SUPPLEMENTARY MATERIAL

Prevalence of self-medication in Ghana: A systematic review and meta-analysis

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Table S1: Search strategies

PubMed	
Step	Search query
#1	(((((((((("Self Medication"[Mesh]) OR ("Self Medication"[Text Word])) OR ("Nonprescription Drugs"[Mesh])) OR ("Nonprescription Drugs"[Title/Abstract])) OR ("Drug Misuse"[Mesh])) OR ("Drug Misuse"[Text Word])) OR (Antibiotic[Title/Abstract]) OR ("Medicine, Traditional"[Mesh])) OR ("Herbal Medicine"[Mesh])) OR ("Herbal Medicine"[Title/Abstract]))
#2	("Ghana"[Mesh]) OR ("Ghanaian"[Title/Abstract])
#3	#1 AND #2

Science Direct	
Strategy	"self medication" OR "non prescription drug" OR "over the counter drug" OR "OTC drug" OR "home remedy" OR "herbal medication" OR "herbal drug" OR "Analgesic" OR "Antibiotic" AND "Ghana"
African Journals Online	
Strategy	"self medication" OR "non prescription drug" OR "over the counter drug" OR "OTC drug" OR "home remedy" OR "herbal medication" OR "herbal drug" OR "Analgesic" OR "Antibiotic" AND "Ghana"
Google Scholar	
Strategy	"self medication" OR "non prescription drug*" OR "over the counter drug*" OR "OTC drug" OR "home remedy" OR "herbal medication" OR "herbal drug*" OR "Analgesic*" OR "Antibiotic*" AND "Ghana"
Websites of Ministry of Health (https://www.moh.gov.gh)	
Strategy	*self-medication OR nonprescription drug OR over-the-counter drug OR herbal medicine*
Websites of Ministry of Ghana Health Service (https://www.ghanahealthservic.org)	
Strategy	*self-medication OR nonprescription drug OR over-the-counter drug OR herbal medicine*

Table S2: List of articles excluded after full-text review.

SN	Author	Year	Title	Decision	Reasons for exclusion
1.	Kretchy et. al.	2021	Prevalence, patterns, and beliefs about the use of herbal medicinal products in Ghana: a multi-center community-based cross-sectional study	Excluded	Unclear results on the prevalence of self-medication.
2.	Bonti, D.	2017	Bridging the gap between self-medication and access to healthcare in Ghana	Excluded	No primary data on prevalence or reasons for self-medication
3.	Gbagbo & Nkrumah	2020	Implications of self-medication in pregnancy for Safe Motherhood and Sustainable Development Goal-3 in selected Ghanaian communities	Excluded	Multiple publications of the same study
4.	Darko & Owusu-Ofori	2020	Antimicrobial resistance and self-medication: A survey among first-year health students at a tertiary institution in Ghana	Excluded	Multiple publications of the same study
5.	Nonvignon et. al.	2010	Treatment choices for fevers in children under-five years in a rural Ghanaian district	Excluded	No primary data on prevalence or reasons for self-medication
6.	Agblevor E.A.	2016	"I am now a doctor": self-medication practices among households in Accra	Excluded	No primary data on prevalence or reasons for self-medication

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Methodological Quality Assessments using the Mixed Methods Appraisal Tool (MMAT) Version 2018

Table S3: Qualitative studies

Study	S1.	S2.	1.1	1.2	1.3	1.4	1.5	Quality Grade
Sackey et. al. (2018)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	High
Afari-Asiedu et. al. (2020)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	High
Agblevor et. al. (2016)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	High

Table S4: Quantitative studies

Study	S1	S2	4.1	4.2	4.3	4.4	4.5	Quality Grade
Botchwey et. al. (2022)	Yes	Yes	No	Can't tell	Yes	No	Yes	Moderate
Issaka (2021)	Yes	Yes	Yes	No	Yes	No	Yes	Moderate
Ofosu (2020)	Yes	Yes	Yes	No	Yes	No	Yes	Moderate
Owusu-Ofori et. al. (2021)	Yes	Yes	No	No	Yes	No	No	Low
Asamoah (2019)	Yes	Yes	Can't tell	No	Yes	No	Yes	Moderate
Asante (2019)	Yes	Yes	Yes	Yes	Yes	No	Yes	High
Makam et. al. (2021)	Yes	Yes	Yes	Can't tell	Yes	Yes	No	Moderate
Acheampomaa (2018)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	High
Adama et. al. (2021)	Yes	Yes	Yes	Yes	Yes	No	Yes	High
Ofori et. al. (2021)	Yes	Yes	Can't tell	No	Yes	No	Yes	Moderate
Ameade, Zakaria, et al. (2018)	Yes	Yes	Yes	Yes	Yes	No	No	Moderate
Kretchy et. al. (2021)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	High
Asiedu et. al (2016)	Yes	Yes	Yes	No	Yes	No	Yes	Moderate
Agyei-Boateng (2015)	Yes	Yes	Yes	No	Yes	Yes	Yes	High
Kyei et. al. (2014)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	High
Amponsah et. al. (2022)	Yes	Yes	Yes	Yes	Yes	No	Yes	High
Donkor et. al. (2012)	Yes	No	Yes	No	Yes	No	No	Low
Ameko et. al (2012)	Yes	Yes	No	No	Yes	No	Yes	Moderate

Yendaw & Tampah-Naah (2021)	Yes	Yes	Yes	Can't tell	Yes	Yes	Yes	High
Donkor et. al. (2019)	Yes	Yes	Yes	Yes	Yes	Can't tell	Yes	High
Enimah et. al. (2022)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	High
Gbadago (2017)	Yes	Yes	Yes	No	Yes	Yes	Yes	High
Acheampong et. al. (2019)	Yes	Yes	Yes	Yes	Yes	No	Yes	High
Awuah et. al. (2018)	Yes	Yes	Yes	Can't tell	Yes	Can't tell	Yes	Moderate
Ameade, Amalba, et al. (2018)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	High
Tagoe & Attah (2010)	Yes	Yes	No	No	Yes	Can't tell	No	Low

Table S5: Mixed-Methods studies

Study	S1	S2	5.1	5.2	5.3	5.4	5.5	Quality Grade
Gbagbo & Nkrumah (2020)	Yes	Yes	Yes	Yes	Yes	No	Yes	High

Table S6: Detailed characteristics of studies used in the systematic review

Reference	Study Design	Year of study	Sample size	Reported prevalence (%)	Age of study population (mean±sd)	Study population	Study region	Geopolitical zone	Setting	Peer review status	Quality grade
Owusu-Ofori et. al. (2021)	CS (Quantitative)	2019	264	56.2%	19.5±1.88	Tertiary students	AR	Middle-Belt	Urban	Peer-reviewed	Low
Agyei-Boateng (2015)	CS (Quantitative)	2015	300	68.3%	<15-50	Pregnant Women	AR	Middle-Belt	Urban	Grey	High
Donkor et.al. (2019)	CS (Quantitative)	2017	261	33.3%	36.26±14.94	Patients	AR/ER	Middle-Belt	Urban	Peer-reviewed	High
Afari-Asiedu et. al. (2020)	CS (Qualitative)	2019	70	High prevalence	20-50	Health workers/General public	BER	Middle-Belt	Rural	Peer-reviewed	High
Enimah et. al. (2022)	CS (Quantitative)	2020	191	44.00%	44.32±16.27	General public	CR	Coastal-Belt	Rural	Peer-reviewed	High

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Gbagbo & Nkrumah (2020b)	CS (Mixed-method)	2018	100	69.0%	29 ± 5	Pregnant Women	CR	Coastal-Belt	Rural	Peer-reviewed	High
Asiedu et. al (2016)	CS (Quantitative)	2016	469	25.2%	22 ±2.5	Tertiary students	CR	Coastal-Belt	Urban	Peer-reviewed	Moderate
Kyei et. al. (2014)	CS (Quantitative)	2013	421	23.3%	39.8±18.6	General public	CR	Coastal-Belt	Urban	Peer-reviewed	High
Tagoe & Attah (2010)	CS (Quantitative)	2010	530	71.50%	≥15	Patients	CR	Coastal-Belt	Urban	Peer-reviewed	Low
Asamoah (2019)	CS (Quantitative)	2019	356	86.0%	35 (median)	General public	ER	Middle-Belt	Rural	Grey	Moderate
Amponsah et. al. (2022)	CS (Quantitative)	2019	337	53.10%	18-41	Tertiary students	GAR	Coastal-Belt	Urban	Peer-reviewed	High
Ofori et. al. (2021)	CS (Quantitative)	2017	417	66.7%	35.6 ±10.6	Traders	GAR	Coastal-Belt	Urban	Grey	Moderate
Kretchy et. al. (2021)	CS (Quantitative)	2016	350	36.0%	18-65	General public	GAR	Coastal-Belt	Rural	Peer-reviewed	High
Asante (2019)	CS (Quantitative)	2019	319	46.4%	35.6±13.6	Patients	GAR	Coastal-Belt	Urban	Grey	High
Acheampong et. al. (2019)	CS (Quantitative)	2017	680	33.5%	16.7±1.98	Adolescents	GAR	Coastal-Belt	Urban	Peer-reviewed	High
Acheampomaa (2018)	CS (Quantitative)	2018	126	78.6%	<19-40+	General public	GAR	Coastal-Belt	Urban	Grey	High
Awuah et. al. (2018)	CS (Quantitative)	2013	707	61.40%	15-59	General public	GAR	Coastal-Belt	Urban	Peer-reviewed	Moderate
Gbadago (2017)	CS (Quantitative)	2017	396	48.0%	22.6±0.17	Tertiary students	GAR	Coastal-Belt	Urban	Grey	High
Donkor et. al. (2012)	CS (Quantitative)	2008	600	70.3%	n.s	Tertiary students	GAR	Coastal-Belt	Urban	Peer-reviewed	Low
Ameko (2012)	CS (Quantitative)	2008	150	34.7%	n.s	Patients	GAR	Coastal-Belt	Urban	Peer-reviewed	Moderate
Sackey et. al. (2018)	Long. (Qualitative)	2014-2016	33	High prevalence	n.s	General public	GAR/CR	Coastal-Belt	Mixed	Grey	High
Agblevor et. al (2016)	Long. (Qualitative)	2014-2016	51	High prevalence	n.s	General public/chemical shop owners	GAR/CR	Coastal-Belt	Mixed	Grey	High
Issaka (2021)	CS (Quantitative)	2020	170	77.1%	18-54	Nurses	NR	Northern-Belt	Urban	Grey	Moderate

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Ameade, Zakaria, et al. (2018)	CS (Quantitative)	2017	370	52.7%	10-50	Pregnant Women	NR	Northern-Belt	Urban	Peer-reviewed	Moderate
Ameade, Amalba, et al. (2018)	CS (Quantitative)	2015	293	19.80%	23±5.07	Tertiary students	NR	Northern-Belt	Urban	Peer-reviewed	High
Botchwey et. al. (2022)	CS (Quantitative)	2021	50	68.0%	13-49	Pregnant Women	OR	Middle-Belt	Rural	Peer-reviewed	Moderate
Adama et. al. (2021)	CS (Quantitative)	2017	367	74.0%	28.6 ±4.9	Pregnant Women	UWR	Northern-Belt	Urban	Peer-reviewed	High
Yendaw & Tampah-Naah (2021)	CS (Quantitative)	2020	122	29.5%	14-54	Migrants	UWR	Northern-Belt	Urban	Peer-reviewed	High
Makam et. al. (2021)	CS (Quantitative)	2018	371	62.0%	27 ±6.4	Pregnant Women	VR	Coastal-Belt	Urban	Peer-reviewed	Moderate
Ofosu (2020)	CS (Quantitative)	2020	400	62.3%	36.9 ±14.8	General public	WR	Coastal-Belt	Urban	Grey	Moderate

Note: CS = cross-sectional; Long. = longitudinal; n.s = not specified; AR = Ashanti Region; BER = Bono East Region; CR = Central Region; ER = Eastern Region; GAR = Greater Accra Region; NR = Northern Region; OR = Oti Region; UWR = Upper West Region; WR = Western Region.