Effectiveness of interventions to improve the public’s antimicrobial resistance awareness and behaviours associated with prudent use of antimicrobials: a systematic review

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Version: Supplementary Material

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Supplementary Table S1. An example of search strategy applied for MEDLINE database.

**MEDLINE**

### Context
1. (superbug* OR superinfection*):ti,ab
2. MH “Superinfection”
3. (multiresistant OR multiresistance OR "multi-resistant" OR "multi-resistance" OR MDR OR MDRO OR AMR):ti,ab
4. (((drug* OR multidrug OR “multi-drug” OR antimicrobial* OR “anti-microbial*” OR antiinfection* OR “anti-infection*” OR antibacterial* OR “anti-bacterial*” OR antibiotic* OR “anti-biotic*”) N4 (resistant OR resistance OR tolerant OR tolerance)):ti,ab
5. MH "Drug Resistance"
6. MH "Drug Resistance, Microbial+"
7. MH "Drug Resistance, Multiple+"
8. MH "Drug Tolerance"
9. (“r factor*” OR “resistant factor*”):ti,ab
10. MH “R Factors”
11. (((antimicrobial OR “anti-microbial” OR antiinfection OR “anti-infection” OR antibacterial OR “anti-bacterial” OR antibiotic OR “anti-biotic”) N4 (stewardship)):ti,ab
12. MH "Anti-Infective Agents"
13. MH "Anti-Bacterial Agents"
14. OR/1-13

### Population
15. (public OR population OR community OR citizen* OR household* OR resident* OR consumer* OR carer* OR caregiver* OR people OR adult* OR men OR women OR mother* OR father* OR parent* OR student* OR pupil* OR children OR adolescent* OR teenager*):ti,ab
16. MH “Caregivers”
17. MH “Men”
18. MH “Women”
MH “Parents”
MH “Fathers”
MH “Mothers”
MH “Students”

OR/17-22

**Intervention**

(intervention*):ti,ab

(training OR teaching OR education OR program* OR initiative* OR workshop* OR seminar* OR module* OR session* OR curriculum):ti,ab

MH “Teaching”
MH “Teaching Materials”
MH “Education”
MH “Models, Educational”
MH “Health Education”
MH “Education, Nonprofessional”
MH “Curriculum”

((written OR printed OR online OR oral OR disseminat* OR provi*) N2 (information OR advice OR resource* OR material*)):ti,ab

(pamphlet* OR handout* OR poster* OR leaflet* OR newsletter* OR brochure* OR booklet* OR TV OR television OR radio OR marketing OR advertising OR publicity OR campaign* OR “mass media” OR “communication media” OR outreach OR computer* OR Internet OR online OR website* OR “social media” OR “social network**” OR Facebook OR Twitter OR tweet OR blog* OR SMS OR “short messaging service”’ OR text* OR email* OR podcast* OR smartphone* OR ((mobile OR cell OR smart) N1 (phone* OR telephone* OR app* OR application*)):ti,ab

MH “Consumer Health Information”
MH “Health Promotion”
MH “Health Communication”
MH “Persuasive Communication”
MH “Public Health”
MH “Audio Visual Aids”
Outcomes

((behavio#r N3 (change* OR changing OR alter* OR modification* OR modify OR modifying OR modifies OR modified)) OR intention*):ti,ab

MH "Motivation"

MH "Intention"

(attention* OR belief* OR view* OR opinion* OR expectation* OR "anticipat* regret" OR knowledge OR awareness OR "health literacy" OR "risk perception*" OR "perceived risk*" OR "perceived susceptibility" OR "illness perception*" OR "treatment perception*":ti,ab

MH "Attitude to Health"

MH "Health Knowledge, Attitudes, Practice"

MH "Health Literacy"

("perceived behavio#ral control" OR autonomy OR capacity OR "self-efficacy" OR competen* OR confidence OR ability OR skill*):ti,ab

MH "Self Efficacy"

("perceived norm*" OR "injunctive norm*" OR "subjective norm*" OR "descriptive norm*" OR "moral norm*" OR "self-identity"):ti,ab

MH "Social Norms"

((medication* OR drug* OR antimicrobial* OR "anti-microbial*" OR antiinfection* OR "anti-infection*" OR antibacterial* OR "anti-bacterial*" OR antibiotic* OR "anti-biotic*") N4 (use OR used OR usage OR consumption OR purchas* OR dispos* OR storage OR storing OR sharing OR shared OR expect* OR request*)):ti,ab
Combination of all search strings

AND/14,23,49,71

Limit 72 to year 2000
Supplementary Table S2. Data extraction tool designed for the purpose of the study.

<table>
<thead>
<tr>
<th>Study ID</th>
<th>BIBLIOGRAPHIC DETAILS</th>
<th>PURPOSE</th>
<th>DESIGN</th>
<th>POPULATION</th>
<th>Sample size (including power calculation &amp; statistical analysis)</th>
<th>Recruitment methods</th>
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<tbody>
<tr>
<td></td>
<td>First author, year of publication</td>
<td></td>
<td>Study design</td>
<td>Population</td>
<td>Inclusion criteria</td>
<td>Exclusion criteria</td>
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<td>Country</td>
<td>Language</td>
<td>Settings</td>
<td>Aim(s)</td>
<td>Population</td>
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<td>INTERVENTION</td>
<td>DATA COLLECTION</td>
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<td>Intervention content</td>
<td>Measure to ensure intervention fidelity</td>
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<td>Comperator(s)/control</td>
<td>Theoretical framework employed in intervention design</td>
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<td>Data collection methods</td>
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<td>Validity of tools</td>
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<td>Number of data collection points (post-intervention)</td>
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<td>Participants (demographic characteristics)</td>
<td>Findings/results (primary outcomes)</td>
<td>Findings/results (secondary outcomes)</td>
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</table>
Supplementary Table S3. Excluded studies with rationale.

**Design other than RCT, NRT, CBA or NCBA study**


15. McCarthy M. Many US parents have poor understanding of proper antibiotic use, study finds. *BMJ (Online)* 2015; **351**: h4009.


**Participants recruited from HC settings**

1. Alden DL, Tice AD, Berthiaume JT. Investigating approaches to improving appropriate antibiotic use among higher risk ethnic groups. *Hawaii Med J* 2010; **69**: 260-263.


Context other than AMR


Outcomes not related to AMR awareness antimicrobial stewardship


Full text not available


Other

Conference abstract of already reviewed study

*Full text not available in English/inability to translate*


*Article that refers to already reviewed study*


*Protocol of already reviewed study*


*Majority (74.3%) of respondents were HC professionals*