The European Journal of Public Health, Vol. 31, No. 5, 951–957

doi:10.1093/eurpub/ckab125 Advance Access published on 27 July 2021

Equitable migrant-friendly perinatal healthcare access and quality in public maternity units in Portugal

Julia Doetsch [1,2], Ricardo Almendra[3], Mariana Carrapatoso[1,4], Cristina Teixeira[1,2,5], Henrique Barros[1,2,6]

1 EPIUnit—Instituto de Saúde Pública da Universidade do Porto (ISPUP), Porto, Portugal
2 Laboratório para a Investigação Integrativa e Translacional em Saúde Populacional (ITR), Porto, Portugal
3 Department of Geography and Tourism, Centre of Studies in Geography and Spatial Planning, University of Coimbra, Coimbra, Portugal
4 Unidade de Saúde Pública, ACES Grande Porto I—Santo Tirso/Trofa, ARS Norte, Santo Tirso, Portugal
5 Instituto Politécnico de Bragança, Bragança, Portugal
6 Departamento de Ciências da Saúde Pública e Forenses e Educação Médica, Faculdade de Medicina, Universidade do Porto (FMUP), Porto, Portugal

Correspondence: Julia Nadine Doetsch, EPIUnit, Instituto de Saúde Pública da Universidade do Porto, Rua das Taipas 135, 4050-091 Porto, Portugal, Tel: +351 222061820, Fax: +351 222 061 821, e-mail: jndoetsch@ispup.up.pt

Background: Migrant women are at higher risk to face access barriers to perinatal care services and to experience worse pregnancy outcomes compared to native. Assessing the perception of migrant women and health providers discloses a multifaceted view on migrant-friendly care, a multidimensional concept in itself. This study aims to compare self-perceived assessments of migrant women and directors of obstetrics and gynaecology (GYN/OBS) departments on equitable migrant-friendly perinatal healthcare quality and access during the intrapartum and postpartum period at public maternities in Portugal. **Methods:** In this cross-sectional study, two indicators on Healthcare access and Quality of care were developed to compare how adult migrant women who gave birth between April 2017 and March 2019 and GYN/OBS department directors assessed offered care. The one-sample Wilcoxon test was used to compare directors' with migrants' assessments and the Kruskal–Wallis one-way analysis of variance to test for country regional differences. A stratified analysis by sex, spoken language, and country of birth tested for potential effect modifiers. **Results:** Migrants rated Healthcare access significantly better ($P<0.05$), but perceived Quality of care worse ($P<0.01$) than GYN/OBS department directors. Migrants' and directors' perceptions differed significantly according to directors' gender ($P<0.05$). Migrants' and directors' assessments on Healthcare access ($P<0.05$) and Quality ($P<0.01$) changed significantly across regions. **Conclusions:** Migrants' and directors' self-perceived appraisal of Healthcare access and Quality of care significantly varied. Identifying these discordances allows to deliver insights into existing barriers in access and provision of care and raises awareness to improve quality assurance, essential to inform practice and policies.

Introduction

Increasing international migration is recognized as a public health priority with high policy importance given for the upcoming years.[1,2] Migration is a documented risk factor in obstetric management associated with higher rates of operative delivery and less adequate postpartum care.[3–6] Migrant women, defined as foreign-born individuals who have moved to their host country, are at higher risk to face access barriers to perinatal care services and to experience worse pregnancy outcomes when compared to native women.[7–10]

Across Europe, maternity care services have encountered difficulties to effectively respond to the specific healthcare needs of migrant women.[8,11,12] Difficulties in access and use of perinatal care services may worsen quality of care provision and adherence to perinatal recommendations.[7,13] In 2016, persistent multifactorial causes of barriers were reported, of which several recent ones were attributed to changes in universal coverage and cuts in cultural mediators induced by post-crisis austerity, political opposition to migration, and multiculturalism, in various European countries, including Portugal.[10,14]

In Portugal, low-risk antepartum care is offered in primary care facilities by general practitioners (GP) up to 36 weeks of gestational age, and after in maternity units within gynaecology and obstetrics (GYN/OBS) departments, where 98.7% of all deliveries occur.[15,16] Public Portuguese hospitals from the National Health Service (NHS) have implemented the Amsterdam Declaration towards 'Migrant-Friendly hospitals in an ethno-culturally diverse Europe' (MFH) between 2010 and 2013. MFH is a European initiative encompassing recommendations for policy-makers based on the key areas 'intercultural communication, responsiveness, empowerment, and monitoring'.[17–21]

Healthcare access and quality of care are multidimensional attributes, used as comparable and interrelated measures to assess healthcare use and delivery.[22–24] In perinatal and maternal care, access to quality care is promoted as a right where user involvement is a core element.[8,23] User perceptions play a key role in the service component of care and are a sensitive display of care quality incorporating the potential to identify prevalent issues in the health system.[25] At public maternity units, provision of equitable high-quality migrant-friendly perinatal care, a multidimensional concept in itself, requires multi-level efforts at individual, institutional, and political level.[26,27] In order to receive a multifaceted view on the preparedness of public maternity units in providing equitable migrant-friendly perinatal care, it is central to also include the perceptions of health providers, defined as an individual health professional or organization of healthcare facilities authorized to provide health care.[19,23,28,29]

This cross-sectional study compares migrant women's and GYN/OBS department directors' self-perceived assessments on equitable migrant-friendly perinatal healthcare quality and access during the intrapartum and postpartum period at public maternity units between 2017 and 2019 in Portugal.

Methods

Ethics approval and consent to participate

Ethical approval for this study was given by the Ethics Committee of the Institute of Public Health of the University of Porto (CE14013, 14 March 2014) and by the National Commission for Data Protection (13585/2016). Consent to participate was obtained by all participants through explicit written consents according to the data protection policy of the General Data Protection Regulation [(EU) Regulation 2016/67].

Setting

For this cross-sectional study, all public maternity units across Portuguese mainland ($n = 39$) were considered eligible.

Study participants

GYN/OBS department directors

One GYN/OBS department director per public maternity unit ($n = 39$) was contacted by mail between March and April 2017. They were invited to report their self-perceived assessments of perinatal healthcare at the respective maternity unit using the questionnaire 'Equity Standards for Migrant-Friendly Health Care' (ESMFH).[30] The ESMFH was returned up until 3 July 2017. GYN/OBS directors ($n = 19$) from 19 maternity units were included in this study (Supplementary file S1).

Migrant women

The migrant women sample derived from the superordinate project baMBINO. It evaluates equitable access to and utilization of perinatal health care services for migrant and native women over 18 years of age who had a live birth in a public maternity unit between April 2017 and March 2019.[10,31] Of all invited public maternity units ($n = 39$), 82% ($n = 32$) accepted to take part in baMBINO of which all migrant and native women ($n = 5687$) were invited to participate. In this study, 1134 migrant women were included (Supplementary file S2).

Data collection

ESMFH questionnaire

ESMFH is a validated self-assessment tool of health providers developed by the Task Force on Migrant-Friendly and Culturally Competent Health Care based on the MFH initiative in 2014.[30] ESMFH was pilot tested by 55 health organizations from 16 different countries. This study is the first one applying ESMFH in Portugal. ESMFH evaluates equitable migrant-friendly perinatal care provided to migrants at public maternity units including, among other questions, those on: (i) equitable access and utilization and (ii) equitable quality of care.[30]

Migrant-Friendly Maternal Care Questionnaire

The culturally validated 'Migrant-Friendly Maternal Care Questionnaire' (MFMCQ) was carried out by trained multilingual interviewers in 22 languages through a computer-assisted telephone interview at 3-months post-delivery. The MFMCQ is based on the MFH initiative and was established in 2014.[29] It includes, among other questions from the user perspective, those on: (i) equitable health care access and (ii) equitable utilization and perceptions of care quality.

Data inclusion and exclusion criteria

Participants and maternity units

Native women were excluded in the analysis as ESMFH addresses equitable migrant-friendly care provided to migrant women. GYN/OBS department directors ($n = 19$) and migrant women ($n = 1134$) in the corresponding maternity units ($n = 19$) were included.

Time period

Data from the antepartum period (pregnancy until onset of labour) were excluded as in Portugal the majority of antenatal appointments take place in primary care facilities. Data from the intrapartum (onset of labour until delivery) and postpartum period (delivery until 42 days after birth) were included.

Questions

Compatibility between the two questionnaires was given as both were based and built upon the MFH initiative incorporating user-, and provider-side.[29,30] From ESMFH, all questions on equitable access and utilization ($n = 12$) and equitable quality of care ($n = 11$) were included. From MFMCQ, questions on equitable healthcare access ($n = 13$) and equitable quality of care ($n = 13$) in correspondence to ESMFH were included.

Data analysis

Indicator definitions

Healthcare access was defined by Levesque et al. (2013)[22] as the 'opportunity to reach and obtain appropriate health care services in situations of perceived need for care' incorporating patient-centred user-, and provider-side. Quality of care was defined by the World Health Organization's Quality Standards on Maternal and New-born Care (2018) as 'the extent to which health care services provided to individuals and patient populations improve desired health outcomes by providing safe, effective, timely, efficient, equitable and people-centred health care' including the user and provider perspective.[23]

Construction of indicators

For the indicator Healthcare access, selected questions ($n = 25$) were attributed to the five dimensions of healthcare access.[22] For the indicator Quality of care, selected questions ($n = 24$) were ascribed to the eight dimensions of quality of care[23] (Supplementary file S3).

Scoring procedure

A scoring procedure was developed in two steps. The raw pre-coded numeric values of items were rated in a 0–4 scale with higher scores reflecting better Quality of care and Healthcare access. For migrant women, the scale ranged from Never (0); Rarely (1); Sometimes (2); and Always (4). For GYN/OBS department directors, the scale ranged from No (0); Hardly (1); Partly (2); Mostly (3); and Fully (4). The indicators Healthcare access and Quality of care were calculated by averaging the rates from the questions included in each one. Answers from participants with <70% of the selected questions were excluded.

Statistical analysis

Healthcare access and Quality of care scores showed no normal distribution. One-sample Wilcoxon test was used to compare the self-perceived assessments of GYN/OBS department directors with the self-perceived assessments of migrants.[32] It allows the comparison of one group with a reference value and has been previously

applied.[33] Four out of five health administrative regions of the country (North, Centre, Lisbon and Tagus Valley, Alentejo, Algarve) were considered in the analysis. Alentejo was excluded because the number of individual respondents to the migrant questionnaire was lower than 10. Kruskal–Wallis one-way analysis of variance was used to test for differences between Healthcare access and Quality of care across regions. The significance level was set to 0.05. A stratified analysis by spoken language and country of birth was done to test for potential effect modifiers among migrants. For the GYN/OBS department directors, a stratified analysis by sex was done. All statistical analyses were performed using R statistical software.

Results

GYN/OBS department directors had a homogenous sex distribution with 52% male and 48% female, aged 45–63 years. Of migrant women, the majority was aged 25–34 years (62.1%), had a term-born infant (82.2%), experienced no complications during delivery (66%), had a partner (44.4%), upper secondary education (36.9%), a lower monthly income (64.9%), and resided in the Lisbon and Tagus Valley region (66.5%) (Supplementary file S4).

Migrant women rated self-perceived Healthcare access (median = 2.9) significantly better ($P < 0.05$) than GYN/OBS department directors (median = 2.4) (figure 1). Migrants did not perceive financial barriers (99%) (HC4), had no difficulties in understanding the system (80%) (HC1) and indicated to be 'always' able to understand the provider (86%) (HC2). A minority communicated language barriers (17%) (HC2). Almost all migrants (98%) indicated to not have been offered a translator (HC2). Directors rated maternities' geographic barriers (HC1) as 'partly' or 'mostly' minimized (54%) and access as 'fully' assured (58%). Directors evaluated the impact of maternity units' programmes targeting access barriers (54%), accommodation of migrants' needs (63%) (HC3), information provision on available services (38%) (HC1), interpreter provision (50%), and language communication services (54%) (HC2) as 'not', 'hardly' or only 'partly' available (Supplementary file S5).

GYN/OBS department directors rated self-perceived Quality of care (median = 3.3) significantly better ($P < 0.01$) than migrant women (median = 3.1) (figure 1). Directors rated sensitivity to patients' needs (83%), identification of patients' health needs (88%) (QC4), patients' psychosocial needs (92%) (QC6), privacy needs (83.4%), respectful treatment (88%) (QC5), and training on interpersonal patient-communication (67%) (QC7) with the highest scores. During birth, migrant women negatively perceived that they were 'never', 'rarely' or only 'sometimes' allowed to have a family member around (45.4%) (QC6) or to have preferences (94.7%) and to have received insufficient information provision (45.5%) (QC2). During the intra-, and postpartum period, migrants rated long waiting time to receive care (73.9%; 74.3%) (QC1) and lack of inclusion into decision-making (83.4%; 89.2%) with lowest scores, but rated their satisfaction of received care (82.3%; 81.1%) with highest scores, respectively (Supplementary file S5).

Migrants' and directors' assessments for both indicators changed significantly across several regions. In Algarve region, the difference between the assessments of migrant women (median = 2.9) and directors (median = 1.9) on Healthcare access was statistically significant ($P < 0.01$). In the Centre region, the self-perceived assessments of migrant women on Quality of care (median = 3.1) were significantly lower ($P < 0.05$) compared to directors (median = 3.6) (figure 2).

No statistically significant differences were found comparing the assessments of migrants between health administrative regions for Healthcare access and Quality of care. When comparing self-perceived assessments of migrants from Portuguese speaking countries (PALOP) with migrants from non-PALOP no significant differences were found for both indicators. The same results were found per country of origin.

Statistically significant differences ($P < 0.05$) were found between female GYN/OBS department directors (median = 2.4) and migrant women (median = 2.9) for Healthcare access. For Quality of care, statistical significance ($P < 0.05$) was found between male GYN/OBS department directors (median = 3.6) and migrant women (median = 3.1) (figure 3). No statistically significant differences were found in the self-perceived assessments of GYN/OBS department directors for both indicators by sex.

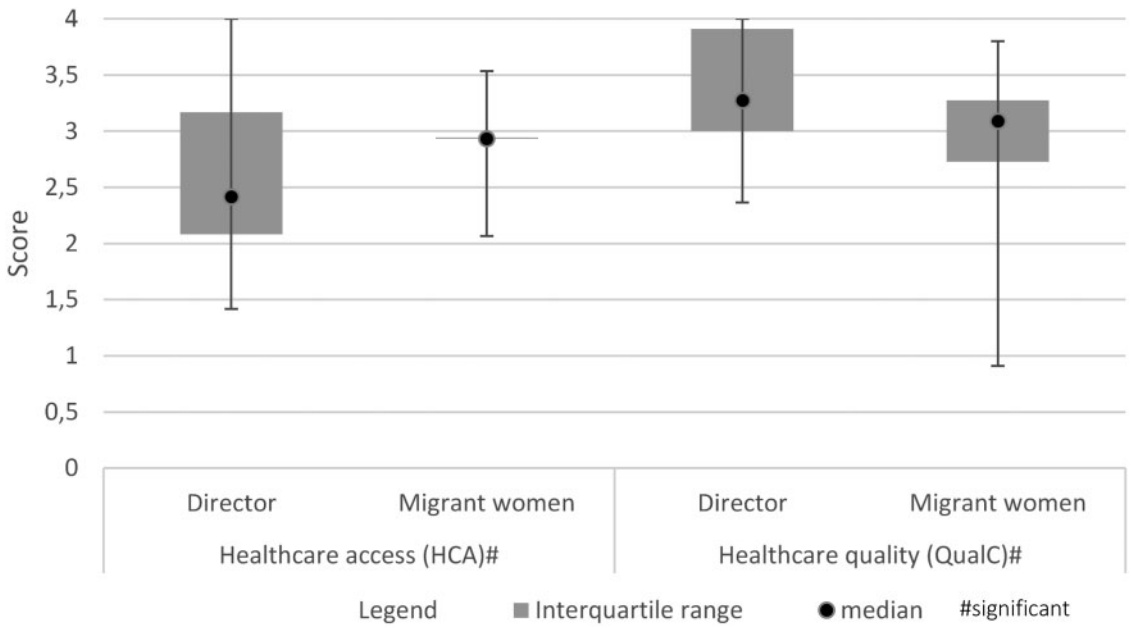

Figure 1 Comparison of migrant women and GYN/OBS department directors. Description: This figure compares the perception on Healthcare access and Quality of care by migrant women with GYN/OBS department directors.
Legend: # statistically significant. Note: Migrant women HCA Quartiles 1 and 3 have the same value

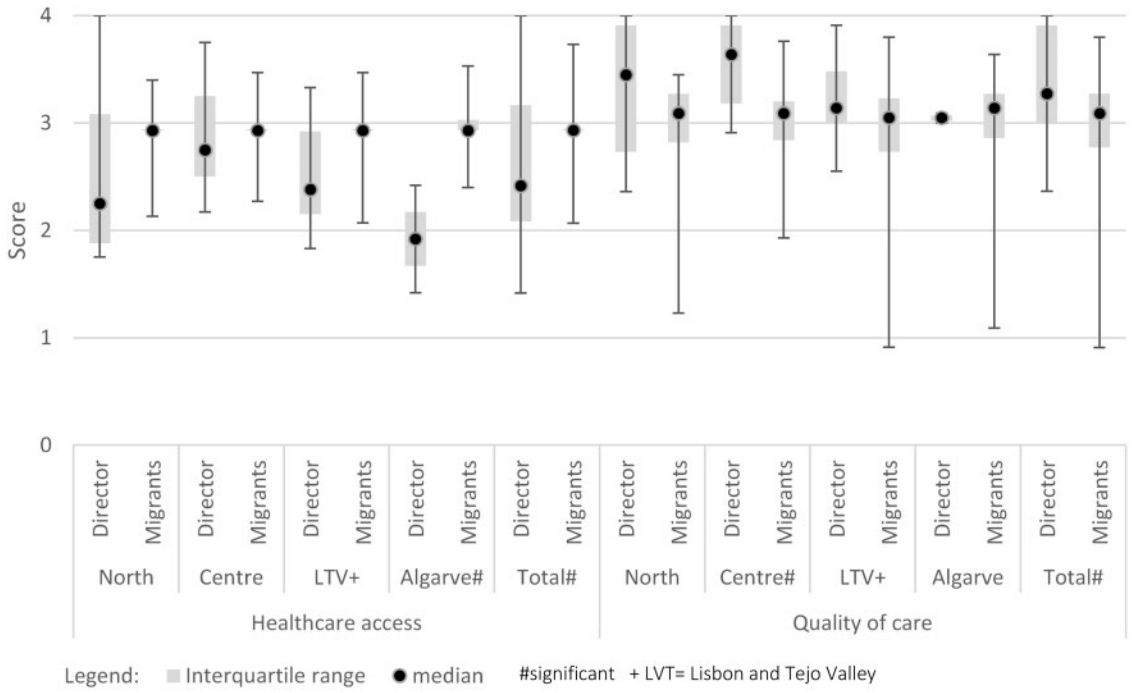

Figure 2 Comparison of indicators between respondent group by regions. Description: This figure compares Healthcare access and Quality of care perceived by migrant women and GYN/OBS department directors per regions.
Legend: # statistically significant; + Lisbon and Tejo Valley.

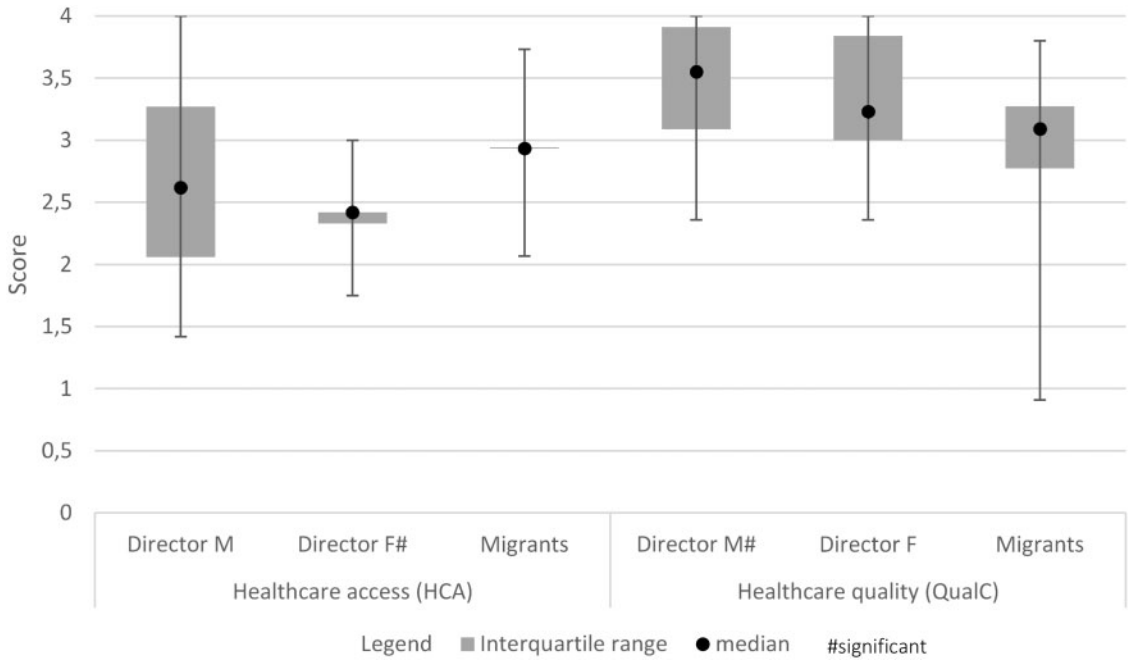

Figure 3 Comparison of indicators between respondent group by sex. Description: This figure compares Healthcare access and Quality of care perceived by migrant women and GYN/OBS department directors by sex.
Legend: M male; F female. Note: Migrants HCA Quartiles 1 and 3 have the same value

Discussion

Self-perceived Healthcare access and Quality of care were assessed differently by migrant users and the responsible GYN/OBS department directors, in every maternity unit considered, across regions, and when the director was male or female, respectively.

The lower rating of Healthcare access by GYN/OBS department directors can be ascribed to their awareness of frequently communicated administrative access barriers (e.g. continuity of care and translating service).[20,34] In 2016, the Migrant Integration Policy Index revealed that in Portugal migrants' access to health services was rated to be among the lowest in the European Union, though legal barriers in practical entitlements to healthcare access are non-existent in the Portuguese legislation.[10] Health providers previously disclosed cost and lack of translators, complex bureaucratic procedures, institutional issues

in putting laws into practice, and self-perceived lack of legal knowledge as access barriers for migrants in Portugal.[35,36] In addition, inadequacy in human resources and frequent change of residence by migrants were indicated by providers as limitations for migrants' access to healthcare in Portugal.[35,36] Though 87% of all NHS users had been added to the GP patient list in 2014, the population without a GP has remained high causing issues in the NHS referral system (e.g. postpartum appointments) that is based on the gate-keeping concept.[37]

The better rating of Healthcare access by migrant women can be related to exceeded health expectations in the host country compared to their country of origin.[38] Notably, self-consciousness, empowerment, informal social and community support, and strong family networks are associated as central factors influencing migrants' perception of access to healthcare.[39] In line with our results, in a previous study, almost all pregnant migrant women were satisfied with access to perinatal care in Portugal, yet, 30% mentioned access barriers related to GP assignment.[38] In 2019, 21% of migrants under study experienced barriers to healthcare access associated with not having a GP, which was the case for 69% of migrants.[34] Portuguese law determines equal basic healthcare access rights for every patient — stateless, illegal, foreigner without residence permit.[40] The free-of-charge maternal and perinatal care provided for pregnant women in the NHS is reflected in the good rating of Healthcare access.[41] Moreover, the majority had no language barriers (83%), which can be related to their length of stay in the host country and country of origin: 71% have been living for more than three years in Portugal and 65% are from PALOP and/or former colonies.[42] Yet, 17% of migrants perceived language barriers associated with limitations in Portuguese language proficiency.[42]

The better rating of Quality of care by GYN/OBS department directors reflects their perception on evidence-based decision-making involving respect of patients' expectations, priorities, autonomy, and patient-interaction (e.g. empathy and privacy).[38] In line with our results, Portuguese health professionals substantially emphasized technical and interpersonal dimensions when rating their perception of quality of care.[43] In 2021, a study on providers' perception on their provided perinatal care revealed that they strongly associate personal and institutional efforts with high-quality care provision.[16] Corresponding to our results, sharing and communicating healthcare performance positively influences perceived performance on care provision and job satisfaction of health professionals in Portugal.[44] Moreover, health providers' perceptions of care are strongly influenced by their contextual and political environment (e.g. politics and regulations) integrating explicit and tacit evidence.[45] Thus, their good rating may also be associated with Portugal's augmented political investment and amplified efforts in ethno-cultural integration policies in the last two decades aiming to enhance quality of care.[17,20]

The lower rating of migrant women on Quality of care reflects ethno-cultural differences in perceived barriers (e.g. presence of family members) and general administrative barriers (e.g. waiting time).[3,25,46] Migrant women wave comparisons with their countries of origin when referring to barriers and perceive health practices that are differently practiced in Portugal compared to the country of origin as a stressor.[25,46] Dissatisfaction with medical staff support due to lack of information provision, lack of involvement into decision-making, not allowing preferences, along with reduced access to specialized care due to long waiting time and inexperience in using the NHS were previously disclosed by migrants using obstetric care in Portugal.[25,38,47] In 2016, 28% of medical appointments in NHS Portuguese hospitals occurred beyond maximum guaranteed response time.[38,48] Strikingly, Almeida et al. (2014)[25] disclosed that long waiting time, complications in scheduling appointments, decreased attention by health professionals in emergency care services, and unpreparedness of administrative staff were mutually described by migrants and Portuguese natives.

Significant differences between the self-perceived evaluations of male GYN/OBS department directors and migrant women for Quality of care, and between female directors and migrant women for Healthcare access were found. No statistical significance was found between directors by sex for both indicators. Thus, results suggest that professionalism in evidence-based decision-making and patients' evaluations may not have been influenced by a gendered bias but rather been associated with a generally different perception of health, care, and norms.[49–53] In GYN/OBS departments, male providers demonstrate higher levels of emotionally attentive talk and conduct longer appointments when compared to their female colleagues.[54,55] Female users are more satisfied with female health professionals, give high value to time and explanations, and are negatively influenced by lack of involvement in decision-making, of which the latter is reflected in our results.[56] Notwithstanding the disparity of various studies' results on the influence of sex in provider decision-making and patient satisfaction, the involvement of migrant women in perinatal care is considered central to promote interpersonal care processes as a mitigator for adverse perinatal outcomes.[8,54–56]

We found statistically significant differences between respondents' assessments for both indicators across several regions. Directors' assessments may be related to unequal distribution of human and essential physical resources to provide care and migrants' assessments to geographic inequalities attributed to living location or living circumstances to reach care services.[6,17,34,35,38,57] The concentration of maternity units is higher in urban centres of major metropolitan cities.[17,34,57] Migrants with lower socio-economic status (SES) tend to live in deprived and geographically isolated areas having an even more pertinent impact on health in comparison to the impact of ethnic differences.[25] As represented in our sample, the majority of migrants live in the poorer surroundings of more populated urban areas and in farther distance to major metropolitan centres when compared to natives.[53] Regional health disparities continue to be one of the major prevailing challenges and policy priorities for the NHS in Portugal.[58] Hence, prevalent associations between migration, poverty, lower SES, and health outcomes should be acknowledged when incorporating migrant-friendly policies in the collaborative approach of 'Health in all policies'.[25,59]

The self-perceived assessments of maternity units performance by GYN/OBS department directors and migrant women deliver an enhanced understanding of needs of users and requirements of providers related to equitable migrant-friendly care essentials and enable to identify obstacles or prevalent information asymmetries in the translation of policies into practice.[1,28] Results demonstrate the need for Portugal, as a host country, to continue its investment in equitable migrant-friendly care at public maternity units contributing to mitigate self-perceived barriers by users and providers that may adversely influence perinatal outcomes.[58] Continuity of care (e.g. GP assignment) of migrant women who recently gave birth and waiting time stood out as key concepts in equitable migrant-friendly perinatal care and remain policy priority in Portugal.[1,20,58] Perceived barriers by migrants in perinatal care can be addressed by increasing patient satisfaction through user involvement, a core dimension in quality improvement, and by strengthening effective provider–user communication.[1,3,25,46] As perceived by directors, migrant women require culturally competent health providers who deliver equitable and trauma-informed migrant-friendly perinatal care that is underpinned by interdisciplinary collaboration and patient-interaction.[8] Hence, the challenge to approach persistent self-perceived barriers lies not only in guaranteeing access to care, but in promoting equity in quality of care for migrant women.[25,60] The need of maternity units to continuously guarantee and provide adequacy of equitable migrant-friendly access and quality of care in an

ethnical diversified society contemplates as a first step to facilitate overcoming perinatal health inequalities and inequities.[18]

Strengths and limitations

The study's strength is that it allows to deliver insights into patients' perception on received care and providers' perception on provided care, essential to inform practice and policies, and to illustrate existing barriers enabling to facilitate improving quality assurance. To the best of the authors' knowledge, this is the first study comparing health providers' and patients' perception on equitable migrant-friendly perinatal healthcare in public maternity units in Portugal. This study serves as a baseline for longitudinal assessments in the country.

A limitation is the comparatively low number of health providers, represented by GYN/OBS department directors, which was taken into account when deciding on the appropriate statistical methods. Even though the questionnaires differ in their adaptation towards the perspective of the user or provider, both are based on the MFH initiative allowing comparability.

Conclusion

Self-perceived assessments between migrant women and GYN/OBS department directors differed significantly in all 19 maternity units considered, across regions, and when the director was male or female. Understanding the perceptions of users and healthcare providers discloses challenges that influence healthcare system performance and illustrates prevalent obstacles in translating policy into practice demanding attention by institutions in charge of effective, inclusive, and equitable migrant-friendly perinatal care. We recommend to further enhance migrant-friendly user–provider communication, strengthen continuity of care processes, involvement of migrant women in care and decision-making, and to support the availability of translating services during the intra-, and postpartum period. The relevance of findings deserves future evaluations and comparisons on a time and geographical different context.

Supplementary data

Supplementary data are available at *EURPUB* online.

Acknowledgements

We would like to acknowledge the PhD program that J.D. is externally registered in. The PhD program is from the School for Public Health and Primary Care (CAPHRI), Faculty of Health, Medicine, and Life Sciences (FHML), Maastricht University (UM), Maastricht, The Netherlands.

Funding

This study is funded by FEDER funds through the Operational Program for Competitiveness and Internationalization, and by national funds of FCT—Fundação para a Ciência e Tecnologia, under the scope of the project 'Perinatal Health in Migrants Barriers, Incentives and Outcomes' (POCI-01-0145-FEDER-016874; PTDC/DTPSAP/6384/2014), the Unidade de Investigação em Epidemiologia (EPIUnit) - Instituto de Saúde Pública da Universidade do Porto (ISPUP) (UIDB/04750/2020). During the article writing process, the salary of J.D. was paid by the RECAP preterm project. The RECAP project has received funding from the European Union's Horizon 2020 research and innovation program under grant agreement No. 733280.

Conflicts of interest: None declared.

References 41–60 are provided in the Supplementary file S6.

Key points

- This is the first analysis of the perceptions between users and providers on public perinatal care in Portugal—highlighting significant differences in their assessments on Healthcare access and Quality of care.
- The perceptions between migrant women's and providers' sex differed significantly but not when comparing only providers' assessments—highlighting no bias in gender but rather professional decision-making and patients' evaluations.
- Significant discordances in the assessments of users and providers across regions—highlighting persistent needs to address regional inequalities and to allocate higher efforts in guaranteeing equitable and migrant-friendly perinatal care in an ethnical diversified society.
- Identifying these contrarieties allows to deliver further insights to existing barriers in access and provision of care and raises awareness to improve quality assurance, which is essential to inform practice and policies.
- The study serves as a baseline for longitudinal assessments in the country and offers more nuanced understandings on perinatal care access and quality as attributes for the preparedness of perinatal health services.

References

[1] World Health Organization. Improving the health care of pregnant refugee and migrant women and newborn children. Technical guidance, 2018; 52.

[2] WHO. Sustainable development goals: guidelines for the use of the SDG logo. 2020.

[3] Choté AA, Koopmans GT, Redekop WK, et al. Explaining ethnic differences in late antenatal care entry by predisposing, enabling and need factors in the Netherlands. The Generation R Study. *Matern Child Health J* 2011;15:689–99. Available at: https://doi.org/10.1007/s10995-010-0619-2.

[4] Bray JK, Gorman DR, Dundas K, Sim J. Obstetric care of New European migrants in Scotland: an audit of antenatal care, obstetric outcomes and communication. *Scott Med J* 2010;55:26–31. Available at: https://doi.org/10.1258/rsmsmj.55.3.26.

[5] Sosta E, Tomasoni LR, Frusca T, et al. Preterm delivery risk in migrants in Italy: an observational prospective study. *J Travel Med* 2008;15:243–7. Available at: https://doi.org/10.1111/j.1708-8305.2008.00215.x.

[6] Almeida LM, Santos CC, Caldas JP, et al. Obstetric care in a migrant population with free access to health care. *Int J Gynecol Obstet* 2014;126:244–7. Available at: https://doi.org/10.1016/j.ijgo.2014.03.023.

[7] Khanlou N, Haque N, Skinner A, et al. Scoping review on maternal health among immigrants and visible minority women in Canada: postnatal care (in progress). *J Pregnancy* 2017;2017:1–14.

[8] De Freitas C, Massag J, Amorim M, Fraga S. Involvement in maternal care by migrants and ethnic minorities: a narrative review. *Public Health Rev* 2020;41:5. Available at: https://doi.org/10.1186/s40985-020-00121-w.

[9] Fair F, Raben L, Watson H, et al.; the ORAMMA Team. Migrant women's experiences of pregnancy, childbirth and maternity care in European countries: a systematic review. *PLoS One* 2020;15:e0228378. Available at: https://doi.org/10.1371/journal.pone.0228378.

[10] International Organization for Migration I. Summary report on the MIPEX Health Strand Country Reports International Organization for Migration (IOM) Regional Office Brussels. 2016.

[11] Almeida LM, Caldas JP, Ayres-de-Campos D, Dias S. Assessing maternal healthcare inequities among migrants: a qualitative study. *Cad Saude Publica* 2014;30:333–40. Available at: https://doi.org/10.1590/0102-311x00060513.

[12] Machado MC, Santana P, Carreiro MH, et al. Iguais ou Diferentes? Cuidados de Saúde materno-infantil a uma população de Imigrantes. 2006.

[13] Heslehurst N, Brown H, Pemu A, et al. Perinatal health outcomes and care among asylum seekers and refugees: a systematic review of systematic reviews. *BMC Med* 2018;16:1–25. Available at: https://doi.org/10.1186/s12916-018-1064-0.

[14] Padilla B, Goldberg A. Migrants, refugees and asylum seekers in Portugal and Spain. Challenges for public health policies in a comparative perspective. Lisbon, Portugal, 2017.

[15] Machado M, Santana P, Carreiro H. Cuidados de saúde materna e infantil a uma população de imigrantes. Vol. 1. 2007.

[16] Doetsch JN, Marques SCS, Krafft T, Barros H. Impact of macro-socioeconomic determinants on sustainable perinatal health care in Portugal: a qualitative study on the opinion of healthcare professionals and experts. BMC Public Health 2021;21:210. Available at: 10.1186/s12889-021-10194-0.

[17] Alto Comissariado para a Imigração e Diálogo Intercultural. II Plano para a integração dos imigrantes 2010–2013. Lisbon, 2010.

[18] Ledoux C, Pilot E, Diaz E, Krafft T. Migrants' access to healthcare services within the European Union: a content analysis of policy documents in Ireland, Portugal and Spain. *Global Health* 2018;14:11. Available at: https://doi.org/10.1186/s12992-018-0373-6.

[19] Bischoff A, Chiarenza A, Loutan L. "Migrant-friendly hospitals": a European initiative in an age of increasing mobility. *World Hosp Health Serv* 2009;45:7–9.

[20] Machado M-C, Machaqueiro S. Migrant health in Portugal: Practices and challenges. 2015.

[21] American Association of Colleges of Nursing. Diversity and Equality of Opportunity. 1998;14 (3) (May-June):189–190. ISSN 8755-7223. Available at: https://doi.org/10.1016/S8755-7223(98)80095-1 (May 22, date last accessed).

[22] Levesque JF, Harris MF, Russell G. Patient-centred access to health care: conceptualising access at the interface of health systems and populations. *Int J Equity Health* 2013;12:18. Available at: https://doi.org/10.1186/1475-9276-12-18.

[23] World Health Organization. Improving quality of care for mothers and newborns in health facilities: new standards and measures from the World Health Organization (WHO) | Maternal Health Task Force. 2018.

[24] Rogers HJ, Hogan L, Coates D, et al. Responding to the health needs of women from migrant and refugee backgrounds—Models of maternity and postpartum care in high-income countries: a systematic scoping review. *Heal Soc Care Community* 2020;28:1–23. Available at: https://doi.org/10.1111/hsc.12950.

[25] Almeida LM, Casanova C, Caldas J, et al. Migrant women's perceptions of healthcare during pregnancy and early motherhood: addressing the social determinants of health. *J Immigr Minor Health* 2014;16:719–23. Available at: https://doi.org/10.1007/s10903-013-9834-4.

[26] WHO Regional Office for Europe. How health systems can address health inequities linked to migration and ethnicity. 2010.

[27] Munthe C. The goals of public health: an integrated, multidimensional model. *Public Health Ethics* 2008;1:39–52. Available at: https://doi.org/10.1093/phe/phn006.

[28] Chiarenza A, Dauvrin M, Chiesa V, et al. Supporting access to healthcare for refugees and migrants in European countries under particular migratory pressure. *BMC Health Serv Res* 2019;19:513. Available at: https://doi.org/10.1186/s12913-019-4353-1.

[29] Gagnon AJ, De Bruyn R, Essén B, et al.; ROAM Collaboration. Development of the Migrant Friendly Maternity Care Questionnaire (MFMCQ) for migrants to Western societies: an international Delphi consensus process. *BMC Pregnancy Childbirth* 2014;14:200. Available at: https://doi.org/10.1186/1471-2393-14-200.

[30] Chiarenza A, The Task Force on Migrant-Friendly and Culturally Competent Health Care. Standards for equity in health care for migrants and other vulnerable groups. Self-Assessment Tool for Pilot Implementation. 2014. Available at: https://doi.org/10.13140/RG.2.2.27349.93928.

[31] Institute of Public Health of the University of Porto (ISPUP). Bambino, 2017. Available at: http://bambino.ispup.up.pt/ (2 August 2019, date last accessed).

[32] Krishnamoorthy K. Wilcoxon signed-rank test. *Handbook of Statistical Distributions with Applications*, 1st edn. Chapman and Hall/CRC, 2006: 339–42pp. ISBN 9780429144745. Available at: https://doi.org/10.1201/9781420011371-34.

[33] Nouhjah S, Shahbazian H, Latifi SM, et al. Body mass index growth trajectories from birth through 24 months in Iranian infants of mothers with gestational diabetes mellitus. *Diabetes Metab Syndr Clin Res Rev* 2019;13:408–12. Available at: https://doi.org/10.1016/j.dsx.2018.10.002.

[34] Linhas R, Oliveira O, Meireles P, et al. Immigrants' access to health care: problems identified in a high-risk tuberculosis population. *Pulmonology* 2019;25:32–9. Available at: https://doi.org/10.1016/j.pulmoe.2018.04.002.

[35] Dias S, Gama A, Silva AC, et al. Barreiras no acesso e utilização dos serviços de saúde pelos imigrantes. *Acta Med Port* 2011;24:511–6.

[36] Bäckström B. Migrants and health in Portugal. *HCS* 2014;7:80–93. Available at: https://doi.org/10.5195/hcs.2014.160.

[37] Simões J, Augusto GF, Fronteira I, Hernández-Quevedo C. Portugal: health system review. *Health Syst Transit* 2017;19:1–184.

[38] Coutinho EDC, Silva AD, Pereira CMFP, et al. Health care to immigrant and Portuguese pregnant women in Portugal. *Rev Esc Enferm USP* 2014;48:9–16. Available at: https://doi.org/10.1590/s0080-623420140000800003.

[39] Domnich A, Panatto D, Gasparini R, Amicizia D. The "healthy immigrant" effect: does it exist in Europe today? *Ital J Public Health* 2012;9:1–7. Available at: https://doi.org/10.2427/7532.

[40] Assembleia da República. Lei n.o 95/2019 de 4 de setembro. Diário Da República no 169/2019, Série I 2019-09-04. 2019, 55–66.