

# Comparative Analysis of Risk Factors and Short-Term Outcomes After Primary PCI in Pre- and Post-Menopausal Women With STEMI Experience from LMIC # PCR167

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## Background

- Coronary artery disease (CAD) is one of the leading causes of mortality worldwide.
- While it is traditionally perceived as a disease of older men, evidence demonstrates a recent surge in CAD prevalence among women of all ages, particularly in countries with a high population density.
- This trend is prominently demonstrated even among younger women, suggesting the cardio protective effects of estrogen may not be as complete as previously believed.

## Objective:

- Therefore, we conducted this study to compare the prevalence of conventional and non-conventional risk factors of atherosclerotic cardiovascular diseases (ASCVD) between pre- and post-menopausal women admitted with ST-segment elevation myocardial infarction (STEMI) to a tertiary care cardiac center of Karachi, Pakistan.

## Methodology

- This cohort study was conducted at the National Institute of Cardiovascular Disease (NICVD), Karachi, Pakistan.
- An independently recruited cohort of pre-menopausal women was compared to the post-menopausal cohort of women diagnosed with STEMI in terms of clinical and demographic characteristics, clinical presentation, medical history, triggering factors, angiographic characteristics, and in-hospital outcomes.

## Groups:

- Premenopausal (n=78)
- Postmenopausal (n=152)

## Results

A total of 230 female patients diagnosed with STEMI were included, comprising 78 (33.9%) premenopausal and 152 (72.4%) postmenopausal women.

## Key Findings among premenopausal vs. postmenopausal

### Risk factors

- Diabetes mellitus: 39.7% vs. 56.6%;  $p = 0.02$ ).
- History of preeclampsia: 37.2% vs. 18.4%;  $p < 0.001$ ) and
- Gestational diabetes mellitus: 20.5% vs. 7.9%;  $p = 0.01$
- Addiction: 32.1% vs. 19.1%;  $p=0.03$
- Consumption of betel nuts: 23.1% vs. 7.9%;  $p<0.001$
- Sedentary lifestyle: 3.8% vs. 18.4%

### Presentation

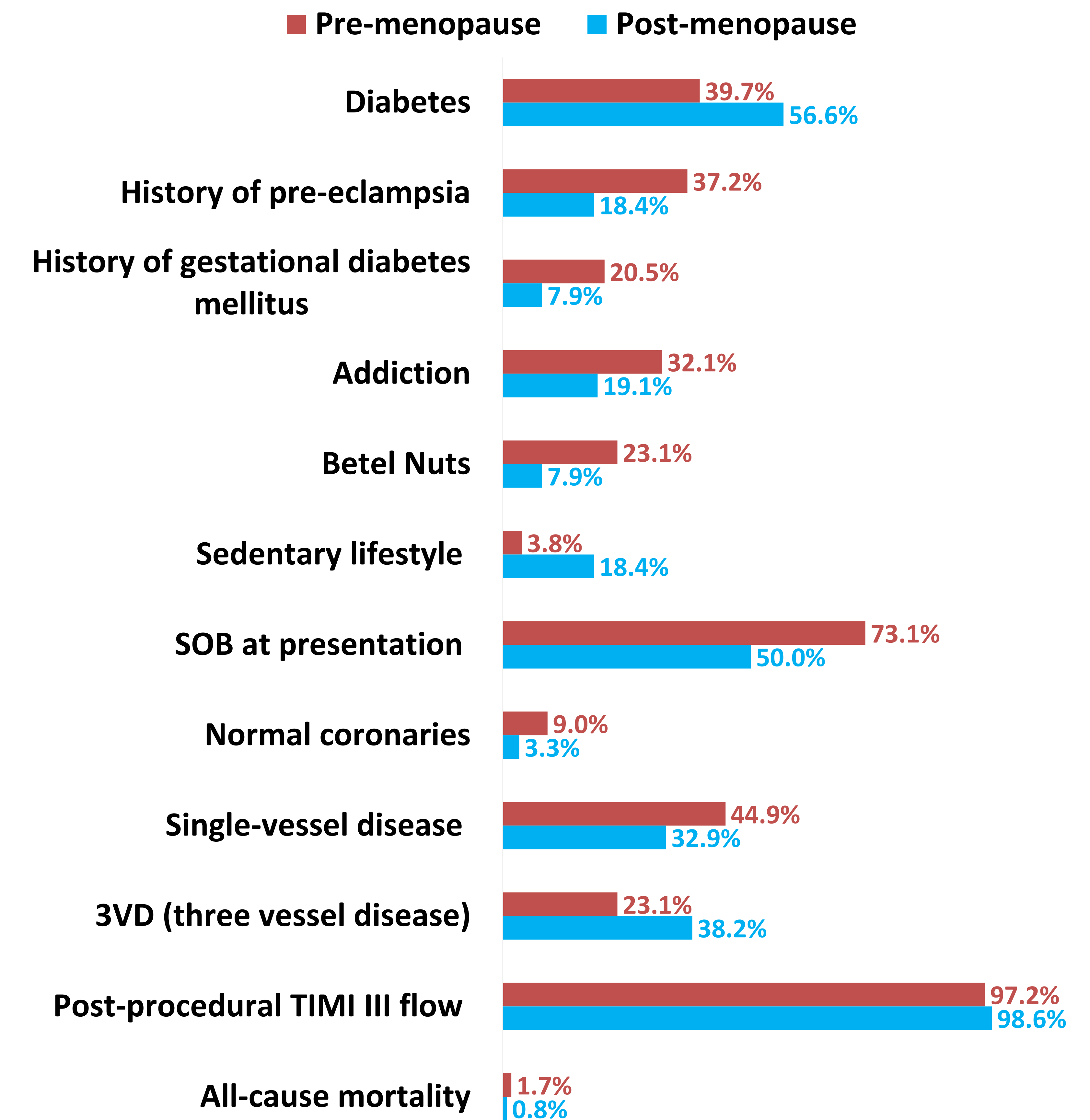
- SOB at presentation: 73.1% vs. 50%;  $p < 0.001$
- Median symptom duration was 45 (30 – 60) hours vs. 45 (25 – 60) hours;  $p=0.95$
- Median DTB time was 91 (60 – 120) minutes vs. 77 (55 – 111) minutes;  $p=0.05$

### Angiography

- Single-vessel disease (SVD):44.9% vs. 32.9%
- Three-vessel disease (3VD): 23.1% vs. 38.2%

### Outcomes

- Successful 30-day telephonic follow-up:74.4% vs. 78.9%
- All-cause mortality rate: 0.8% vs. 1.7%;  $p=0.597$
- Complains of chest/shoulder pain: 15.5% vs. 10.8%;  $p=0.37$
- Anxiety: 5.2% vs. 2.5%;  $p=0.35$
- Shortness of breath: 8.6% vs. 11.7%;  $p=0.54$
- Other complications: 3.4% vs. 8.3%;  $p=0.22$ )



## Conclusion

- Premenopausal: pregnancy-related & behavioral risks
- Postmenopausal: metabolic risks (diabetes)
- Outcomes comparable

## Implication

- Targeted prevention strategies needed

## Recommendations

- Include reproductive history in CV risk assessment
- Lifestyle interventions in younger women
- Strict metabolic control postmenopause
- Further South Asian research