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A meta-analysis and systematic review of the effects and influencing factors of standardised residency training in China

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ADMINISTRATIVE INFORMATION

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Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 09 November 2023 and was last updated on 09 November 2023.

INTRODUCTION

Review question / Objective The purpose of this study is to understand the effectiveness and influencing factors of the domestic medical training programme for standardised residency training, and to provide a reference for subsequent residency management. Literature studying the evaluation of the effectiveness of residency training or influencing factors, etc., was included, and the research subjects were clinical medicine residents with undergraduate degrees who had completed their training or those who had finished their training, and the types of literature were cross-sectional studies, experimental-like studies, qualitative studies, and cohort studies. The influencing factors included non-modifiable factors: age, education, hospital affiliation, etc., and modifiable factors: training content, training mode and guarantee mechanism, etc. Understanding these influencing factors is to lay the foundation for the later realisation of the goal that standardised training

has improved the theoretical knowledge, clinical skills, job competence and satisfaction of the residents.

Condition being studied Resident standardized training refers to the systematic and standardized training that students majoring in medicine at or above the undergraduate level in higher education institutions receive as resident physicians after graduation. A meta-analysis and systematic review of the effectiveness and influencing factors of standardized training for resident physicians help us identify the modifiable and immutable factors that affect the effectiveness of standardized training for resident physicians, playing a crucial role in improving standardized training.

METHODS

Search strategy Using "resident physicians+standardized training+effectiveness"; Resident physicians+standardized training+current situation; General practitioners+standardized

training+effectiveness; The search term "general practitioner+standardized training+current situation" is used to search for databases such as CNKI, Wanfang, VIP, Ovid MEDLINE, PubMed, Cochrane, and Google Scholar.

Participant or population Bachelor's Degree Clinical Medicine Residents or Completed Residents who have completed their training.

Intervention None.

Comparator None.

Study designs to be included Cross-sectional studies, experimental-like studies, qualitative studies and cohort studies.

Eligibility criteria Bachelor's Degree Clinical Medicine Residents or Completed Residents who have completed their training.

Information sources Search for databases such as CNKI, Wanfang, VIP, Ovid MEDLINE, PubMed, Cochrane, and Google Scholar. Knowledge China National Knowledge Infrastructure, Wanfang Database, Wikipedia, Ovid MEDLINE, PubMed, Cochrane and Google Scholar databases.

Main outcome(s) Theory exam scores, practical exam scores, exit exam scores, job competence, resident trainer satisfaction.

Quality assessment / Risk of bias analysis Cross-sectional studies used the quality assessment criteria recommended by the US Agency for Health Care Quality and Research; class experimental studies and qualitative studies used the Australian JBI Centre for Evidence-Based Health Care (2016) list of class experimental studies or the quality assessment criteria for qualitative studies; and cohort studies used the Newcastle-Ottawa Scale.

Strategy of data synthesis RevMan5.3 software was used to statistically analyse the research literature, the effect indicators were expressed by Odd Ratio (OR) and 95% Confidence Interval (CI), the effect sizes were combined by the Mantel-Haenszel method, the test for heterogeneity was conducted by the Q-test and the I² exponential analysis, when the $P > 0.1$, $I^2 < 50\%$, the heterogeneity between studies was considered acceptable, and the fixed effect model was chosen for the combination of effect sizes. $I^2 < 50\%$, the heterogeneity between studies was considered acceptable, and the fixed-effects model was chosen to combine effect sizes, when $P > 50\%$, the

heterogeneity between studies was considered to exist, and the random-effects model was used to combine effect sizes. The results of the statistical analysis of the Meta-analysis were plotted in a forest plot.

Subgroup analysis None.

Sensitivity analysis Sensitivity analyses were performed with State software to reflect the sensitivity of the articles by how the effect size changed after deleting a particular article.

Country(ies) involved China.

Keywords Resident physician; standardized training; training effect; influencing factors.

Contributions of each author

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