



Letter to editor

Liver transplants in Mexico, sociodemographic characteristics of donors and receptors between 2007 & 2019.



Dear editor:

After reading the article entitled *Waitlist mortality and transplant-free survival in Hispanic patients listed for liver transplant using the UNOS database* by Goyes, Danford, Nsubugab & Bonder [1], we gained comprehension of how, even after implementing policies to ensure the highest priority for patients at higher risk for mortality, inequities still exist, and the Hispanic population is affected. Thus, we hypothesized that disparities may be extensive for Hispanic-speaking countries such as Mexico and aimed to describe the epidemiological profile of liver transplants in Mexico between 2007 and 2019.

We developed a retrospective study based on open access data from the National Transplant Registry (Cenatra) [2]; Stata14 software was used for descriptive statistics and group comparison tests. Variables including age, gender, state of residence, and living/cadaveric donor were included.

Mexico had a liver transplant rate of 1.53 per 100,000 inhabitants in the 12-year period (1.27 per million inhabitants yearly). As of June 30th, 2020, 314 patients were on the waiting list; of this group, 44 (14%) resided in Mexico City, and 86% resided in any of the 31 Mexican states. Between January 2007 and December 2019, 1841 donors (age 28.85 ± 0.33) provided liver transplants for 1841 recipients (age 42.85 ± 0.66), of whom 943 (54%) were women. Eleven percent of

transplants were from live-related donors or for pediatric recipients (age 11.5 ± 1.12); missing data from donor registries were identified in 27 cases. Fig. 1 presents mean age by state.

In 908 cases, the liver was not the only donated organ; 480 liver donors also provided 870 kidneys, 4 lungs, 2 pancreases, 726 corneas, 39 skin grafts, 122 bone tissue, and 22 hearts. The average time spent on the wait list for patients who received transplants from related live liver donors was 160 days, and there were 225 cadaveric donors. Twenty-eight percent of transplants ($N = 515$) were performed in private hospitals, and 72% at public institutions. The public institution where the most transplants took place was the Mexican Institute of Social Security (IMSS), with 490 transplants (26.6%). Of all transplants, 966 took place in Mexico City and the surrounding area (Estado de México), while 444 donors and 403 recipients resided in the same city. The geographical distribution of the recipients' place of residence is shown in Fig. 2. The waiting time for patients was 223 days, but in the capital city Ciudad de Mexico, the average was 193.5 days.

In conclusion, we may add to Goyes et al. that disparities in access and availability of liver transplants occur in Mexico as well, where the population located outside of main cities is mostly affected. There are areas of improvement in Mexico regarding the approach to donation, allocation, and transplantation of hepatic tissue from living and cadaveric donors, but the lack of complete information such as patient disease severity and waiting list dynamics are needed to monitor the effect of future programs aimed at addressing these inequities. Efforts are needed to decentralize liver transplants and

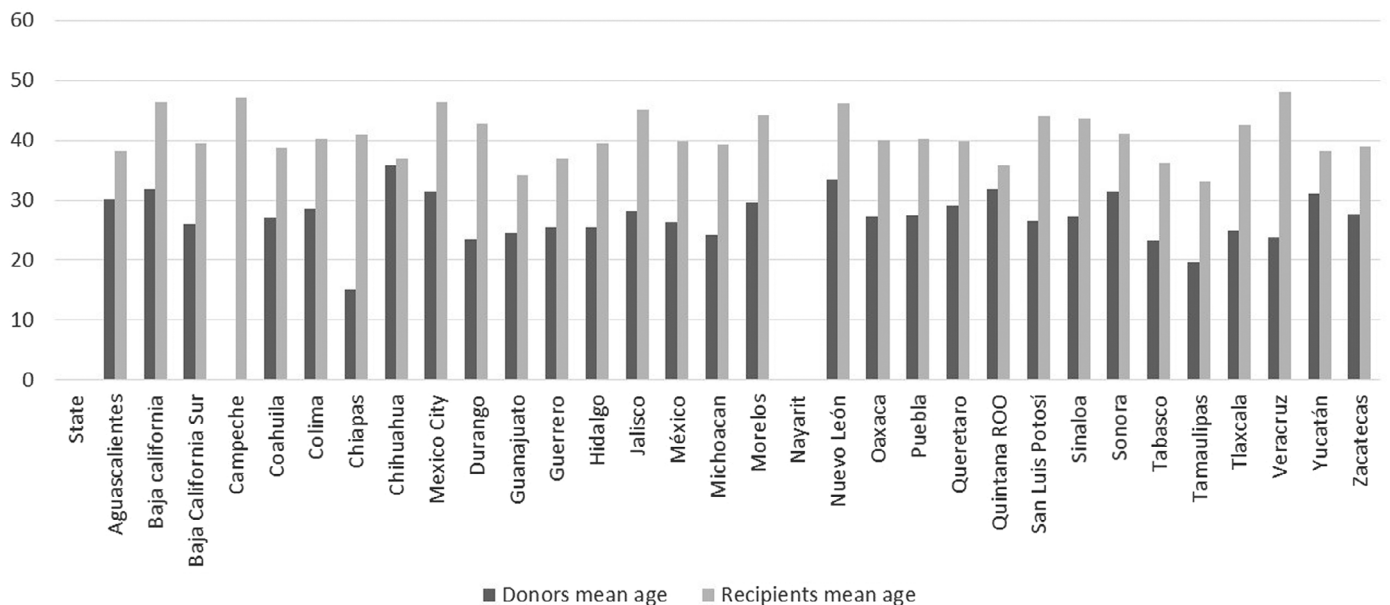


Fig. 1. Average age (in years) of donors and recipients of Liver Transplants performed in Mexico between 2007 and 2019 by state.

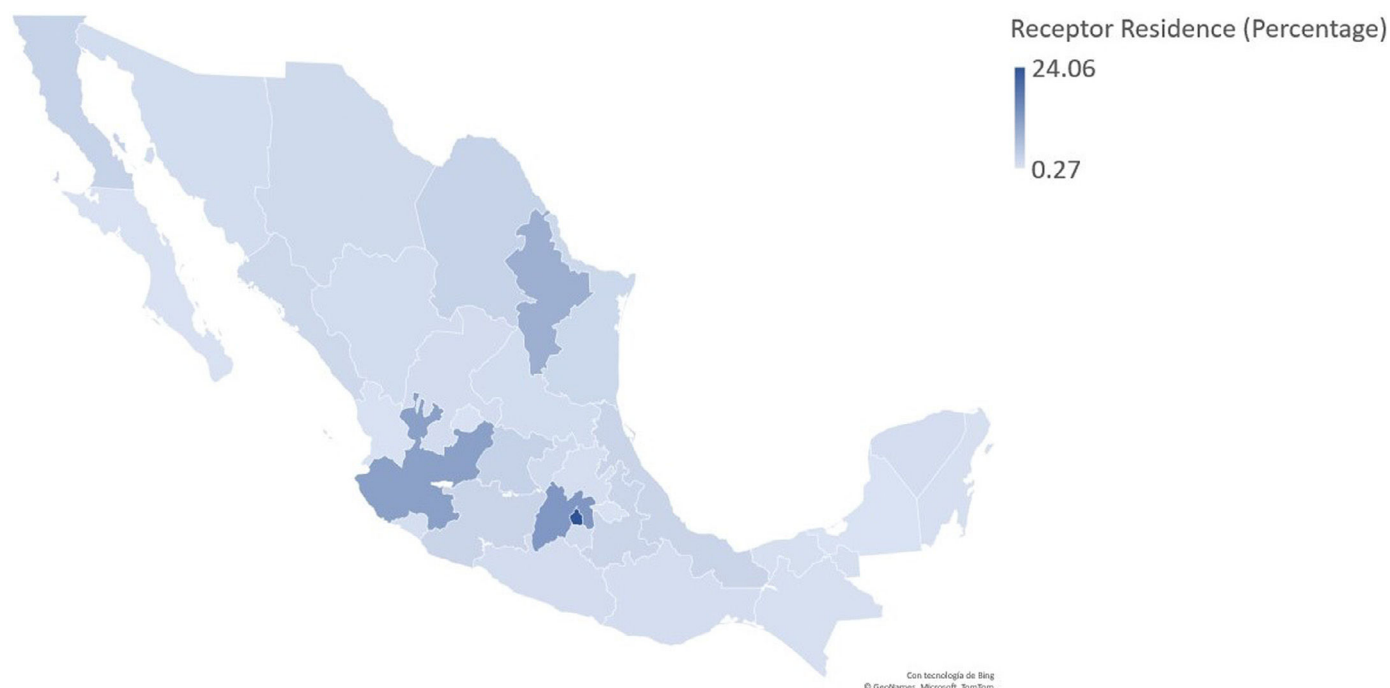


Fig. 2. Geographic distribution of the place of residence of 1841 patients who received liver transplant in Mexico between 2007 and 2019.

reduce inequities in access and availability in order to reinforce and maintain donation campaigns while facilitating a timely allocation both in the states and in the capital city.

References

- [1] Goyes D, Danford CJ, Nsubuga JP, Bonder A. Waitlist mortality and transplant free survival in Hispanic patients listed for liver transplant using the UNOS database. *Ann Hepatol* 2021;23:100304 Epub ahead of print. PMID33444852. <https://doi.org/10.1016/j.aohp.2021.100304>.
- [2] National Center for Transplants (Cenatra). Open Access datasets Datos Abiertos de México -CENATRA - Instituciones Last Update 04/10/2021

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Conflict of interest: None to declare.