


# Age, gender and socioeconomic disparities among patients with pulmonary embolism

 Jelena Kursar<sup>1</sup>,  
 Dijana Bešić<sup>1</sup>,  
 Irzal Hadžibegović<sup>1</sup>,  
 Ivan Skorić<sup>2</sup>,  
 Nikola Šerman<sup>3</sup>,  
 Jasmina Čatić<sup>1</sup>,  
 Tomislav Šipić<sup>1</sup>,  
 Šime Manola<sup>1</sup>,  
 Ivana Jurin<sup>1\*</sup>

<sup>1</sup>Dubrava University Hospital, Zagreb, Croatia

<sup>2</sup>University of Zagreb, School of Medicine, Zagreb, Croatia

<sup>3</sup>Zagreb Emergency Medicine Service, Zagreb, Croatia

**KEYWORDS:** pulmonary embolism, gender, disparities.

**CITATION:** *Cardiol Croat.* 2022;17(9-10):269 | <https://doi.org/10.15836/ccar2022.269>

**\*ADDRESS FOR CORRESPONDENCE:** Ivana Jurin, Klinička bolnica Dubrava, Avenija Gojka Šuška 6, HR-10000 Zagreb, Croatia. / Phone: +385-98-559-387 / E-mail: [ivanajurin1912@gmail.com](mailto:ivanajurin1912@gmail.com)

**ORCID:** Jelena Kursar, <https://orcid.org/0000-0001-8791-4910> • Dijana Bešić, <https://orcid.org/0000-0001-9701-0253> Irzal Hadžibegović, <https://orcid.org/0000-0001-9139-5009> • Ivan Skorić, <https://orcid.org/0000-0002-5201-2092> Nikola Šerman, <https://orcid.org/0000-0002-5537-3782> • Jasmina Čatić, <https://orcid.org/0000-0001-6582-4201> Tomislav Šipić, <https://orcid.org/0000-0001-8652-4523> • Šime Manola, <https://orcid.org/0000-0001-6444-2674> Ivana Jurin, <https://orcid.org/0000-0002-2637-9691>

**Background:** Only a few studies have demonstrated a relationship between socioeconomic and marital status and pulmonary embolism (PE)<sup>1,2</sup>. Therefore, in the present study we aimed to investigate age, gender, marital as well as socioeconomic status at the time of PE onset as well its impact on therapy choice.

**Patients and Methods:** The prospective study enrolled 370 consecutive patients presenting with objectively confirmed acute PE who were discharged from the hospital and who continued to take the recommended therapy 30 days after diagnosis of which 193 (52%) were taking warfarin, and 177 (48%) were taking direct oral anticoagulants (DOAC).

**Results:** Analysis of the results of the social variables questionnaire showed that patients on warfarin were statistically significantly more represented in the group with incomes below 332 euros per month, among patients who had incomplete or only completed elementary school and among patients who were widowed. DOACs were statistically significantly more represented among patients with incomes above 831 euros, highly educated patients and patients from single households who are not widowed. Additional analysis of demographic and social variables showed that among women, who took warfarin statistically significantly more often, there were statistically significantly more people with low incomes below 332 euros per month and statistically significantly more widows.

**Conclusion:** Our main observation, that older female patients receive warfarin more frequently because of socio-economic reasons is supported by objectively evaluated patients' socioeconomic status which is the first such real life study. To treat our patients as well as possible, it is necessary not only to increase health literacy even more, but also to emphasize the need for full financing of DOAC by the Croatian Institute of Health insurance, which would ultimately lead to the relief of the health system by reducing adverse events.

RECEIVED:  
November 3, 2022

ACCEPTED:  
November 10, 2022



## LITERATURE

- Rosengren A, Fredén M, Hansson PO, Wilhelmsen L, Wedel H, Eriksson H. Psychosocial factors and venous thromboembolism: a long-term follow-up study of Swedish men. *J Thromb Haemost.* 2008 Apr;6(4):558-64. <https://doi.org/10.1111/j.1538-7836.2007.02857.x>
- Isma N, Merlo J, Ohlsson H, Svensson PJ, Lindblad B, Gottsäter A. Socioeconomic factors and concomitant diseases are related to the risk for venous thromboembolism during long time follow-up. *J Thromb Thrombolysis.* 2013 Jul;36(1):58-64. <https://doi.org/10.1007/s11239-012-0858-8>