

Discrimination against Roma women during childbirth? Unraveling the underlying effects of ethnic and socio-economic factors

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ABSTRACT

Objective: This study aims to identify discrimination in maternity care experienced by Roma women in Hungary, due to ethnic and socio-economic factors.

Methods: We used data from the Cohort'18 Hungarian Birth Cohort Study, covering births in 2018–2019 (n = 7805). Face-to-face interviews were conducted by health visitors during pregnancy and six months postpartum. Differences in obstetric care were tested using Welch's ANOVA. Logistic regression models estimated the influence of Roma ethnicity on birth position, adjusting for socio-economic variables. Odds ratios with 95 % confidence intervals and adjusted predictions were calculated.

Results: Roma mothers had a lower rate of caesarean section due to fewer planned interventions (13.3% vs. 19.1% for non-Roma mothers). Roma women were less likely than non-Roma women to have a birth attended by a private obstetrician (15% vs. 52.6%) and less likely to have a family member present at the birth (40% vs. 65.5%). For vaginal births, 61.3% of Roma women had their birth position dictated by hospital staff, compared with 40.6% of non-Roma women. Ethnic background significantly influenced the choice of birth position, but these associations were attenuated after adjustment for socio-economic and territorial factors. Variables such as the presence of a private obstetrician, family support, and residence in Central Hungary reduced the likelihood of giving birth in a fixed position.

Conclusion: Roma women face significant disadvantages in maternity care in Hungary. Ethnic background has a negative impact on the quality of care, but it is also significantly influenced by adverse socio-economic and regional factors.

Introduction

Roma people constitute one of the largest ethnic minorities in Europe generally; and within the EU (European Union) – where the Roma population is estimated to be 6 million – they form the most significant ethnic minority. Most of the Roma population of Europe is to be found in Eastern European countries. Hungary has a significant Roma population of around 700,000, making up 7.05 % of the country's total population – an estimate provided by the Council of Europe [1]. Large numbers of Roma people live on the margins of society, in segregated settlements. They often face discrimination and socio-economic exclusion in their daily lives, such as limited access to quality (or mainstream) education, inadequate labour market integration, poor living conditions and lack of quality healthcare [2].

Several international studies confirm that the overall health of the Roma population is worse than that of the majority population of any given country [3–5]. Roma population has poorer and less-effective access to health services [6,7]. According to data from the Roma Survey 2021, carried out by the European Union Agency for Fundamental Rights (FRA), discrimination against Roma in terms of their access to health services increased between 2016 and 2021 in most of the countries surveyed, and in 2021 more Roma women than Roma men experienced discrimination [8]. In addition to the effect of ethnic discrimination, the predominantly disadvantaged socio-demographic status of Roma can also be identified as a factor underlying the health-care gap [9]. According to Hungarian data, the health disadvantage faced by Roma is also detectable [10] and is associated with discrimination against them. Although the health of people living in Roma

Abbreviations: FRA, European Union Agency for Fundamental Rights; ERRC, European Roma Rights Centre; HDRI, Hungarian Demographic Research Institute; NUTS, Nomenclature of Territorial Units for Statistics; WHO, World Health Organization.

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settlements in Hungary is heavily influenced by their socio-economic status (which basically explains their poorer health), it only goes some way to explain their poor health behaviour [11], which has improved only slightly in recent times following socio-political interventions [12].

The differential treatment of Roma in maternity care was identified in studies covering several European countries [13–17]. Of these, a systematic review by Watson and Downe [15] highlights the discrimination against Roma women in European maternity care systems in terms of both their access to care and their unequal treatment on the basis of ethnicity, economic status, place of residence or language. In the Balkans, according to Janevic [16], Roma women in Serbia and North Macedonia face widespread racism both in personal and institutional terms, leading to significant disadvantage across the whole spectrum of their prenatal and maternity care. For Romania, Magyari-Vincze [17] provides evidence that socio-economic conditions, institutional arrangements, policies and cultural conceptions all serve to shape ethnic and gender discrimination in relation to reproductive rights and access to healthcare for Romanian Roma women as well. In Hungary, the European Roma Rights Centre (ERRC) has revealed several discriminatory treatment practices against Roma women in the Hungarian healthcare system [18]. Its research report from the early 2000s mentions procedures such as segregated maternity wards (called ‘Gypsy rooms’), negligent treatment, verbal abuse, healthcare services provided by lower-level professionals than the patient’s condition would warrant, and the need to pay an (informal) fee to the doctors or other staff [18]. Hungarian qualitative studies have also reported on the unfavourable conditions of obstetric care for Roma mothers in Hungary [19,20]. These studies have highlighted issues such as inappropriate treatment and a lack of communication by professional staff. In most such cases, the women who gave birth felt they had been neglected/abandoned, had not been given adequate information, had not been offered a choice, or had been physically left alone. Many had experienced separation from non-Roma mothers [19,20].

For this study, in exploring discriminatory practices in the case of obstetric care the freedom of a woman to choose her position during labour and giving birth will be identified as an indicator of the quality of care. Maternity care providers have been shown to have an impact on a mother’s experience of childbirth and subsequent well-being. Control over the choice of birthing position is largely dependent on the attitudes and treatment of the healthcare institution, rather than on the technical equipment available. In this sense, it is also an appropriate indicator of discriminatory treatment [21]. The research literature attributes symbolic significance to the free choice of birthing position, which gives the woman individual control [21,22]. This choice is in line with World Health Organization (WHO) guidelines [23] and is identified with respectful treatment [22].

Research question

Does the discrimination in maternity care experienced by Roma women in Hungary result from ethnic or socio-economic factors, and how do these factors contribute to less favourable treatment?

Methods

Study sample and design

The data source is the Hungarian Cohort’18 Hungarian Birth Cohort Study conducted by the Hungarian Demographic Research Institute (HDRI) between 2018 and 2023. This is a nationally representative longitudinal birth cohort study, with a sample of 10% of all mothers who gave birth between April 2018 and April 2020. There are five survey waves – the first in the seventh month of pregnancy, followed by surveys when the cohort child is six months old, 18 months old, two years old and three years old. The datasets that have already been made available to the public may be accessed on request (see: <https://www.demografia.hu/en/birth-cohort-study>). The survey methodology, sampling and weighting methods of the Cohort’18 Hungarian Birth Cohort Study have been published in several reports [24–26].

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In our analysis, we use the first two waves of the survey, which took place during pregnancy and when the children were six months old. Mothers were only included if they were the biological parents of the cohort child and if they answered the self-identification questions on ethnicity. As 5.4% of mothers did not answer the question about their ethnic background (437 out of 8,242 women), the size of our sample of mothers in the analysis is 7,805.

Interviews were conducted face to face by health visitors, once the participants had been given adequate information and had provided written consent; but participants also completed a self-administered questionnaire at both waves.

Ethics

Participation in the study was voluntary. Written informed consent for HDRI was obtained from all participants. The Ethical Committee for the Cohort’18 Growing Up in Hungary Study approved the research on 15 November 2022, with reference number 2022/1. The research methodology adhered to the Helsinki Declaration and the Code of Ethics of the Hungarian Psychological Association.

Outcome variable: Freedom of choice of position during birth

There are several variables in the survey that characterize the obstetric care of women who gave birth in Hungary between April 2018 and April 2019, as reported by mothers in the six-month wave questionnaire. For giving birth, we distinguish between vaginal birth, planned caesarean section and emergency surgery. Women with a vaginal birth were asked whether they were able to choose their position during labour and giving birth. The answers were coded into a dichotomous variable: the woman was not free to choose the position of her body during labour and giving birth, or she was free. This is our outcome variable.

Explanatory variable: Ethnic background of the mother

The main explanatory variable of our analysis is the ethnic background of the mother: whether or not she identified as Roma. The question on the ethnic background of the mothers followed the methodology of the Hungarian census [27]. In the Cohort’18 survey, 7% of mothers identified as Roma, while 5.4% did not answer the question [28]. Our results are only representative of women who identified as Roma or non-Roma.

Control variables

There are four sets of adjustment variables examined in our model. (1) The effect of the health system on obstetric care is represented by measuring the presence of a private obstetrician at the birth. This is a dichotomous variable: the private obstetrician was present during the birth or was not. (2) The effect of demographic background is represented by the mother’s age at the time of the birth (less than 20 vs. at least 20 years old), her parity (at least three vs. fewer than three children) and her relationship status at the time of the birth (married vs. not married). (3) The socio-economic status variables are the mother’s level of education (at least vocational training vs. lower) and the family’s subjective income level (difficult vs. not difficult to cover household expenses). (4) The contextual regional variables are the population size of the settlement (over 1,000 inhabitants vs. under 1,000 inhabitants), the presence of a maternity unit in the settlement and the development region in which it is located (Central Hungary, including the capital vs. developed rural counties vs. less-developed rural counties). (5) We also adjust the models for the presence of the father/other family member at

the birth, also coded as a dichotomous variable: present or absent.

Statistical analysis

We tested the differences in obstetric care between Roma and non-Roma women using one-way analysis-of-variance (ANOVA) models. We calculated the Levene statistic to test for equality of group variances and the Welch statistic to test for equality of means. We have highlighted the significant binary associations (at level $p < 0.001$).

Binary logistic regression models were used to estimate the relationship between a woman's ethnic background (Roma or non-Roma) and the course of birth (choice of birth position) in a subgroup of women who gave birth vaginally (number of cases is 3969). We entered control variables stepwise into the regression model. Finally, we tested the interaction effects between educational attainment and other maternal socio-economic variables. However, the cross effects were not included in the final logistic regression model as they did not have a statistically significant relationship with the outcome variable. The estimated associations are expressed as odds ratios (ORs) with a 95 % confidence interval (CI). All analyses were conducted with a two-sided statistical significance level of 5 %.

We also calculate adjusted predictions at representative values (APRs) of selected covariates. We examine how the marginal effects differ across a range of combinations of values for five covariates. The five covariates are as follows: a dummy variable for ethnic background (Roma or not); a dummy variable with a value of 1 if the father, family member or friend is present at birth and 0 if not; a dummy variable for the educational attainment of the mother (low level of education or vocational education at least); a dummy variable for the size of the settlement (living in a small settlement of fewer than 1,000 inhabitants or in a larger settlement); and a dummy variable for the region of the mother's residence (in the most developed region of Hungary or elsewhere). The analysis was performed in Stata 14 using the logreg and margins commands, and the model estimates SEs were calculated using the default delta method (vce(delta)). The margin from the output table, calculated with the delta method, is presented in the analysis.

Results

Descriptive analysis

Roma mothers are less affected by the very high rate of caesarean sections in Hungary (43 % of births, Table 1). In addition to a higher proportion of vaginal births, the lower caesarean section rate is due to fewer planned interventions (13.3 % for Roma women, compared to 19.1 % for non-Roma). There is no significant difference in the prevalence of unplanned – emergency – caesarean sections between Roma and non-Roma women (22.4 % vs. 24.4 %). The proportion of births attended by a privately paid obstetrician outside the state health insurance system is significantly lower among Roma than among non-Roma women. More than half of all births in Hungary in 2018–2019 (52.6 %) were attended by a private obstetrician (essentially an extension of private prenatal gynaecological care to hospital births); but among Roma, only 15 % of births were attended by a private obstetrician. The child's father (or another family member) was present at the birth in 65.5 % of cases. However, the prevalence of the father (or another family member) being present at the birth is much lower among Roma women, at 40.0 %. A less medicalized dimension of the birth process is the treatment that mothers receive during childbirth. Looking only at women who gave birth vaginally, a significantly higher proportion of Roma women were not able to choose their birth position: 61.3 % had their body position during both labour and giving birth prescribed by hospital staff, compared with only 40.6 % of non-Roma women (Table 1).

Table 1
Differences in obstetric care for Roma and non-Roma women.

		N	%	F-sign.	Welch
Vaginal birth	Non-Roma	7,152	56.5	0.000	0.000
	Roma	607	64.3		
	Total	7,759	57.1		
Planned caesarean section	Non-Roma	7,152	19.1	0.000	0.000
	Roma	607	13.3		
	Total	7,759	18.6		
Emergency caesarean section	Non-Roma	7,152	24.4	0.274	0.263
	Roma	607	22.4		
	Total	7,759	24.2		
Private obstetrician present or not at birth	Non-Roma	7,195	55.8	0.000	0.000
	Roma	611	15.2		
	Total	7,805	52.6		
Father / family member present or not during childbirth	Non-Roma	7,195	67.7	0.000	0.000
	Roma	611	40.0		
	Total	7,805	65.5		
No choice of body position during childbirth (among women who gave birth vaginally)	Non-Roma	3,666	40.6	0.000	0.000
	Roma	330	61.8		
	Total	3,996	42.3		

Source: Hungarian Demographic Research Institute – Cohort'18 Growing Up in Hungary Study, waves 1, 2.

Explanatory analysis: Logistic regression models

In the explanatory analysis, we examine the likelihood of a woman giving birth in a fixed position versus being free to choose the position of giving birth or labour, comparing those Roma and non-Roma women who gave birth vaginally. In the first model, we included the Roma ethnic background variable (model 1). In the second model we also included the health system adjustment variable: the presence of a chosen obstetrician at the birth (model 2); then the presence of the father or other family member at the birth (model 3); maternal demographic characteristics (model 4); family socio-economic status (model 5); and finally contextual/territorial characteristics (model 6). According to the results of models 1–4 (Table 2), Roma ethnic background has a significant effect on a woman's choice of birth position, controlling for health system characteristics, family/friend support during childbirth and maternal demographic characteristics. However, the effect of Roma ethnic background on choice of birthing position is absorbed when the relationship is further adjusted for socio-economic background in model 5 (OR=1.301, 95 % CI: 0.967–1.750, $p = 0.082$) or for territorial factors in model 6 (OR=1.222, 95 % CI: 0.898–1.662, $p = 0.202$).

It should be noted, however, that several adjustment variables are significantly associated with the risk of giving birth in a fixed position in model 6, controlling for Roma ethnic background. There is a lower risk of a woman giving birth in a fixed position if a private obstetrician is present at the birth (OR=0.739, 95 % CI: 0.632–0.864), or if a family member/friend is present at the birth (OR=0.808, 95 % CI: 0.679–0.961), or if the mother lives in the most-developed region – Central Hungary – (OR=0.514, 95 % CI: 0.423–0.623). Conversely, the risk of giving birth in a fixed position is higher if the mother has a low level of education, with fewer than eight years of schooling (OR=1.383, 95 % CI: 1.089–1.756), if she finds it difficult to cover household expenses (OR=1.672, 95 % CI: 1.172–2.385), or if she lives in the least-developed NUTS2 counties of Hungary (OR=1.240, 95 % CI: 1.047–1.468).

We also present the adjusted predictions at representative values (APRs) of selected covariates of giving birth in a fixed body position (Fig. 1). We have constructed four (hypothetical) groups of women. Group 1 includes women with the least-favourable socio-economic conditions: women with Roma ethnic background, no private

Table 2

Risk of giving birth in a fixed position in the course of childbirth (no choice of birthing position), among women who gave birth vaginally, OR, 95% CI and $p > |z|$ significance level for OR.

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Roma ethnic background	2.366 (1.824–3.070) Sig. = 0.000	1.874 (1.434–2.449) Sig. = 0.000	1.679 (1.277–2.208) Sig. = 0.000	1.540 (1.161–2.044) Sig. = 0.003	1.301 (0.967–1.751) Sig. = 0.082	1.222 (0.898–1.662) Sig. = 0.202
Private obstetrician at birth		0.534 (0.465–0.612) Sig. = 0.000	0.587 (0.510–0.675) Sig. = 0.000	0.623 (0.539–0.720) Sig. = 0.000	0.666 (0.574–0.772) Sig. = 0.000	0.739 (0.632–0.864) Sig. = 0.000
Family member at birth			0.645 (0.551–0.756) Sig. = 0.000	0.673 (0.572–0.791) Sig. = 0.000	0.729 (0.618–0.861) Sig. = 0.000	0.808 (0.679–0.961) Sig. = 0.016
Mother's age at birth <= 20 years				1.140 (0.830–1.566) Sig. = 0.419	0.970 (0.687–1.370) Sig. = 0.862	0.827 (0.580–1.180) Sig. = 0.295
Mother: married				0.791 (0.686–0.912) Sig. = 0.001	0.839 (0.726–0.971) Sig. = 0.018	0.874 (0.750–1.018) Sig. = 0.083
Parity: >= 3 children				1.079 (0.908–1.283) Sig. = 0.389	1.004 (0.840–1.200) Sig. = 0.967	0.986 (0.820–1.186) Sig. = 0.883
Education: <= 8 years of schooling					1.465 (1.169–1.836) Sig. = 0.001	1.383 (1.089–1.756) Sig. = 0.008
Covering household expenses: difficult					1.597 (1.154–2.211) Sig. = 0.005	1.672 (1.172–2.385) Sig. = 0.005
Maternity wards in the settlement						0.928 (0.792–1.086) Sig. = 0.351
Settlement size: <= 1,000 inhabitants						1.233 (0.962–1.581) Sig. = 0.097
Central Hungary						0.514 (0.423–0.623) Sig. = 0.000
Less-developed NUTS2 counties						1.240 (1.047–1.468) Sig. = 0.013
Constant	0.683 Sig. = 0.000	0.921 Sig. = 0.090	1.122 Sig. = 0.006	1.286 Sig. = 0.003	1.065 Sig. = 0.496	1.034 Sig. = 0.756
n	3969	3969	3969	3969	3950	3774
Log pseudo-likelihood	-2695.2	-2650.8	-2634.3	-2627.5	-2601.7	-2430.0
Wald $\chi^2(1)$	42.02	122.12	145.54	153.32	165.24	263.01
Prob > χ^2	0.000	0.000	0.000	0.000	0.000	0.000
Pseudo R ²	0.010	0.026	0.033	0.035	0.039	0.062

Note: Model 1: Roma ethnicity; Model 2: Model 1 + chosen obstetrician present at birth; Model 3: Model 2 + father, family member, friend present at birth; Model 4: Model 3 + mother younger than 20 at birth, married, has three or more children; Model 5: Model 4 + mother has primary education, subjective household income situation is poor; Model 6: Model 5 + there is a maternity hospital in the settlement, mother lives in a settlement with fewer than 1,000 inhabitants, region of residence. Source: Hungarian Demographic Research Institute – Cohort '18 Growing Up in Hungary Study, waves 1, 2.

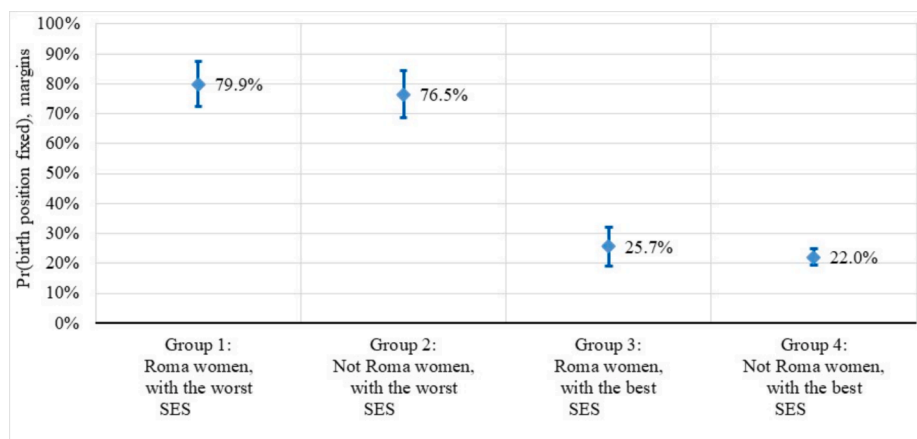


Fig. 1. Estimated probability of giving birth in a fixed body position, by social group, among women with vaginal birth.

obstetrician present at birth, with the lowest level of education, who have difficulty in covering their household expenses, who live in a small settlement of fewer than 1,000 inhabitants in a less-developed region of Hungary. Group 2 includes women with the least-favourable socio-economic conditions, but with a non-Roma ethnic background. Group 3 includes women with the most-favourable socio-economic conditions and with a Roma ethnic background: women with a private obstetrician present at the birth, who have at least secondary education, who have no difficulty in covering their household expenses, and who live in larger settlements of more than 1,000 inhabitants and in the most-developed region of Hungary. Group 4 consists of women with the most-favourable socio-economic conditions and non-Roma ethnic background.

The adjusted prediction of giving birth in a fixed body position is 22.0 % for women in group 4. On the other hand, the estimated predicted probability for women with the worst socio-economic background is 79.9 % for those in group 1. However, the predicted probability of giving birth in a fixed position is 76.5 % for women with a poor socio-economic background but who are not Roma (group 2), and 25.7 % for Roma women with a 'good' socio-economic background (group 3).

Discussion

The quality of maternity care received by Roma women is significantly lower than in the case of non-Roma mothers. The picture painted by (mainly qualitative) international and Hungarian research over the past two decades is confirmed by quantitative research [14–17,18–20]. Roma women have less access to quality services provided by the maternity and obstetric care system, and they are much more likely to use the free services provided by social insurance than they are to be attended by a private gynaecologist. Their rate of planned caesarean section is lower than the national average. Roma women have less-favourable experiences of childbirth and related care and treatment. The presence of a private gynaecologist at birth is less common; but among Roma it is also less common for the baby's father to be present, which may be due to cultural reasons [20]. The less-favourable obstetric care and treatment is reflected in the different circumstances of childbirth and labour: Roma women are less likely than their non-Roma counterparts to be able to choose their position during labour and pushing [20]. The less-favourable conditions of care and treatment [19] are also reflected in the lower satisfaction with childbirth expressed by Roma mothers.

In our analysis, the quality of obstetric care and the treatment experienced is represented by the freedom for a woman to choose her birthing position during labour and pushing – something that we examined among those women who gave birth vaginally. This variable includes the control that the woman has over the birth [21]. In this respect, we find strong socio-economic and structural determinants behind the less-favourable obstetric care of Roma women. A range of socio-economic background factors increases the likelihood that the mother will not be able to choose the best position for herself during childbirth, but will have to follow the instructions of the professional staff. Younger, poorer women are more likely to give birth in this forced position. Mothers in the most highly developed region, Central Hungary, who give birth in the presence of a doctor and a family member have better conditions for obstetric care.

The ethnic effect *per se* – i.e. ethnic discrimination against Roma in obstetric care – cannot be shown with any clear certainty after the inclusion of variables representing socio-demographic disadvantage. The predicted probability of giving birth in a fixed position is 22 % among non-Roma women with the highest socio-economic status and 76.5 % among non-Roma women with the lowest. However, the estimated probability of giving birth in a fixed position is still 79.9 % for non-Roma women in the worst socio-economic situation, while this predicted probability is 25.7 % for Roma women in the best socio-economic

situation, as our results show.

Conclusions

Roma women receive significantly lower-quality maternity care compared to non-Roma mothers. The disparities are reduced access to quality services, lower rates of planned caesarean sections, and less-favourable childbirth experiences. The freedom to choose the birthing position are significantly influenced by socio-economic factors. Although, direct ethnic discrimination in obstetric care is not shown conclusively, the pronounced socio-economic disadvantages faced by Roma women contribute to their less-favourable childbirth conditions. Our findings highlight the basic need to improve maternity care equity and to address the socio-economic barriers affecting Roma women.

CRedit authorship contribution statement

Laura Szabó: Writing – review & editing, Writing – original draft, Visualization, Validation, Supervision, Software, Methodology, Investigation, Formal analysis, Data curation. **Zsuzsanna Veroszta:** Writing – review & editing, Writing – original draft, Validation, Supervision, Resources, Project administration, Methodology, Investigation, Funding acquisition, Data curation, Conceptualization.

Declaration of competing interest

The authors declare that they have no competing interests or personal relationships that could have influenced the results reported in this paper.

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