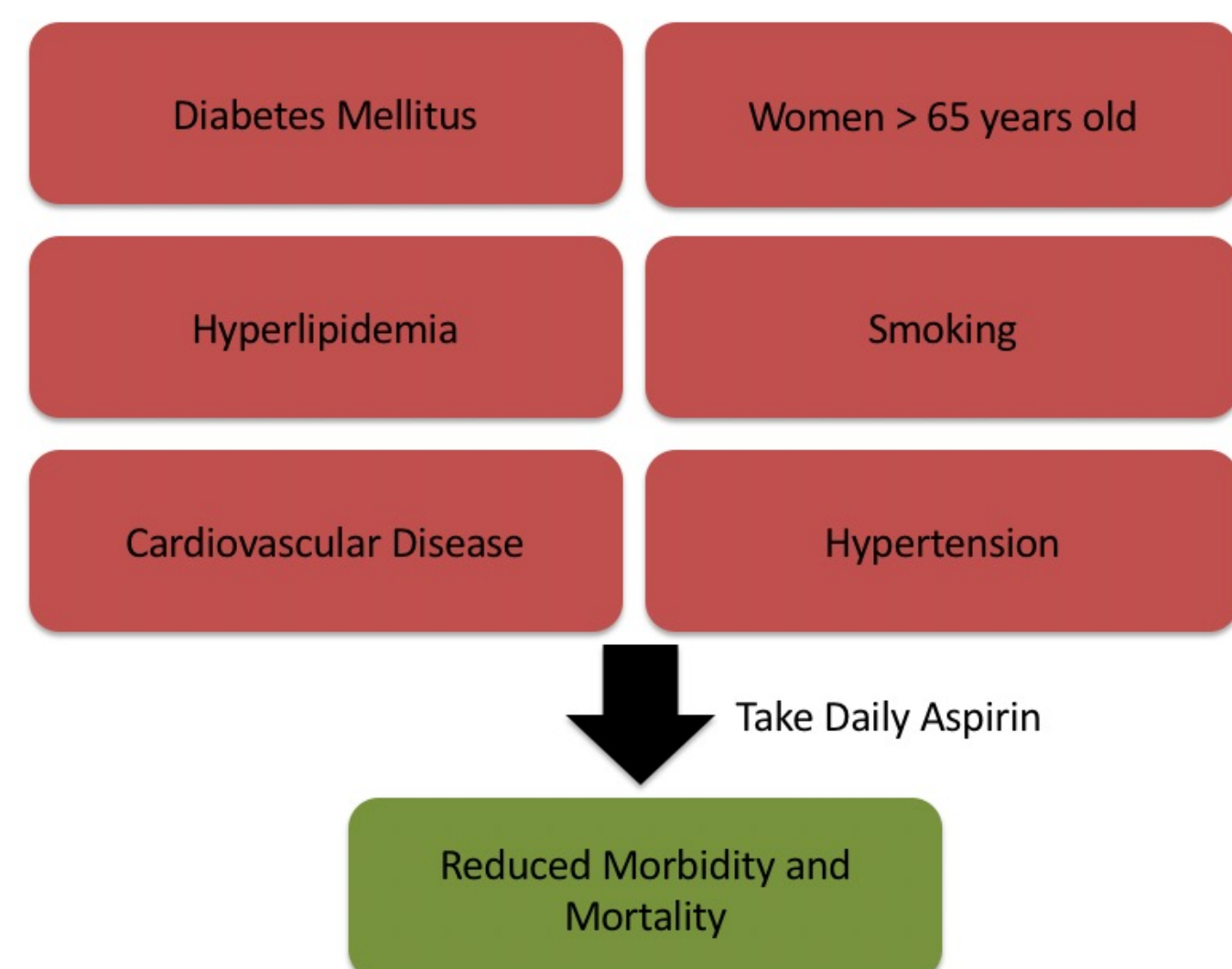


## Introduction

- Cardiovascular disease is the number one cause of mortality in the U.S.<sup>1</sup>
- Low-dose aspirin (LDA) in primary prevention is no longer routinely recommended<sup>2</sup>
  - Lack of benefit in recent trials<sup>3,4,5</sup>
  - Increased bleeding risk in almost all trials
- Subgroup analysis of aspirin's effects on women with cardiovascular risk factors has not been undertaken

**Hypothesis:** Women who are 65 years and older with cardiovascular risk factors will have reduced morbidity and mortality when taking daily aspirin



## Aims and Objectives

### Primary objective:

To assess if aspirin use decreases mortality and morbidity in women ≥65 years with Myocardial infarction (MI) and risk factors of hypertension, hyperlipidemia, smoking and positive family history of cardiovascular disease.

### Secondary objective:

To assess if aspirin use and its effects in women ≥65 years with Myocardial infarction (MI) are associated with risk factors of hypertension, hyperlipidemia, smoking and positive family history of cardiovascular disease.

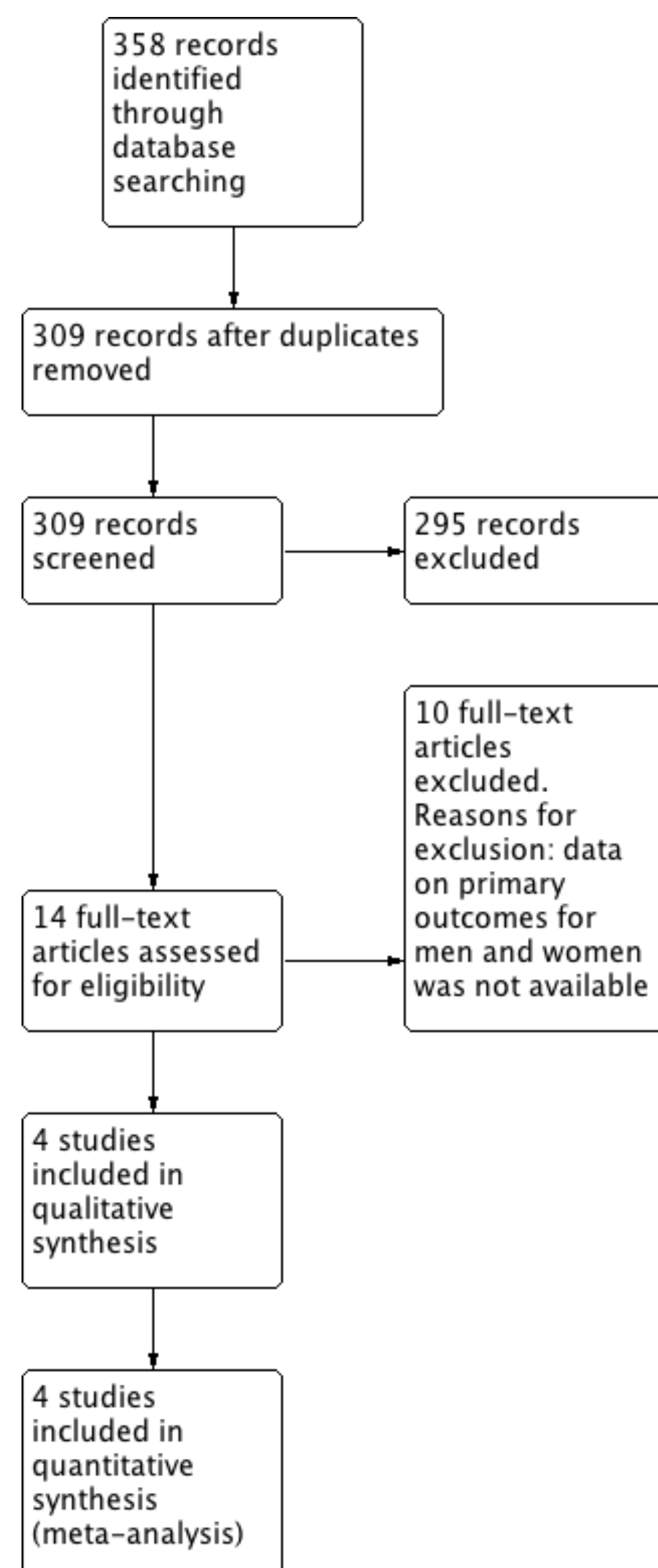
The results of this systematic review and meta-analysis will help us to formulate guidelines on the use of Aspirin in women ≥65 years with MI which will contribute toward decreasing mortality and morbidity in these women.

This study will also provide insight into the association of Aspirin with each of the risk factors of hypertension, hyperlipidemia, smoking and positive family history of cardiovascular disease.

## Methods

- Retrospective systematic review and meta-analysis
- Literature review conducted using key words: “randomized controlled clinical trials,” “aspirin,” “primary prevention,” “cardiovascular events,” “males and females,” “hypertension, hyperlipidemia, smoking and diabetes”
- Databases searched were Embase, Web of Science, Clinicaltrials.gov
- Data was analyzed on RevMan for men vs. women
- Random effects model implemented to deal with data heterogeneity

Figure 1: Flow diagram of the meta-analysis



## Results

- Four studies included in analysis (AAA<sup>6</sup>, JPAD<sup>7</sup>, JPPP<sup>8</sup>, POPADAD<sup>9</sup>)
- Low risk of bias (Figure 2)
- Primary outcomes were assessed (risk of morbidity and mortality defined as death due to myocardial infarction or any cardiac event)
- The risk ratio in women versus men in aspirin group was 1.02 (95% CI: 0.65-1.60, p=0.93). (Figure 3)
- The risk ratio for in women versus men in placebo group was 1.09 (95% CI: 0.63-1.88, p=0.75). (Figure 4)
- Number of primary outcomes slightly lower among women taking aspirin, but not statistically significant

Figure 2: Risk of Bias Chart

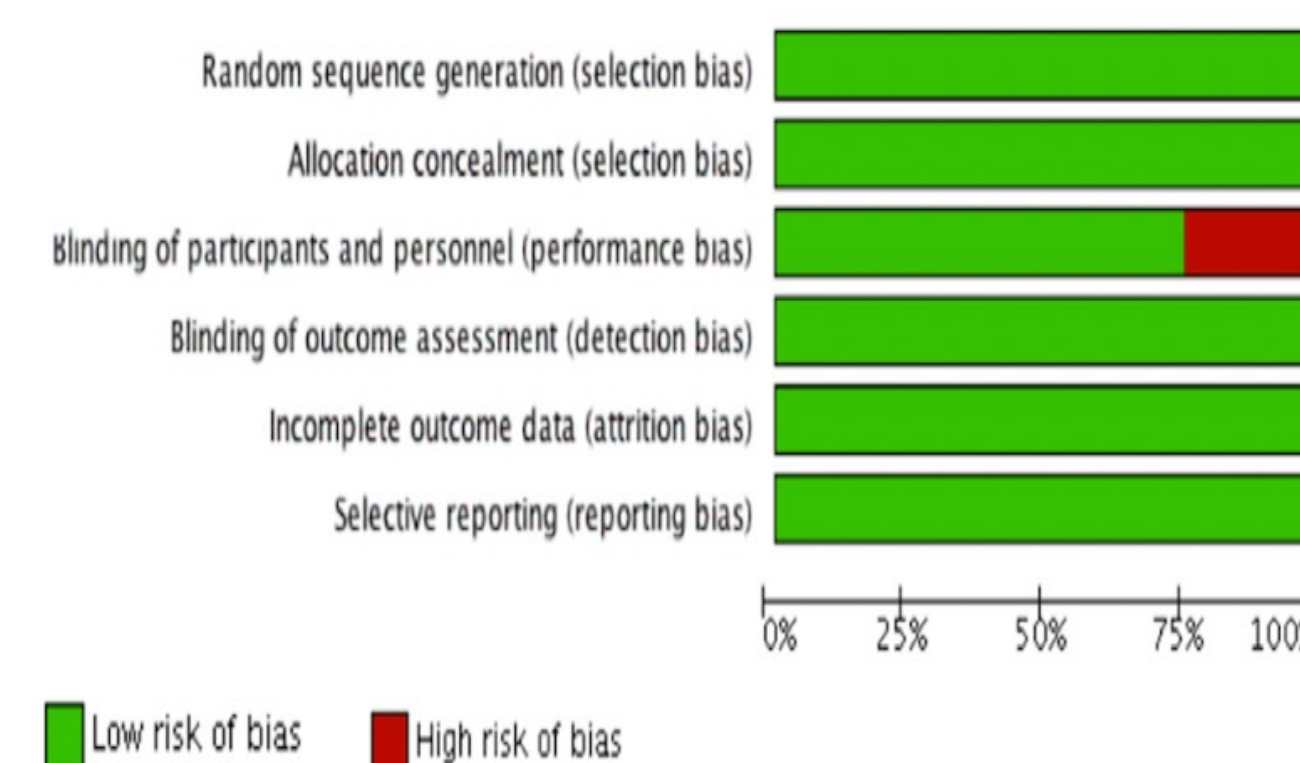


Figure 3: Primary Outcomes in Women Versus Men in Aspirin Group

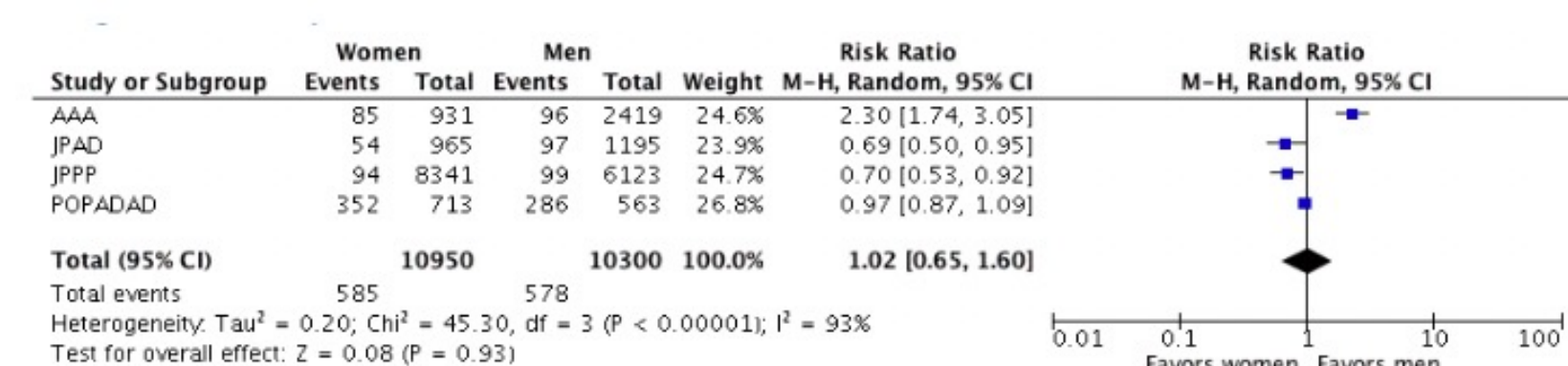
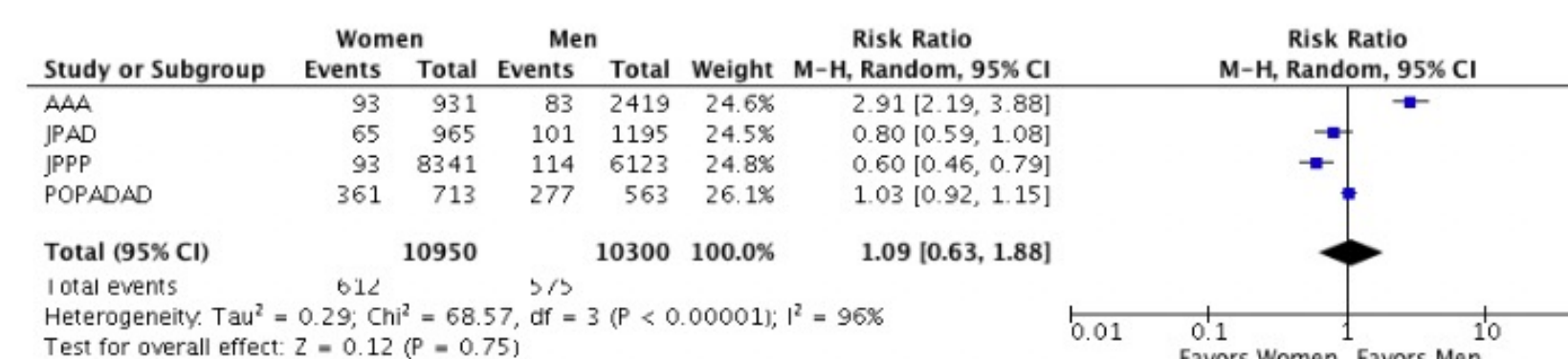


Figure 4: Primary Outcomes in Women Versus Men in Placebo Group



## Conclusions

- Women over 65 years old with cardiovascular risk factors such as diabetes mellitus did not appear to benefit from low-dose ASA for primary prevention of future cardiovascular events
- Reasons for this may include widespread use of statins in the current era which lower the risk of a first cardiovascular event
- Further studies are needed in highest risk women to clarify the potential role of low-dose aspirin in primary prevention

### Challenges/Solutions:

- Limitations: it was difficult to find more than four studies that met our literature search criteria
- Need for more data
- Interested to explore this topic more and conduct more in-depth literature searches

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## Acknowledgements

Thank you to Dr. Amna Zeb and Dr. Pamela Marcovitz for help with my project. Thank you to OUWB and the Embark faculty for aiding me in completing this project.