The table below was drafted by members of research team and content experts however, studies were considered on an individual basis particularly in cases where a mixed population was reported.

Condition	Include	Exclude
Abdominal compartment syndrome		YES
ADHD	YES	
Adhesive small bowel obstruction		YES
Ano-rectal retention	YES	
Anorectal malformation/birth defects		YES
Anorexia	YES	
Autism	YES	

Bladder and bowel disease		YES
Bowel Preparations for colonoscopy		YES
Cerebral Palsy	YES	
Chronic intractable constipation	YES.	
Cow's milk protein allergy		YES
Cystic Fibrosis		YES
Down's Syndrome	YES	
Dysfunctional elimination. Dysfunctional elimination syndrome describes a group of conditions affecting a person's ability to urinate and defecate normally and without difficulty.		YES
Encopresis – leads to overflow specifically mentioned in remit	YES	
FGID - disorders of the brain-gut axis.		YES
FGID plus abdominal pain only if mentions constipation	YES	
Functional abdominal pain disorders (FAPD)		YES
Functional gastrointestinal diseases FGID – functional constipation classed as one of these	YES, if specifies constipation	
Global development delay	YES	
IBS		YES
Infant Dyschezia		YES. Infant dyschezia is a functional condition characterized by at least 10 minutes of straining and crying before successful or unsuccessful passage of soft stools in an otherwise healthy infant less than six months of age.
Intestinal motility disorders		YES
Intestinal obstruction		YES
Learning Disability	YES	
Myelomeningocele Type of spina bifida		YES
Occult constipation	YES	
Pain-related functional gastrointestinal disorders (P-FGIDs)	Yes if constipation mentioned	YES
Parenteral nutrition		YES
Postoperative ileus		YES
Rapid transit' constipation	YES	
Rectal prolapse		YES

Recurrent abdominal pain	YES if constipation mentioned	YES, if constipation not mentioned
Slow transit	YES	
Spina Bifida		YES
Spinal cord injury		YES
Spinal dysraphism		YES

Electronic Searches

AMED Ovid

(last searched 9 March 2020; n =233)

1. exp child/ 18046
2. Child preschool/ 1625
3. exp Infant/ or exp Infant newborn/ 2147
4. exp Adolescent/ 5872
5. exp Pediatrics/ 645
6. (child\$ or infant\$ or infancy or newborn\$ or neonat\$ or baby or babies or preschool or pre school or pre-school or pubescen\$ or teen\$ or adolescen\$ or puber\$ or prepubert\$ or juvenil\$ or p?ediatric\$ or youth\$ or schoolchild\$ or school age\$ or schoolage\$ or elementary school or high school\$ or highschool\$ or kindergar\$ or boy or boys or girl\$ or minors or underag\$ or under ag\$ or kid or kids or toddler\$ or preteen\$ or pre-teen\$ or young).ti,ab. 75409
7. or/1-6 78916
8. exp Constipation/ 263
9. exp Fecal incontinence/ 99
10. exp Intestinal obstruction/ 64
11. (constipat\$ or obstipat\$ or coprostasis or soiling or encopresis or fecal incontin\$ or faecal incontin\$ or feces incontin\$ or fecal impact\$ or faecal impact\$ or fecally impact\$ or faecally impact\$ or feces impact\$ or faeces impact\$ or fnrfi or functional defecation disorder\$ or functional defaecation disorder\$ or functional gastrointestinal disorder\$.ti,ab. 619
12. ((difficult\$ or retent\$ or delay\$ or irregular\$ or infrequent\$ or pain\$ or strain\$) adj3 (defecat\$ or stool\$ or faeces or feces or bowel movement\$ or evacuat\$ or anorectal\$)).ti,ab. 42
13. (megacolon\$ or megarectum\$).ti,ab. 2
14. or/8-13 791
15. 7 and 14 233

CENTRAL

(last searched 10 March 2020; n =5024)

ID	Search Hits
#1	MeSH descriptor: [Child] explode all trees 1238
#2	MeSH descriptor: [Child, Preschool] explode all trees 441
#3	MeSH descriptor: [Infant] explode all trees 15691

- #4 MeSH descriptor: [Infant, Newborn] explode all trees 15432
- #5 MeSH descriptor: [Adolescent] explode all trees 100696
- #6 MeSH descriptor: [Pediatrics] explode all trees 646
- #7 (child* or infant* or infancy or newborn* or neonat* or baby or babies or preschool or pre school or pre-school or pubescen* or teen* or adolescen* or puber* or prepubert* or juvenil* or p?ediatric* or youth* or schoolchild* or school age* or schoolage* or elementary school or high school* or highschool* or kindergar* or boy or boys or girl* or minors or underag* or under ag* or kid or kids or toddler* or preteen* or pre-teen* or young):ti,ab,kw
391557
- #8 #1 or #2 or #3 or #4 or #5 or #6 or #7391562
- #9 MeSH descriptor: [Constipation] explode all trees 1647
- #10 MeSH descriptor: [Encopresis] explode all trees 30
- #11 MeSH descriptor: [Intestinal Obstruction] explode all trees 691
- #12 MeSH descriptor: [Fecal Incontinence] explode all trees 480
- #13 MeSH descriptor: [Fecal Impaction] explode all trees 20
- #14 MeSH descriptor: [Megacolon] explode all trees 31
- #15 (constipat* or obstipat* or coprostasis or soiling or encopresis or fecal incontin* or faecal incontin* or feces incontin* or fecal impact* or faecal impact* or fecally impact* or faecally impact* or feces impact* or faeces impact* or fnrfi or functional defecation disorder* or functional defaecation disorder* or functional gastrointestinal disorder*):ti,ab,kw 15396
- #16 ((difficult* or retent* or delay* or irregular* or infrequent* or pain* or strain*) NEAR/3 (defecat* or stool* or faeces or feces or bowel movement* or evacuat* or anorectal*)):ti,ab,kw 3738
- #17 (fecalith* or faecalith* or coprolith* or stercolith*):ti,ab,kw 7
- #18 (megacolon* or megarectum*):ti,ab,kw 52
- #19 #9 or #10 or #11 or #12 or #13 or #14 or #15 or #16 or #17 or #18 19007
- #20 #8 and #19 5024

CINAHL EBSCO (Cumulative Index to Nursing and Allied Health Literature)

(last searched 10 March 2020; n =5150)

#	Query	Limiters/Expanders	Last Run Via	Results
S18	S8 AND S17	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases	5,150

			Search Screen - Advanced Search Database - CINAHL	
S17	S9 OR S10 OR S11 OR S12 OR S13 OR S14 OR S15 OR S16	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL	18,059
S16	TI ((megacolon* or megarectum*)) OR AB ((megacolon* or megarectum*))	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL	185
S15	TI ((fecalith* or faecalith* or coprolith* or stercolith*)) OR AB ((fecalith* or faecalith* or coprolith* or stercolith*))	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL	40
S14	TI (((difficult* or retent* or delay* or irregular* or infrequent* or pain* or strain*) N3 (defecat* or stool* or faeces or feces or bowel movement* or evacuat* or anorectal*))) OR AB (((difficult* or retent* or delay* or irregular* or infrequent* or pain* or strain*) N3 (defecat* or stool* or faeces or feces or bowel movement* or evacuat* or anorectal*)))	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL	786
S13	TI ((constipat* or obstipat* or coprostasis or soiling or encopresis or fecal incontin* or faecal incontin* or feces incontin* or fecal impact* or faecal impact* or fecally impact* or faecally impact* or feces impact* or faeces impact* or fnrfi or functional defecation disorder* or functional defaecation disorder* or functional gastrointestinal disorder*)) OR AB ((constipat* or obstipat* or coprostasis or soiling or encopresis or fecal incontin* or faecal incontin* or feces incontin* or fecal impact* or faecal impact* or fecally impact* or faecally impact* or feces impact* or faeces impact* or fnrfi or functional defecation disorder* or functional defaecation disorder* or functional gastrointestinal disorder*))	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL	8,861
S12	(MH "Megacolon+")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL	696
S11	(MH "Intestinal Obstruction+")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL	5,278
S10	(MH "Feces, Impacted") OR (MH "Fecal Impaction Removal") OR (MH "Fecal Incontinence")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL	2,965
S9	(MH "Constipation")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL	5,505

S8	S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S7	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL	1,167,322
S7	T1 ((child* or infant* or infancy or newborn* or neonat* or baby or babies or preschool or pre school or pre-school or pubescen* or teen* or adolescen* or puber* or prepubert* or juvenil* or p?ediatric* or youth* or schoolchild* or school age* or schoolage* or elementary school or high school* or highschool* or kindergar* or boy or boys or girl* or minors or underag* or under ag* or kid or kids or toddler* or preteen* or pre-teen* or young)) OR AB ((child* or infant* or infancy or newborn* or neonat* or baby or babies or preschool or pre school or pre-school or pubescen* or teen* or adolescen* or puber* or prepubert* or juvenil* or p?ediatric* or youth* or schoolchild* or school age* or schoolage* or elementary school or high school* or highschool* or kindergar* or boy or boys or girl* or minors or underag* or under ag* or kid or kids or toddler* or preteen* or pre-teen* or young))	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL	792,296
S6	(MH "Pediatrics+")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL	18,803
S5	(MH "Adolescence+")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL	482,572
S4	(MH "Infant, Newborn+")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL	125,145
S3	(MH "Infant+") OR (MH "Infant, Premature") OR (MH "Infant, Postmature") OR (MH "Infant, High Risk") OR (MH "Infant, Very Low Birth Weight")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL	232,452
S2	(MH "Child, Preschool")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL	190,708
S1	(MH "Child+")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL	602,227

Embase Ovid

(last searched 10March 2020; n =18360)

1. exp child/ or exp preschool child/ or exp preschool child/ 2557348

2. exp infant/ or hospitalized infant/ or high risk infant/ 965560
3. exp newborn/ 518583
4. exp Infant, Low Birth Weight/ or exp Infant, Very Low Birth Weight/ or exp Infant, Premature/ 141590
5. exp Adolescent/ 1489642
6. exp pediatrics/ 104073
7. (child\$ or infant\$ or infancy or newborn\$ or neonat\$ or baby or babies or preschool or pre school or pre-school or pubescen\$ or teen\$ or adolescen\$ or puber\$ or prepubert\$ or juvenil\$ or p?ediatic\$ or youth\$ or schoolchild\$ or school age\$ or schoolage\$ or elementary school or high school\$ or highschool\$ or kindergar\$ or boy or boys or girl\$ or minors or underag\$ or under ag\$ or kid or kids or toddler\$ or preteen\$ or pre-teen\$ or young).ti,ab. 3318605
8. or/1-7 4548947
9. exp constipation/ or exp chronic constipation/ 88337
10. exp feces incontinence/ 20181
11. exp intestine obstruction/ 72607
12. exp feces impaction/ 1682
13. exp megacolon/ 1785
14. (constipat\$ or obstipat\$ or coprostasis or soiling or encopresis or fecal incontin\$ or faecal incontin\$ or feces incontin\$ or fecal impact\$ or faecal impact\$ or fecally impact\$ or faecally impact\$ or feces impact\$ or faeces impact\$ or fnrfi or functional defecation disorder\$ or functional defaecation disorder\$ or functional gastrointestinal disorder\$).ti,ab. 55523
15. ((difficult\$ or retent\$ or delay\$ or irregular\$ or infrequent\$ or pain\$ or strain\$) adj3 (defecat\$ or stool\$ or faeces or feces or bowel movement\$ or evacuat\$ or anorectal\$)).ti,ab. 6588
16. (fecalith\$ or faecalith\$ or coprolith\$ or stercolith\$).ti,ab. 353
17. (megacolon\$ or megarectum\$).ti,ab. 2889
18. or/9-17 186546
19. 8 and 18 36973
20. limit 19 to human 34463
21. limit 20 to yr="2011 -Current" 18360

PsycINFO Ovid

(last searched 9 March 2020; n =1120)

1. exp Pediatrics/ 28616

2. (child\$ or infant\$ or infancy or newborn\$ or neonat\$ or baby or babies or preschool or pre school or pre-school or pubescen\$ or teen\$ or adolescen\$ or puber\$ or prepubert\$ or juvenil\$ or p?ediatric\$ or youth\$ or schoolchild\$ or school age\$ or schoolage\$ or elementary school or high school\$ or highschool\$ or kindergar\$ or boy or boys or girl\$ or minors or underag\$ or under ag\$ or kid or kids or toddler\$ or preteen\$ or pre-teen\$ or young).ti,ab. 1114586
3. 1 or 2 1118010
4. exp Constipation/ 400
5. exp Fecal Incontinence/ 629
6. (constipat\$ or obstipat\$ or coprostasis or soiling or encopresis or fecal incontin\$ or faecal incontin\$ or feces incontin\$ or fecal impact\$ or faecal impact\$ or fecally impact\$ or faecally impact\$ or feces impact\$ or faeces impact\$ or fnrfi or functional defecation disorder\$ or functional defaecation disorder\$ or functional gastrointestinal disorder\$.ti,ab. 2932
7. ((difficult\$ or retent\$ or delay\$ or irregular\$ or infrequent\$ or pain\$ or strain\$) adj3 (defecat\$ or stool\$ or faeces or feces or bowel movement\$ or evacuat\$ or anorectal\$)).ti,ab. 168
8. (megacolon\$ or megarectum\$.ti,ab. 21
9. or/4-8 3178
10. 3 and 9 1120

***US National Institutes of Health Ongoing Trials Register ClinicalTrials.gov
(www.clinicaltrials.gov)***

Basic Search:

Condition: Constipation - limited to children (aged: 0-17 years) 93

***World Health Organization International Clinical Trials Registry Platform
(apps.who.int/trialsearch)***

Basic Search:

Constipation - limited to clinical trials in children 181

Supplementary searches

Centre for Reviews and Dissemination (DARE, NHS EE, HTA)

Databases of Abstracts of Reviews of Effects (from inception to 02/11/2020)

1. MH Constipation EXP 130
2. Constip* (Any field) 244
3. 1 OR 2 288

Health Technology Assessment (HTA) database (from inception to 02/11/2020)

1. Constip* (Any field) 54

NHS Economic Evaluation Database (NHS EED)

1. Constip* (Any field) 47

OpenTrials (<https://opentrials.net>)

Database no longer available

PROSPERO

(from inception to 28/03/2020)

1. MH Constipation EXP 63
2. Constipation* 370
3. 1 OR 2 374

OpenGrey

(from inception to 31/03/2020) (n=0)

Simple text search using the term Constipation retrieved no records; limited functionality of this database was noted.

Grey Matters

(searched from inception to 31/03/2020) (n=473)

Basic search of a checklist of potentially relevant websites using key terms for constipation OR (child AND constip*)

- Tools for Practice, Alberta College of Family Physicians (ACFP) (n=5)
- Health Quality Ontario (n=2)
- Sick Kids website (n=1)
- Ministry of Health website (n=2)
- Joanna Briggs Institute JBI COnNECT+ (n=16)
- Joanna Briggs (JBI) Library of systematic reviews (n=1)
- Ludwig Bolzman Institut (n=1)
- Institut für Qualität und Wirtschaftlichkeit im Gesundheitswesen; IQWiG (n=1)
- Irish Health Repository (Lenus) (n=16)
- NICE website (n=11)
- AHRQ website (n=5)
- Paediatric Economic Database Evaluation (PEDE) (n=3)
- IDEAS Database (n=24)
- Canadian Partnership Against Cancer - Cancer Guidelines Database (n=2)
- The American Society of Colon and Rectal Surgeons' website (n=2)

- Oregon Health & Science University. Center for Evidence-based Policy (n=2)
- BPAC NZ (n=2)
- RxFiles (n=5)
- ISRCTN Registry (n=18)
- Bandolier organisation (n=2)
- McMaster Health Systems Evidence (n=1)
- RehabData_NARIC (n=63)
- OT-Seeker (n=10)
- PeDRO (n=71)
- American Botanical Council (ABC) (n=26)
- Canadian Agency for Drugs and Technologies in Health (n=24)
- Directory of Open Access Journals (<https://doaj.org>) (n=92)
- Google Scholar (n=7)
- Google (n=17)
- Indian Clinical Trials Registry (n=20)
- CenterWatch (n=22)

International Continence Society (ICS)

ICS.org website <https://www.ics.org/> (from inception to date of search: 26/02/2020)

Free text term: Constipation 12 results, exported 1x URL's of areas of interest

ICS documents (from inception to date of search: 26/02/2020)

Free text term: Constipation 2 results, exported 1x URL's of areas of interest

ICS news (from inception to date of search: 26/02/2020)

Free text term: Constipation 8 results, exported 1x URL's of areas of interest.

ICS abstracts (date of search: 06/03/2020)

Free text term: constip* All Content 555 results, 5 records exported

United European Gastroenterology Week Journal

(runs from 2013 to 2019) (date search conducted: 20/02/2020)

1. Constip* (Any field) 99 hits, 9 records exported

European Society for Paediatric Gastroenterology Hepatology and Nutrition

(<http://www.espgghan.org/>) (date search conducted: 21/02/2020)

Free text terms: constip* 26 results, exported 5x URL's of areas of interest

NASPGHAN Meeting Abstracts

(Published in JPGN: <https://journals.lww.com/jpgn/pages/default.aspx>) (dates searched: 2009 to 2019; date search conducted: 03/03/2020)

Free text terms: constip* 28 results, 5 exported

NASPGHAN website

(<https://naspghan.org/>) (date search conducted: 24/02/2020)

Free text terms: constipation; 13 results, exported 22 x URL's for areas of interest

Digestive Disease Week abstracts

https://www.gastrojournal.org/content/ddw_abstracts
(from 2010 to 2019 abstracts; date of last search: 20/02/2020)

Free text term: Constip* 4075

Of the 4075 records returned; 3630 of these were judged as obviously irrelevant and 445 records were exported as potentially relevant and were imported for screening.

Handsearching

Handsearching national/international guidelines (n=65)

Healthychildren.org

(<https://healthychildren.org/English/Pages/default.aspx>) (date search conducted: 26/02/2020)

Free text term: constip* 8 results: exported 2 x url's for areas of interest

British Journal of School Nursing (search dates 2007 – 2019; date search conducted: 17/02/2020)

1. Constip* (Any field) 20 hits: 10 records exported

ProQuest Dissertations & Theses Global

(dates searched: 2010-2020; date search conducted: 03/03/2020)

1. ab(constip*) 108 hits: 10 records exported

ETHOS

(<https://ethos.bl.uk/ProcessSearch.do>) (date search conducted: 02/03/2020)

Free text term: constip* 84 hits: 10 records exported

Coding Manual

Level mapped to the Pyramid:

- Complementary
- Psychosocial
- Level 0
- Level 1
- Level 2
- Level 3
- More than one level
- Unclear

Any explicit barriers and facilitators reported in the abstract?

- Yes
- No
- Unclear

Any explicit equity factors reported in the abstract?

- Yes
- No
- Unclear

Any data reported as cost or economic data?

- Yes
- No
- Unclear

Development:

- Additional support needs
- No additional support needs
- Mixed population
- Unclear
- Not reported/ not specified

Age groups:

- All age groups (i.e.) Any age group within that range
- All infant: (birth-23 months)

- Newborn: birth-1 month
- Infant: 1-23 months
- Preschool child: 2-5 years
- Child: 6-12 years
- Adolescent: 13-18 years
- Unclear
- Not reported
- Other age range – extract verbatim

Study design:

- Systematic review (state if on-going or completed)
- Narrative review
- Randomised controlled trial (state if on-going or completed)
- Other primary study
- Unclear
- Not reported
- Other

Length of time with CFC

- 4 weeks – up to 3 months
- 3 months – 6 months
- 7 – 12 months
- 13 – 24 months
- >24 months
- Unclear
- Not reported
- More than one category
- Other

Treatment setting:

- Education (school / uni)
- Hospice / palliative
- Hospital
- Residential care / looked after child
- Pre-hospital / ambulance

- Primary care / Community / Patient's home
- Juvenile detention / Young offender institution
- More than one category
- Unclear
- Other (state)
- Not reported

List of economies from the World databank:

Economy	Code	Region	Income group
Aruba	ABW	Latin America & Caribbean	High income
Afghanistan	AFG	South Asia	Low income
Angola	AGO	Sub-Saharan Africa	Lower middle income
Albania	ALB	Europe & Central Asia	Upper middle income
Andorra	AND	Europe & Central Asia	High income
United Arab Emirates	ARE	Middle East & North Africa	High income
Argentina	ARG	Latin America & Caribbean	Upper middle income
Armenia	ARM	Europe & Central Asia	Upper middle income
American Samoa	ASM	East Asia & Pacific	Upper middle income
Antigua and Barbuda	ATG	Latin America & Caribbean	High income
Australia	AUS	East Asia & Pacific	High income
Austria	AUT	Europe & Central Asia	High income
Azerbaijan	AZE	Europe & Central Asia	Upper middle income
Burundi	BDI	Sub-Saharan Africa	Low income
Belgium	BEL	Europe & Central Asia	High income
Benin	BEN	Sub-Saharan Africa	Lower middle income
Burkina Faso	BFA	Sub-Saharan Africa	Low income
Bangladesh	BGD	South Asia	Lower middle income
Bulgaria	BGR	Europe & Central Asia	Upper middle income

Bahrain	BHR	Middle East & North Africa	High income
Bahamas, The	BHS	Latin America & Caribbean	High income
Bosnia and Herzegovina	BIH	Europe & Central Asia	Upper middle income
Belarus	BLR	Europe & Central Asia	Upper middle income
Belize	BLZ	Latin America & Caribbean	Lower middle income
Bermuda	BMU	North America	High income
Bolivia	BOL	Latin America & Caribbean	Lower middle income
Brazil	BRA	Latin America & Caribbean	Upper middle income
Barbados	BRB	Latin America & Caribbean	High income
Brunei Darussalam	BRN	East Asia & Pacific	High income
Bhutan	BTN	South Asia	Lower middle income
Botswana	BWA	Sub-Saharan Africa	Upper middle income
Central African Republic	CAF	Sub-Saharan Africa	Low income
Canada	CAN	North America	High income
Switzerland	CHE	Europe & Central Asia	High income
Channel Islands	CHI	Europe & Central Asia	High income
Chile	CHL	Latin America & Caribbean	High income
China	CHN	East Asia & Pacific	Upper middle income
Côte d'Ivoire	CIV	Sub-Saharan Africa	Lower middle income
Cameroon	CMR	Sub-Saharan Africa	Lower middle income
Congo, Dem. Rep.	COD	Sub-Saharan Africa	Low income
Congo, Rep.	COG	Sub-Saharan Africa	Lower middle income
Colombia	COL	Latin America & Caribbean	Upper middle income
Comoros	COM	Sub-Saharan Africa	Lower middle income
Cabo Verde	CPV	Sub-Saharan Africa	Lower middle income

Costa Rica	CRI	Latin America & Caribbean	Upper middle income
Cuba	CUB	Latin America & Caribbean	Upper middle income
Curaçao	CUW	Latin America & Caribbean	High income
Cayman Islands	CYM	Latin America & Caribbean	High income
Cyprus	CYP	Europe & Central Asia	High income
Czech Republic	CZE	Europe & Central Asia	High income
Germany	DEU	Europe & Central Asia	High income
Djibouti	DJI	Middle East & North Africa	Lower middle income
Dominica	DMA	Latin America & Caribbean	Upper middle income
Denmark	DNK	Europe & Central Asia	High income
Dominican Republic	DOM	Latin America & Caribbean	Upper middle income
Algeria	DZA	Middle East & North Africa	Lower middle income
Ecuador	ECU	Latin America & Caribbean	Upper middle income
Egypt, Arab Rep.	EGY	Middle East & North Africa	Lower middle income
Eritrea	ERI	Sub-Saharan Africa	Low income
Spain	ESP	Europe & Central Asia	High income
Estonia	EST	Europe & Central Asia	High income
Ethiopia	ETH	Sub-Saharan Africa	Low income
Finland	FIN	Europe & Central Asia	High income
Fiji	FJI	East Asia & Pacific	Upper middle income
France	FRA	Europe & Central Asia	High income
Faroe Islands	FRO	Europe & Central Asia	High income
Micronesia, Fed. Sts.	FSM	East Asia & Pacific	Lower middle income

Gabon	GAB	Sub-Saharan Africa	Upper middle income
United Kingdom	GBR	Europe & Central Asia	High income
Georgia	GEO	Europe & Central Asia	Upper middle income
Ghana	GHA	Sub-Saharan Africa	Lower middle income
Gibraltar	GIB	Europe & Central Asia	High income
Guinea	GIN	Sub-Saharan Africa	Low income
Gambia, The	GMB	Sub-Saharan Africa	Low income
Guinea-Bissau	GNB	Sub-Saharan Africa	Low income
Equatorial Guinea	GNQ	Sub-Saharan Africa	Upper middle income
Greece	GRC	Europe & Central Asia	High income
Grenada	GRD	Latin America & Caribbean	Upper middle income
Greenland	GRL	Europe & Central Asia	High income
Guatemala	GTM	Latin America & Caribbean	Upper middle income
Guam	GUM	East Asia & Pacific	High income
Guyana	GUY	Latin America & Caribbean	Upper middle income
Hong Kong SAR, China	HKG	East Asia & Pacific	High income
Honduras	HND	Latin America & Caribbean	Lower middle income
Croatia	HRV	Europe & Central Asia	High income
Haiti	HTI	Latin America & Caribbean	Lower middle income
Hungary	HUN	Europe & Central Asia	High income
Indonesia	IDN	East Asia & Pacific	Lower middle income
Isle of Man	IMN	Europe & Central Asia	High income
India	IND	South Asia	Lower middle income
Ireland	IRL	Europe & Central Asia	High income
Iran, Islamic Rep.	IRN	Middle East & North Africa	Lower middle income
Iraq	IRQ	Middle East & North Africa	Upper middle income

Iceland	ISL	Europe & Central Asia	High income
Israel	ISR	Middle East & North Africa	High income
Italy	ITA	Europe & Central Asia	High income
Jamaica	JAM	Latin America & Caribbean	Upper middle income
Jordan	JOR	Middle East & North Africa	Upper middle income
Japan	JPN	East Asia & Pacific	High income
Kazakhstan	KAZ	Europe & Central Asia	Upper middle income
Kenya	KEN	Sub-Saharan Africa	Lower middle income
Kyrgyz Republic	KGZ	Europe & Central Asia	Lower middle income
Cambodia	KHM	East Asia & Pacific	Lower middle income
Kiribati	KIR	East Asia & Pacific	Lower middle income
St. Kitts and Nevis	KNA	Latin America & Caribbean	High income
Korea, Rep.	KOR	East Asia & Pacific	High income
Kuwait	KWT	Middle East & North Africa	High income
Lao PDR	LAO	East Asia & Pacific	Lower middle income
Lebanon	LBN	Middle East & North Africa	Upper middle income
Liberia	LBR	Sub-Saharan Africa	Low income
Libya	LBY	Middle East & North Africa	Upper middle income
St. Lucia	LCA	Latin America & Caribbean	Upper middle income
Liechtenstein	LIE	Europe & Central Asia	High income
Sri Lanka	LKA	South Asia	Lower middle income
Lesotho	LSO	Sub-Saharan Africa	Lower middle income
Lithuania	LTU	Europe & Central Asia	High income
Luxembourg	LUX	Europe & Central Asia	High income
Latvia	LVA	Europe & Central Asia	High income

Macao SAR, China	MAC	East Asia & Pacific	High income
St. Martin (French part)	MAF	Latin America & Caribbean	High income
Morocco	MAR	Middle East & North Africa	Lower middle income
Monaco	MCO	Europe & Central Asia	High income
Moldova	MDA	Europe & Central Asia	Upper middle income
Madagascar	MDG	Sub-Saharan Africa	Low income
Maldives	MDV	South Asia	Upper middle income
Mexico	MEX	Latin America & Caribbean	Upper middle income
Marshall Islands	MHL	East Asia & Pacific	Upper middle income
North Macedonia	MKD	Europe & Central Asia	Upper middle income
Mali	MLI	Sub-Saharan Africa	Low income
Malta	MLT	Middle East & North Africa	High income
Myanmar	MMR	East Asia & Pacific	Lower middle income
Montenegro	MNE	Europe & Central Asia	Upper middle income
Mongolia	MNG	East Asia & Pacific	Lower middle income
Northern Mariana Islands	MNP	East Asia & Pacific	High income
Mozambique	MOZ	Sub-Saharan Africa	Low income
Mauritania	MRT	Sub-Saharan Africa	Lower middle income
Mauritius	MUS	Sub-Saharan Africa	Upper middle income
Malawi	MWI	Sub-Saharan Africa	Low income
Malaysia	MYS	East Asia & Pacific	Upper middle income
Namibia	NAM	Sub-Saharan Africa	Upper middle income
New Caledonia	NCL	East Asia & Pacific	High income
Niger	NER	Sub-Saharan Africa	Low income
Nigeria	NGA	Sub-Saharan Africa	Lower middle income
Nicaragua	NIC	Latin America & Caribbean	Lower middle income
Netherlands	NLD	Europe & Central Asia	High income
Norway	NOR	Europe & Central Asia	High income

Nepal	NPL	South Asia	Lower middle income
Nauru	NRU	East Asia & Pacific	High income
New Zealand	NZL	East Asia & Pacific	High income
Oman	OMN	Middle East & North Africa	High income
Pakistan	PAK	South Asia	Lower middle income
Panama	PAN	Latin America & Caribbean	Upper middle income
Peru	PER	Latin America & Caribbean	Upper middle income
Philippines	PHL	East Asia & Pacific	Lower middle income
Palau	PLW	East Asia & Pacific	High income
Papua New Guinea	PNG	East Asia & Pacific	Lower middle income
Poland	POL	Europe & Central Asia	High income
Puerto Rico	PRI	Latin America & Caribbean	High income
Korea, Dem. People's Rep.	PRK	East Asia & Pacific	Low income
Portugal	PRT	Europe & Central Asia	High income
Paraguay	PRY	Latin America & Caribbean	Upper middle income
West Bank and Gaza	PSE	Middle East & North Africa	Lower middle income
French Polynesia	PYF	East Asia & Pacific	High income
Qatar	QAT	Middle East & North Africa	High income
Romania	ROU	Europe & Central Asia	Upper middle income
Russian Federation	RUS	Europe & Central Asia	Upper middle income
Rwanda	RWA	Sub-Saharan Africa	Low income
Saudi Arabia	SAU	Middle East & North Africa	High income
Sudan	SDN	Sub-Saharan Africa	Low income
Senegal	SEN	Sub-Saharan Africa	Lower middle income
Singapore	SGP	East Asia & Pacific	High income

Solomon Islands	SLB	East Asia & Pacific	Lower middle income
Sierra Leone	SLE	Sub-Saharan Africa	Low income
El Salvador	SLV	Latin America & Caribbean	Lower middle income
San Marino	SMR	Europe & Central Asia	High income
Somalia	SOM	Sub-Saharan Africa	Low income
Serbia	SRB	Europe & Central Asia	Upper middle income
South Sudan	SSD	Sub-Saharan Africa	Low income
São Tomé and Príncipe	STP	Sub-Saharan Africa	Lower middle income
Suriname	SUR	Latin America & Caribbean	Upper middle income
Slovak Republic	SVK	Europe & Central Asia	High income
Slovenia	SVN	Europe & Central Asia	High income
Sweden	SWE	Europe & Central Asia	High income
Eswatini	SWZ	Sub-Saharan Africa	Lower middle income
Sint Maarten (Dutch part)	SXM	Latin America & Caribbean	High income
Seychelles	SYC	Sub-Saharan Africa	High income
Syrian Arab Republic	SYR	Middle East & North Africa	Low income
Turks and Caicos Islands	TCA	Latin America & Caribbean	High income
Chad	TCD	Sub-Saharan Africa	Low income
Togo	TGO	Sub-Saharan Africa	Low income
Thailand	THA	East Asia & Pacific	Upper middle income
Tajikistan	TJK	Europe & Central Asia	Lower middle income
Turkmenistan	TKM	Europe & Central Asia	Upper middle income
Timor-Leste	TLS	East Asia & Pacific	Lower middle income
Tonga	TON	East Asia & Pacific	Upper middle income
Trinidad and Tobago	TTO	Latin America & Caribbean	High income
Tunisia	TUN	Middle East & North Africa	Lower middle income

Turkey	TUR	Europe & Central Asia	Upper middle income
Tuvalu	TUV	East Asia & Pacific	Upper middle income
Taiwan, China	TWN	East Asia & Pacific	High income
Tanzania	TZA	Sub-Saharan Africa	Lower middle income
Uganda	UGA	Sub-Saharan Africa	Low income
Ukraine	UKR	Europe & Central Asia	Lower middle income
Uruguay	URY	Latin America & Caribbean	High income
United States	USA	North America	High income
Uzbekistan	UZB	Europe & Central Asia	Lower middle income
St. Vincent and the Grenadines	VCT	Latin America & Caribbean	Upper middle income
Venezuela, RB	VEN	Latin America & Caribbean	
British Virgin Islands	VGB	Latin America & Caribbean	High income
Virgin Islands (U.S.)	VIR	Latin America & Caribbean	High income
Vietnam	VNM	East Asia & Pacific	Lower middle income
Vanuatu	VUT	East Asia & Pacific	Lower middle income
Samoa	WSM	East Asia & Pacific	Lower middle income
Kosovo	XKX	Europe & Central Asia	Upper middle income
Yemen, Rep.	YEM	Middle East & North Africa	Low income
South Africa	ZAF	Sub-Saharan Africa	Upper middle income
Zambia	ZMB	Sub-Saharan Africa	Lower middle income
Zimbabwe	ZWE	Sub-Saharan Africa	Lower middle income

Reported outcomes:

- Painful defecation outcome
 - Yes
 - No
 - Unclear

- QoL of parents and patients
 - Yes
 - No
 - Unclear
- Defecation frequency
 - Yes
 - No
 - Unclear
- Stool consistency
 - Yes
 - No
 - Unclear
- Side effects of treatment
 - Yes
 - No
 - Unclear
- Faecal incontinence
 - Yes
 - No
 - Unclear
- Abdominal pain
 - Yes
 - No
 - Unclear
- School attendance
 - Yes
 - No
 - Unclear
- Treatment success
 - Yes
 - No
 - Unclear
- Other measures not included in our ranking

- Yes
- No
- Unclear