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Hospital Antimicrobial Stewardship Programs in Gulf Cooperation Council States - A Systematic Review of Evidence of Implementation



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Introduction

Antimicrobial resistance (AMR) has led to the development of initiatives aimed at optimizing antimicrobial use.¹ Co-ordinated interventions for promoting and monitoring safe and effective use of antimicrobials are termed antimicrobial stewardship programs (ASP).² Aspects of implementation and outcomes of ASPs have been researched and reported in the literature.

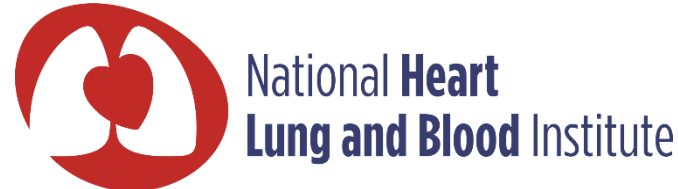
Review Aim and Objectives

To critically appraise, synthesize and present available evidence on ASP implementation in Gulf Cooperation Council (GCC) States.

- 1- To compare ASP interventions in GCC states to international guidelines.
- 2- To determine the outcomes reported in studies of ASP intervention in GCC states.
- 3- To identify facilitators and barriers to effective ASP implementation, sustainability and scalability in GCC states.

Method

- Protocol followed Prisma-P guidelines.³
- **Search strategy:** On (MEDLINE, CINAHL, International Pharmaceutical Abstracts, Cochrane database and Web of science).
- **Quality assessment:** Using National Heart and Lung Institute critical appraisal tools (NHLBI).⁴
- ASP interventions were compared to the seven core elements of the Center of Disease Control and Prevention (CDC) checklist which is considered a 'Gold Standard' for systematic assessment of key ASP interventions.⁵



Conclusion

- **Lack of robust studies** on ASP implementation in the GCC States.
- Studies should focus on **CDC criteria in developing the ASP intervention.**
- **Report valid and reliable outcome** (microbiological, clinical and economic).
- **A need for qualitative research to focus on facilitators, barriers and solutions to implementation.**



Inclusion Criteria



Population: health professionals and /or hospitalized patients



Intervention: ASP implementation



Comparator: Pre and post implementation



Outcome: Clinical, microbiological and economic outcomes

- ❖ Any type of study design
- ❖ Published 2010 to date
- ❖ English language only

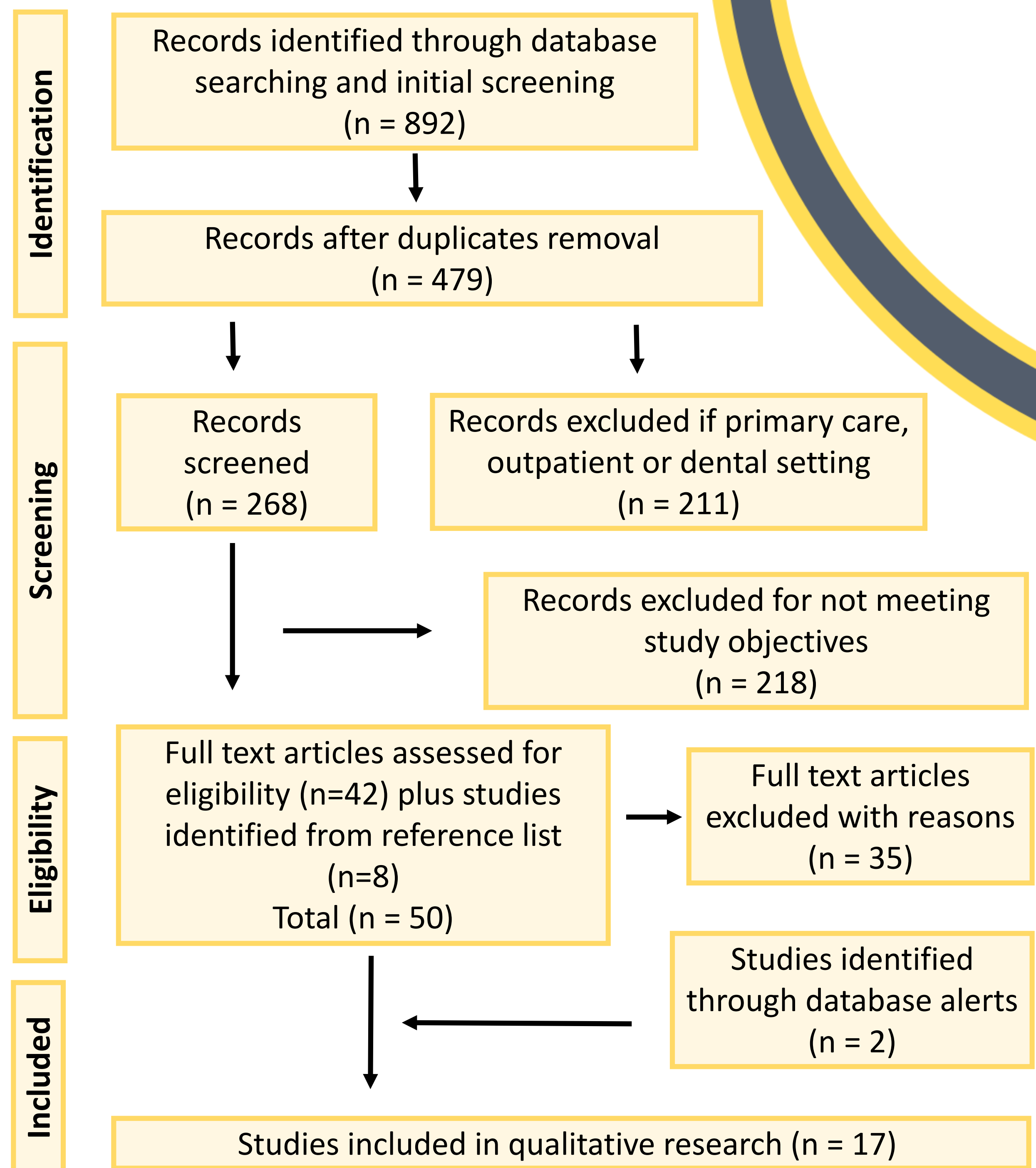


Figure 1: PRISMA flow chart for search and inclusion process

NHLBI quality assessment tool

- ✓ Two studies of 'good quality.'
- ✓ Two studies 'poor.'
- ✓ Remaining studies 'fair.'

Interventions implementation

- ✓ Implementation is weakly aligned with CDC checklist.
- ✓ Prospective audit and feedback ranked high for specific actions.

Outcomes

- ✓ Antibiotic consumption most commonly reported.
- ✓ Very little microbiological, clinical and economic outcomes.

Facilitators

- ✓ Key facilitators: physician, organisation support and education.

Barriers

- ✓ Barriers: Lack of dedicated staff, workload issues and lack of sufficient funding for implementation

References:

1. World Health Organization. Antimicrobial Resistance Global Report on surveillance. Switzerland: World Health Organization; 2014.
2. Barlam TF, Cosgrove SE, Abbo LM, MacDougall C, Schuetz AN, Septimus EJ. Implementing an Antibiotic Stewardship Program: Guidelines by the Infectious Diseases Society of America and the Society for Healthcare Epidemiology of America *Clinical infectious diseases: An official publication of the Infectious Diseases Society of America*. 2016; 62(10):e51-77.
3. Moher D, Shamseer L, Clarke M, Ghersi D, Liberati A, Petticrew M, et al. Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015 statement | Systematic Reviews | Full Text Available at: <https://systematicreviewsjournal.biomedcentral.com/articles/10.1186/2046-4053-4-1>.
4. NHLBI. Study Quality Assessment Tools | National Heart, Lung, and Blood Institute (NHLBI) Available at: <https://www.nhlbi.nih.gov/health-topics/study-quality-assessment-tools>. Accessed 8/12/2018, 2018.
5. CDC. *Checklist for Core Elements of Hospital Antibiotic Stewardship Programs | Antibiotic Use | CDC* [homepage on the Internet]. 2017 [updated 23 February 2017; cited 2018 9/25/2018]. Available from: <https://www.cdc.gov/antibiotic-use/healthcare/implementation/checklist.html>.

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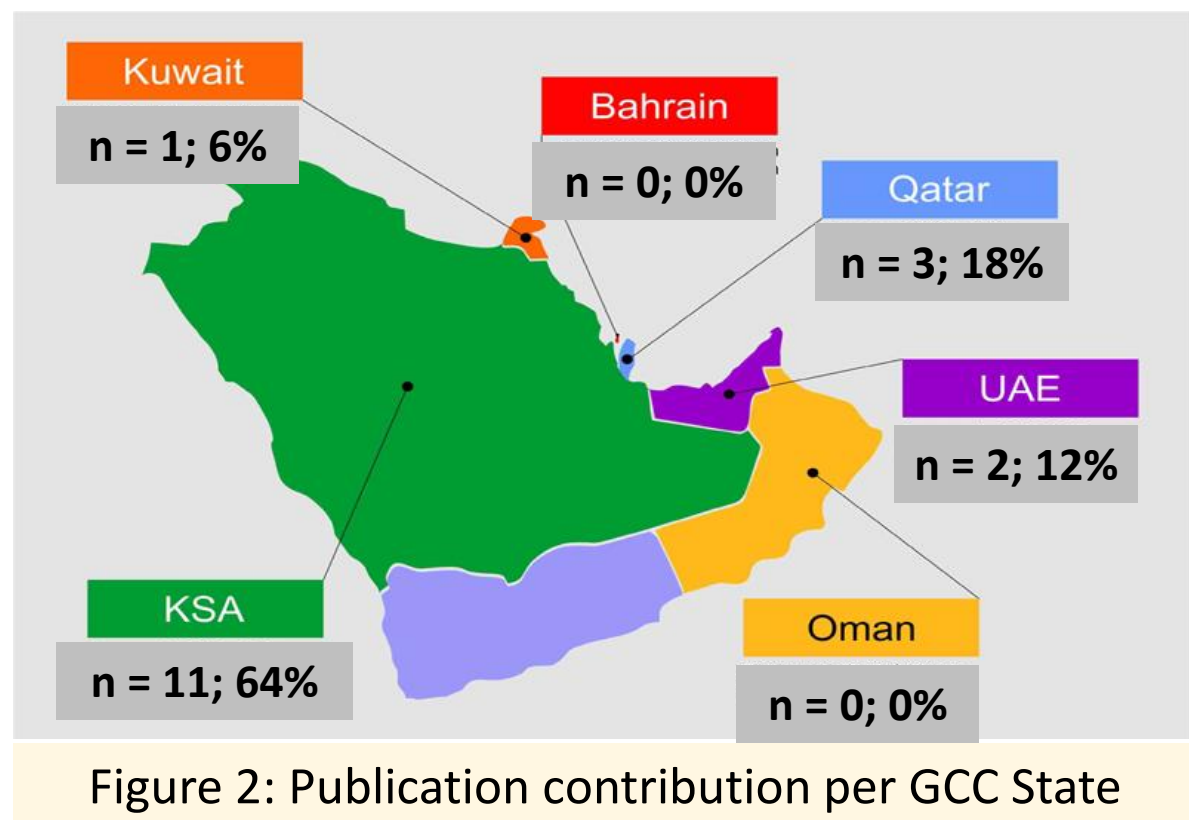


Figure 2: Publication contribution per GCC State