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RESEARCH ARTICLE

The Pregnancy Experiences and Antenatal Care Services of Chinese Migrants in Switzerland: A Qualitative Study

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Abstract

Background: Differences in reproductive health outcomes according to the mothers' origins have been reported in Switzerland, for example, women from European countries and non-European countries. The Swiss Federal Office of Public Health has therefore called for specific Swiss-wide studies on migrant populations. This study explores the pregnancy and antenatal care experiences of Chinese migrants in Switzerland, intending to clarify their maternity care needs.

Methods: In-depth interviews of 14 Chinese mothers and 13 family members were conducted in Chinese or English and audio recorded. All audio-recordings were transcribed verbatim. All Chinese transcripts were translated into English. Thematic analysis was performed with the assistance of the qualitative data analysis software, MAXQDA Analytics Pro 2020.

Results: Five themes were extracted from the transcripts: (1) Motivations and concerns about having children, (2) The merits of the Swiss maternity care system, (3) The inconvenience and barriers of accessing Swiss maternity care services, (4) Strategies to deal with the inconveniences of the Swiss maternity care system, and (5) The need for culturally sensitive care.

Conclusions: The results of our study provide new knowledge and understanding of pregnancy experiences and antenatal care services of Chinese mothers and their families in Switzerland. Their unique positive experiences included: family planning, the continuity of maternity services, humane care with the privacy respected, personalized sensitive care needs, preferences for female obstetricians and obstetricians of Asian origin. Several barriers were highlighted, such as information seeking difficulties, communication difficulties, and a rigid appointment system. Reducing barriers enabling access to maternity care services within the Swiss healthcare system is necessary to provide equal quality maternity care for individuals, irrespective of their origins.

Keywords: pregnancy experiences; antenatal care services; Chinese; migrant; mothers; fathers; grandparents; qualitative; Switzerland

1 Background

2 According to the International Organization for Migration, approximately 272 million
3 migrants ^[1] worldwide live in a country other than their country of origin [1]. Europe

^[1]The terms “migration” and “migrants” have been much debated among scholars. In this study, we focused on Chinese people whom we considered as individuals

4 hosts around 82 million international foreigners, comprising 30% of the total interna-
5 tional foreign population [1]. Switzerland, located on the European continent, has a
6 significantly large proportion of the foreign population, which accounts for 25.3% of the
7 Swiss permanent residents [2]. In the last few decades, the Swiss population growth was
8 mainly attributable to net migration and, to a lesser extent, an excess of births over
9 deaths [3]. 29.4% of children born in Switzerland are foreign citizens [2], compared to
10 16.7% in countries of the European Union [4].

11 Differences in reproductive health outcomes according to the mothers' origins have
12 been reported in Switzerland. Currently, reproductive health outcomes of women from
13 European countries seem not to differ much from those of Swiss women [5], which
14 might be because they often face few cultural differences [2] and migration issues. For
15 instance, they usually have a long-term residence permit in Switzerland and are well
16 adapted to living in an international environment [7]. Comparatively, women from non-
17 European countries seem often less able to realize their reproductive health potentials in
18 Switzerland [8]. The issues leading to their poor reproductive health outcomes include
19 migration-related reasons (e.g., discrimination, uncertain residence status, and poor
20 language skills), poor social-economic status (e.g., low wages or unemployment), and
21 inadequate support from the healthcare system (e.g., insensitive care, insufficient health
22 information and communication difficulties) [9, 10, 11].

23 To reduce maternal health disparities between different migrant sub-groups in Switzer-
24 land, the Federal Office of Public Health of Switzerland has called for specific Swiss-wide
25 studies on migrant populations [12]. Asian minority groups account for 10% of the total
26 Swiss foreign population, where Chinese citizens (n= approximately 18,000) are the
27 third-largest group of Asian foreigners [13]. We expect studies on the Chinese migrant
28 group could serve as an example, to some extent, to facilitate the understanding of
29 reproductive health outcomes and specific healthcare needs of Asian origins [14, 15].
30 They have so far not been systematically reported in the Swiss context. Therefore, in
31 this study, we explored the experiences of pregnancy and maternity care services among
32 Chinese migrants in Switzerland, with the goals of identifying their pregnancy outcomes
33 and clarifying their maternity care needs.

34 **Methods**

35 This qualitative study employed in-depth interviews to explore the experiences of
36 pregnancy and maternity care of Chinese migrants in Switzerland.

37 **Participants**

38 Two groups of participants were recruited: (a) Chinese mothers and (b) family
39 members including fathers (i.e., mothers' husbands) and grandparents (i.e., mothers'
40 parents or parent in-laws). In total, we aimed to recruit a minimum of 10 Chinese
41 mothers and 10 family members. The sample size was based on similar published
42 qualitative studies [16, 17].

moving from one country to another, where can be considerably different from the
ones they are used to.

^[2]In this paper, we will use the term “culture” sparingly to refer to the broad idea
of ways of living and thinking shared by a group of people (for an overview of the
debates in anthropology on the concept of culture, see Kuper 1999 [6]).

43 To be eligible for this study, mothers had to fulfill the following criteria: (a)
44 were born and grew up in China and have Chinese nationality, (b) regardless of
45 migration history before they came to Switzerland, (c) being pregnant or have given
46 birth within one-year, and (d) without significant pregnancy or postpartum health
47 complications. Family members had to fulfill the following criteria: (a) remained
48 in Switzerland during the data collection period, and (b) regardless of migration
49 history before they came to Switzerland.

50 **Procedures**

51 Chinese mothers and their family members living in different regions of Switzerland
52 were recruited. Research flyers were posted in WeChat groups (a Chinese social me-
53 dia application) of Chinese people staying in Switzerland to invite Chinese mothers
54 and their family members to participate in the study. Eligible individuals who were
55 interested in the study were contacted individually via WeChat to explain the na-
56 ture of the study, the purpose, the procedures, and the expected duration. Once
57 they agreed to participate in the study, an appointment was scheduled to conduct
58 the interview.

59 The semi-structured interviews with open-ended questions focus on their family
60 planning, antenatal care, physical and mental health during the pregnancy period.
61 An opportunity was also given to all participants at the end of the interview to
62 raise issues that they perceived to be important or that had not been covered. In
63 addition, information on participants' socio-demographic characteristics (e.g., age,
64 marital status, education, occupation, residence duration, language skills, etc.) was
65 collected.

66 Most interviews (n=21) were conducted face-to-face individually at participants'
67 homes from November 2019 to February 2020. A few interviews (n=6) were car-
68 ried out online between March and April 2020 due to the travel restriction of the
69 Covid-19 lockdown in Switzerland. Interviews with Chinese and foreign participants
70 were conducted in Chinese and English, respectively, and audio recorded. All audio
71 recordings were then transcribed verbatim. All Chinese transcripts were translated
72 into English for data analyses by two Chinese postgraduate students with pro-
73 fessional working proficiency in English and majoring in Nursing Science. English
74 translations from Chinese and English quotations in the paper were validated by
75 DC and BZ.

76 To protect participants' privacy and maintain confidentiality on participant's per-
77 sonal information, numbered names were used to represent mothers and their family
78 members, respectively, in the data translation, analysis, and the paper writing (i.e.,
79 M = mothers; FM = family members). For example, "01-M" in the quote repre-
80 sents participant one of the mothers. The study was approved by the Commission
81 cantonale d'éthique de la recherche CCER (project number: 2019-01734).

82 **Data analysis**

83 Thematic analysis [18] was employed to develop a rich thematic description and to
84 analyze patterns of shared meanings of the experiences of the participants, using a
85 qualitative data analysis software (MAXQDA Analytics Pro 2020).

86 Before data analysis, the analysts (DC and PV) discussed their preconceptions and
87 expectations regarding the study results. After reading the verbatims several times

88 to get an overall impression of the data, a provisional coding frame emerged. Based
89 on this, the verbatim of the first interview was coded separately by DC and PV
90 to extract themes and sub-themes. The coding was then discussed and compared,
91 and a consensus was reached to form the initial coding tree. The verbatims of the
92 other interviews were analyzed using the same method. Results were discussed by
93 the whole research team, and following their critical feedback, the final coding tree
94 was obtained. No new codes emerged after the analysis of all the interviews.

95 **Results**

96 A total of 27 participants from 14 families were recruited across Switzerland in
97 eight Cantons: 14 Chinese mothers and 13 family members. The 13 family members
98 included nine fathers and four Chinese grandparents.

99 All participants had legal status. All mothers and fathers had advanced educa-
100 tional degrees. There was no change in fathers' employment status before and after
101 moving to Switzerland. However, only five out of nine originally employed mothers
102 remained to secure their employment status after moving to Switzerland whereas
103 four lost their jobs.

104 The number of years that parents had been living in Switzerland ranged from
105 nine months to 21 years. Four grandparents lived in China before they paid a short
106 visit to Switzerland. Detailed demographic information on mothers and fathers is
107 shown in table 1.

108 The following five main themes were defined in the findings: (1) Motivations and
109 concerns about having children, (2) The merits of the Swiss maternity care system,
110 (3) The inconveniences and barriers of accessing Swiss maternity care services, (4)
111 Strategies to deal with the inconveniences of accessing Swiss maternity care services,
112 and (5) The need for culturally sensitive care. An overview of the main themes and
113 sub-themes is shown in table 2.

114 **1. Motivations and concerns about having children**

115 *1.1 Motivations for having children*

116 In this study, nine families had their first child, and five had more than one child.
117 Chinese mothers and their family members reported that their motivations for rais-
118 ing children in Switzerland including good living conditions, filling the career gaps,
119 reproductive stress from their extended families, as well as providing a companion
120 and support from siblings.

121 Chinese mothers and their family members reported their enjoyment of good living
122 conditions in Switzerland. They favored the slow pace of work and life, convenient
123 public facilities, as well as a peaceful environment with good food safety and social
124 security, all of which encouraged them to have a baby in Switzerland. They also
125 described having low parenting stress in the Swiss context.

126 *“The good thing is that it is relatively calm here. It is suitable for giving birth in*
127 *all aspects.” (05-FM)*

128 Filling the career gaps was a common reason for Chinese mothers to have children
129 in this study. This can be explained by the fact that most mothers in our study
130 moved to Switzerland to accompany their Chinese husbands for work/study relo-
131 cation or reunite with their foreign partners from cross-cultural marriages. It was

132 challenging for those mothers to find a job because of migration issues and language
133 problems. Thus, those families decided to have children during the gap years of the
134 mothers' careers.

135 *"I came to Switzerland for my Ph.D. study, and my wife came with me. It is not*
136 *realistic for her to find a job in a short time. Most families I've known in this case*
137 *chose to have a baby first."* (01-FM)

138 Some mothers within "Chinese-Chinese" families (i.e., both parents were of Chi-
139 nese origins) reported that, although they lived far away from their home country,
140 they felt under great pressure to have a child from their extended families in China.

141 *"Our family wanted us to have a baby very urgently. To be honest, we had been*
142 *under great pressure from our parents."* (02-M)

143 The main motivation for families having more than one child in this study, partic-
144 ularly for mothers within "Chinese-foreign" families (i.e., Chinese wife and foreign
145 husband), were for their children to have a companion and life-long support for
146 their siblings.

147 *"I was alone here with my husband. It was very hard. I had to rely on myself for*
148 *everything. I was very tired every day. I just thought that our eldest son could have*
149 *a sibling to support him in the future."* (12-M)

150 1.2 Concerns about having further children

151 Although five families had a second or third child in our study, the other families
152 with one child expressed their negative concerns about having further children. In
153 general, the lack of family support regarding childcare was a common concern. This
154 was notable among the "Chinese-Chinese" families, due to international travel re-
155 strictions and short-term visitors' visas for Chinese family members visiting Switzer-
156 land.

157 *"Because our family is a "Chinese-Chinese" family, we have no friends and rela-*
158 *tives here to help us. I have no plan to have a second child."* (07-M)

159 Mothers within "Chinese-foreign" families reported that the support from their
160 foreign partners' extended families was also very limited. They described that due
161 to cultural differences, their foreign parent in-laws were less likely to be involved in
162 childcare than their Chinese parents. Thus, two mothers in our study had to send
163 their oldest child to China to be cared for by their Chinese parents after they had
164 the second child.

165 *"I sent my oldest son back to China and let my mom take care of him. Fortunately,*
166 *my mom can help me, otherwise, I would be exhausted."* (13-M)

167 In addition, balancing between career development as migrants and the parenting
168 roles had a major impact on some families regarding their decisions on whether
169 to have further children or not. The five (out of 14) mothers in this study who
170 were employed expressed their concerns about the interruption of their careers due
171 to childbearing responsibilities while they struggled to settle down as migrants in
172 Switzerland. Consequently, those families were heavily inclined to not have a second
173 child.

174 *"We completed our Ph.D. here. Because we want to settle down here and we must*
175 *develop our careers. It's impossible for my wife to stay at home to only take care of*
176 *children."* (13-FM)

177 Finally, parents within “Chinese-Chinese” families described how the “One-Child”
178 policy in China had affected their family planning. Some parents reported that,
179 being the only child in their extended family, they would be under great pressure
180 to support four elderly parents and raise at least one child at the same time when
181 they return to China shortly. Therefore, they were inclined not to have a second
182 child.

183 *“I think the ‘One-Child’ Policy has put much stress on our generation. [...] Be-*
184 *cause my husband and I are the only children in our extended family. If we have*
185 *two children, then we will be under great pressure of raising two children and taking*
186 *care of four elderly parents at the same time.” (04-M)*

187 Regarding the potential gender preference of their children, the four “Chinese-
188 Chinese” families with only girls expressed that they were not affected by the Chi-
189 nese tradition of “son preference” to give birth to a son. Some parents expressed
190 that it was best for a family to have a gender balance of children, and some shared a
191 slight inclination to have daughters. They believed that daughters are more reliable
192 than sons to provide emotional support for parents at their old ages.

193 **2. The merits of the Swiss healthcare system**

194 In general, Chinese mothers and their families perceived that maternity care services
195 in Switzerland were better than those in their home country. The continuity of
196 the maternity services, the comprehensive coverage of health insurance, and the
197 conveniences of the appointment system all reported contributing to their positive
198 maternity care experiences with the Swiss healthcare system. Additionally, humane
199 care with privacy respected was highly valued by Chinese mothers in this study.

200 *2.1 The continuity of the maternity care services*

201 Usually, Chinese mothers had a private obstetrician responsible for their antenatal
202 care in this study. This was perceived as one of the great benefits for Chinese
203 mothers of being pregnant in Switzerland. With a private obstetrician, Chinese
204 mothers appreciated the advantage of being followed up by the same obstetrician
205 during the pregnancy period.

206 *“Every mother here has her private obstetrician. The obstetrician has all the in-*
207 *formation of the mother, so he/she understands the mother’s situation very well.”*
208 *(13-M)*

209 *2.2 The comprehensive coverage of health insurance*

210 The comprehensive coverage of health insurance was reported to be better than
211 Chinese mothers’ expectations. Usually, for residents living in Switzerland, health
212 insurance is mandatory. Health insurance and the cost of medical treatment are
213 significant parts of a family’s expenses. However, Chinese mothers explained that
214 they only needed to pay the basic maternity insurance, and their maternity services
215 could be fully covered from pregnancy to postpartum home visits. Therefore, they
216 did not worry about childbirth costs in Switzerland.

217 *“Most mothers choose to give birth here because they don’t need to worry about the*
218 *cost. All costs related to childbirth are covered by the insurance. You could simply*
219 *follow advises that doctors give you without worrying about cost.” (01-FM)*

220 2.3 The conveniences of the appointment system

221 Parents expressed their appreciation for the appointment scheme in the Swiss
 222 healthcare system. Parents explained being able to go to hospitals at the desig-
 223 nated appointment time helped them to reduce the unnecessary waiting time. Fur-
 224 thermore, the maternity care providers were only responsible for one patient during
 225 the appointment time. They were allocated sufficient time for in-depth consultations
 226 related to their pregnancy-related health concerns.

227 *“It is all one-to-one service here when you visit your doctor. Also, there is no*
 228 *need to wait in line when we go to the hospital. Unlike in China, the hospitals are*
 229 *overcrowded, and you need to wait a long time to register and see a doctor.” (13-FM)*

230 2.4 Humane care with privacy respected

231 Chinese mothers and their family members rated their interactions with their ma-
 232 ternity care providers as highly positive. They positively commented on trustwor-
 233 thy, humane, and friendly services from their maternity care providers, which made
 234 them feel secure and relaxed in a new country. In addition, they expressed their great
 235 satisfaction with the way mothers’ privacy was protected during their consultation
 236 visits and obstetric examinations.

237 *“I’ve been in hospitals in China, and privacy is not particularly a concern in*
 238 *Chinese hospitals, while we have it in Switzerland.” (09-FM)*

239 3. The inconveniences and barriers of accessing Swiss maternity care services

240 Although mothers and their families appreciated the merits of Swiss maternity
 241 care services, as foreigners being pregnant in a foreign country, nevertheless, they
 242 faced challenges. The inconveniences and difficulties for Chinese mothers accessing
 243 maternity care services in Switzerland were mainly found to originate from the
 244 language barrier and the rigid appointment system.

245 3.1 The language barrier

246 The language barrier was the most significant challenge for most Chinese mothers
 247 and their families accessing maternity care services in this study. It was related to
 248 two aspects: one was an obstacle to information seeking, and the other was related
 249 to communication difficulties.

250 In terms of information seeking, some mothers in this study expressed that they
 251 were not aware that German and French rather than English are the main lan-
 252 guages spoken in Switzerland. They were not linguistically prepared before coming
 253 to Switzerland. Seven of 14 Chinese mothers who could not speak any local lan-
 254 guage reported that they gave up the opportunity to participate in prenatal courses
 255 because of language limitations. In addition, they could not understand written
 256 information distributed by hospitals.

257 *“They gave me a lot of paper information, but they were all in German. I asked*
 258 *them whether they had an English version, but they said no. After taking them back,*
 259 *I read them with Google Translate, but I lost interest and patience pretty quickly*
 260 *(laughs). I then put them aside.”(08-M)*

261 Two mothers asked a private midwife to give them one-to-one prenatal courses.
 262 However, the limitation of the one-to-one courses was that they lost the chance to

263 share experiences with the other families in group classes, which is one of the most
264 important aspects of the prenatal courses.

265 Chinese mothers with local language limitations reported that it was not always
266 guaranteed that they would be able to effectively communicate with their maternity
267 care providers in English without misunderstanding, especially in cases when their
268 maternity care workers did not speak English well.

269 *“Because we are not native English speakers, even if the doctor’s English is excel-*
270 *lent, we couldn’t understand him in many aspects. [...] Particularly when we speak*
271 *English to some nurses, they reply to us in German or the simplest English with*
272 *some body language.” (08-M)*

273 Some of those mothers reported that they could not discuss and ask their ma-
274 ternity care providers for detailed information due to the language barrier. Some
275 mothers expressed that they felt hesitant to ask questions because of poor language
276 competency and a lack of courage as foreigners living in Switzerland.

277 *“We live here as foreigners. We don’t have the courage or language ability to*
278 *discuss health issues with doctors. [...] Most of the time, it’s embarrassing for me*
279 *to ask doctors questions.” (05-M)*

280 It is noteworthy that for those mothers who had local language skills, this did
281 not necessarily mean that they could easily have smooth and effective discussions
282 with their maternity care providers. Some of them often found that they did not
283 understand medical terminologies.

284 *“We have been living in France for 10 years before moving to Switzerland. There*
285 *is no big language barrier for me in French communication in daily life, but I still*
286 *didn’t understand medical terminologies when I visited my obstetrician and gave*
287 *birth at the hospital.” (02-M)*

288 An additional and unique challenge regarding the communication difficulties was
289 that four official languages are spoken in different regions across Switzerland. Two
290 mothers moved from one language zone to another due to their husbands’ job re-
291 location, after they had put much effort and energy to master one local language.
292 They faced communication difficulties in adapting to yet another language in the
293 new language zone.

294 *“In Geneva, my French was not a big problem. [...] However, because I could not*
295 *speak German, there were communication problems in Zurich hospitals when we*
296 *moved there due to my husband’s job change.” (10-M)*

297 3.2 The rigid appointment system

298 Another inconvenience reported was related to the organization of the appointment
299 system to visit hospitals. Chinese mothers expressed that the Swiss healthcare sys-
300 tem was quite different from that in their home country. An appointment in advance
301 was always required for every hospital visit, whereas there were possibilities of walk-
302 in consultations in Chinese hospitals. Although scheduling appointments via phone
303 calls saved time for registration in Swiss hospitals, the waiting time for the appoint-
304 ment was often long. Some mothers reported being anxious during the long waiting
305 time. Some others were worried that they had missed out on some of their routine
306 visits to their doctors.

307 *“I was very anxious throughout my pregnancy. Why did other mothers have a*
308 *monthly maternity checkup, while I had to wait for a month and a half? It was my*

309 *first pregnancy. I didn't know anything. During the waiting time, I was very worried*
310 *and anxious.” (07-M)*

311 **4. Strategies to deal with the inconveniences of accessing Swiss maternity care** 312 **services**

313 To overcome the inconveniences of accessing Swiss maternity care services, Chinese
314 mothers in this study explored alternative ways to obtain information and assist in
315 communication with their maternity care providers.

316 *4.1 Alternative ways of information seeking*

317 Chinese mothers reported that they turned to websites, mobile applications, and
318 books in Chinese when they could not gain essential knowledge and information
319 on pregnancy and childbirth from their maternity care providers. In addition, some
320 mothers shared that it was beneficial for them to exchange pregnancy experiences
321 with other Chinese mothers and obtain information guidelines on their personal-
322 ized needs. The knowledge and support they received through these channels were
323 perceived to meet their information needs and largely addressed their concerns.

324 *“Mainly from Chinese websites. Some Chinese mothers also told me their experi-*
325 *ences and knowledge. Based on the information they told me, and then I searched*
326 *online and checked it by myself.” (06-M)*

327 However, the reliance on the native language for information seeking sometimes
328 further discouraged Chinese mothers from seeking essential local medical informa-
329 tion. Some mothers in this study indeed reported that they could not understand
330 the healthcare system and medical procedures within the Swiss healthcare system.

331 *“We didn't understand healthcare system and medical procedures here.” (07-M)*

332 *4.2 Communication assistance*

333 To overcome communication difficulties, some mothers used translation services,
334 with mixed outcomes. One mother reported that she appreciated the free-of-charge
335 Chinese translation services for prenatal courses and important consultations with
336 her obstetrician at a French-speaking university hospital. However, another mother
337 shared that she did not use the translation services at a German-speaking university
338 hospital. She explained that the multi-lingual midwife who served as the translator
339 could not correctly understand her.

340 *“We didn't use it. It's not a professional translation service. They just found a*
341 *midwife with multiple language skills responsible for taking care of the mothers who*
342 *speak languages like French, German, English, Spanish” (05-M)*

343 Alternative measures included introducing assistance from women's husbands
344 with accessing maternity care services and communicating with maternity care
345 providers. This was often largely due to the more advanced English or local lan-
346 guage skills of women's husbands. Fathers in this study also confirmed that when
347 there was no professional assistance, they were the ones who could be relied on for
348 language assistance.

349 *“When my wife was pregnant, I was basically in charge of all things, such as*
350 *booking appointments and communicating with the doctors.” (01-FM)*

351 **5. The need for culturally sensitive care**

352 The culturally sensitive care needs of Chinese mothers were mainly related to three
353 aspects in this study: personalized sensitive care, preferences for female obstetri-
354 cians, and obstetricians of Asian origin.

355 *5.1 Personalized sensitive care*

356 Some Chinese mothers in our study reported that sometimes their views conflict
357 with those of their obstetricians due to cultural differences in the way they per-
358 ceived. Chinese mothers believed that some precautionary treatments were neces-
359 sary when they suffered certain pregnancy symptoms, such as prolonged vaginal
360 bleeding, placenta previa, and advanced pregnancies. However, they said their ob-
361 stetricians believed that pregnancy was natural and meant not being sick, therefore,
362 there was no need for special attentive care. As a result, mothers considered that
363 their pregnancy-related issues failed to raise the attention of their obstetricians,
364 which caused a sense of insecurity or anxiety during their pregnancy period.

365 *“When I was being pregnant for four or five months, I still had vaginal bleeding.*
366 *I called my obstetrician and he said that I didn’t need to pay too much attention*
367 *and I could live a normal life. I searched the information on the Internet. It said*
368 *that in my case, it was necessary to do some precautionary treatments. Otherwise,*
369 *it was easy to cause miscarriage. I felt that I needed to see my obstetrician, but he*
370 *said it was unnecessary. I was very worried and anxious during that time.” (13-M)*

371 *5.2 Preferences for female obstetricians*

372 Some Chinese mothers described preferring female obstetricians in our study. They
373 explained that childbirth was a woman’s private matter and that they did not feel
374 ashamed and embarrassed to expose their bodies in front of female obstetricians.
375 In addition, they perceived that female obstetricians who had had childbearing
376 experiences were more empathetic to their maternity care needs than their male
377 colleagues.

378 *“It seems like it doesn’t matter for people here to have a male obstetrician. [...]*
379 *However, I felt more natural to find a female obstetrician when I was pregnant for*
380 *my third child. Therefore, I changed my male doctor (to a female one).” (11-M)*

381 *5.3 Obstetricians of Asian origin*

382 One mother chose an obstetrician of Asian origin, as she believed that the obste-
383 trician from a similar cultural background would be more sensitive to her needs,
384 such as emotional support and sensitivity to her pregnancy symptoms, than local
385 maternity care providers.

386 *“My friend recommended me a private obstetrician. He is Vietnamese. He was*
387 *very patient with my complaints. He comforted me a lot during my pregnancy.”*
388 *(02-M)*

389 **Discussions**

390 To our knowledge, this is the first qualitative study exploring the experiences of
391 pregnancy and maternity care services of Chinese mothers in Switzerland. We found
392 five main themes, namely (1) motivations and concerns about having children, (2)

393 the merits of the Swiss maternity care system, (3) the inconveniences and barriers
394 of accessing Swiss maternity care services, (4) strategies to deal with the inconve-
395 niences of accessing Swiss maternity care services, and (5) the need for culturally
396 sensitive care.

397 In our study, the Chinese mothers in Switzerland generally had positive pregnancy
398 experiences and were satisfied with the maternity care services they received. One
399 of the merits of the Swiss healthcare system they highly appreciated was the conti-
400 nuity of maternity care services provided by the same obstetricians throughout their
401 pregnancies. Their satisfactions partially came from comparing their previous med-
402 ical experiences in their home country, where the doctors for consultations are not
403 fixed. In line with the previous study [19], our study confirmed that the follow-up
404 by the same obstetrician allows the establishment of trusting relationships between
405 pregnant mothers and their healthcare providers. In addition, it helps the avoid-
406 ance of retelling or relearning mothers' medical history for each consultation [20].
407 While these mutual benefits are understandable in general, our study revealed and
408 emphasized the importance of such continuity of services for Chinese mothers in the
409 unique Swiss context. Chinese mothers in Switzerland, usually linguistically disad-
410 vantaged, rely heavily on such a continuity to minimize the misunderstandings with
411 their maternity care providers from sub-optimal and non-in-depth communications.
412 Additionally, it improves Chinese mothers' mental health during their pregnancies
413 by creating a relaxed and secure healthcare environment. It would be natural to
414 expect this finding could be extended to the understanding and the optimization of
415 the maternity care services for other minority groups in a foreign country.

416 Chinese mothers in our study praised the one-to-one consultations with their
417 obstetricians and described the maternity care services they received as humane,
418 patient, and friendly. They appreciated their privacy being respected during their
419 antenatal visits within the Swiss healthcare system. This principle is usually not
420 emphasized in their home country, as it is not considered an essential ethical prin-
421 ciple in Chinese hospitals [21]. Our finding corroborates global studies [22, 23] on
422 the importance of maintaining the privacy and dignity of mothers throughout their
423 maternity care due to the private nature of obstetrical examinations and medical
424 procedures.

425 Chinese mothers in our study had mixed feelings about the scheduling of their
426 medical appointments within the Swiss healthcare system. On the positive side,
427 the appointment service saved the lengthy waiting time whilst queuing at hospi-
428 tals, compared with their medical experiences in China [24, 25]. On the negative
429 side, some reported that they felt worried and anxious during the period between
430 scheduling and the actual appointment. Due to the limits on the scope of our study,
431 it is not yet clear whether the long latency for Chinese mothers' antenatal appoint-
432 ments in this study was due to the unavailability of language-competent maternity
433 care providers or simply due to a mismatch of expectations between the Chinese
434 mothers and their Swiss healthcare providers on the needed frequency for antenatal
435 visits. A follow-up study on the actual causes might be needed in the future. Nev-
436 ertheless, our study revealed the necessity to better inform Chinese mothers about
437 the Swiss healthcare system and its functioning, in particular the procedures for
438 proper medical attention. Another concern expressed by Chinese mothers regard-
439 ing their antenatal appointments was the lack of walk-in consultations to get quick

440 responses to their pregnancy-related worries. To address this concern, it would be
441 beneficial for the obstetricians to assist and educate the Chinese mothers to de-
442 termine when emergency interventions are needed and means of access throughout
443 their pregnancies. It would be particularly useful for such information to be given
444 during their first consultation. This would allow Chinese mothers to properly adjust
445 their expectations and be better prepared, should there be a need to seek additional
446 help for their potential pregnancy-related symptoms.

447 Our study found that not speaking the local language created the most obvious
448 barrier for Chinese mothers accessing maternity care services in Switzerland. Nearly
449 half of the Chinese mothers and their husbands in our study could not speak any
450 local language. While it appears apparent that the language barrier would be nor-
451 mal among immigrants in a foreign country, the origins and features within the
452 Swiss context are unique and believed to be overlooked. First of all, English is the
453 dominating second language taught within the Chinese educational system. It is
454 challenging for Chinese mothers to master a third language completely different
455 from their mother tongue system, especially for those mothers who relocated to
456 Switzerland during their pregnancies. Secondly, it has to be taken into considera-
457 tion that Switzerland is a culturally diverse country with four national languages
458 other than English (German, French, Italian, and Romansh) spoken across different
459 regions [2]. The lack of a unified language poses another layer of difficulty for Chi-
460 nese mothers when they move across language zones. Thirdly, our study revealed a
461 clear gap in the mutual understanding between Chinese mothers and their health-
462 care providers on the grounds of language. Swiss healthcare providers were often
463 not prepared to care for migrants who did not speak their local languages. On the
464 other hand, some Chinese mothers in our study were found to have very limited
465 knowledge of Switzerland before they arrived, including its diverse language system,
466 and were thus insufficiently prepared for their new lives with a growing family.

467 It should be noted that the uniqueness of language barriers for Chinese mothers
468 to access maternity care in Switzerland is very different from those Chinese mothers
469 living in English-speaking developed countries, such as the US and Canada, which
470 host large Chinese populations and where the availability of maternity care workers
471 with desired language (Chinese) competences is much more feasible [20, 26]. This
472 implies both complexity and difficulties for the delivery of quality maternity care
473 services to Chinese migrants living in Switzerland. We observed several positive at-
474 tempts that some Chinese mothers developed to overcome the inconveniences and
475 reduce language barriers, including seeking information from the internet or mobile
476 applications in the Chinese language, using interpreter services provided by the hos-
477 pitals, and turning to their husbands with better language competencies. However,
478 all these measures have their limitations, and none of them could completely address
479 the challenges, given that maternity care is highly professional and personalized.

480 We believe great efforts remain to be made by both the Swiss healthcare system
481 and individual migrants. It is essential to raise the awareness of such a language
482 issue within the system and among its healthcare workers [10]. In addition, there are
483 possibilities to improve the communication between mothers and healthcare workers
484 with the assistance of new technologies, such as AI-powered real-time translations,
485 thanks to the advancement of technologies. The promotion of delivering healthcare-
486 related information and services in English [11], as the only international language

487 learned by the majority of the migrants, in paper-written forms, websites, and inpa-
488 tient visits, is deemed highly effective to safeguard the core health-related interests
489 of individual mothers. Despite language difficulties, Chinese mothers should still be
490 encouraged to proactively engage with their maternity care workers in person, so
491 that their reproductive health outcomes will not be comprised. Finally, the Swiss
492 healthcare system had piloted the telephone interpreting services for emergencies
493 and brief clarifications [27]. Further studies may propose to evaluate the possibilities
494 of introducing such a service for non-emergency healthcare such as maternity care
495 for migrant women.

496 It is noteworthy that despite Chinese mothers and Chinese migrant families in
497 Switzerland were living far away from their home country, our study highlighted
498 that Chinese cultural and social-economic developments remain to have certain in-
499 fluences on their family planning as well as the demands for culturally-specific care
500 services. Their motivations for having a child were driven by family pressure, which
501 is common in China [28]. Interestingly, although the Swiss society provides a flex-
502 ible and supportive environment for raising children, the consequences of the well-
503 known “One-Child” policy still have a major impact on the Chinese mothers and
504 their families to have further children. Mostly because of the economic pressure and
505 psychological concerns over simultaneously raising multiple children and caring for
506 elderly parents. In addition, the impact of cultural differences on the antenatal care
507 experiences of Chinese mothers in Switzerland is evident. This is typically reflected
508 in the conflicts of ideas and beliefs on the pregnancy process from Chinese mothers
509 and their Swiss healthcare providers. The Chinese mothers desire culturally sensi-
510 tive care instructions to adjust their lifestyles throughout their pregnancies [29] and
511 also deal with pregnancy-related symptoms. Since the number of Chinese migrants
512 in Switzerland remains small, unlike the situation reported by a study of Chinese
513 women in Canada [20], we doubt the Swiss healthcare system could employ suffi-
514 cient obstetricians with Chinese backgrounds to address such needs. Nevertheless,
515 Swiss maternity care workers with different backgrounds than those Chinese moth-
516 ers should encourage Chinese mothers to express their culture-specific concerns for
517 better reproductive health outcomes.

518 **Strengths and limitations**

519 This study has several strengths. The qualitative approach allowed mothers and
520 their families to discuss their personal experiences and perceptions in-depth. The
521 inclusion of family members such as husbands and mothers’ parents or parents-in-
522 law contributed to the richness of the results. Furthermore, Chinese participants
523 were interviewed in their native language Chinese, and foreign fathers in English,
524 enabling them to tell their stories without the hindrances caused by language bar-
525 riers. Regarding the data analysis, the data were analyzed by two researchers with
526 different cultural backgrounds to minimize any personal biases. The study is limited
527 by the lack of socio-demographic diversity in the participants, as all participants
528 had a strong educational background with legal status, as well as an elevated socio-
529 economic status. Further research focusing on the experiences of pregnancies and the
530 maternity care of undocumented Chinese migrants of disadvantaged socio-economic
531 background is needed.

532 **Implications**

533 The results of our study point to some ideas that may improve the Swiss maternity
534 care services, if the following strategies could be implemented. (1) The language
535 barrier was the most significant challenge for Chinese mothers in our study. Health
536 information and services should be provided in English in written materials, on
537 websites, during prenatal visits, as well as prenatal courses. Other communication
538 channels for migrant mothers when accessing maternity care services should also be
539 considered, such as interpreter services, AI-powered real-time translations, and tele-
540 phone interpreting services. (2) Although Chinese mothers in our study expressed
541 satisfaction with the appointment system within the Swiss healthcare system, they
542 also reported having pregnancy-related worries in-between their appointments. It
543 would be beneficial to provide migrant mothers with detailed guidelines and ex-
544 planations about precautionary treatments and accessing these services throughout
545 their pregnancy period. (3) Chinese mothers in our study expressed they could not
546 understand the healthcare system and medical procedures. Maternity care providers
547 and health institutions should increase awareness that the common problem for mi-
548 grant mothers is the lack of knowledge about what services within the Swiss health-
549 care system are available. Efforts are needed to help migrant mothers to familiarize
550 themselves with the Swiss maternity care system and its services. (4) Overall, Chi-
551 nese mothers in our study were satisfied with the maternity services within the
552 Swiss healthcare system they received. At the same time, they expressed culturally
553 sensitive care needs. Being culturally sensitive is essential for Swiss maternity care
554 providers and adequate training should thus be provided. Our findings may help
555 to understand the maternity care needs of Chinese mothers in other non-English
556 speaking Western countries, which needs to be investigated in future studies.

557 **Conclusions**

558 The results of our study provide new knowledge and understanding of pregnancy
559 experiences and antenatal care services of Chinese migrants in Switzerland. Their
560 unique experiences included: family planning, the continuity of maternity care, hu-
561 mane care with the privacy respected, personalized sensitive care needs, preferences
562 for female obstetricians and obstetricians of Asian origin. Several barriers were
563 highlighted, such as information seeking difficulties, communication difficulties, and
564 a rigid appointment system. Reducing barriers enabling access to maternity care
565 services within the Swiss healthcare system is necessary to provide equal quality
566 maternity care for individuals, irrespective of their origins.

567 **Ethics approval and consent to participate**

568 All participants provided informed and signed consent. The study was approved by the Commission cantonale
569 d'éthique de la recherche CCER (project number: 2019-01734). The study was performed in accordance with the
570 relevant guidelines and regulations of the Declaration of Helsinki.

571 **Consent for publication**

572 Participants were informed that their data would be coded for the analysis but that some quotes would be
573 integrated into the publication whilst respecting their confidentiality.

574 **Availability of data and materials**

575 Due to concerns of potential violations to the participants' privacy, the individual data set generated during the
576 present study is not publicly available. However, the final data set for data analysis is available from the
577 corresponding author on reasonable request.

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582 Competing interests

583 AH is a board member of the management committee of CA18211. The other authors declare that they have no
584 competing interests.

585 Author's contributions

586 DC contributed to conception and design, participants' recruitment, data collection, transcription, English
587 translation validation, analysis, and manuscript writing. PV participated in transcription, data analysis, and feedback
588 on manuscript writing. SS was involved in the conception and design of the study. HL reviewed the manuscript and
589 gave final approval of publication. BZ participated in discussions and critical comments on manuscript writing as well
590 as the validation of translated English quotations from Chinese. AH conceived and designed the study, coordinated
591 the study, participated in discussions for data analysis and manuscript comments, provided critical feedback, and
592 supervised the work of DC (Ph.D. candidate) and PV. All authors read and approved the final manuscript.

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 667 pregnant women in macao, china. *Asian nursing research* **6**(1), 27–34 (2012)

668 **Tables****Table 1** Participants' characteristics of mothers and fathers (n=23. Information for the four grandparents was not included in this table)

	Mothers (n=14) Mean (SD)/ N (%)	Fathers (n=9) Mean (SD)/ N (%)
Mean age	34 (SD=4.27)	38 (SD=6.98)
Country of origin		
Chinese nationality	14 (100)	6 (67)
Foreign nationality	–	3 (33)
Marital status		
Married	13 (93)	8 (89)
Co-habiting	1 (7)	1 (11)
Mean number of years in Switzerland	5 (SD=5.26)	6 (SD=5.57)
≤ 2 years	5 (36)	3 (33)
3–6 years	5 (36)	2 (22)
7–10 years	3 (21)	2 (22)
≥ 11 years	1 (7)	2 (22)
Education		
Junior college	1 (7)	–
Bachelor	4 (29)	–
Master	8 (57)	6 (67)
Doctor	1 (7)	3 (33)
Employment status		
Employed	5 (36)	9 (100)
Unemployed	9 (64)	–
Language skills		
French	6 (43)	5 (56)
German	2 (14)	2 (22)
English	12 (86)	9 (100)
Household income (USD/year)^[3]		N (%) of family
Below 60,000		3 (21)
60,000 – 100,000		4 (29)
100,000 – 200,000		6 (43)
> 200,000		1 (7)
Number of children		N (%) of family
1		9 (64)
2		4 (29)
3		1 (7)
Gender of the youngest child		N (%) of family
Male		6 (43)
Female		8 (57)

^[3]Switzerland Annual Household Income per Capita reached 57,361.582 USD in 2018.

Table 2 Main themes and sub-themes of this study

Main themes	Sub-themes
1. Motivations and concerns about having children	1.1 Motivations for having children 1.2 Concerns about having further children
2. The merits of the Swiss maternity care system	2.1 The continuity of the maternity care services 2.2 The comprehensive coverage of health insurance 2.3 The conveniences of the appointment system 2.4 Humane care with privacy respected
3. The inconveniences and barriers of accessing Swiss maternity care services	3.1 The language barrier 3.2 The rigid appointment system
4. Strategies to deal with the inconveniences of the Swiss maternity care system	4.1 Alternative ways of information seeking 4.2 Communication assistance
5. The need for culturally sensitive care	5.1 Personalized sensitive care 5.2 Preferences for female obstetricians 5.3 Obstetricians of Asian origin