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Economic Studies of Lifestyle Interventions for Infertility Management: A Systematic Review

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ADMINISTRATIVE INFORMATION

Support - The Royal Thai College of Obstetricians and Gynaecologists.

Review Stage at time of this submission - Piloting of the study selection process.

Conflicts of interest - None declared.

INPLASY registration number: INPLASY202410010

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 04 January 2024 and was last updated on 04 January 2024.

INTRODUCTION

Review question / Objective Our objective is to conduct a systematic review of the cost-effectiveness and economic outcomes of lifestyle interventions compared with other treatments for infertility.

Rationale Infertility, the condition that is unsuccessful for pregnancy after regular sexual intercourse for at least 12 months, is common around the world. The risk factors that can be adjusted include diet, nutrition, and obesity. From the current evidence, there are burden of expenditure for infertility treatments, and lifestyle intervention programs were found to be cost-saving and effective in some studies.

Condition being studied Lifestyle interventions for infertility management including diet, nutrition, and weight reduction.

METHODS

Search strategy Study selection: Two investigators will independently screen titles and abstracts for inclusion, using the Covidence software. Each of them will be blinded to the other's decisions. Another investigator will resolve any disagreements between the first two researchers.

After that, the full text of included studies will be reviewed by one investigator, which will be double-checked by another investigator for accuracy.

Data extraction: After the study selection, one investigator will extract the following data from the full studies: first author, publication date, time horizon, type of study, patients' inclusion criteria, intervention description, population amount, clinical outcomes (such as pregnancy rate, live birth rate), economic outcomes (including cost per pregnancy, cost per live birth), study conclusion.

Any missing data will not be taken into consideration but will be reported in the extraction

summary. All data will be recorded in a spreadsheet.

After the data extraction process is completed, another investigator will check the extracted data. The third investigator will resolve any disagreements between the first two investigators.

Participant or population Infertile or subfertile couples, who have difficulty in achieving pregnancy.

Intervention Lifestyle interventions for infertility management, e.g, education, weight reduction, adequate hours of rest, and exercise.

Comparator Patients who received treatments for infertility other than lifestyle interventions.

Study designs to be included - Economic evaluation study, e.g., cost-minimization analysis, cost-effectiveness analysis, cost-utility analysis, and cost-benefit analysis; experimental study with cost-related outcomes; observational study with cost-related outcomes.

Eligibility criteria The eligibility criteria are as follows; (i) the study in which infertile or subfertile couples, who have difficulty in achieving pregnancy will be included. (ii) the study in which patients received lifestyle interventions for infertility management, e.g, education, weight reduction, adequate hours of rest, and exercise (iii) the types of study are economic evaluation study, e.g., cost-minimization analysis, cost-effectiveness analysis, cost-utility analysis, and cost-benefit analysis, experimental study with cost-related outcomes, and observational study with cost-related outcomes.

Information sources PubMed, EMBASE, and reference of previous systematic reviews and meta-analysis.

Main outcome(s) Economic outcomes: total cost, cost per pregnancy, cost per live birth, ICER.

Additional outcome(s) Clinical outcomes: pregnancy rate, live birth rate.

Data management We will independently search and screen the eligibility of abstracts, full-text studies, and each of the references to find the included studies. Any discordance will be discussed to achieve consensus.

Quality assessment / Risk of bias analysis We will independently assess the eligible studies by the Drummond checklist for economic evaluation

studies. Any disagreement will be discussed with each other.

Strategy of data synthesis None.

Subgroup analysis None.

Sensitivity analysis None.

Language restriction English.

Country(ies) involved Thailand.

Keywords systematic review; infertility; lifestyle intervention; cost; subfertility.

Contributions of each author

Author 1 - Suvijak Untaaveesup - Design of the study, attainment of the data, elucidation of the data, drafting of the manuscript, and preparation of the final version.

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