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“You think, like, you’re neutral but you’re not”: a mixed- methods study of racial/ ethnic bias in pain assessment, management and treatment in maternal and newborn care in the Netherlands

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Abstract

Background Studies indicate racial and ethnic inequities in pain assessment, management and treatment in maternal and newborn care. Namely, racially and ethnically marginalised womxn are less likely to receive pain relief in labour and the post-partum period, and are more likely to experience severe perinatal outcomes such as uterine rupture. This inequity may be explained by racial/ethnic bias in maternal and newborn care professionals’ pain assessment, management and treatment. The aim of this study was to investigate the role of racial/ethnic bias in the assessment, management and treatment of pain among maternal and newborn care professionals in the Netherlands by researching the association between race/ethnicity, language barrier, and response time to pain, and exploring racial thinking and notions of ethnic differences in pain assessment, management, and treatment.

Methods This is a mixed methods study. The quantitative part of this study was a prospective, nationwide population-based cohort study in which cases of uterine rupture were collected through the Netherlands Obstetric Surveillance System (NethOSS), retrospectively investigating the association between categories of race/ethnicity, language barrier, the difference in the response time to pain, and maternal and perinatal outcomes up to 28 days post-partum. The qualitative part was an explorative study to investigate racial and ethnic bias in pain assessment, management and treatment among maternal and newborn care professionals using semi-structured interviews and thematic analysis.

Results The quantitative results indicated that caesarean section was significantly more frequently performed in more than 180 min after the first complaint of pain in the non-Western category compared to the Western category.

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The qualitative analysis showed the simultaneous presence *and* unawareness of stereotypes and assumptions about how womxn of different racial/ethnic groups experience and express pain among maternal newborn care professionals. The findings provide insight in how these stereotypes and assumptions affect decision-making about pain assessment, management and treatment.

Conclusions The results of this study provide a starting point to investigate racial and ethnic inequity in maternal and newborn care in the Netherlands, and to address the ways that these differences can be mitigated. Our findings underscore the disavowal of the role of racial thinking and notions of ethnic differences in pain assessment, management, and treatment, and highlights the need for critical reflection on the role of maternal and newborn care in shaping, causing, maintaining, sustaining, and (re)producing racial/ethnic inequity.

Keywords Race, Ethnicity, Pain, Birth, Racism, Bias, Stereotypes, Maternal newborn care, Obstetrics

Introduction

Studies indicate racial and ethnic inequities in pain assessment, management and treatment in maternal and newborn care (MNC) [1–5]. Womxn¹ categorized as Black, Indigenous, of Colour or non-Western² are less likely to receive pain relief in labour and the post-partum period [1–6]. Furthermore, pain is one of the first indicators of medical conditions such as uterine rupture, which is a serious but rare obstetrical complication with risk of severe maternal, foetal and neonatal morbidity and mortality. Timely assessment of pain in the case of uterine rupture is imperative as the severity of maternal, foetal and neonatal morbidity and mortality relies on the time between rupture and the required intervention, i.e. caesarean section (CS) [7]. Studies in the United States (U.S.) and United Kingdom show higher prevalence of uterine rupture amongst womxn categorised as Black and Asian, and Bangladeshi, Pakistani and Black African respectively [8–10]. Similarly, a nationwide population based cohort study in the Netherlands showed that uterine rupture was significantly more prevalent amongst womxn categorised as non-Western, in particular the sub-Saharan African category, compared to the Western category [11, 12]. The underlying reasons for the racial and ethnic differences in the administration of pain relief during labour and the prevalence of uterine rupture remains unknown [8, 9, 11, 12].

Both race and ethnicity can be considered to be multiple socio-scientific objects, methods, and theories used to categorise populations [13, 14]. In health education,

research, and care, race and ethnicity are often used interchangeably and with unfixed definitions, leading to diverse definitions and varying interpretations of their sub-categories in different contexts [14–18]. The nature of present-day categorisation in racial groups in health-care is often biological and hierarchical in nature, based on superficial physical characteristics such as skin colour, stature, and facial features. Due to the centrality of race and race-science in genocidal eugenics movements, particularly in the Holocaust, and the discriminatory nature of race after World War II, the term ‘race’ was considered highly problematic in many countries. In health research the term ‘ethnicity’ was proposed in the mid-20th century as a substitute for the term ‘race’, encompassing a wider range of shared characteristics within populations, including both physical attributes and common cultural characteristics such as language, religion, dietary practices, and nationality [19–24]. Although ethnicity was introduced to move away from the biological conception of differences between populations, and to acknowledge the complex nature of their shared characteristics, in health research, both race and ethnicity are often used as terms equivalent to biological differences between populations. This is evident in the simultaneous and interchangeable use of racial and ethnic terms and categories, and that care differences found between categories are often attributed to biological causes.³ [25]

Racial and ethnic discrimination in healthcare is known to be a determinant of health inequities [26–30]. This phenomenon is referred to as ‘medical racism’ [31], where differential treatment is provided that is unfavourable to a group or individual based on their perceived race/ethnicity [26, 31]. Clear examples are skin colour bias in SpO2 estimation and racial bias in kidney function [32]. Davis (2019) describes this medical racism in MNC as ‘obstetric racism’, identifying seven dimensions

¹ We have chosen to use the term ‘womxn’ because we are aware of the limitation of the binary English term ‘woman’ and how it highlights but one aspect of a person’s multidimensional and intersecting identity and experience and how they are positioned and position themselves in social reality. We use ‘womxn’ when referring to other studies as well as in our own result section because gender identity was not registered as part of the data collections. We have not adjusted the language when using quotes. We acknowledge that there is no consensus on inclusive vocabulary cross-culturally.

² In discussing the literature and previous research on racial and ethnic health inequities we have chosen to use the racial and ethnic terms and categories used in these publications. Nevertheless, it is important to note that in many of these publications, the definitions and operationalizations of these racial and ethnic categories are not provided.

³ For this reason, in this paper, we consistently use both the terms race and ethnicity or race/ethnicity to discuss bias and discrimination as this is how these terms appeared in the literature included in this paper, the database used for this study and the responses from interview participants.

including diagnostic lapse, and neglect, dismissiveness or disrespect [33].

Ideas about biological differences between populations have resulted in the belief that certain groups have a higher pain tolerance during childbirth than others, coined by Davis (2019) as 'obstetric hardiness' [33]. Historically we see the development of the notion that Black racialized womxn are the most obstetrically hardy, resulting in the stereotype that they feel less pain than other womxn [33–37]. This racial thinking informed shockingly unethical practices such as the infamous obstetric and CS surgeries by Marion Sims and Francois Marie Provost, who experimented on non-consenting enslaved Black racialised womxn without the use of anaesthesia [34, 37]. As a result, womxn racialised as Black today are still perceived to be 'uncannily durable', and physicians often overlook their pain based on the belief that there is less urgency for medical intervention [34]. Even today, the racialised misconceptions about pain tolerance bias the maternal and newborn care professionals' (MNCP) pain assessment, management and treatment [24, 35, 38–41]. A frequently cited study by Hoffman et al. (2016) amongst medical students and residents in the U.S. showed that healthcare professionals hold false beliefs about biological differences between Black and White identified people, and demonstrates that these beliefs predict racial bias in pain perception, management and treatment recommendation accuracy.

Racial and ethnic bias in MNCPs' pain assessment, management and treatment may explain the inequity in pain relief in labour and uterine rupture due to misinterpretation of the womxn's pain [11, 33]. A better understanding of the role of racial thinking and notions of ethnic differences in pain assessment, management and treatment in MNC is required to develop interventions to foster equitable care. In this exploratory study, we aimed to investigate (1) the association between race/ethnicity and language barrier and the difference in the response time of MNCP to pain, and maternal and perinatal outcomes, and (2) explore racial/ethnic bias in pain assessment, management and treatment among MNCP in the Netherlands.

Methods

To further understand the role of racial thinking and notions of ethnic difference in pain assessment, management and treatment in MNC, we employed an exploratory mixed-methods design. The quantitative part is a prospective nationwide population based cohort study where cases of uterine rupture were collected through the Netherlands Obstetric Surveillance System (NethOSS) in which we retrospectively investigated the association between race/ethnicity categories and language barrier and difference in the response time to pain and maternal

and perinatal outcomes up to 28 days post-partum [12]. The qualitative part is based on semi-structured interviews with MNCPs to investigate racial and ethnic bias in pain assessment, management and treatment.

Quantitative study

For the quantitative study, we performed an analysis of data identified in a multi-centre nationwide study on uterine rupture in the Netherlands conducted by NethOSS, a registration system for maternal morbidity and mortality in the Netherlands between April 1st 2016 to March 31st 2018 [12]. Data were collected via monthly e-mail to an assigned reporting MNCP (physician or research midwife) at every hospital with an obstetrician-led maternity unit in the Netherlands (2016–2018, $n = 86$). The MNCPs were asked to report the number of cases of uterine rupture that had occurred in the previous month. Upon notification of a uterine rupture case, anonymised copies of the medical files were requested. These files were specifically asked to include information on general history, obstetric history, current pregnancy, labour management, and maternal and perinatal outcomes. Only cases in which a race/ethnicity category was registered were included in the analyses.

The determinants examined were maternal race/ethnicity categorisation and language barrier. In the NethOSS database race/ethnicity was registered according to the following predetermined categories related to race, region and country: 'Caucasian', 'North African', 'African other', 'Asian', 'Asian other', 'Latin American', 'Hindustani', 'Turkish', 'Mixed' and 'Unknown'. For this registry, it is unknown how patients are categorised by MNCPs, and what these terms mean to them [42]. Therefore, we use these categories as information about how womxn were *perceived* and categorised by MNCPs or as how these patients *self-identified* when asked by the MNCPs. Most of these predetermined categories were too small to conduct statistical analysis. Therefore, for analysis of racial and ethnic bias, we re-grouped them into two broad categories: 'Western' and non-Western, categorising 'Caucasian' as 'Western' and all other categories as 'non-Western'. In the Dutch context, the Western and non-Western categories reflect notions of belonging, who is *same* and who is *other* [25, 43].

In the NethOSS database language barrier was registered as 'yes' or 'no, based on the perceived barrier in verbal communication. Language barrier was included it is known to influence the MNCPs' pain assessment [38].

The following outcomes were examined: care processes, time to CS, adverse maternal outcomes, and adverse perinatal outcomes. Care processes were augmentation of labour, induction of labour, and administration of pain relief. Adverse maternal outcomes were total blood loss, hospital and/or intensive care unit (ICU)

admission, medical and/or surgical therapies, and complete or incomplete uterine rupture. Complete uterine rupture was defined as uterine rupture of both the myometrium and the visceral peritoneum and incomplete uterine rupture as uterine rupture of only the myometrium with an intact visceral peritoneum. Adverse perinatal outcomes were neonatal asphyxia, admission to a neonatal intensive care unit (NICU) or neonatology ward due to convulsions, hypotonia, ischemia with ultrasonic abnormalities, hypoxic ischemic encephalopathy and/or multiple organ failure, and perinatal mortality up to 28 days post-partum. Neonatal asphyxia was defined as arterial umbilical cord pH < 7.0, base deficit > 16 mmol/l, Apgar scores (AS) ≤ 5 at 5 min, resuscitation, or artificial ventilation for > 10 min afterbirth, Thompson score > 7 or Sarnat score > 1. Maternal symptoms of pain were abdominal pain or pain in the area of the CS scar, in which abdominal pain was distinguished from uterine contractions by the presence of abdominal pain between contractions. The time of first complaint of pain was based on the first time abdominal pain was registered in the notes of the MNCP present during labour.

Statistical analysis was conducted using the IBM SPSS Statistics (Version 29). Descriptive statistics were used to describe the demographic characteristics of the dataset and are presented as the number of observations (*n*) and prevalence (%). For categorical data, differences are presented as odds ratio (OR) with 95% confidence intervals (95% CI).

Qualitative study

The qualitative study consisted of thematic analysis of open-ended, semi-structured interviews conducted with MNCPs in the Netherlands. We used the consolidated criteria for reporting qualitative research to report our data collection and analysis processes [44].

The study population included obstetricians, midwives, obstetric nurses, and obstetric residents practicing in a hospital in the Amsterdam region. Thirteen interviews were conducted in person or online at the participants' request in May 2023, and lasted from 38 to 124 min. Participants were recruited using e-mail invitations to hospitals' head of obstetric departments and NethOSS representatives, as well as posters distributed via social media and in hospital newsletters.

All interviews were conducted by SK. The interviews were conducted in English, therefore participants were only included if they were comfortable communicating in English. The interviews were guided by the study of Hoffman et al. (2016) into beliefs about racialised biological differences amongst medical students and residents in the U.S. With this approach we intended to lower the chance of socially desirable answers by first reflecting with the participants on these beliefs. The participants

were presented with a summary of the results of the study by Hoffman et al. [35], and were asked what results such a study might yield in the Netherlands and in their hospital, and were then asked questions about their own understanding of ethnicity (Fig. 1).

The interviews were transcribed verbatim. Thematic analysis following Braun and Clarke (2021) was performed [45]. The process of coding and theme development were iterative and reflexive, where the authors met several times to discuss the analytical process, also in relation to their expertise and lived experiences. In the familiarization stage, the transcripts were read by SK, BG, EO and AHP and initial topics that stood out were noted. The transcripts were then thematically coded combining a deductive and inductive approach, looking for descriptions related to racial thinking and notions of ethnic differences related to pain experience, assessment, management and treatment, including the dimensions of Davis' conceptualisation of obstetric racism (2019) — diagnostic lapse, and neglect, dismissiveness or disrespect. SK and BG independently coded the first manuscripts using Atlas.ti Mac (Version 23.1.1). The codes, differences in coding and the relation between these codes and the initial identified topics were discussed with EO and AHP. The remaining interviews were then coded by SK. The codes were organised into themes collaboratively by SK, BG, EO and AHP. In the last step, the authors looked for patterns between the themes, and the central themes and subthemes were formulated. The themes were discussed with the whole research team [45].

Results

Results of the quantitative study

Of the 98 cases of uterine rupture in the quantitative study, race/ethnicity categories were registered in 54 cases, only these cases were included in the analysis. The characteristics of the study population are presented in Table 1. Table 2 presents the descriptive analysis of the care processes, time to CS, maternal outcomes and perinatal outcomes.

Care processes

Rates of augmentation of labour and induction of labour were not significantly different in the race/ethnicity or in the language barrier categories. Pain relief by epidural was significantly less often administered in the language barrier category compared to the non-language barrier category (1/10 (10%) vs. 25/42 (54.8%) respectively) (OR 0.08, 95% CI 0.01–0.65). On the other hand, pain relief by remifentanyl was significantly more often administered in the language barrier category compared to the non-language barrier category (4/10 (40%) vs. 1/42 (2.4%) respectively) (OR 27.33, 95% CI 2.60–287.41). This difference

Areas to be discussed	Example questions
Introduction / Explanation of research / Demographic questions.	What is the hospital you work in? How many years of experience do you have in obstetrics?
Introductory questions	Can you tell me about your professional role? Can you tell me about the hospital that you work in? Can you tell me a bit about the ethnic & cultural makeup of the city, and more specifically of your hospital's patients?
Discussion of past research on ethnic bias in pain assessment - Here I will present findings from the Hoffman (2016) study which found differences in pain assessment and treatment based on ethnicity in the U.S..	Can you tell me your initial reactions to hearing the results of this research? Why do you think this result (disparate treatments in pain assessment between ethnic categories) is a reality in the U.S.? Is this topic something that is discussed among people in your profession? And in your hospital?
The context of the Netherlands.	If this research were to be repeated in the Netherlands, what results do you think would be found? Follow-up: Why? Do you think that a patient's ethnicity might impact a clinician's assessment of their pain in the Netherlands? Follow-up: Why?

Fig. 1 Interview topic list

The context in the participants' hospital	If this research were to be repeated in your hospital, what results do you think would be found? Follow-up: Why? What does the concept of ethnicity mean to you? How does it play a role in your profession? Have you observed colleagues' pain assessment of a patient being impacted by the ethnicity of the patient? Do you think your own assessment of a patient's pain is influenced by the patient's ethnicity? Follow-up: Why? Have you ever caught yourself having an (unfounded) prejudice in your work? How did you deal with it?
Closing	Is there anything else that you would like to tell me? Opportunity to follow up on any questions skipped.

Fig. 1 (continued)

was not significant between the non-Western or Western category.

Time to caesarean section

In total, 25 womxn complained of pain before birth, which is indicative of uterine rupture. Although the results were not significant, a trend was seen towards more time between first complaint of pain and the call for CS between the non-Western and Western category. In the non-Western category, the call for a CS was made less frequently under 30 min after the first complaint of pain compared to the Western category (3/11 (27.3%) vs. 7/11 (63.6%) respectively), and more frequently after 180 min following the first complaint of pain (5/11 (45.4%) vs. 2/11 (18.2%) respectively).

CS was significantly more frequently performed after 180 min following the first complaint of pain in the non-Western category (8/15 (53.3%)) compared to the Western category (1/12 (8.3%)) (OR 12.57, 95%CI 1.28–123.48). No significant differences were found in the

association between time between first complaint of pain and decision for CS and language barrier.

Adverse maternal outcomes

The prevalence of major obstetric haemorrhage was similar among both the non-Western and Western category. The prevalence of complete uterine rupture was higher in the non-Western category compared to the Western category (11/28 (39.3%) vs. 7/26 (26.9%) respectively). However, this difference was not significant. A similar trend was seen for the prevalence of complete uterine rupture in the language barrier category compared to the non-language barrier category (5/10 (50%) vs. 12/42 (28.6%) respectively).

Adverse perinatal outcomes

More babies suffered from neonatal asphyxia born in the non-Western compared the Western category (9/28 (32.1%) vs. 5/26 (19.2%) respectively), though this difference was not significant. Perinatal admission to a

Table 1 Demographic characteristics of the population of uterine rupture cases with recorded race/ethnicity in the Netherlands (n, %) for the period April 1st 2016 – May 31st 2018

	Population	
	n	%
Maternal characteristics		
<i>Racial/ethnic category</i>		
Western	26	48.1
Non-western	28	51.9
<i>Age (years)</i>		
< 35	36	66.7
≥ 35	14	25.9
Missing	4	7.4
<i>BMI</i>		
< 30	35	64.8
≥ 30	1	11.1
Missing	13	24.1
<i>Language barrier</i>		
Yes	10	18.5
No	42	77.8
Missing	2	3.7
Obstetric characteristics		
<i>Parity</i>		
1	40	74.1
≥ 2	14	25.9
<i>Previous CS</i>		
1	45	83.3
≥ 2	9	14.8
<i>Vaginal birth after caesarean section</i>		
Previous	3	5.6
Current	43	79.6
<i>Uterine rupture (UR) or dehiscence</i>		
UR	17	38.6
Dehiscence	27	61.4
<i>Pain relief during labour</i>		
Epidural	26	48.1
Remifentanyl	7	13.0
None	21	38.9
<i>Onset of labour</i>		
Spontaneous	39	72.2
Induction	13	24.1
Missing	2	3.7
<i>Augmentation of labour (oxytocin)</i>		
Yes	24	44.4
No	30	55.6
<i>Gestational age</i>		
< 37	53	98.1
≥ 37	1	1.9

neonatology ward or NICU, and mortality were also not significantly different between the race/ethnicity categories and the language barrier categories.

Results of the qualitative study

For the qualitative study, thirteen semi-structured interviews were conducted and analysed. The study population consisted of three obstetricians, four obstetric residents, four clinical midwives and two obstetric nurses. Of the thirteen participants, during the interviews, two self-identified as male and three as having a non-Western migration background. Their years of experience varied between a year and a half and nineteen years.

Thematic analysis resulted in four themes: racial and ethnic stereotypes; contradictory ideas about racial and ethnic bias in pain assessment, management and treatment; effects of racial and ethnic bias explained away; and assumed protection and threats. An overview of the thematic structure is provided in Fig. 2.

Racial and ethnic stereotypes

Stereotypes regarding how womxn of different racial and ethnic groups experience and express pain arose in eleven out of thirteen interviews, these are summarised in Table 3. Three observations can be made from these stereotypes. First, the participants used racial and ethnic language interchangeably. Second, the participants talked about White identified womxn as the norm, to whom the pain experience and expression of other racial and ethnic groups was compared.

[...] So to the way we perceive pain in usually black women is different than we perceive in or how we assess pain in, in, in white women, because that's a reaction we know. (P4).

Third, the participants reported being familiar with various stereotypes about specific racial and ethnic groups and their experience and expression of pain circulating in their professional settings. One common idea that was spoken about was that South Asian, Hindustani and Indian identified womxn were believed to have a lower tolerance for pain and that they were theatrical and dramatic in their pain presentation during labour.

[...] It's a joke among midwives. that Indian women have a lower... they can't cope as well with pain as not Indian people. (P5).

Womxn identified as Mediterranean and Arabic were described in a similar manner. Participant 6, for example, spoke about “mediterranean fever” or “mediterranean

Table 2 Outcome characteristics of the study population uterine rupture cases (n, %, OR) for the period April 1st 2016 – May 31st 2018

	Racial/ethnic category		OR (95%CI)	Language barrier category		OR (95%CI)
	Western (n = 26)	Non-western (n = 28)	Non-western vs. western	No (n = 42)	Yes (= 10)	Language barrier vs. non-language barrier
Care processes						
Augmentation of labour	13 (50)	11 (39.3)	0.45 (0.22–1.91)	19 (45.2)	5 (50)	1.21 (0.30–4.81)
Missing	*	*		*	*	
Induction of labour	6 (23.1)	7 (25.0)	1.11 (0.32–3.88)	11 (26.2)	2 (20)	0.71 (1.30–3.84)
Missing	*	*		*	*	
Pain relief epidural	14 (53.8)	12 (42.9)	0.64 (0.22–1.88)	25 (54.8)	1 (10)	0.08 (0.01–0.65)
Remifentanyl	1 (3.8)	4 (14.3)	4.17 (0.43–40.00)	1 (2.4)	4 (40)	27.33 (2.60–287.41)
None	11 (42.3)	12 (42.9)	1.02 (0.35–3.01)	16 (42.8)	5 (50)	1.63 (0.41–6.51)
Missing	*	*		*	*	
Complaints of pain	10 (38.5)	15 (53.6)	1.73 (0.58–5.16)	18 (42.9)	5 (50)	1.28 (0.32–5.10)
Missing	1	*		1	*	
Time to caesarean section						
<i>Time between 1st complaint & decision for caesarean section</i>						
< 30 min	7 (63.6)	3 (27.3)	0.21 (0.04–1.31)	8 (50)	2 (33.3)	0.50 (0.07–3.55)
30–90 min	2 (18.2)	*	-	2 (12.5)	*	-
90–180 min	*	3 (27.3)	-	2 (12.5)	1 (16.7)	1.40 (0.10–19.01)
180+ mins	2 (18.2)	5 (45.4)	3.75 (0.54–26.05)	4 (25)	3 (50)	3.00 (0.42–21.30)
Missing	6	6		9	1	
<i>Time between 1st complaint & decision for caesarean section</i>						
< 30 min	2 (16.7)	3 (20)	1.25 (0.17–9.02)	4 (19)	1 (16.7)	0.85 (0.08–9.44)
30–90 min	6 (50)	2 (13.3)	0.15 (0.02–1.00)	7 (33.4)	1 (16.7)	0.40 (0.04–4.12)
90–180 min	3 (25)	2 (13.3)	0.462 (0.06–3.35)	4 (19.1)	1 (16.7)	0.85 (0.08–0.44)
180+ mins	1 (8.3)	8 (53.3)	12.57 (1.28–123.48)	6 (28.6)	3 (50.0)	3.13 (0.55–17.84)
Missing	5	2		4	1	
Maternal outcomes						
MOH > 1000 mL	6 (23.1)	7 (25.9)	1.11 (0.32–3.88)	8 (19.5)	4 (40)	2.05 (0.51–8.19)
Missing	*	1		1	*	
Uterine rupture	7 (26.9)	11 (39.3)	1.76 (0.56–5.56)	12 (28.6)	5 (50)	2.50 (0.61–10.23)
Missing	*	*		*	*	
Perinatal outcomes						
Perinatal mortality	1 (4)	3 (10.7)	2.88 (0.28–29.64)	2 (4.9)	2 (20)	4.88 (0.60–39.91)
Missing	1	*		1	*	
Neonatal asphyxia	5 (19.2)	9 (32.1)	1.90 (0.54–6.68)	10 (23.8)	3 (33.3)	1.37 (0.30–6.32)
Missing	1	*		*	*	
Admission to neonatology	3 (11.5)	5 (17.9)	1.67 (0.36–7.80)	6 (13.4)	1 (10)	0.67 (0.71–6.26)
NICU	1 (3.8)	2 (7.1)	1.92 (0.16–22.56)	3 (7.1)	*	-
Missing	*	*		*	*	

MOH = major obstetric haemorrhage

* = no cases in this group

Bold = P value < 0.05

presentation” which they described as: “They really exaggerate or over present their pain in order to get attention from doctors.”

Chinese identified womxn, on the other hand, were believed to be very insular in their presentation of pain.

Black and (West) African identified womxn were believed to have a higher tolerance for pain, and that they often expressed pain less than womxn from other racial and ethnic groups.

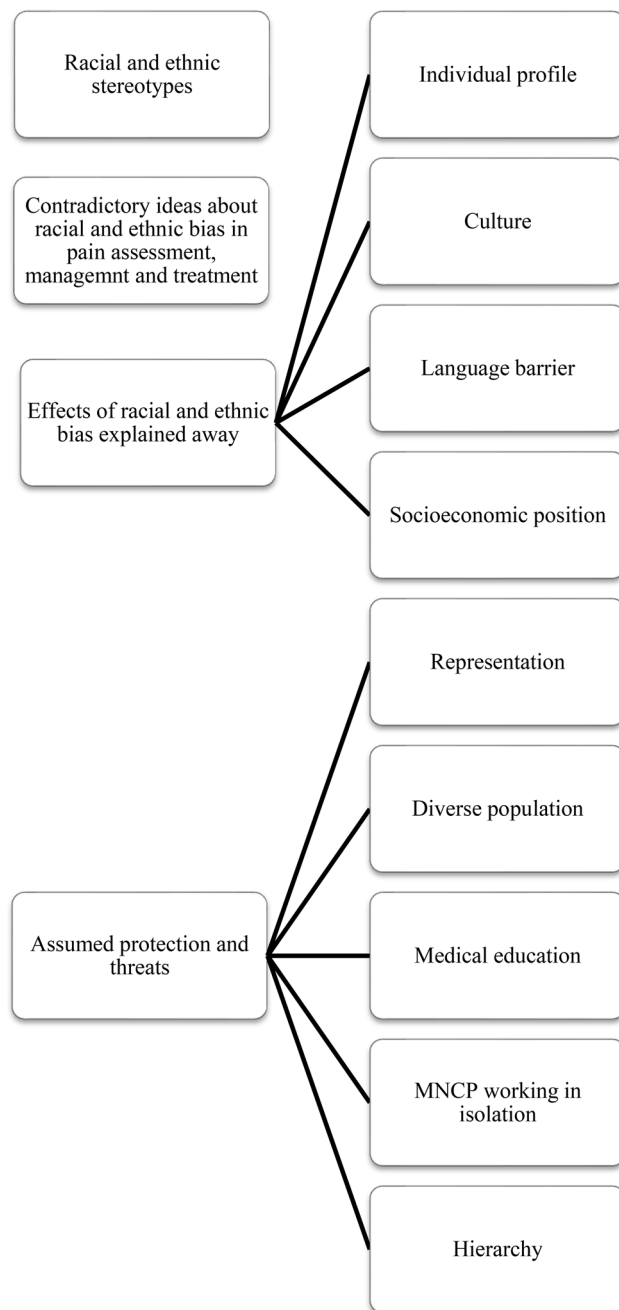


Fig. 2 Thematic structure

I have heard that black women can for example, handle pain better [...]. Black women are strong, for example. (P3).

Two participants expressed a feeling of shame when talking about racial and ethnic stereotypes that circulated amongst MNCPs. Participant 8, for example, explained:

I hear my colleagues saying these things, or and maybe I've said that them as well, and I'm not proud of that. But about originally African women some-

times, healthcare professionals we say like 'she's like this strong African woman, she can take it, she can handle it (P8).

Contradictory ideas about racial and ethnic bias in pain assessment, management and treatment

Although racial and ethnic stereotypes were mentioned in almost all interviews, most participants stated that they treated every womxn equally, regardless of race or ethnicity, and would always administer pain relief upon request. This apparent paradox highlights that, while participants acknowledge the existence of bias and stereotypes, they do not believe these factors impact the care that womxn receive.

[...] We have 24/7 access to pain medication. We counsel everybody with the same text and same tools. (P1).

I think I do have biases. And I am sure I'm not always aware of them, at the moment [...]. I think everybody will say it, but I think that it does not influence my care. [...] Like I think "Ohh well, maybe you are being more theatrical about your pain, but ohh well, if you want pain medication, of course you can have it.[...] Yeah, I think in those instances, that I think they have less pain than they are making to believe, but that will only mean that they will get pain medication sooner [...]. (P3).

Am I influenced by the ethnic background of people when I see them about their pain? I don't have that idea.[...] And there's when people tell me that they are in pain, we talk about it and we come to a solution [...]. Maybe I do but I don't have the idea that it influences [me]. (P9).

[...] If someone is in pain, we take it seriously. So you're not looking at the colour[...]. (P13)

A few participants acknowledged that their unconscious bias regarding race and ethnicity and pain might influence their practice. P11, for example, explained:

I don't think I treat people differently. I always tell the patients, like I cannot decide for you. Where is your pain threshold? If you need something, tell me but I will try to guide you through it, and but I can

Table 3 Racial and ethnic stereotypes about pain experience and expression

Racial/ethnic group	Quotes
Black and African identified	"[...] What I observe for example, is the way that the want or needs are vocalised. [...] That white society is way more expressive like asking for pain medication as black women are less likely to do so, but I indeed I am not sure if they don't want it or they are more like. Well, whatever or whenever you as a doctor advice it. So they are more in a in a reserved attitude. Yes, I think they are asking a lot less. But I don't think that that means that they would need it a lot less." "I have heard that black women can for example, handle pain better. [...] Black women are strong, for example." (P3) "[...] We saw quite a lot of women from, in Western Africa and who were not were not Dutch, [...] and the way those women express pain is maybe different than and then white Dutch women so it's perceived differently. Maybe with less or other emotion." "[...] Many of my colleagues think that like women from West Africa have a bit of more curved spine, more lordose in the back, also that when labour does not progress or it takes very long for the head of the baby to be very high and only in the last phase when the baby goes through that threshold through that curve, then the baby comes. So it takes a while but when it's there the delivery is fast and so and my many of my colleagues say Oh no, she's a West African woman, so it takes some time, but when she's there then, the baby will, then the delivery will be fast and that's something I never heard any evidence about or read somewhere, but it's like a big, yeah, big bias for me and people just tell it, <i>oh, no, that's normal for West African women</i>" "[...] We see quite some people from Nigeria and Ghana [...] who just go through labour a little bit more like isolated. So not very talkative to labour or asking much, even don't ask the nurse for anything." "[...] Another belief is that black women from Western Africa and sometimes express pain a little bit more theatrical so not insulated, but more theatrical with more body movement. And that way they can they can take on more pain and that includes like shaking the body or like smashing your own your legs or sometimes shouting, shouting more or sighing like louder, in a way to cope with the pain and in that light the healthcare professional thinks like OK she has like a good way of coping with the pain, so she does not need pain medication." (P4) "[...] Surinam [women] can also birth very fast something that goes around, those kind of prejudices, and perhaps if you are sort of an ethnicity of which there's a prejudice that they birth very fast they might get remifentanyl sooner than epidurals, for example, if you're at 5 or 6 centimetres when you're in the grey area." (P6) "But about originally African women sometimes, healthcare providers we say like ohh she's she's like this strong African woman, she can take it, she can handle it" "So at handovers if something is being said like she's well, she's a strong African woman, she doesn't need it, that can be said." (P8) "When a young black woman is gone, coming for delivery, we know. Quite sure it goes. It can go really fast. For example, that's that's maybe one of the things that you did. You have the idea that they they can deliver, they can manage. But yeah, that's well, yeah. And especially the delivery will go quickly [...]" (P9) "[...] A woman coming from Africa just here knows the culture that how women birth give birth in Africa. It's like you never hear them complain. They just give birth. It's part of life. They go for it and that's OK and maybe when they come here they still have that. They still think like this is just part of life. We have to go through it. We can't do anything about it. And then when you see women who have been here for their whole life or a longer period, that they know what the options are, and I think they're. How do you say it there perception or they they know there are different options for pain relief that they are more willing to ask for it or want help or things like." (P10) "And sometimes you also hear from colleagues saying that I don't know. Maybe. Yeah, these, you know, like standard beliefs that [...], yeah, someone from I don't know, Somalia might be more quiet [...]" (P12)
(South) Asian / Hindustani / Indian identified	"I also find that, for example people with. Background from for example, Pakistan or India. I find that they also react different to pain than people from another background" "[...] With South Asians, I more try to specify and clarify what the pain really is, and so when they're for example, during labour or during the C-section really painful, I try to specify, is that correct that's really painful [...] Is it really pain or is it something different? I don't want to over treat them. And I do that more with South Asians than with other people from other backgrounds." (P2) "What I think is that people from India or Pakistan that they use pain or they express pain with a different purpose, for a different purpose. I think it's also a way to communicate to their community that they need attention or help." (P2) "[...] I think that I even have had [biases], especially the theatrical Hindustani women [...]" (P3) "[...] I think that it has been studied because it's joke among midwives, but I think it's studied that Indian women have a lower, they can't cope as good with pain as not Indian people" "[...] The Indian woman say that they're, that they have, that [the pain] it's unbearable. What they're going through and then they have two centimetres of dilatation [...]" (P5) "[...] I also might have underrated pain experience, for example, by Indian people because they feel the pain very heavily and especially when I was just coming from school, not very experienced. I do think I might have underestimated their pain. But I also think that sometimes people say they are in more pain than they actually are [...]" "Indian people, they have overall they feel a lot of pain very quickly. So I can imagine that they sometimes will get pain relief very early in their delivery, but also sometimes have people here, healthcare workers think well, we can probably wait a little bit longer. [...] With this construction they sometimes think that they are going to die because of the pain and they are very shocked by the pain. But I do think that sometimes they get their pain relief a little bit later because [...] all Indian people have that they experience a lot of pain" (P7) "[...] We say sometimes maybe with colleagues like [...] Indian people that they're more like, like, yeah, experiencing pain more heavily [...]" (P10)

Table 3 (continued)

Racial/ethnic group	Quotes
White identified	"And sometimes you also hear from colleagues saying that, I don't know. Maybe. Yeah, these, you know, like standard beliefs that Asians are more verbal [...]" (P12) "We call them West Fresians [...] They're really strong, yeah, big build women, OK. Men and women. Yeah, they're, like, "toughen up. We're going to do this. OK," Yeah, and they, now I'm generalising, but they give birth easy to children of 4 kilos." (P2) □□ "[...] More what I observe for example, is the way that the want or needs are vocalised. That if I for example, that white society is way more expressive like asking for pain medication as black women are less likely to do so [...]" (P3) "[...] There are some young urban professionals, for example, lawyers here in Amsterdam or fashion designers or people who are sort of quite rich, quite young age. Who really express that care is not something that we give to everybody, but we should give it to them now. [...] And that can be of all ethnicities. But I think it's primarily white, yeah, younger professionals" (P6) □□□□ "[...] That's such an American Princess, so she will need her epidural immediately." (P8) "[...] We have a group of women who make a very big birth plan where they say, oh, I don't want this. I don't want this. I don't want this or no pain relief, nothing whatsoever. And then when we get those women, they always come from their midwife, from outside the hospital to inside the hospital. So there is a pass over. How do you say? It she comes to us. And then we see that and we say, OK, so she's going to get everything she doesn't want just because she said so hard. I don't want. [...] Usually those demographics are the higher educated white Dutch women." (P10) □□
Arabic identified	"And with, for example, people, women from an Arabic background, when they say lower I have pain in my lower abdomen and I can't really find a diagnosis for that, I'm more likely to ask yeah "are there other things at home, or is there something you worry about" or trying to ask a little bit more about that than I would do in people from another background." (P2) "[...] I can only do it in Dutch. But [the patient representatives] was like (demonstrated a person shouting for pain, spoke in Dutch) to get attention and to actually sort of get help and that that is something that perhaps if you know that they had to do that in their hospitals, for example in Morocco, then they'll have to do it here as they tend to do it here as well and that we perhaps feel that it's a little bit too much for us or too over exaggerated." "[...] That they really exaggerate or over present their pain in order to get attention from doctors. [...]" (P6) "Ohh yeah, Arabic woman women are usually very dramatic in their presentation of pain, and this affects how healthcare providers are assessing pain for sure, 100% in every other situation." (P8)
Mediterranean identified	"[...] I experienced, quite similar prejudices there in terms of pain, for example, that Mediterranean fever is something that still is being discussed there quite often. Or Mediterranean presentation, we call it." (P6)
Chinese identified	"[...] Chinese people who don't show their pain and who don't ask for pain [relief], I think sometimes they will be entitled to have more pain medication than they get now. [...] I think they are the most difficult to assess." (P7)

imagine that somewhere in the back of your head it might be. [...]

At least that's what I hope and I and I believe that I do that, but it might be that I'm not aware of that I treat people differently. (P11)

Some participants explained that under certain circumstances pain medication would be actively offered to the womxn.

No, we only give pain medication when women actively ask it, and sometimes you see that women are struggling a lot during birth and then we offer it. (P5)

Participant 4 explained that, due to the individualised approach, they did not believe that racial and ethnic differences in the administration of pain relief was due to racial or ethnic bias.

While the participants explained that their assessment, management and treatment of pain was not affected by racial and ethnic stereotypes, and that their

administration of pain relief was always guided by individual requests, they also talked about how they perceived differences in pain expression between racial and ethnic groups, and that this sometimes impeded their assessment of pain.

[...] A reason I talked about Chinese people because I think they are the most difficult to assess. So I do think that I might have missed some signals from them, for example, but I also might have under-rated pain experience, for example, by Indian people because they feel the pain very heavily. [...] (P7)

Participant 2 talked about sometimes using alternative methods of enquiry to assess the pain of womxn of certain racial and ethnic groups of whom they believed that they expressed pain differently.

I think with South Asians [...], I try to get more clarification or specification to is it really pain or is it something different? I don't want to over-treat them, and I do that more with South Asians than with other people from other backgrounds. (P2)

About half of the participants also talked about how race and ethnicity was used for fast decision making in high-stress and time-constrained circumstances. As participant 6 explained:

We are constantly [...] facing decisions which are very often [...] black and white, then we may need to have some sort of internal shortcut to make these decisions based on prejudices or based on experience (P6)

Similarly, participant 8 explained that MNCPs include race and ethnicity as part of data collection in their decision-making process,

It's part of our data collection, so our whole profession is about collecting as much data as accurately as you can in a very short time to make sure you can help the patients or treat the patient as best as you can and so therefore we have developed a way of collecting the data by different signs, and those signs evidently make up a puzzle or an assumption in our head, and that is constructed also of our own context of people who we talk to, what we learn, what we know. (P8)

Participant 11 highlighted how these shortcuts in the decision-making process gives room for racial and ethnic bias.

If he or she had already looked after some people from India, or some other ethnicities, and they [would always] ask for pain relief [the professional] would maybe easily say like 'OK, just go for it' or actively promote pain relief because maybe in the back of their heads, they believe that this will be the outcome anyway. (P11)

The participants talked about how, even though the administration of pain relief was guided by individual requests, racial and ethnic bias might impact both the type of pain relief that is administered, and whether pain relief is administered at all. For example, participant 7 explained:

[...] Chinese people almost never ask for pain medication, so in that way I can understand that they get treated less for pain because they don't show that they are in pain, and they don't ask for pain medication. So, it's more difficult to see if they are in pain. [...] I do think I might have underestimated their pain. But I also think that sometimes people say they are in more pain than they actually are. Yeah. And it's also the question - Do you give them the pain

relief or not? Do you still wait? [...] I think it's always difficult. But I have learned that because pain is so very personal that it's not up to me to judge if they are in pain, it is up to them if they want pain medication and if they want pain medication if and if they are not very in very much pain, well then for the whole labour experience it could be better to just give them the pain medication. [...] But I do think, yeah, especially in the, yeah, in the first years after, after my graduation I have misjudged the pain and maybe sometimes even now I have misjudged it, yeah. (P7)

Some participants expressed biological beliefs regarding the course of labour and talked about how these beliefs affected their pain assessment, management and treatment. For instance, assumptions about how quick womxn from certain racial and ethnic groups give birth influence decisions about pain relief. Specifically, if womxn are believed to biologically give birth quickly, the MNCP will administer remifentanyl instead of an epidural.

Many of my colleagues think that women from West Africa have a bit more of a curved spine. [...] So, it takes a while but when [the baby is at the curve], the delivery is fast. [...]. It might impact of course when you think 'OK, once she's there then delivery goes fast so pain medication is not needed'. Yeah it can impact of course. [...] I personally do not think that it's about biological differences. [...] But I do think in the Netherlands people think biological differences are also important. (P4)

Participants stated that although MNCPs believe they treat everyone the same, beliefs about race and ethnicity, and pain experience and expression can influence their treatment of womxn. Participant 4 explained:

You think like, you're neutral, but you're not. [...] We think that we're treating everyone the same, but we're not. And we don't want to express that we think there are differences [...] but I think they're more unconscious than we think [...] [It is] socially more acceptable to say everyone is the same, so we're trying to express that as well, but there are many unconscious biases and beliefs that influence the way we assess pain and advise pain killers or not during labour. (P4)

Effects of racial and ethnic bias explained away

Participants attributed differences in the assessment, management and treatment of pain between racial and ethnic groups to reasons other than the presence of stereotypes and assumptions associated with race/ethnicity,

and in doing so, insinuated that racial and ethnic discrimination does not exist in Dutch MNC. The most commonly cited reasons were womxn' individual profile, culture, language barrier and socio-economic position (SEP).

Individual profile

Individual profile was used to describe differences that exist between individuals, regardless of race and ethnicity. Participants 8 and 12, for example, explained how individual profile influenced their assessment, management and treatment of pain.

[...] It's not always the pain disparities between different ethnic groups, but rather between people. [...] People's pain, acceptance or pain levels or the way they deal with pain. [...] We also use assumptions about people about also, whether they, what kind of life they have, what is their background, have they been to the hospital very often with this kind of pain? Do they, what is my personal relation to them? So do I feel like I should take the pain very seriously, or do I think it's more of a show, a dramatic show. (P8)

Yeah, if someone has intellectual disabilities and if someone is sometimes, like maybe more anxious or more afraid of labour, sometimes we do, for instance, ourselves suggest that they take pain relief early, earlier, for instance, that maybe that will help them, for instance to be more relaxed and be more trusting of the process. (P12)

P5 described that, for instance, some people do not express their needs during labour, using the example of undocumented womxn in the Netherlands, and their fear of being deported.

[...] When they are saying things that they don't like or if they don't express themselves in the way that they should be that they are scared that you will go to the IND to tell that they are here illegal or something like that and those kind of things that you are maybe going to the police or something like that to say that they are here and they are not with the good papers. (P5)

Culture

Many participants associated pain experience and expression to culture rather than race and ethnicity. They stated that, in their opinion, cultural differences influence how womxn respond to pain.

[...] There are cultures where it's very common to scream a lot when you're having pain or to express yourself a lot when you're having pain. And there are cultures where it's much more common to withhold it in yourself and to keep it small, to not overgo or not letting it [show] too much. (P5)

No, I don't think it really is the ethnicity. I do think it's more the way how she responds to pain, which can be different in different cultures. I don't think it's ethnicity at itself. (P7)

[...] A woman coming from Africa just here knows the culture that how women birth, give birth in Africa. It's like you never hear them complain. They just give birth. It's part of life. They go for it and that's OK [...]. And then when you see women who have been here for their whole life or a longer period, that they know what the options are, and I think they're... How do you say it... their perception or their... they know there are different options for pain relief that they are more willing to ask for it or want help or things like. (P10)

Participants 2, 7 and 8 further explained how culture might influence MNCPs pain assessment, management and treatment by suggesting that within certain cultures, the expression of pain is either understated (P7), exaggerated (P8) or a call for attention or help (P2). In their references to culture, these participants used racial/ethnic labels.

[...] I think different cultures also respond differently on pain, but maybe. "response" is [not] the right word but how they show that they are in pain, there are very big differences. But I am a bit shocked that the treatment is different because I do think that if somebody wants pain medication and they ask for it, well, that's very personal. If you feel pain or if you don't feel pain, which doesn't really depend on your ethnicity. [...] Chinese people who don't show their pain and who don't ask for pain [medication], I think sometimes they will be entitled to have more pain medication than they get now. And for example the Indian people, they have overall, they feel a lot of pain very quickly. So I can imagine that they sometimes will get pain relief very early in their delivery. But also sometimes. Healthcare workers think well, we can probably wait a little bit longer because of the culture where, well it's not very nice to say, I

don't know how to say it in good English, but with this construction they sometimes think that they are going to die because of the pain and they are very shocked by the pain. But I do think that sometimes they get their pain relief a little bit later because it's a really cultural thing, which all Indian people have that they experience a lot of pain. (P7)

So often heard things are 'ohh yeah, Arabic woman women are usually very dramatic in their presentation of pain,' and this affects how healthcare providers are assessing pain for sure, 100% in every other situation. (P8)

What I think is that people from India or Pakistan that they use pain, or they express pain with a different purpose [...]. I think it's also a way to communicate to their community that they need attention or help. So that it's not only that they feel that they need to have different pain treatment or medication, but that they need, yeah, also attention or help or a cry for help. (P2)

Differences in the administration of pain relief was also cited to be related to the birthing womxn's unfamiliarity with Dutch cultural practices of pain relief during labour (P4), and the healthcare system (P1).

Of course in the Netherlands more than 50% of the women deliver with epidural so, and depending on where the woman is from, it's not even possible, or way less, so if it's the woman's choice, of course, that's the most important thing. So [...] yes, [black immigrants] want it less than white women. (P4)

[...] They don't really know what the options are. And they do know that maybe in their home country that pain relief is more difficult to get or everything, so they won't ask as quickly as people maybe from here or like people are super well informed. So I think that might be, that might be something that they will as. [...]. (P1)

The participants described scenarios whereby womxn of non-Dutch origin perceive a power imbalance when interacting with Dutch MNCP. For example, participant 4 talked about their observation of African identified

womxn, who view Dutch MNCPs as officials, and so are hesitant to ask for assistance during labour:

[Women from Nigeria and Ghana] just go through labour a little bit more like isolated, so not very talkative [...] or asking much, [they] even don't ask the nurse for anything and so they're a bit more like, we call it in Dutch, we say 'onderaan'.... They see the healthcare workers as. very official and they don't want to ask them for anything extra. So, they just undergo labour instead of actually receiv[ing] coaching from us. (P4)

Participant 1 discussed the pitfalls of attributing pain experience and expression solely to culture, as it may overlook many other factors that might influence someone's health and the care they receive, such as accessibility of MNC and the quality of care provided:

[...] "It's just their culture" is such a way how you can stereotype people and not be curious to what is really going on, what care do we provide? How is the quality of care? How's our health system working? It's such it can be such a lame excuse to not talk about all those more complex issues that you cannot solve tomorrow that are very difficult to tackle, but we need to look into and be uncomfortable. (P1)

Language barrier

Language barrier was stated by nine out of thirteen participants as a barrier that could result in under administration of pain relief, for example leading to a scenario where the anaesthesiologist may be unwilling to administer pain relief if the MNCP cannot effectively communicate the risks to the birthing womxn.

[...] If we can't communicate well enough with them, our anaesthesiologist is sometimes having issues or doesn't want to give them an epidural because they say, 'well then I can't counsel them good enough about possible risks, or they can't tell, the patients can't tell the professionals well enough when something is the matter,' so when they start to feel short of breath that maybe their peripherals too high or they have a spinal block or whatever, and they're and the patients are not well enough to give those signals to the to the healthcare professionals because of language issues. [...] Yeah, I think that really affects our pain assessments and treatment.[...] (P2)

Participants mentioned that the primary tool to overcome the language barrier was to use a translator available by phone, although the infeasibility of this was also highlighted due to time constraints.

If a Polish lady comes and who doesn't speak a word of Dutch, it's also very difficult to see if she needs pain medication, but also to explain what kind of pain medication do we have which is good for her. How do you do an informed consent if you don't talk the language? You can call the 'Tolk' telephone, the translator. But it also takes time. (P7)

Socioeconomic position

SEP was mentioned by seven out of thirteen participants as a determinant of differential experience and expression of pain, and MNCP' pain assessment, management and treatment of pain. Two participants posited that the occurrence of differences in pain relief administration has more to do with SEP than with race and ethnicity. In response to a question concerning the reasons for differences in pain assessment, management and treatment in the U.S, participant 5 stated:

I don't think that it's only racial, it also has to do with the [economic] status. But that's the same as here I think, because it doesn't matter where you're from. (P5)

Participant 5 further posited that those identified as having a lower SEP have more experiences of overcoming difficult things in life and therefore may cope more easily with pain in childbirth, while conversely those whose first time it might be to experience such pain during labour and birth, may more quickly choose to use pain relief during labour.

The participants additionally spoke about their observations of womxn with more wealth access having more access to social support such as a doula (P5). Again, reflecting on the impact that social support has on how a womxn experiences labour, participant 7 posited that in their experience the "social environment" matters a lot, as womxn who "have a lot of support, then they might need less pain medication because they have the support system, but if they are all alone, then they might need some pain medication earlier." (P7)

Participant 6 spoke about their experiences providing care to people identified as having a higher SEP who, in contrast to those identified as having a lower SEP, display entitlement to timely care. Similarly to participant 5, they posited that this may also coincide with a higher use of pain medication. Although they mentioned that this phenomenon can occur in womxn of any race and ethnicity, in their experience "it's primarily white, younger professionals [...] [who] think they earn something and that they get something now, even though they're not as much in pain and that doesn't matter." (P6)

Assumed protection and threat

The participants described different factors that they believed prevented or (re)produced bias in pain assessment, management and treatment. Protective factors included representation in the MNC workforce and diversity in the patient population, while perceived threats included medical education, hierarchy and MNCPs working in isolation.

Representation

Almost all participants cited diverse perspectives in the workplace as being pivotal to developing a less biased worldview and providing better care to womxn of all racial and ethnic backgrounds.

[...] I think if you treat people differently that it's a part of racism and I, but I don't think that they are, that it's intended racism. But if you don't see that anything but your own normal is normal, then you might mistreat others, or at least don't give them the same treatment. (P3)

I think it's so important that you have this diversity [...] if it's cultural background or ethnicity or gender or whatever so you can just talk and be uncomfortable with each other about things to make sure you talk about things so you can learn more. And I think that will make us all better humans and provide better care as well, because then there are things that I don't see as well [...] then I need a colleague who sees from another perspective. (P1)

The MNCPs' own race and ethnicity were noted by the participants as important determinants of pain assessment, management and treatment. The participants described differential treatment of womxn whose race/ethnicity differed from their own, due to a lack of understanding outside of "your own normal" (P3) and decreased empathy, stating that you will feel frustrated sooner with womxn you cannot relate to. According to one participant, professionals tend to "care better for people who look like [them]." (P1). One participant, who self-identified as Black, explained that they felt more responsible for the outcome when they identified with the womxn they care for:

[...]I don't know if the ethnicity plays a role, but I feel an extra importance to take extra good care of my sisters [...] So, if that's not the case, I will be extra disappointed. (P3)

Some participants stated that the diversity in cities like Amsterdam is not represented in the care that is delivered or the health research that is being carried out. Participant 8, for example, explained:

Because our care in the past decades has been mainly focused, also the research that has been formed, mainly focused on one ethnic group and now there's a lot of more diversity coming in, but [it's] still not a good representation of our population (P8).

A lack of diversity in the workplace was further talked about in relation to the lack of diversity among medical students, and especially about the fact that students with a migration background are underrepresented in training for medical specialisation. Participant 3, for example, explained:

[...] 25% of the students are of also migration background, but when you go and look at the specialties, I think it's also specialties in the hospital and the one[s] who become gynaecologists, who become surgeons, who become, well, a medical specialist in the hospital, they are, that is 4% that have a migration background. And so, they call it a bit of a 'leaky pipeline' and we [haven't] fully grasped why that is. (P3)

Participant 4 believed that due to the lack of diversity in the Dutch medical education system, healthcare professionals will eventually conform to the norm.

[...] You're forced into this path of 12 years indoctrination, so we all end up like the same sausage about how to, yeah, how to do your work. [...] If you are Black, but you've been trained six years by white doctors, then at the end of the road you think like a white doctor. (P4)

Diverse population

Many participants described that working with the diverse population of Amsterdam had accustomed them to the different needs of people with different racial and ethnic background, preventing racial and ethnic bias in pain assessment, management and treatment. They used this narrative as an argument to deny systemic racial and ethnic discrimination in the Netherlands.

[...] Because we have such a large amount of people from all over the world, I think we're more used to that. [...] So I think my opinion is different and maybe milder, more outgoing or more welcoming to other ethnicities, where my family, they are, work

wise, not seeing that many people from a different background. (P2)

[...] The population is almost only people with different ethnicities. And so that's a norm there. So that's why I don't think that there will be a lot of bias. (P3)

Medical education

The participants spoke about medical education as an issue that reinforced racial/ethnic bias. Both participants 4 and 6 referred to the learned beliefs that healthcare professionals acquire throughout their education. In recalling a lecture where the idea of "*mediterranean fever*" was presented, participant 6 suggested that internal biases within the profession can be learned through education.

[...] That we sort of have internal biases that we apparently learn. Sort of, because I think our profession is something that we learn, it's not something that we're born with [...]. (P6)

Two participants also spoke about the influence that your peers can have on how you carry out your work. Participant 1 suggested that inexperienced medical professionals may be influenced by the biased beliefs of more senior colleagues. Similarly, participant 6 explained that during collaboration in decision making and receiving guidance from peers, you are influenced by the people with whom you work with and within this dynamic, biased beliefs can be shared.

Participants spoke about their own efforts to educate, and of efforts that are made within medical education to address racial/ethnic bias, such as a presentations conducted by obstetric interns and during symposiums that aim to create awareness around pain perception and bias in healthcare.

Participant 6 used an example to describe how educators sometimes reinforced racial and ethnic stereotypes about their own racial and ethnic background.

I thought it was a very interesting class from two experienced patient representatives who were both Turkish and Moroccan [...]. [They] told us about sort of presentation from their perspective that people in their countries [...], she had a good example, I can only do it in Dutch. But she was like (demonstrated a person shouting for pain, spoke in Dutch) to get attention and to actually sort of get help and that that is something that perhaps if you know that they had to do that in their hospitals, for example in Morocco, then they'll have to do it here as they tend

to do it here as well and that we perhaps feel that it's a little bit too much for us or too over exaggerated. (P6)

MNCP working in isolation

A few participants described how pain assessments are conducted by MNCPs in isolation from one another, which makes the assessment vulnerable to stereotypes. According to participant 3 and 4 for example:

[...] The reality of the pain assessment happens in the room in which I don't see the patient, or the patients' needs. (P3)

[...] I usually do not observe my colleague the midwife when she goes to [the] patient. So I only hear it during like when the shift ends and you discuss patients, some sometimes you just discuss how women express pain and then maybe, yeah, advise on pain medication. And so only I only... hear it in second hand. (P4)

Hierarchy

The participants described how power imbalance between healthcare professionals can play a role in differential treatment. These imbalances arise due to perceived or actual differences in levels of authority between MNCPs, and result in some of them being unwilling to speak up and address issues of racial and ethnic bias as they arise. P1 explained:

[...] It's difficult from bottom up to speak up to the medical hierarchy. So, we can really work to making it a flat structure. [...] It's more difficult to talk to your supervisor, you feel like, 'can I say everything or not?' [...] [Sometimes because] of education or sometimes [because] of different roles in being a nurse [or a] midwife, so it might also be that if you're a supervisor you do not hear everything from the other professional roles that [are] there. (P1)

A few participants also mentioned their efforts to speak up when they witness bias. P8 explained:

At handovers if something is being said like [...] 'she's a strong African woman, she doesn't need it,' that can be said. Usually, if I hear that now I'll try to raise my voice, speak up and say, 'but that's an assumption or do you have a more subjective way of judging, or did she say she doesn't want it?' But that's very hard. I can't portray myself as the person who

does it all the time or is continuously aware of that. No, definitely not. (P8)

Discussion

In this mixed methods study, we used Dutch maternal and newborn care (MNC) as a case to further understand racial/ethnic inequity in pain assessment, management and treatment. This study offers novel insights into racial and ethnic difference in timely care provided by maternal and newborn care professionals (MNCPs) in response to womxn's pain expression in cases with a uterine rupture, the stereotypes and assumptions held by MNCPs associated with race/ethnicity and pain experience and expression, and how these affect their assessment, management and treatment of pain in the Netherlands. Our findings highlight the importance of further research into racial and ethnic disparities in MNC from an equity perspective.

Our quantitative results indicated that after the first complaint of pain, the response time to perform a caesarean section (CS) was significantly more often three hours or longer in the non-Western category compared to the Western category. Our qualitative analysis of interviews with MNCPs revealed the simultaneous presence *and* unawareness of stereotypes and assumptions among MNCPs about how womxn of different racial/ethnic groups experience and express pain, and how these stereotypes and assumptions affect decision-making about pain assessment, management and treatment. MNCPs' differences in pain assessment, management and treatment related to race/ethnicity were explained by most of the participants to be a result of other factors than their own racial/ethnic stereotypes and assumptions leading to discriminatory care, including womxn's individual profile, culture, language barrier and social economic position (SEP). Finally, the participants believed that diversity in the MNC workforce and in the patient population they worked with were protective factors against bias in pain assessment, management and treatment, whereas medical education, pain assessment by an individual MNCP, and medical hierarchy were perceived as threats. The results of this mixed methods study provide a starting point to investigate racial and ethnic inequity in MNC in the Netherlands and to address the ways that these differences can be mitigated.

Race/ethnicity based maternal and newborn care

Race and ethnicity as a fixed biological determinant of health has been scientifically challenged and is widely considered outdated [46–48]. In medical practice, education and research, however, race and ethnicity continue to be viewed by some as a reflection of fixed biologic differences [25, 49–51].

Health research using race/ethnicity as biological concepts can lead to inequitable care and unnecessary harm amongst racially and ethnically marginalised groups when translated into clinical practice [50]. An example of this is the use of race and ethnicity in algorithms which individualise risk assessment and guide clinical decision making. In MNC for example, Vaginal Birth After Caesarean (VBAC)-algorithms are used to counsel womxn with a previous CS to predict the likelihood of successful vaginal birth. These algorithms suggest that the likelihood of successful VBAC is lower amongst racially and ethnically marginalised groups. As a result, womxn in, for example, African-American or Hispanic descent category could be directed into choosing an elective CS instead of VBAC, which in turn results in higher CS rates with the associated risk of morbidity [52–54]. These algorithms are also used in Dutch MNC [55–57].

Furthermore, studies concerning race/ethnicity in healthcare indicate unequal treatment of patients by healthcare professionals based on their race/ethnicity leading to worse health outcomes [27, 28, 58]. This is also the case in the Netherlands [6, 30, 59–61]. A study by Zemouri et al., for example, showed that almost half of Dutch patients categorized as having a migration background, reported experiencing discrimination from healthcare professionals. Concerning pain, 26% of the study participants reported that they had been told by healthcare providers that their complaints resulted from their cultural tendencies and were exaggerated [6]. This is in line with the results of our qualitative results. Additionally, our quantitative results point to a significant delay in the time until a CS is performed in the non-Western category compared to the Western category, which may indicate a diagnostic lapse based on race/ethnicity. These findings are in line with existing literature that attest that pain amongst racially/ethnically marginalised womxn is often minimised and undertreated [33, 35, 62].

Racial/ethnic neutrality and cognitive dissonance

Notably, in our qualitative study most of the participants disavowed that their assessment, management and treatment of pain was negatively impacted by womxn's race/ethnicity, while at the same time describing racial and ethnic stereotypes and assumptions regarding womxn's experience and expression of pain. Disavowal of racial and ethnic discrimination seems to be an important facilitator of inequity in healthcare [63]. This disavowal may be explained by a systemic belief of neutrality towards race and ethnicity, or cognitive dissonance.

In the Netherlands, the neutral position of the Dutch general population concerning race and ethnicity is explored by Gloria Wekker in her book 'White Innocence'. Wekker argues that as a result of four hundred

years of Dutch imperial rule, a strong paradox has arisen, specifically among the White racialised population, in which race is both acknowledged and denied. Whiteness is not acknowledged as a racialised/ethnicised positioning, and the Dutch think of themselves as a just and ethical nation, colour-blind and free of racism [64]. This systemic racial and ethnic neutrality is not limited to the Netherlands and is thought to only increase the possibility of bias [65, 66].

The systemic neutral position towards race/ethnicity can lead to cognitive dissonance when confronted with race/ethnicity. Cognitive dissonance is the discomfort that results from a person holding contradictory beliefs or behaviours [67]. People are so highly motivated to resolve cognitive dissonance, they will often disregard evidence supporting one of the beliefs. This paradox might be explained by the theory and research which indicates that humans have at least two cognitive systems. One of the systems produces explicit beliefs and attitudes by processing stimuli in a conscious, controlled, and effortful way. The second system applies implicit knowledge and responds to stimuli rapidly, effortlessly and automatically. These implicit behaviours may contribute to unequal care of which a physician is not aware [67]. Some of the participants in our qualitative study reflected on implicit attitudes by addressing the process of quick decision-making, where innate beliefs about race and ethnicity might play an even more important role.

Culturalization of racial and ethnic inequity

The participants in our qualitative study ascribed difference in pain experience, expression, and the administration of pain relief to womxn's culture. This culturalization of pain is based on the belief that cultural differences exist between different ethnic groups influenced by specific traits, customs, behaviours, beliefs and norms [30]. Culture is believed to influence how individuals experience and respond to pain, including their ability to seek treatment and when to do so [68–70]. Therefore, it is recommended to include the possibility of cultural differences in pain assessment, management and treatment. A holistic and culturally sensitive approach is believed to improve care within a diverse patient population [70]. In this context, culture should be regarded as a dynamic concept that encompasses the experiences, practices and knowledge and actions of individuals, through which they construct an ongoing sense of themselves and an understanding of others. From this perspective, culture is the product of interactions that are continuously redefined and changed. In applied research, however, this nuance is often lost, and an essentialised approach to culture is often used when examining ethnic disparities in health and health care access. Referred to as the '*culturalistic fallacy*', it is argued that such an essential

approach to culture can increase the possibility of generalization and stereotyping by healthcare professionals overlooking the variability within specific groups, and the social, political and economic determinants of health disparities. This dynamic was also seen in our study, where participants often talked about cultural differences, while using racial/ethnic labels. While culture refers to a repertoire of actions, ethnicity refers to a shared belief among members of a group regarding their common descent, whether self-identified or socially assigned [71].

Furthermore, the participants not only explained away differences in pain experience, expression, and the administration of pain relief with womxn's culture, but also with their individual profile, language barrier and SEP. This approach may distract from addressing systemic racial and ethnic discrimination as the root cause of the inequity.

Professional diversity and race conscious education

Achieving equity in MNC requires critical reflection on the role of MNC in shaping, causing, maintaining, sustaining, and (re)producing racial and ethnic inequity [58, 72–74]. In our qualitative study, the participants did so, and mentioned a lack of diversity and inclusion in medical education, research, and workplaces as threats to equity.

Currently, there is a lack of diversity among physicians and midwives, which is believed to result in part from a decline in diversity from racialized and minoritized groups in the selection processes [75–78]. It is believed that a more diverse workforce will result in higher quality of care and better healthcare outcomes. Studies show, however, that in the absence of an inclusive medical culture, where there is no room for diverse ways of seeing, knowing and doing, the education of a diverse student population will be subject to “reproduction of sameness” and “cultural cloning”, resulting in a homogenous workforce [79–85].

Furthermore, race/ethnicity-based medicine is unfortunately still strongly present in medical education and practice and can reinforce racial/ethnic biases among (future) MNCPs. Students learn to biologically associate race/ethnicity with disease conditions, such as Sickle cell anaemia, hypertension and labour dystocia. Race and ethnicity can therefore be wrongly seen as independent risk factors for health and disease [50, 86]. Race and ethnicity were found to be presented in medical school lectures without context or justification and were even used as diagnostic hints in medical school exams in the U.S [87]. In Dutch medical schools, the curriculum was also found to lack diversity-related content addressing the concepts of race and ethnicity as well as gender, sexuality and social position [88, 89]. It is argued that, instead of using race/ethnicity-based medicine which presumes

biological differences, we should work towards race/ethnicity-conscious medicine. From this approach race and ethnicity are considered social and power constructs. By analysing structural discrimination based on race/ethnicity in healthcare we can work to reduce racial health inequities [50].

Strengths and limitations

This study is the first study on racial and ethnic bias in pain assessment in MNC in the Netherlands. A strength of this study is the mixed methods approach. The quantitative data was retrieved through a prospective, population based and nationwide cohort study of uterine rupture in the Netherlands. In the qualitative study, we achieved diversity among the interview participants (gender, ethnicity, and profession).

A limitation of this study is the small sample size ($n = 54$) of the quantitative data, which restricted the ability to perform subanalyses and achieve significant results or to conduct logistic regression analysis. This limitation persists despite the NethOSS data covering a two-year period including cases of uterine rupture which have a relatively low prevalence in the Netherlands. Furthermore, we had to rely on information that could be found in womxn's files, and we were, due to privacy rules, not able to interview the womxn or MNCP involved in collecting the data to clarify information. For example, the documentation of pain symptoms and their severity was not standardized. Furthermore, some variables, associated with racial/ethnic discrimination, such as body mass index, language barrier and socio-economic position, were not routinely recorded in the womxn's files. As a result, we were unable to use these variables in our analysis or to adjust for possible confounders. Using information from womxn's files was specifically problematic for the variable race/ethnicity because it was registered imprecisely and inconsistently. Not only was race/ethnicity not always registered, the categories for registration in the National Perinatal Registry (Perined) consisted of countries, continents, and racial groups. Furthermore, in Perined, race/ethnicity is assigned by womxn's MNCP, usually based on appearance, name, and/or information provided by women. In Statistics Netherlands (CBS), on the other hand, race/ethnicity is registered more consistently, based on country of origin of a person and their parents [42, 90]. At present we were unable to recover from womxn's files how race/ethnicity was assigned or to cross-check the information with CBS as all files were anonymized. Therefore, we used a binary construction of race/ethnicity. This may have conveyed the impression that these groups are homogeneous. Looking at differences in more precise racial/ethnic categories would have allowed for a more nuanced interpretation of the results. The sampling bias in the qualitative study should also be

acknowledged. Although knowledge of English in the Netherlands is at a high level, conducting the interviews in English may have impacted the willingness of MNCPs to participate, and therefore bias the sample. Lastly, this study was conducted in the Amsterdam region where there is more population diversity compared to many other cities in the Netherlands. This restricts the generalisability of the study results. We therefore, recommend further research which includes MNCPs from various regions across the Netherlands. Additionally, follow-up research into the experiences of womxn is necessary.

Reflexivity

We acknowledge that decisions made throughout this project are influenced by our expertise, lived experiences and standpoints, for example, informing our use of vocabulary regarding gender and racialisation, and reflecting the codes and themes identified. This study was conducted from a critical midwifery standpoint, meaning that we believe that reproductive justice can only be achieved if maternal and newborn care reflects on its own role in shaping, causing, maintaining, sustaining, and (re)producing (in)justice [72]. AHP and BG have expertise in studying discrimination based on concepts of race/ethnicity and gender in health, and specifically in maternal and newborn care and in the Dutch context. All the researchers have experience with MNC, either as MNCP, pregnant and birthing person, or both. These experiences were discussed and reflected upon throughout the project.

Conclusions

The aim of this study was to investigate racial and ethnic bias in pain assessment, management, and treatment in maternity and newborn care (MNC). Our mixed-methods approach revealed quantitative results indicating that caesarean section was significantly more frequently performed in more than 180 min after the first complaint of pain in the non-Western category compared to the Western category. The qualitative results revealed the simultaneous presence *and* unawareness of racial/ethnic stereotypes and assumptions among MNCPs about pain experience and expression, and provided insight in how these stereotypes and assumptions affect decision-making about pain assessment, management and treatment. MNCP's differences were explained by most of the participants to be a result of other factors than their own racial/ethnic stereotypes and assumptions leading to discriminatory care, including womxn's individual profile, culture, language barrier and socio-economic position, which may distract from addressing systemic racial and ethnic discrimination as the root cause of the inequity. Our findings underscore the disavowal of the role of racial thinking and notions of ethnic differences in pain

assessment, management, and treatment, and highlights the need for critical reflection on the role of MNC in shaping, causing, maintaining, sustaining, and (re)producing racial/ethnic inequity, despite MNCPs' equitable. The results of this study provide a starting point to further investigate racial and ethnic inequity in MNC, and together, with MNC professionals and womxn, to address the ways that these differences can be mitigated.

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Author contributions

SK, EO, BG, AdJ and KB designed the study. Qualitative data was collected and analysed by SK and transcripts were reviewed and discussed by SK, BG, EO and AH-P. EO collected and analysed the quantitative data. AdJ and KB contributed to the development and conduct of the study. EO, BG, AH-P and SK wrote the first draft of the manuscript. BG, EO, AH-P, SK, AdJ and KB contributed to the interpretation of the data, gave feedback on earlier versions of the article and approved the last version of the article.

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Data availability

The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

Declarations

Ethics approval and participants consent

Ethical approval was granted for studies using NethOSS data by the Institutional Review Board of University Medical Centre Utrecht (reference number 14-127). According to the conditions of the Medical Ethics Review Committee (METC) this study falls within the scope of non-WMO research and does not need to be authorised by the METC to proceed. All participants of the interviews were required to sign an informed consent form prior to the interview. At the beginning of the interview, participants were made aware of the nature of the study and reminded of their voluntary participation in the study in addition to their right to withdraw participation at any time during the interview.

Competing interests

The authors declare no competing interests.

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