

co-ordinated with the Director of the Institute / Research Unit

Institute/ Research Unit / Clinical Co-operation Group / Junior Research Group:

**Institute of Epidemiology II**

**PSP-Element:**

G-504090-001; G-504000-002

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**Title of the Highlight:**

Sex Differences in Patient-Reported Symptoms Associated with Myocardial Infarction: Results from the MONICA/KORA Myocardial Infarction Registry

**Keywords:**

Myocardial infarction, symptoms, registry

**Central statement of the Highlight in one sentence:**

While women and men do not differ regarding the chief myocardial infarction symptoms chest pain or feelings of tightness or pressure, and diaphoresis, women are more likely to experience atypical symptoms and report a higher number of symptoms.

**Text of the Highlight:**

The timely recognition of an evolving acute myocardial infarction (AMI) is a crucial element in improved outcomes. Studies demonstrated that women, especially those older than 65 years, delay longer than men in seeking care. One possible explanation for this finding is that women experience a different symptom set than men in seeking care. One possible explanation for this finding is that women experience a different symptom than men. Data from 2,278 patients (women n=568, men n=1,710) aged 25 to 74 years from the MONICA/KORA Myocardial Infarction Registry Augsburg with an incident AMI between 1 January 2001 and 31 December 2006 who survived longer than 24 hours were analyzed to investigate sex differences in self-reported AMI symptoms.

Compared with the 1,710 men, the 568 women were significantly:

- older (mean age 63 vs. 59 years),
- less likely to be married, to have a school education > 9 years, a smoking history or an anterior AMI location,

- more likely to live alone, to have hypertension, diabetes, sleep disturbances, a non-ST-segment elevation MI (NSTEMI), or a posterior AMI location.
- Women reported a higher number of symptoms (mean  $5.3 \pm 2.4$ ) than men ( $4.4 \pm 2.1$ ).

Women and men did not differ regarding the chief AMI symptoms chest pain or feelings of tightness or pressure, and diaphoresis. However, women were more likely to experience additional symptoms and reported a higher number of symptoms.

Since symptom recognition and interpretation is only one important part within the decision process to seek treatment for AMI, it is essential to further investigate cognitive and emotional processes that may contribute to a prolonged pre-hospital delay in women.

**Publication:**

**Kirchberger I**, Heier M, Kuch B, Wende R, **Meisinger C**. Sex differences in patient-reported symptoms associated with myocardial infarction (from the population-base MONICA/KORA Myocardial Infarction Registry). *Am J Cardiol* 2011;107(11):1585-9

**Taking account of the HMGU mission:**

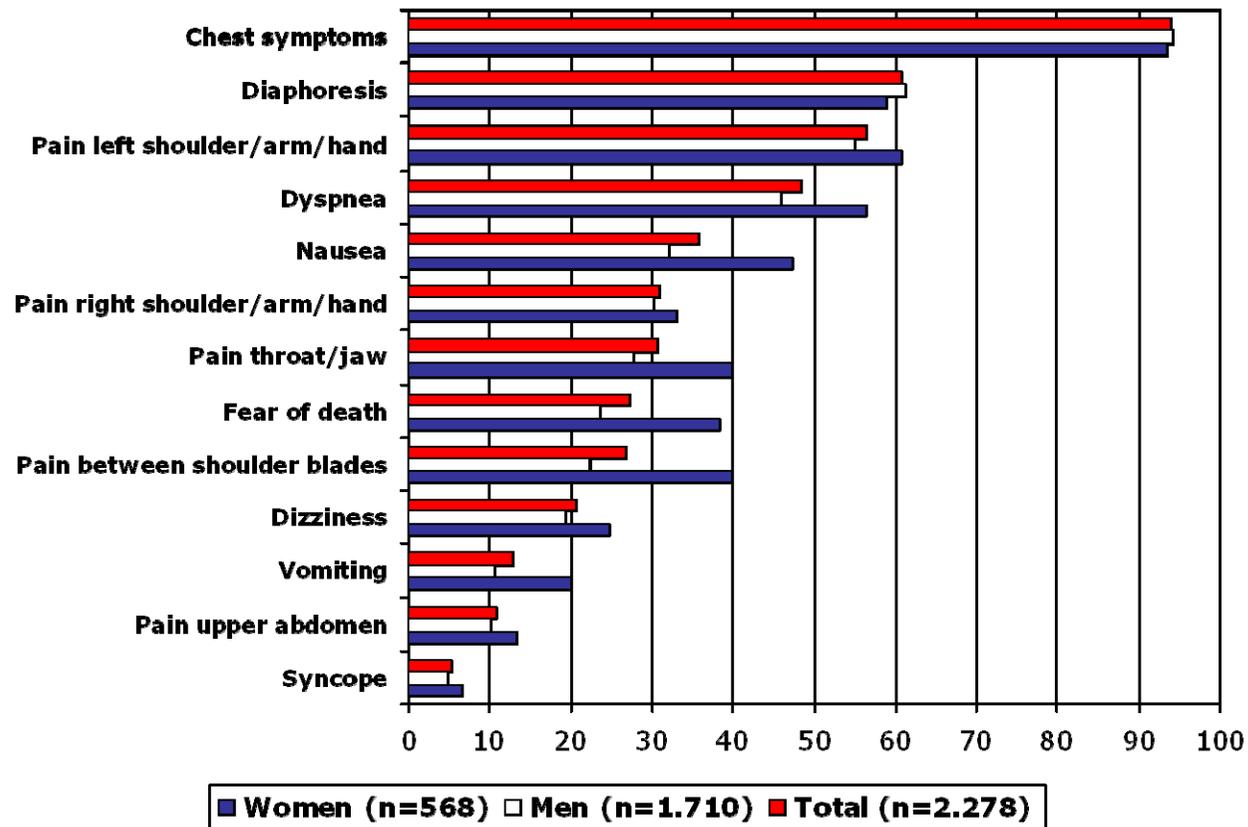
Analyzing gender specific symptoms associated with acute myocardial infarction may contribute to hasten the decision process to seek treatment for acute myocardial infarction, particularly in women.

**The internal HMGU co-operation partners with whom the Highlight was compiled, if appropriate:**

# Sex Differences in Patient-Reported Symptoms Associated with Myocardial Infarction

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## Frequency of reported myocardial infarction symptoms



# Sex Differences in Patient-Reported Symptoms Associated with Myocardial Infarction

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Odds ratios (OR), 95% confidence interval (CI) and p-value (p) for women compared with men

Symptom	OR [95%-CI]	p
<b>Vomiting</b>	<b>2.23 [1.67-2.97]</b>	<b>&lt;0.01</b>
Pain between shoulder blades	2.22 [1.78-2.77]	<0.01
<b>Fear of death</b>	<b>2.17 [1.73-2.72]</b>	<b>&lt;0.01</b>
More than 4 symptoms	2.14 [1.72-2.66]	<0.01
<b>Nausea</b>	<b>1.94 [1.56-2.39]</b>	<b>&lt;0.01</b>
Pain throat/jaw	1.78 [1.43-2.21]	<0.01
<b>Syncope</b>	<b>1.55 [1.00-2.39]</b>	<b>0.05</b>
Dizziness	1.49 [1.16-1.91]	<0.01
<b>Dyspnea</b>	<b>1.45 [1.17-1.78]</b>	<b>&lt;0.01</b>
Pain upper abdomen	1.39 [1.02-1.91]	0.04
<b>Pain left shoulder/arm/hand</b>	<b>1.36 [1.10-1.69]</b>	<b>&lt;0.01</b>
Pain right shoulder/arm/hand	1.19 [0.95-1.48]	0.12
<b>Diaphoresis</b>	<b>0.93 [0.75-1.15]</b>	<b>0.49</b>
Chest pain or feelings of pressure or tightness	0.83 [0.54-1.28]	0.40