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In search of respect and continuity of care: Hungarian women's experiences with midwifery-led, community birth

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Abstract

Introduction: To describe and compare intervention rates and experiences of respectful care when Hungarian women opt to give birth in the community.

Methods: We conducted a cross-sectional online survey ($N = 1257$) in 2014. We calculated descriptive statistics comparing obstetric procedure rates, respectful care indicators, and autonomy (MADM scale) across four models of care (public insurance; chosen doctor or chosen midwife in the public system; private midwife-led community birth). We used an intention-to-treat approach. After adjusting for social and clinical covariates, we used logistic regression to estimate the odds of obstetric procedures and disrespectful care and linear regression to estimate the level of autonomy (MADM scale).

Findings: In the sample, 99 (7.8%) saw a community midwife for prenatal care. Those who planned community births had the lowest rates of cesarean at 9.1% (public: 30.4%; chosen doctor: 45.2%; chosen midwife 16.5%), induced labor at 7.1% (public: 23.1%; chosen doctor: 26.0%; chosen midwife: 19.4%), and episiotomy at 4.44% (public: 62.3%; chosen doctor: 66.2%; chosen midwife: 44.9%). Community birth clients reported the lowest rates of disrespectful care at 25.5% (public: 64.3%; chosen doctor: 44.3%; chosen midwife: 38.7%) and the highest average MADM score at 31.5 (public: 21.2; chosen doctor: 25.5; chosen midwife: 28.6). In regression analysis, community midwifery clients had significantly reduced odds of cesarean (0.35, 95% CI 0.16–0.79), induced labor (0.27, 95% CI

0.11–0.67), episiotomy (0.04, 95% CI 0.01–0.12), and disrespectful care (0.36, 95% CI 0.21–0.61), while also having significantly higher average MADM scores (5.71, 95% CI 4.08–7.36).

Conclusions: Hungarian women who plan to give birth in the community have low obstetric procedure rates and report greater respect, in line with international data on the effects of place of birth and model of care on experiences of perinatal care.

KEYWORDS

cesarean, community birth, Hungary, mother–baby-friendly care

1 | BACKGROUND

A ruling in the European Court of Human Rights required Hungary to establish a regulatory framework for community birth,[1] and Hungary implemented such regulations in December 2011.[2] This partial restoration of community midwifery arrived after decades of decline. Early in the 20th century, midwives attended the majority of births at home. After the First World War, the country began to incentivize women to give birth in facilities. In 1953, the communist regime introduced a law to compel women to give birth in a facility.[3] The socialist birthing centers were medical institutions where midwives, who previously worked independently, transitioned to roles akin to obstetric nurses, subsumed into a medicalized approach to care.[4] However, in today's birth centers, independent midwives provide an autonomous, holistic model of care that aligns with the Midwives Model of Care™ scope and standards set by the International Confederation of Midwives.[5]

After the political and economic transformations of the early 1990s, emergent feminist and civil rights movements in post-communist countries from Poland to Croatia began to demand quality, evidence-based, and respectful care during hospital births.[6,7] Activists from Hungary linked with international movements for "humanized" childbirth, and in Hungary's urban centers, pregnant women and their partners sought care with community midwives. By the early 2000s, a small group of independent Hungarian community midwives, doulas, pregnant women and their families, and advocates were lobbying for the government to provide a regulatory framework for community birth.[2]

1.1 | Context of midwife-led community births in Hungary

Hungary's national health insurance does not cover community birth as part of the overall maternity care benefit.[2] Clients privately hire community birth midwives at a cost of 200,000 forints, which in 2021 equaled to slightly more than 1 month's net income, when averaged per household.[8] Community birth clients build a continuity relationship with their midwife, whereas in the public system, women usually see different practitioners every prenatal visit. Hospital-based midwives are credentialed to independently provide prenatal care to low-risk women, but when birth occurs in the hospital, the midwife typically works under physician supervision.

Because the national health insurance scheme does not reimburse practitioners for continuity of care, Hungarian women will pay informally, on average 191 euros, to have continuity with a "chosen" practitioner between their prenatal visits and their hospital birth.[9] In a nationally representative sample 53% of women saw a chosen doctor for prenatal care, 11% saw a chosen midwife, and 35% opted for public care.[10] Compared with public care, women who informally pay a chosen doctor experience significantly higher obstetric procedure rates and more respectful care.[9] Beginning in January of 2021, the Hungarian government began to enforce a ban on informal cash payments in maternity care.[11] Because clients privately hire community midwives in the setting of transparent cost structures, informal payments are thought to play little to no role.

While the community birth movement in Hungary has been the subject of socio-political analyses,[2,12,13] scarce data has examined outcomes in community birth settings. The absolute number of women giving birth per year in community settings is likely small. Hungary reports around 90,000 birth per year,[14] and 0.4% of expecting mothers reported plans to give birth at home.[15] One prior study examined community birth clients' procedure rates in a single midwifery practice,[16] but no data exists on the different aspects of respectful care in community birth settings. We sought to describe the obstetric procedure rates and experiences of respectful care among community birth clients in Hungary. Then, we compared procedure rates and respectful care measures between midwife-led community birth and the standard models of Hungarian maternity care.

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Though our data were collected in 2014, to the best of our knowledge, no other analysis has compared obstetric procedure rates and respectful care between community birth settings and the other maternity care models in Hungary. Our data can serve as a baseline for future investigations into how the different maternity care models may be shifting in the wake of new regulations that aim to stamp out informal payments. So too, our analysis can serve as a comparison example for other Central Eastern European (CEE) countries that have recently begun to analyze the influence of informal payments on quality of maternity care.[17]

2 | METHODS

We administered The Mother-Centered Pregnancy Care Survey, a nationwide cross-sectional survey using a quota system to ensure a representative sample. The survey collected information on screening, preferences and experiences of care throughout the perinatal period, and on informal payments made to ensure access to a continuity of care by "chosen" practitioners.

We describe elsewhere the multi-disciplinary expert content validation of North-American English-language survey items,[18,19] and adaptation to the Hungarian context, including developing new survey items that we used to identify the different informal payment arrangements women made to obtain continuity of care.[20] The expert content validation process rated highly the clarity and relevance of these English-language survey items, including the items from the Maternal Autonomy and Decision Making (MADM) scale. The study received ethical approval from the Semmelweis University Regional and Institutional Committee of Science and Research Ethics (Nr 99/2014) and was conducted in compliance with the World Medical Association Declaration of Helsinki.

2.1 | Sample and survey administration

The survey firm Ipsos (Hungary) carried out data collection in October 2014. Ipsos maintains a survey panel with more than 70,000 members, representative of Hungarian internet users based on age, sex, and geographical location. Using this basic information, we set our "target population" as women between the ages of 18 and 45 who also had children under the age of 5 (total panel available = 7762 women). To ensure representativeness, invitations were sent out using quotas based on the distribution of age, marital status, household size, income, education, region, and the ratio of urban/

rural residents in the target population. Our target sample size was 600 women who met the inclusion criteria. After 892 e-mail invitations, 600 women had submitted responses (response rate = 67%).

We knew that the numbers of women giving birth at home would be small in a representative sample so we also circulated the survey link in home and natural childbirth social media forums to assemble a convenience sample of community birth clients. We obtained an additional 657 responses (unknown response rate). The convenience and representative samples followed the same inclusion criteria, and we gathered the same demographic data on both groups. We combined the samples and analyzed total responses (N = 1257). Before initiating the survey all respondents signed an electronic informed consent that explained the study objectives and mechanisms to preserve confidentiality. Women could terminate the interview at any time.

2.2 | Measures and indicators

Our independent variable was the model of care. The community birth group gave birth at home, in birth centers, or transferred into the hospital after the onset of labor. We labeled those who paid an obstetrician informally the "chosen doctor" group. A small group made informal arrangements with a hospital-based "chosen midwife." The rest of the sample received care through the public health system without the opportunity for continuity of care.

Our dependent variables were obstetric procedure rates and mother-baby friendly indicators derived from the International Federation of Gynecology and Obstetrics (FIGO)/International Confederation of Midwives (ICM) Mother-Baby Friendly Hospital Initiative. Cesarean and induction of labor rates were calculated with the total population of women as the denominator. Episiotomy and epidural rates were calculated using vaginal deliveries as the denominator. We used these mother-baby friendly indicators: supportive care (physical comfort, emotional support, helpful information); non-pharmacologic methods of pain relief offered; an "undisturbed birth" indicator consisting of no routine interventions (artificial rupture of membranes, shaving pubic hair, intravenous fluid administration, Pitocin augmentation, urinary catheter insertion, vaginal suturing, continuous electronic fetal monitoring); the ability to choose a position in which to give birth vaginally; a disrespectful care indicator that consisted of a summed score of discriminatory treatment based on social attributes, interventions without informed consent, and pressure to accept interventions;

and lastly, immediate postpartum breastfeeding support (rooming in with the new-born, skin-to-skin contact, and breastfeeding in the first hour of life).[21] We asked women to rate their autonomy when interacting with practitioners around options for care using the MADM scale (our score range 7–35; original MADM scale ranged from 7 to 42[22]).

2.3 | Potential confounders

We planned to adjust our model for social and clinical factors that were related to variation in model of care. We gathered information on age, net monthly income, years of education, residence, and marital status. We used the 2014 monetary rate to convert income from Hungarian forints into Euros. Women reported their medical and obstetric conditions (e.g., chronic hypertension, pre-eclampsia, preterm delivery). We categorized clinical risk factors into three groups: none, moderate, and significant. In our model, we only included significant clinical factors as according to UK NICE guidelines the significant risk factors were those that should prompt obstetric referral.[23]

2.4 | Analysis

We calculated descriptive statistics for the demographic and clinical characteristics, for obstetric procedures rates, and for the mother-baby friendly indicators. We used two-tailed z tests for dummy variables, Pearson χ^2 test for multi-level categorical variables, and two-tailed t or z tests for continuous variables. We built regression models with our main dependent variables: obstetric procedures (cesarean, induction of labor, episiotomy, and epidural), disrespectful care, and the MADM score. As for the mother-baby friendly indicators, we decided only to regress disrespectful care and the MADM score as these two indicators stand alone as outcomes highlighted in the literature. The other mother-baby friendly indicators (quality of breastfeeding support) are interrelated components of the model of care and do not stand alone as comparative measures themselves.

We first ran a crude model and then an adjusted model while controlling for those potentially confounding social and clinical covariates that were shown in the descriptive statistics and in prior analyses to be significantly different across the models of care [XX citation removed for blinding]. For example, we would expect that women in Budapest to pursue different models of care compared with those residing outside the capital, who may rely more on the public insurance system. We

used the ln of income in Euros in the adjusted model. We conducted logistic regression to investigate associations between the models of care and obstetric interventions and disrespectful care; we report our findings in terms of odds ratios with 95% confidence intervals. We conducted linear regression model to investigate the association between the models of care and the level of maternal autonomy; we report our findings with the Beta coefficient with 95% confidence intervals. We used robust standard errors. We employed STATA version 14.2 for all statistical calculations. We followed the STROBE guidelines for reporting data in observational studies.[24]

3 | RESULTS

A total of 1257 women completed the questionnaire. In terms of prenatal care, 99 women (7.8%) started prenatal care with a community midwife. Of the 99 women who planned to give birth with in a community setting, 18 transferred into the hospital (18.2%). Of the women who gave birth in the community 65 (80.2%) were at home and 12 (14.8%) were in a birth center. There was only one un-planned home birth. Most women opted to see a chosen doctor (44.3%) for prenatal care, followed by a chosen midwife (25.1%), and the remainder went with public care (22.8%).

Women reported that their continuity practitioner was also present at the birth the majority of the time in the chosen midwife group (89.2%) and in the chosen doctor group (79.3%). Among all community birth clients, 76.7% reported that their continuity practitioner was present at the birth. When restricted to the population that did not transfer into the hospital and successfully gave birth in the community, 92.2% reported that their continuity midwife attended the birth. Thus, the overall rate of having a continuity practitioner being present at the birth was lower for community birth clients because 13 out of 18 transferred into the hospital where they did not know the practitioner who attended their birth. A low percentage of women in the public system knew the practitioner who attended their birth (9.4%).

Compared with public care, community birth clients were more likely to be over 30 years old ($p < 0.001$), have received a tertiary education ($p < 0.001$), live in the capital Budapest ($p < 0.001$), have a higher monthly income ($p < 0.001$), and be married or have a partner ($p < 0.001$). Community birth clients tended to have 3 or more children ($p < 0.001$) and were least likely to have a significant health risk factor (14.1%). There was only 1 reported new-born complication among women who gave birth in the community (Table 1).

TABLE 1 Descriptive statistics for different models of maternity care ($n = 1257$).

Socio-demographics	Public option (N = 286, 22.8%)	Chosen doctor (N = 557, 44.3%)	Chosen midwife (N = 315, 25.1%)	Community birth (N = 99, 7.8%)
Chosen practitioner present at birth* $\chi^2 = 530.48$, $p < 0.001$				
Yes	27 (9.44)	442 (79.35)	281 (89.21)	76 (76.77)
Gave birth after 2011 regulations* $\chi^2 = 22.66$, $p < 0.001$				
Yes	179 (62.59)	345 (61.94)	242 (76.83)	69 (69.70)
Age* $\chi^2 = 81.85$, $p < 0.001$				
<25	16 (5.59)	8 (1.44)	3 (0.95)	1 (1.01)
25–29	93 (32.52)	74 (13.29)	48 (15.24)	12 (12.12)
30–34	87 (30.42)	225 (40.39)	114 (36.19)	34 (34.34)
35–39	71 (24.83)	191 (34.29)	120 (38.10)	39 (39.39)
40+	19 (6.64)	59 (10.59)	30 (9.52)	13 (13.13)
Education* $\chi^2 = 194.86$, $p < 0.001$				
Primary or less	74 (25.87)	51 (9.16)	5 (1.59)	4 (4.04)
Secondary	118 (41.26)	149 (26.75)	51 (16.19)	17 (17.17)
Tertiary	94 (32.87)	357 (64.09)	259 (82.22)	78 (78.79)
Settlement* $\chi^2 = 70.61$, $p < 0.001$				
Capital	51 (17.83)	171 (30.70)	145 (46.03)	37 (37.37)
Other town	144 (50.35)	269 (48.29)	125 (39.68)	32 (32.32)
Village	91 (31.82)	117 (21.01)	45 (14.29)	30 (30.30)
Net monthly income* $\chi^2 = 131.07$, $p < 0.001$				
<500 EUR	101 (36.73)	100 (18.69)	25 (8.09)	8 (8.08)
500–830 EUR	94 (34.18)	169 (31.59)	71 (22.98)	22 (22.22)
>830 EUR	80 (29.09)	266 (49.72)	213 (68.93)	69 (69.70)
Missing	11	22	6	0
Marital Status* $\chi^2 = 63.05$, $p < 0.001$				
Living alone	33 (11.54)	40 (7.18)	9 (2.86)	4 (4.04)
Living with partner, married	152 (53.15)	392 (70.38)	255 (80.95)	79 (79.80)
Living with partner, not married	101 (35.31)	125 (22.44)	51 (16.19)	16 (16.16)
Number of deliveries $\chi^2 = 19.20$ $p = 0.004$				
1st	131 (45.80)	258 (46.32)	143 (45.40)	35 (35.35)
2nd	94 (32.87)	202 (36.27)	117 (37.14)	29 (29.29)
3rd+	61 (21.33)	97 (17.41)	55 (17.46)	35 (35.35)
Significant Risk factor * $\chi^2 = 32.43$, $p < 0.001$				
Yes	94 (32.87)	194 (34.83)	65 (20.63)	14 (14.14)
Newborn complications $\chi^2 = 4.49$, $p = 0.213$				
Yes	13 (4.55)	21 (3.77)	21 (2.22)	1 (1.01)

Note: HUF stands for Hungarian forint which is the main currency (150 thous HUF = $516 USD). Was your baby born healthy with no problems? –good question?

***$p < 0.001$; **$p < 0.01$.

TABLE 2 Obstetric procedures across the different models of care.

	Public option (N = 286)	Chosen doctor (N = 557)	Chosen midwife (N = 315)	Community birth (N = 99)
Mode of delivery*** $\chi^2 = 106.30$, $p < 0.001$				
Spontaneous vaginal	193 (67.48)	292 (52.42)	256 (81.27)	90 (90.91)
Forceps/Vacuum	6 (2.10)	13 (2.33)	7 (2.22)	0 (0.00)
Cesarean	87 (30.42)	252 (45.24)	52 (16.51)	9 (9.09)
Induced labor*** $\chi^2 = 19.45$, $p < 0.001$				
Yes	66 (23.08)	145 (26.03)	61 (19.37)	7 (7.07)
Episiotomy for VB*** (VB N = 857) $\chi^2 = 120.15$, $p < 0.001$				
Yes	124 (62.31)	202 (66.23)	118 (44.87)	4 (4.44)
Epidural*** (VB N = 857) $\chi^2 = 120.16$, $p < 0.001$				
Yes	17 (8.54)	37 (12.13)	16 (6.08)	1 (1.11)

Abbreviations: MADM score, women's perception of decision-making autonomy during maternity care and childbirth; VB, vaginal birth.

***$p < 0.001$.

3.1 | Obstetric procedure rates; mother-baby friendly care; disrespectful care; autonomy

Tables 2 and 3 show the descriptive statistics for procedure rates and respectful care indices. Community birth clients overall had the lowest rates of cesarean (9.1%), induced labor (7.1%), episiotomy (4.4%), and epidural (1.0%). By contrast, women who gave birth with a chosen doctor demonstrated the highest rates of cesarean (45.2%), induced labor (26.0%), and episiotomy (66.2%). See Table 2.

In terms of mother-baby friendly indicators, community birth clients reported higher rates of non-pharmacologic methods for pain relief (91.1%), of giving birth without routine interventions (60.0%), being able to choose the position in which to deliver vaginally (86.7%), and quality breastfeeding practices (83%). Chosen midwife care in the hospital reported the highest rate of supportive care from a medical practitioner (75.9%). Community birth clients (6.1%) and the chosen midwife (3.8%) group were less likely to say that they received "no support" during labor. Examining all women who planned a birth in the hospital, only 42 of the 1158 (3.6%) gave birth without routine interventions. Community birth clients reported the lowest rate of disrespectful care (25.3%) and the highest MADM scores (31.5 average; median 35). By contrast, women in the public system reported the highest rates of disrespectful care (64.3%) and the lowest MADM scores (21.22 average; 21 median).

3.2 | Regression analysis of obstetric procedures, disrespectful care, and autonomy

Table 4 shows the results from the regression analysis. After adjusting for social and clinical covariates, compared with public care, in this intention-to-treat model analysis, community birth clients had significantly lower odds of cesarean (aOR 0.35, 95% CI 0.16–0.79), induced labor (aOR 0.27, 95% CI 0.11–0.67), and episiotomy (aOR 0.04; 95% CI 0.01–0.12), but not epidural (aOR 0.15, 95% CI 0.02–1.20). On the other hand, compared with the public care model, women who gave birth with a chosen doctor experienced significantly higher odds of cesarean (aOR 1.84, 95% CI 1.27–2.68) and episiotomy (aOR.1.70, 95% CI 1.10–2.65). Compared with the public option, community birth clients had significantly lower odds of disrespectful care (aOR 0.36, 95% CI 0.21–0.61) and higher average MADM scores (5.72, 95% CI 4.09–7.36). Women who saw a chosen practitioner also experienced significantly less disrespectful care when compared with the public system (chosen doctor aOR 0.55, 95% CI 0.40–0.76; chosen midwife aOR 0.51, 95% CI 0.36–0.73) and had higher average MADM scores (chosen doctor 3.22, 95% CI 2.04–4.40; chosen midwife 5.71, 95% CI 4.48–6.94).

4 | DISCUSSION

In this analysis we found that compared with public maternity care those who planned community births

TABLE 3 Mother-Baby friendly indictors.

Birth indicators	Public option (N = 286)	Chosen doctor (N = 557)	Chosen midwife (N = 315)	Community birth (N = 99)
Supportive care*** $\chi^2 = 46.33$ $p < 0.001$				
Only family	87 (30.42)	163 (29.26)	64 (20.32)	17 (17.17)
Only medical	158 (55.24)	335 (60.14)	239 (75.87)	76 (60.14)
No support	41 (14.34)	58 (10.41)	12 (3.81)	6 (6.06)
Drug free methods*** VB $N = 857$ $\chi^2 = 48.47$, $p < 0.001$				
Yes	141 (70.85)	219 (71.80)	239 (90.87)	82 (91.11)
Undisturbed birth*** VB $N = 857$ $\chi^2 = 250.27$, $p < 0.001$				
Yes	4 (2.01)	11 (3.61)	27 (10.57)	54 (60.00)
Chosen position during vaginal delivery VB*** $N = 857$ $\chi^2 = 128.73$, $p < 0.001$				
Yes	47 (23.62)	103 (33.77)	136 (51.71)	78 (86.67)
Summed BF score*** $\chi^2 = 122.82$, $p < 0.001$				
Yes	105 (36.71)	203 (36.45)	198 (62.86)	83 (83.84)
Disrespectful care*** $\chi^2 = 63.18$, $p < 0.001$				
Yes	184 (64.34)	247 (44.34)	122 (38.73)	25 (25.25)
MADM score* $\chi^2 = 9.78$, $p = 0.021$				
Mean	21.22	25.47	28.60	31.52
Med	21	27	31	35

Note: Undisturbed birth defined as a birth without artificial rupture of membranes, shaving pubic hair, IV fluid administration, Pitocin augmentation, urinary catheter insertion, vaginal suturing, continuous electronic fetal monitoring. Quality breastfeeding defined as rooming in with the newborn, skin-to-skin contact, and breastfeeding in the first hour of life. Disrespectful care reported as having experienced any discriminatory treatment based on social attributes, interventions without informed consent, and pressure to accept interventions.

Abbreviations: MADM score, women's perception of decision-making autonomy during maternity care and childbirth; VB, vaginal birth.

***$p < 0.001$; *$p < 0.05$.

experienced lower rates of cesarean, induction, and episiotomy in line with international recommendations,[25-27] along with higher rates of respectful care, mother-baby friendly care, and autonomy, similar to the international literature on midwife-led care.[28,29]

4.1 | Community birth and evidence-based rates of obstetric procedures

Community birth clients experienced a low episiotomy rate (4.4%) in comparison to other country and hospital averages. Data on episiotomy rates in the CEE region are wide-ranging with Romania (68.2%) and Poland (67.5%) having relatively high episiotomy rates, Slovenia intermediate (36.1%), and Estonia (16.0) and Latvia (19.8%) low.[30] Within any country, hospital episiotomy rates vary widely, with hospitals in Slovenia ranging from 2.5% to 31.3%.[31] Due to an increased risk of 3rd and 4th degree perineal lacerations,[32] evidence does not support routine episiotomy (rates between 61% and 100%).

In a report on 442 births from three community birth practices, Vincze and Lipienné-Krémer found a transfer rate of 13.3% and an overall cesarean rate of 3.9%.[16] We found a higher transfer rate (18.2%) and a higher cesarean rate (9.1%). Due to different sampling techniques, it is difficult to draw conclusions about these different rates. Representative and comprehensive data from the Hungarian birth statistics office could help to resolve this difference in observed cesarean rates.

TABLE 4 Regression analysis obstetric procedures and mother-baby friendly care.

	Obstetric interventions				Mother-baby friendly	
	Cesarean (OR, 95% CI) N=1204	Induction of labor (OR, 95% CI) N=820	Episiotomy (OR, 95% CI) N=820	Epidural (OR, 95% CI) N=820	Disrespectful care (OR, 95% CI) N=1204	MADM score (95% CI) N=1204
Model 1 Crude						
Chosen doctor	1.92*** (1.42–2.59)	1.18 (0.85–1.65)	1.22 (0.84–1.77)	1.52 (0.83–2.82)	0.47** (0.36–0.63)	3.83*** (2.71–4.94)
Chosen midwife	0.45*** (0.31–0.67)	0.82 (0.56–1.20)	0.52** (0.36–0.75)	0.74 (0.37–1.50)	0.40*** (0.30–0.55)	6.55*** (5.42–7.68)
Community birth	0.32** (0.16–0.65)	0.28*** (0.13–0.62)	0.04*** (0.01–0.11)	0.14 (0.02–1.07)	0.31*** (0.19–0.52)	6.42*** (4.82–8.01)
Model 2 Adjusted						
Chosen doctor	1.84*** (1.27–2.68)	1.13 (0.67–1.91)	1.70* (1.10–2.65)	1.42 (0.68–2.98)	0.55** (0.40–0.76)	3.22*** (2.04–4.40)
Chosen midwife	0.55* (0.34–0.90)	1.01 (0.56–1.82)	0.86 (0.50–1.30)	0.57 (0.23–1.37)	0.51*** (0.36–0.73)	5.71*** (4.48–6.92)
Community birth	0.35* (0.16–0.79)	0.27** (0.11–0.67)	0.04*** (0.01–0.12)	0.15 (0.02–1.20)	0.36*** (0.21–0.61)	5.72*** (4.08–7.36)

Note: Adjusted for these variables (see Appendix 1): age, ln of income in euros, education, place of residence, marital status, primiparity, previous cesarean, and significant medical risk factors.

***$p < 0.001$; **$p < 0.01$; *$p < 0.05$.

After the transition to market economies, over the last 20 years the cesarean rate has risen faster in the CEE region than in any other WHO region, often exceeding the healthy population rate of 10%–15%.[26] Given the known morbidities of multiple sequential cesarean births,[33] the role of community midwives in safely reducing cesareans needs to be considered. Consistent with our previous analysis of nationally representative data,[10] we again found that women who planned a birth with a chosen doctor had the highest rate of cesarean birth. It's possible that chosen doctors were incentivized to shorten the duration of labor or to schedule cesareans to achieve the desired continuity of care. This contrasts with the community midwifery model, which had high levels of continuity with lower intervention rates.

4.2 | Community birth and respectful, mother-baby friendly care

Since the early 1990s, baby-friendly care in hospitals has been extensively explored in the CEE region.[34,35] While these baby-friendly efforts have continued,[36] the role of midwives, has not been previously assessed. We found that both in the community and in the hospital, women who gave birth with midwives reported higher quality breastfeeding practices immediately after birth.

In a recent multi-country European survey of women's experiences of care during the COVID-19 pandemic, with the exception of Italy, formerly communist countries demonstrated the lowest measures of quality maternal, child, and newborn care, including measures of respectful care.[17] Similar to our previous work we found that women in the Hungarian public system experienced high rates of mistreatment compared with previous global summaries of prevalence rates,[37] with the lowest rate of disrespectful care was with community midwifery clients at 25%.

Of note, our measure of disrespectful care was developed before the publication of a now standard taxonomy.[37] Using that taxonomy, Vedam et al.[38] found that 17% of U.S. women reported one or more types of mistreatment, with a rate of 5.1% in community birth compared with 28% in the hospital. The 25% rate of disrespectful care among community midwifery clients in Hungary warrants attention as this rate may be higher compared with other countries.

The benefits for midwifery care found in this study corresponded to multiple evidence syntheses[28] that have demonstrated how midwives improve psycho-social health outcomes and breastfeeding rates.[29] This study highlighted how the skills and health benefits of midwifery care may be underappreciated and underused in the health care systems of Hungary and other CEE countries.

4.3 | Continuity of care and the future of informal payments in the Hungarian maternity system

In January of 2021 the Hungarian government began to enforce an official ban on informal payments in maternity care.[11] Before this, paying a chosen doctor informally was one of the few avenues for women to obtain continuity of care. In light of government efforts, enrolling in prenatal care with a community midwife may become one of the few official ways to achieve continuity of care in the Hungarian system.

At this time, it is unclear how effective the new regulations will be at stopping the practice of informal payments,[11] as the regulations may drive payment underground or shift payment into private practice settings. Though gathered in 2014, our data can serve as a baseline for future investigations into changing patterns of maternity care that may result from the new regulations. Furthermore, informal payments remain prevalent in maternity care in CEE countries, for instance, happening in 26% of births in Serbia.[17] Informal payments, by their nature, occupy an ambivalent social space,[39] a practice that is simultaneously prevalent but hidden. Our development of new validated survey items that asked women to identify their "chosen" practitioner represents an important methodological contribution to this literature and can inform future comparisons of maternity care models across the CEE region.

4.4 | Limitations

We designed our study before the delineation of the seven standardized domains now used to describe mistreatment[37] or 12 domains of respect and disrespect identified by a global expert Delphi panel that informed the Canadian RESPCCT study.[40] Hence, it is possible we underestimated overall rates of mistreatment. Due to our use of convenience sampling, regression analysis cannot rule out the possibility of selection bias contributing to the association between model of care with procedure rates and with respectful care, especially considering that women who have risk factors are more likely to give birth in the hospital and to need obstetric procedures. While we did not test the criterion and construct validity of the MADM scale, the tool has been formally translated into 23 languages, and undergone psychometric testing in the Netherlands, Iceland, German, Turkey, Greece, Spain and several other European countries with consistently high Cronbach's Alpha. Published literature reports testing and use in 64 countries These studies add to the growing literature on the cross-national validity of the MADM scale.[41-43]

5 | CONCLUSION

To the best of our knowledge, this is the first study in Hungary, and one of the few in the CEE region, to describe community birth clients' experiences with respectful care. Enrolling with a community midwife may soon be one of the few official means for Hungarian women to obtain continuity of care. Though without being covered under the national insurance scheme, community midwifery care will continue to be accessible only to those with economic means.

CONFLICT OF INTEREST STATEMENT
The authors declare no conflicts of interest.

DATA AVAILABILITY STATEMENT
The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

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APPENDIX 1

Demographic and clinical variables adjusted for in regression analysis

	Obstetric procedures				Mother-baby friendly	
	Cesarean (OR, 95% CI)	Induction of labor (OR, 95% CI)	Episiotomy (OR, 95% CI)	Epidural (OR, 95% CI)	Disrespectful care (OR, 95% CI)	MADM score (95% CI)
	$N = 1204$	$N = 820$	$N = 820$	$N = 820$	$N = 1204$	$N = 1204$
Age	1.04* (1.01–1.08)	1.03 (0.99–1.08)	0.98 (0.95–1.02)	0.96 (0.90–1.03)	0.95*** (0.92–0.97)	0.10 (−0.01 to 0.21)
Ln income	0.96 (0.74–1.25)	1.00 (0.74–1.35)	0.89 (0.66–1.20)	1.34 (0.66–1.20)	1.00 (0.81–1.24)	0.15 (−0.68 to 0.98)
Primary education	0.91 (0.53–1.56)	1.42 (0.71–2.84)	0.68 (0.36–1.27)	0.40 (0.10–1.55)	0.94 (0.61–1.47)	−0.79 (−2.54 to 0.96)
Tertiary education	0.68* (0.47–0.99)	1.15 (0.69–1.94)	0.46*** (0.29–0.73)	0.94 (0.47–1.90)	0.81 (0.60–1.09)	−0.48 (−1.62 to 0.66)
From Budapest	1.07 (0.75–1.53)	0.58* (0.37–0.91)	0.45*** (0.31–0.68)	1.42 (0.74–2.71)	0.68** (0.51–0.91)	0.73 (−0.31 to 1.78)
From a village	0.98 (0.66–1.43)	0.74 (0.45–1.20)	0.89 (0.59–1.35)	1.30 (0.62–2.75)	0.94 (0.69–1.28)	0.23 (0.69–1.28)
Married	0.82 (0.59–1.13)	0.82 (0.52–1.27)	0.82 (0.48–1.06)	0.82 (0.54–1.82)	1.01 (0.77–1.34)	1.08* (0.01–2.14)
First birth	6.55*** (4.45–9.64)	1.33 (4.45–9.64)	6.01*** (4.09–8.85)	3.42*** (1.75–6.69)	3.42*** (1.75–6.69)	(−1.13*) (−2.14 to −0.11)
Previous cesarean	20.4*** (12.77–32.60)	0.47 (0.19–1.12)	2.26* (1.21–4.25)	0.40 (0.057–2.80)	0.63* (0.06–2.80)	0.15 (−1.21 to 1.50)
Significant risk factor	2.37*** (1.73–3.26)	2.80*** (1.87–4.20)	1.32 (0.89–1.96)	2.44** (1.36–4.39)	1.27 (0.97–1.65)	−0.86 (−1.87 to 0.15)

***$p < 0.001$; **$p < 0.01$; *$p < 0.05$.