

Behavioural factors influencing hand hygiene practices across domestic, institutional, and public community settings: A systematic review

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Extraction fields for RQ3.1: Barriers and Enablers to Hand Hygiene in Community Settings

	Item extracted in all RQs
	Item specific to Barriers and enablers (3.1)

#	Field	Details	Entry
1. Information about the study			
1.1	Study design		<i>Select one</i> (1) Qualitative study (2) Mixed methods (3) Non-comparative (4) Experimental Before-and-after study (5) Observational Before-and-after study (6) Experimental Times series (7) Observational Times series (8) Non-randomized trial (9) Non-randomized cross-over design (10) Randomized controlled trial (11) Randomized cross-over study (12) Analytical cross-sectional study (13) Case-control study (14) Cohort study (777) Other – specify
1.2	Registered trial	Does the study report that it is linked to a registered trial? (e.g., clinicaltrials.gov, ICTRP)	<i>Select one</i> (1) Yes (0) No
1.3	Trial #	If linked to a registered trial, paste trial registration number	Text (999) Not applicable
2. Eligibility			
2.1	Confirm participants/sample	Does the study include general populations in community settings?	<i>Select one</i> (1) Yes (0) No

S3 – Covidence Extraction Questionnaire

		DO NOT PROCEED IF “NO”	
2.2	Confirm phenomena of interest	Is the phenomena of interest “behavioral barriers and enablers for practicing hand hygiene?” DO NOT PROCEED IF “NO”	<i>Select one</i> (1) Yes (0) No
2.3	Confirm study design	Is the design of the study NOT a quantitative non-comparative study? DO NOT PROCEED IF “NO”	<i>Select one</i> (1) Yes (0) No
2.4	Confirm evaluation	Does the study include the evaluation of hand hygiene practice (i.e., any action of hand cleansing for the purpose of removing or deactivating pathogens from hands)? DO NOT PROCEED IF “NO”	<i>Select one</i> (1) Yes (0) No
2.5	Confirm research type	What research type does the study use? DO NOT PROCEED IF NONE ARE CHECKED	<i>Select one</i> (1) Qualitative (2) Quantitative (3) Mixed methods
3. Setting			
3.1	Country	Which country is represented in the study? (List all countries separated by a comma, if study is from multiple sites)	Text 999 = Not applicable
3.2	Region	Which region is represented in the study?	<i>Check multiple</i> (1) Africa (2) Asia (3) Europe (4) Latin America/Caribbean (5) Middle East (6) North America

S3 – Covidence Extraction Questionnaire

			(8) Oceania (10) Unspecified (999) Not applicable
3.3	Urban/Rural	Does the setting of the population fall under any of these specific categories? Select all that apply	<i>Check multiple</i> (1) Urban (2) Rural (3) Peri-urban (777) Other - specify (888) Not reported
3.4	Community setting	Does the setting of the population fall under any of these specific categories? Select all that apply	<i>Check multiple</i> (1) Domestic - Households (2) Public - Markets (3) Public - Public transportation hubs (4) Public - Parks, squares, or other public outdoor spaces, (5) Institutions - Workplace (6) Institutions - Schools (7) Institutions - Universities (8) Institutions - Places of worship (9) Institutions - Prisons and places of detention (10) Internally displaced people camps (777) Other - specify (888) Not reported
3.5	Risk scenarios	Did the study evaluate hand hygiene in a risk scenario?	<i>Select one</i> (0) No (1) Yes (999) Unclear
3.6	Risk scenario type	If yes, what was the risk scenario?	<i>Select one</i> (1) COVID-19 (2) Flu (3) Earthquake (4) Flood (5) Typhoon (6) Forced migration (7) Internal displacement (8) Emergency setting (777) Other – specify

S3 – Covidence Extraction Questionnaire

			(999) Not applicable
3.7	Risk scenario text	Please copy in the author's text about the risk scenario.	Text (999) Not applicable
4. Methods			
4.1	Aim of study	Copy and paste the aim/objective/purpose/goal as stated in the study	Text (888) Not reported
4.2	Primary study outcome	What was the primary outcome for this study? Select all that apply	<i>Check multiple</i> (1) Hand hygiene (2) Diarrheal diseases (3) Respiratory infections (4) Influenza (5) Other Infectious diseases (6) Nutrition (7) Mental/social well being (8) Neglected tropical diseases (9) School absenteeism (10) COVID-19 (11) Food hygiene (12) Soil-transmitted helminth infection (777) Other – specify (999) Not applicable
4.3	Start date	What is the study start date? Month, Year	Text (888) Not reported (999) Not applicable
4.4	End date	What is the study end date? Month, Year	Text (888) Not reported (999) Not applicable
5. Participants			
5.1a	Study participants-Health outcome	What group(s) of people are researchers examining the focal health outcome for in the study? Select all that apply	<i>Check multiple</i> (1) General population (2) Adults (Women and Men) (3) Adults (Women only) (4) Adults (Men only) (5) Children (Girls and Boys) (6) Children (Girls only)

S3 – Covidence Extraction Questionnaire

			(7) Children (Boys only) (8) Mother-child dyads (9) Food workers (10) Non-food occupational workers (777) Other – specify (888) Not reported (999) Not applicable
5.1b	Study participants- Hand washing behavior	What group(s) of people are researchers examining hand washing behavior for in the study? Select all that apply	<i>Check multiple</i> (1) General population (2) Adults (Women and Men) (3) Adults (Women only) (4) Adults (Men only) (5) Children (Girls and Boys) (6) Children (Girls only) (7) Children (Boys only) (8) Mother-child dyads (9) Food workers (10) Non-food occupational workers (777) Other – specify (888) Not reported (999) Not applicable
5.2	Vulnerable populations	Does study concern any of the following vulnerable populations? Select all that apply	<i>Check multiple</i> (1) Individuals with specific illness or risk factors (2) Specific ethnic or religious groups (3) Persons experiencing homelessness (4) Persons with disabilities (5) Immigrants and migrants (6) Refugees and displaced persons (7) Elderly (8) Pregnant women (777) Other - specify (888) Not reported
5.3	Number of participants	What is the total number of participants/sample size?	Table 2 x 3 table for Adult/Child vs Female/Male/Total

S3 – Covidence Extraction Questionnaire

		If the study does not stratify participants by sex or gender, only fill in the total row. If does not stratify by adult/child, only fill in adult column.	
5.4	Number of participants (mixed methods)	For mixed methods studies, how many participants are involved with each method?	Table 3x2 table for Qual/Quant/Total
6. Intervention			
6.1	Theory	Did the study report using a behavior change theory? Select all that apply (model, framework)	<i>Select multiple</i> (1) IBM-WASH (2) RANAS (3) Behavior Centered Design/Evo-Eco Model (4) COM-B (5) Theory of Planned Behavior (6) Health Belief Model (7) Social Ecological Model (8) Theoretical Domains Framework (777) Other – specify (999) No theory reported
6.2	Theory mention	Where did the authors discuss the theory that they used?	<i>Select one</i> (1) Protocol (2) Cited formative research (3) Primary research paper (777) Other – specify (999) No theory reported
7. Outcomes (RQ3.1)			
7.1	Physical Capability	Were physical capability barriers or enablers presented in the study? Definition of physical capability: physical strength, skill, stamina	(1) Yes (0) No

S3 – Covidence Extraction Questionnaire

7.2	Psychological Capability	Were psychological capability barriers or enablers presented in the study? Definition of psychological capability: knowledge/psychological strength, skills or stamina	(1) Yes (0) No
7.3	Social opportunity	Were social opportunity barriers or enablers presented in the study? Definition of social opportunity: opportunities as a result of social factors, such as cultural norms and social cues	(1) Yes (0) No
7.4	Physical opportunity	Were physical opportunity barriers or enablers presented in the study? Definition of physical opportunity: opportunities provided by the environment, such as time, location and resources	(1) Yes (0) No
7.5	Automatic motivation	Were automatic motivation barriers or enablers presented in the study? Definition of automatic motivation: automatic processes, such as our desires, impulses and inhibitions	(1) Yes (0) No
7.6	Reflective motivation	Were reflective motivation barriers or enablers presented in the study?	(1) Yes (0) No

S3 – Covidence Extraction Questionnaire

		Definition of reflective motivation: reflective processes, such as making plans and evaluating things that have already happened	
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Bias assessment

Bias Assessment- MMAT				
All articles				
#	Field	Details	Entry	Source
S1	Screening question 1 (for all types)	Are there clear research questions?	(0) No (1) Yes (999) Can't tell	MMAT User Guide
S2	Screening question 2 (for all types)	Do the collected data allow to address the research questions?	(0) No (1) Yes (999) Can't tell	MMAT User Guide
Qualitative				
1.1	Is the qualitative approach appropriate to answer the research question?		(0) No (1) Yes (999) Can't tell	MMAT User Guide
1.2	Are the qualitative data collection methods adequate to address the research question?		(0) No (1) Yes (999) Can't tell	MMAT User Guide
1.3	Are the findings adequately derived from the data?		(0) No (1) Yes (999) Can't tell	MMAT User Guide
1.4	Is the interpretation of results sufficiently substantiated by data?		(0) No (1) Yes (999) Can't tell	MMAT User Guide
1.5	Is there coherence between qualitative data sources, collection, analysis and interpretation?		(0) No (1) Yes (999) Can't tell	MMAT User Guide
Quantitative randomized controlled trials				
2.1	Is randomization appropriately performed?		(0) No (1) Yes	MMAT User Guide

S3 – Covidence Extraction Questionnaire

		(999) Can't tell	
2.2	Are the groups comparable at baseline?	(0) No (1) Yes (999) Can't tell	MMAT User Guide
2.3	Are there complete outcome data?	(0) No (1) Yes (999) Can't tell	MMAT User Guide
2.4	Are outcome assessors blinded to the intervention provided?	(0) No (1) Yes (999) Can't tell	MMAT User Guide
2.5	Did the participants adhere to the assigned intervention?	(0) No (1) Yes (999) Can't tell	MMAT User Guide
Quantitative non-randomized			
3.1	Are the participants representative of the target population?	(0) No (1) Yes (999) Can't tell	MMAT User Guide
3.2	Are measurements appropriate regarding both the outcome and intervention (or exposure)?	(0) No (1) Yes (999) Can't tell	MMAT User Guide
3.3	Are there complete outcome data?	(0) No (1) Yes (999) Can't tell	MMAT User Guide
3.4	Are the confounders accounted for in the design and analysis?	(0) No (1) Yes (999) Can't tell	MMAT User Guide
3.5	During the study period, is the intervention administered (or exposure occurred) as intended?	(0) No (1) Yes (999) Can't tell	MMAT User Guide
Quantitative descriptive			
4.1	Is the sampling strategy relevant to address the research question?	(0) No (1) Yes (999) Can't tell	MMAT User Guide
4.2	Is the sample representative of the target population?	(0) No (1) Yes (999) Can't tell	MMAT User Guide

S3 – Covidence Extraction Questionnaire

4.3	Are the measurements appropriate?	(0) No (1) Yes (999) Can't tell	MMAT User Guide
4.4	Is the risk of nonresponse bias low?	(0) No (1) Yes (999) Can't tell	MMAT User Guide
4.5	Is the statistical analysis appropriate to answer the research question?	(0) No (1) Yes (999) Can't tell	MMAT User Guide
Mixed methods			
5.1	Is there an adequate rationale for using a mixed methods design to address the research question?	(0) No (1) Yes (999) Can't tell	MMAT User Guide
5.2	Are the different components of the study effectively integrated to answer the research question?	(0) No (1) Yes (999) Can't tell	MMAT User Guide
5.3	Are the outputs of the integration of qualitative and quantitative components adequately interpreted?	(0) No (1) Yes (999) Can't tell	MMAT User Guide
5.4	Are divergences and inconsistencies between quantitative and qualitative results adequately addressed?	(0) No (1) Yes (999) Can't tell	MMAT User Guide
5.5	Do the different components of the study adhere to the quality criteria of each tradition of the methods involved?	(0) No (1) Yes (999) Can't tell	MMAT User Guide