MetS, to characterise the populations who would benefit most and to describe facilitators and barriers.

Material and methods A search was conducted in MEDLINE, IPA, CINAHL and Cochrane using the keywords of Pharm* AND 'Metabolic syndrome*'. Peer-reviewed papers published in English from 2008, irrespective of the study design or population, were included. Studies were quality-assessed and data extracted by two reviewers using standardised tools.²

Results The initial search yielded 21 330 studies, of which eight met the inclusion criteria. Most were conducted in the USA (n=5), two in Europe and one in the Middle East. Most studies assessed pharmacist input in MetS screening (n=5), two evaluated the role of the pharmacist in management and one described the pharmacists' role in the implementation of the MetS screening programme. Outpatient care was the most studied setting (n=5), followed by community pharmacies (n=2). One study included inpatients. The quality of studies ranged from good (n=3), to fair (n=3) to poor (n=2). None reported the impact of the pharmacist input or any implementation facilitators and barriers. Compared to usual care, pharmacists integrated within the interdisciplinary team led to improved MetS-related outcomes. Community pharmacy-based studies highlighted the potential role around MetS awareness raising and detection, as did the study of inpatients.

Conclusion Pharmacists can effectively participate in the screening, prevention and management of MetS in different populations and settings to enhance patients' care. Further research is warranted to determine the clinical and economic impact, and describe the facilitators and barriers of implementing such a programme.

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No conflict of interest.

4CPS-276 ANTIMICROBIAL STEWARDSHIP PROGRAMME IMPLEMENTATION IN THE GULF COOPERATION COUNCIL STATES: A SYSTEMATIC REVIEW

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Background Antimicrobial resistance (AMR) has led to the development of initiatives aimed at optimising antimicrobial use. Coordinated interventions for promoting and monitoring the safe and effective use of antimicrobials are termed antimicrobial stewardship programmes (ASP). While there are several systematic reviews on aspects of ASP, none have focused on the processes and outcomes of implementation in the Gulf Cooperation Council (GCC) States.

Purpose The aim was to critically appraise, synthesise and present the available evidence on ASP implementation in the GCC States in relation to the interventions, reported outcomes, and facilitators and barriers to implementation.

Material and methods A systematic review protocol was developed based on PRISMA-P guidelines and registered with the International Prospective Register of Systematic Reviews.

4CPS-275 A SYSTEMATIC REVIEW OF PHARMACIST INPUT IN THE SCREENING, MANAGEMENT AND PREVENTION OF METABOLIC SYNDROME

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Background Metabolic syndrome (MetS) is a cluster of factors that increase the risk of cardiovascular disease and include diabetes, abdominal obesity, elevated triglycerides, low high-density lipoprotein cholesterol and high blood-pressure. A patient is considered to have MetS if three out of five factors are present.¹

Purpose To critically appraise, synthesise and present the available evidence on: the types and impact of pharmacist input in

Abstracts

Electronic databases (MEDLINE, CINAHL, International Pharmaceutical Abstracts, Cochrane database and Web of Science) were searched using pre-specified terms for peer-reviewed publications in English from 2010 onwards. Quality assessment, data extraction and synthesis were independently performed by two reviewers. ASP interventions were compared to the Centre of Disease Control and Prevention (CDC) checklist, a systematic assessment of key ASP interventions.

Results Fifteen quantitative studies were included. Quality assessment indicated that two were 'good quality', two 'poor' and the remainder 'fair'. Studies were mostly based in Saudi Arabia (n=10), Qatar (n=3), United Arab Emirates (n=1) and Kuwait (n=1). ASP interventions' implementation in line with the CDC checklist were weak, with the majority of studies reporting only one-third of the expected CDC criteria. The most commonly reported outcomes were antibiotic consumption, with very little reporting of any microbiological, clinical and economic outcomes. Only six studies reported facilitators and barriers relating to ASP intervention. Key facilitators were physician and organisation support and education. Barriers reported included the lack of dedicated staff, workload issues and lack of sufficient funding for implementation.

Conclusion There is a lack of robust studies of ASP implementation in the GCC States. Such studies should focus on CDC criteria in developing the ASP intervention and report valid and reliable outcomes including microbiological, clinical and economic outcomes. There is also a need for qualitative research to focus on facilitators, barriers and solutions to implementation.

4CPS-278 ABSTRACT WITHDRAWN

REFERENCES AND/OR ACKNOWLEDGEMENTS

CDC, 2017. Available from: <https://www.cdc.gov/antibiotic-use/healthcare/implementation/checklist.html> (accessed 25 Sep 2018.)

No conflict of interest.

4CPS-277 ABSTRACT WITHDRAWN