

# INPLASY

## The expression of microRNAs and their involvement in recurrent pregnancy loss

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### ADMINISTRATIVE INFORMATION

**Support** - None.

**Review Stage at time of this submission** - Data extraction.

**Conflicts of interest** - None declared.

**INPLASY registration number:** INPLASY202440116

**Amendments** - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 29 April 2024 and was last updated on 29 April 2024.

## INTRODUCTION

**Review question / Objective** In the present review, we focus on microRNAs and their relationship with idio-pathic recurrent miscarriages, which present significant heterogeneity. The etiology of RPL is difficult to establish since multiple pathogenic mechanisms are involved. We aim to correlate miRNA expression with recurrent miscarriage and examine their potential role as biomarkers.

**Condition being studied** Recurrent pregnancy loss (RPL).

## METHODS

**Participant or population** Women with RPL compared to controls.

**Intervention** miRNA extraction from peripheral blood and chorionic villi.

**Comparator** miRNA expression.

**Study designs to be included** RCT and case-control studies.

**Eligibility criteria** The inclusion criteria for the present review included studies that (1) investigated the association of miRNA expression with recurrent miscarriage, (2) were patient-control studies with adequate primary data (number of subjects per population and statistical for comparison (p-value or q-value and/or foldchange), (3) patients had at least two consecutive miscarriages and controls at least one successful pregnancy or a history of legal termination of pregnancy without a history of miscarriage. Similarly, the exclusion criteria

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included studies that (1) did not relate to miRNA expression or recurrent miscarriage, (2) did not provide sufficient data for data extraction, (3) included patients who were diagnosed with other causes of recurrent miscarriage such as reproductive tract infections and (4) were written in another language than English.

**Information sources** Pubmed/Medline and Scopus databases.

**Main outcome(s)** For each included study, the following data were extracted: year of publication, country of origin, ethnic group of participated population, the diagnostic criteria for recurrent miscarriage (two or three consecutive miscarriages), the sample size (number of patients and controls), the mean age of patients and controls, the miRNAs investigated in each study, the miRNA detection methodology, and the tissue from which the miRNAs were isolated. The variable p-value or variable q-value, foldchange variable, and/or miRNA relative expression variable were also extracted.

**Quality assessment / Risk of bias analysis** With ROB2 risk assessment tool.

**Strategy of data synthesis** Qualitative.

**Subgroup analysis** Women with RPL compared to controls.

**Sensitivity analysis** Sensitivity analysis will be performed with Revman web tool.

**Country(ies) involved** Greece.

**Keywords** MicroRNAs (miRNAs); recurrent pregnancy loss; miscarriage; abortion; infertility.

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