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International Centre for
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Reproductive and sexual health issues amongst servicewomen and veterans of the armed forces

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Abbreviations

CINAHL: Cumulative Index to Nursing and Allied Health Literature
NHMRC: National Health and Medical Research Council

1. Introduction

There is increasing recognition for, and the importance of, research evidence to inform health care policies and practices. The move towards evidence-informed health care has been driven by the need for quality and safe health care practices, which may ultimately result in the right patient provided with the right treatment by the right health professional at the right time. Currently much of health care policies and practices are not informed by research evidence which often results in underuse, misuse and overuse of health care services.

In order to underpin health care policies and practices with research evidence, the first step involves mapping the current research evidence base around a topic of interest. An important component of evidence mapping involves a systematic approach to accessing and collating research evidence. A systematic approach is integral in this process as it eliminates bias, promotes transparency and ensures replicability of the review processes. Evidence-mapping is therefore an efficient, rigorous and timely approach in understanding the current research evidence base around a topic of interest. This evidence-mapping report centres on reproductive and sexual health issues amongst servicewomen and veterans of the armed forces

This evidence-mapping review sought to answer the following questions:

1. What are the reproductive and sexual health issues faced by servicewomen and female veterans of the armed forces?
2. What are the current evidence gaps on the impact of participation in the armed forces on female reproductive and sexual health?

2. Methods

2.1 Systematic search

A systematic search of key library databases (Embase (OvidSP), Medline (OvidSP), Web of Science, Cumulative Index to Nursing and Allied Health Literature (CINAHL) (EbscoHost) and Cochrane Database) was conducted in March 2013, using the terms reported in Table 1. These terms were searched in the title, abstract and keyword fields, with limits applied to identify only studies published in English, from 1990 to present. Related terms were searched where possible. Variations to truncation/wildcard symbols, proximity operators and fields were made to accommodate the differences between the databases.

Table 1: Search terms utilised during evidence-mapping

Search term constructs	MeSH [^]	Other
Female	Women	Female*; wom\$n*
Military	Military personnel; military medicine; naval medicine; veterans; military nursing	Military*; defen\$e; "armed force*"; army*; "air force*"; navy*; naval; peacekeep*; veteran*; reservist*; submariner*; sailor*; soldier*; marine*; "coast guard*"; "returned service*"; (service P2 wom\$n*)
Reproductive or sexual health	Reproductive health; menstruation; menstruation disturbances; menopause; menopause, premature; fertility; contraception; contraception behavior; pregnancy; female urogenital diseases; pregnancy complications; obstetric surgical procedures; hydatidiform mole	"sexual health"; "sexual issue*"; "reproductive health"; "reproductive issue*"; *menstruat*; *menorrhoea*; menorrhag*; *menopaus*; fertility; *fecund*; contracept*; (inhib* N2 fertili\$ation); *birth*; parturition*; *natal*; *partum; labo\$r; pregnan*; gestation*; miscarr*; obstetric*; "hydatid* mole"

[^]MeSH terms will be exploded and only searched in Medline, *Truncation symbol used, \$ indicates a wildcard of 0-1 characters, "" indicates phrases will be searched, P2 indicates the terms will be searched in order, with up to 2 other words permitted between them, N2 indicates the terms will be searched in any order, with up to 2 words permitted between them

To broaden the search, the reference lists of all included studies were searched to identify any other potentially relevant studies (secondary searching or pearling). This process was continued until no further studies were identified.

2.2 Study identification

All studies obtained were exported into EndNote X6 where duplicate studies were excluded. The title and abstract of all remaining studies was screened, before the full texts were obtained and screened. Studies were excluded if they:

- were not published in English,
- were published prior to 1990,
- were not published in peer-reviewed journals,
- were editorials or correspondence,
- did not involve service women or female veterans (including women in the armed forces, peacekeepers, reservists and veterans), or
- did not report reproductive or sexual health issues.

2.3 Assigning levels of evidence

The study designs of included studies were identified and assigned to the National Health and Medical Research Council (NHMRC) [1] hierarchy of evidence (Please refer to Appendix 1).

2.4 Data extraction

Data was extracted from the included studies using a purpose built data extraction sheet. The categories covered included country of origin, study aim(s), population, sample size and key findings.

3 Results

Due to the nature and scope of this review, following advice from the funders, studies pertaining to pregnancy, contraception and menopause were selected for the data extraction stage. Following this process, ninety six studies were selected (Please refer to Figure 1 for the overview of the literature selection process), and data extracted. A customised Microsoft Excel database was created where data extracted from studies reporting on pregnancy, contraception and menopause were stored. An electronic copy of the Microsoft Excel database is included as part of this report.

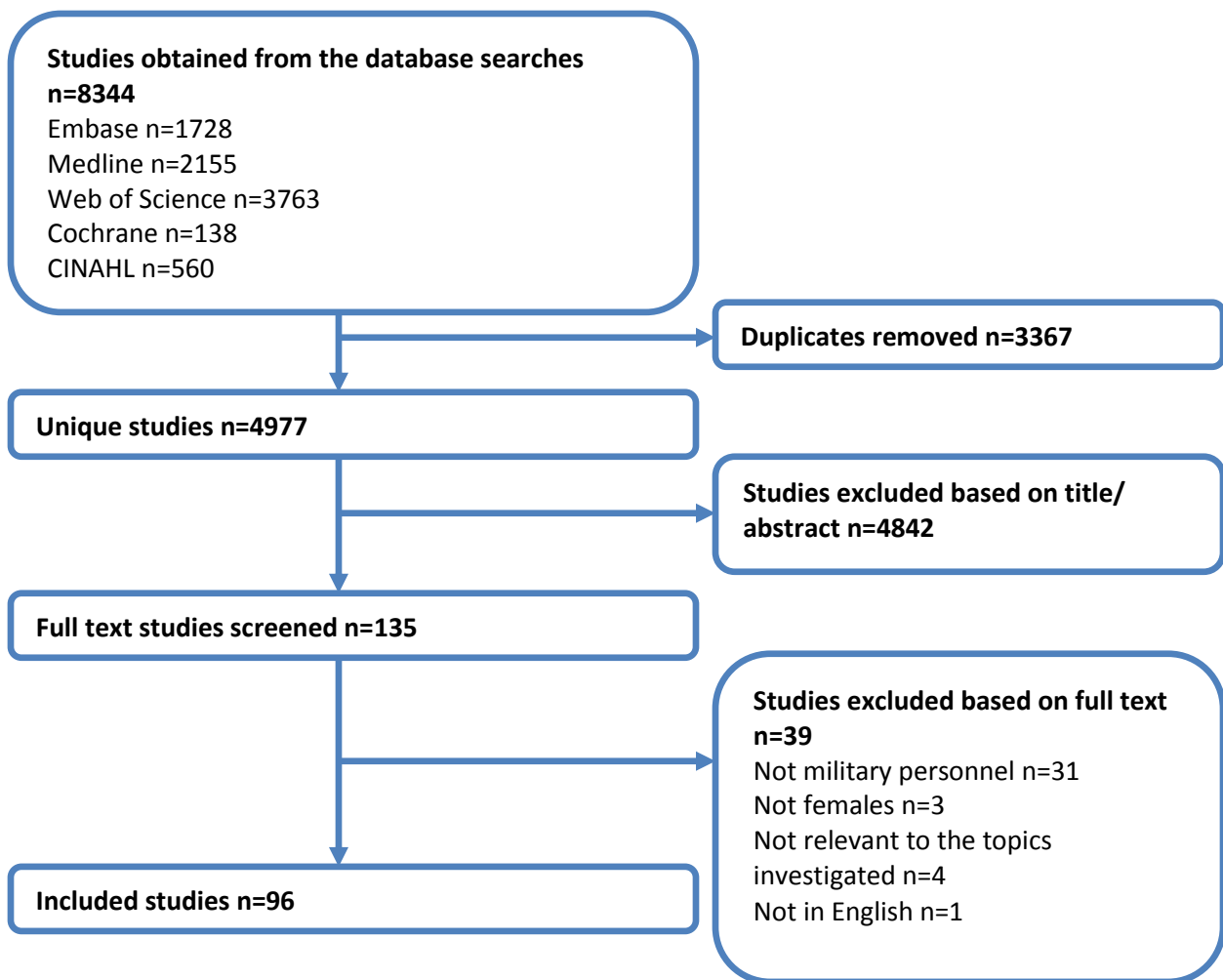


Figure 1: Flow chart of study inclusion and exclusion

Reference

1. National Health and Medical Research Council, *NHMRC additional levels of evidence and grades for recommendations for developers of guidelines: Stage 2 Consultation*. National Health and Medical Research Council, Australian Government, accessed online January 18, 2013 <http://www.nhmrc.gov.au/files/nhmrc/file/guidelines/stage_2_consultation_levels_and_grades.pdf>, 2009.

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Appendices

Appendix 1: National Health and Medical Research Council hierarchy of evidence[1]

Level	Intervention ¹	Diagnostic accuracy ²	Prognosis	Aetiology ³	Screening Intervention
I ⁴	A systematic review of level II studies	A systematic review of level II studies	A systematic review of level II studies	A systematic review of level II studies	A systematic review of level II studies
II	A randomised controlled trial	A study of test accuracy with: an independent, blinded comparison with a valid reference standard, ⁵ among consecutive persons with a defined clinical presentation ⁶	A prospective cohort study ⁷	A prospective cohort study	A randomised controlled trial
III-1	A pseudorandomised controlled trial (i.e. alternate allocation or some other method)	A study of test accuracy with: an independent, blinded comparison with a valid reference standard, ⁵ among non-consecutive persons with a defined clinical presentation ⁶	All or none ⁸	All or none ⁸	A pseudorandomised controlled trial (i.e. alternate allocation or some other method)
III-2	A comparative study with concurrent controls: <ul style="list-style-type: none"> ▪ Non-randomised, experimental trial⁹ ▪ Cohort study ▪ Case-control study ▪ Interrupted time series with a control group 	A comparison with reference standard that does not meet the criteria required for Level II and III-1 evidence	Analysis of prognostic factors amongst persons in a single arm of a randomised controlled trial	A retrospective cohort study	A comparative study with concurrent controls: <ul style="list-style-type: none"> ▪ Non-randomised, experimental trial ▪ Cohort study ▪ Case-control study
III-3	A comparative study without concurrent controls: <ul style="list-style-type: none"> ▪ Historical control study ▪ Two or more single arm study¹⁰ ▪ Interrupted time series without a parallel control group 	Diagnostic case-control study ⁶	A retrospective cohort study	A case-control study	A comparative study without concurrent controls: <ul style="list-style-type: none"> ▪ Historical control study ▪ Two or more single arm study
IV	Case series with either post-test or pre-test/post-test outcomes	Study of diagnostic yield (no reference standard) ¹¹	Case series, or cohort study of persons at different stages of disease	A cross-sectional study or case series	Case series