

# BMJ Open Influence of the COVID-19 pandemic on abortions and births in Sweden: a mixed-methods study

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**To cite:** Rydelius J, Edalat M, Nyman V, *et al.* Influence of the COVID-19 pandemic on abortions and births in Sweden: a mixed-methods study. *BMJ Open* 2022;**12**:e054076. doi:10.1136/bmjopen-2021-054076

► Prepublication history for this paper is available online. To view these files, please visit the journal online (<http://dx.doi.org/10.1136/bmjopen-2021-054076>).

Received 02 June 2021

Accepted 04 February 2022



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## ABSTRACT

**Introduction** Although considered an essential service by the WHO, there are indications that access to induced abortion care has been restricted during the COVID-19 pandemic.

**Objectives** To investigate if the number of induced abortions and ongoing pregnancies changed during the first pandemic wave of COVID-19 in 2020 compared with recent years prior to the pandemic and explore possible reasons for the findings.

**Design** Convergent parallel mixed-methods design. Collection of quantitative data from the Swedish National Board of Health and Welfare and the Swedish Pregnancy Register, and qualitative data from interviews.

**Setting and time period** National data on abortions (January 2018–June 2020) and births (January 2018–March 2021). Interviews performed at the main abortion clinic, Gothenburg, Sweden, in June 2020.

**Participants** All women aged 15–44 years living in Sweden 2018–2020, approximately 1.9 million. 15 women who sought abortion were interviewed.

**Primary and secondary outcome measures** Number of abortions and births/1000 women aged 15–44 years. Themes and subthemes identified from interviews.

**Results** The number of abortions and ongoing pregnancies did not change significantly during the study period compared with before the pandemic started. Interview themes identified were the following: meeting with abortion care during the COVID-19 pandemic (availability, and fear of being infected and infecting others); and the impact of the COVID-19 pandemic on the abortion decision (to catch COVID-19 during pregnancy, feelings of loneliness and isolation, and social aspects).

**Conclusions** This study shows that the number of abortions and ongoing pregnancies remained unchanged during the first wave of the COVID-19 pandemic in 2020 in Sweden compared with before the start of the pandemic. Abortion-seeking women did not hesitate to proceed with the abortion. The women expressed a number of fears concerning both availability of care and their health, which could have been properly addressed by the authorities.

## INTRODUCTION

The WHO estimated that during the years 2015–2019, 73.3 million induced abortions occurred worldwide annually.<sup>1</sup> Access to legal and safe induced abortion care is considered

## Strengths and limitations of this study

- This is the first ever reported study from Sweden which explores women's expectations and apprehensions about abortion care and being pregnant during the COVID-19 pandemic.
- The main strength of this study is the convergent parallel mixed-methods design which combines quantitative and qualitative data.
- The main limitation is that the interviews were conducted with women who actually sought abortion care. Further perspectives could have been explored in interviews with women who contemplated seeking abortion care but then decided not to.

essential to attain the highest standard of sexual and reproductive health.<sup>2</sup>

On the 11th of March, 2020, the WHO classified the COVID-19 outbreak as a global pandemic.<sup>3</sup>

Based on poor experiences during previous pandemics, such as the Ebola outbreak in Sierra Leone during 2014, there were concerns that disruption of sexual and reproductive health services could occur. During the Ebola outbreak, patients postponed their visits to healthcare units, and one qualitative study suggested that the decrease in care-seeking behaviour was due to fear of contracting the Ebola virus at health facilities and distrust of the healthcare system.<sup>4</sup> With this in mind, on the 1st of June 2020, the WHO recommended that access to contraception and abortion care to the full extent as allowed by the law should be ensured during the COVID-19 pandemic. If facility-based provision of such services should be disrupted, then digital health service was recommended.<sup>5</sup>

Despite the strong recommendations from the WHO, there are studies indicating that global access to induced abortion has been restricted due to priorities in health services, lack of political will and a detrimental effect of



the lockdown.<sup>6</sup> European governments have taken wildly divergent approaches to tackle the issue with induced abortion care during the pandemic: from suspension of abortion services, considering this service non-essential, to lifting of regulations and allowing telemedicine and self-managed care solutions such as postal delivery of mifepristone and misoprostol.<sup>6,7</sup>

There are few qualitative studies investigating the psychosocial effects of the current COVID-19 pandemic on pregnant women. In one meta-synthesis from 2020, Shorey and Chan summarise that during a pandemic, pregnant women often experience anxiety, fear and more specifically concern about their health.<sup>8</sup> One American study suggested that psychological distress is likely due to social, economic and healthcare disruptions as well as the uncertainty regarding the medical effect of COVID-19.<sup>9</sup>

Each year, around 35000–38000 induced abortions are performed in Sweden, and during 2019, the number of abortions was 36000 which corresponds to 19/1000 women (aged 15–44 years).<sup>10</sup>

Abortion care in Sweden is part of the public healthcare system, and it is the responsibility of the local healthcare authority to provide induced abortion within a week from the first patient contact. Induced abortion care is publicly funded and available to all residents. Women performing an abortion up until gestational week (GW) 9 are usually treated in a primary healthcare unit or at home. If the woman has an intercurrent disease or is in GW >9+0, she is treated in a secondary healthcare unit (eg, a gynaecological ward). The Swedish Abortion Act (1974:595)<sup>11</sup> allows induced abortion on request up until GW 18+0. From GW 18+1 to 21+6, induced abortion may be performed after permission from the National Board of Health and Welfare. According to the Abortion Act, the induced abortion needs to be initiated at a healthcare unit. In clinical practice, this means that a woman who is about to perform a home abortion will swallow mifepristone at the unit and then take the rest of the medication, misoprostol and analgesics, at home.

The first wave of the COVID-19 pandemic in Sweden started in February 2020 and peaked during the second and third week of April. During the second week of June, which correlates with the time of data collection, the number of COVID-19 deaths was 232 which corresponds to 2.24/100.000 per week.<sup>12</sup>

The Public Health Agency of Sweden did not issue any official lockdowns but restricted numbers of persons allowed in gatherings to a maximum of 50. Contact tracing, testing, hygiene and protective measures, and physical distancing were widely used. Recommendations, such as staying at home with the slightest symptom of an infection, keeping distance from others and for specific risk groups and completely avoiding close contact with others, were issued.<sup>13</sup>

The Swedish public healthcare system did not officially change their access policy but since staff was reallocated to the COVID-19 intensive care units, the actual availability did change. During the spring of 2020, the number of

primary healthcare visits declined, many elective surgery departments were partly closed and visits to specialised care departments declined by 50%.<sup>14</sup>

The induced abortion care units, both primary and secondary, in Sweden provided services as usual during the COVID-19 pandemic. No official policy changes were initiated to facilitate access, such as expansion of telemedicine or at-home administration of mifepristone.

There is as far as we are aware no peer-reviewed qualitative research on how the current COVID-19 pandemic has affected women seeking induced abortion care in Sweden.

The aim of this study was to investigate if the number of induced abortions and ongoing pregnancies changed during the first pandemic wave of COVID-19 compared with recent years prior to the pandemic and to explore possible reasons for the findings.

## MATERIAL AND METHODS

### Data collection

A convergent parallel mixed-methods design was used where the quantitative and qualitative strands of the research were performed independently but collected concurrently, and their results were brought together in the overall interpretation. The purpose of the design was to use qualitative data to illustrate quantitative findings.<sup>15</sup>

Data regarding number of abortions and births were collected from the Swedish National Board of Health and Welfare and the Swedish Pregnancy Register, respectively.<sup>10</sup> Data on abortions were collected for the same period of time as interviews were performed, that is, the second quartile of 2020, and January 2018–March 2020 for comparison. Data on births were collected from January 2018 to March 2021 to illustrate ongoing pregnancies during the study period and during previous years for comparison. All abortion clinics in Sweden report yearly to the abortion register at the Swedish National Board of Health and Welfare, and in 2019 the Swedish Pregnancy Register covered 91.1% of all births in Sweden.<sup>16</sup>

In order to investigate women's expectations and apprehensions about pregnancy and abortion care during the COVID-19 pandemic, a qualitative method including interviews was used. The study is based on a supportive and caring relationship according to Berg and Lundgren.<sup>17</sup> The basis of care includes respect and goodwill towards other people. A caring and health-promoting approach supports people's autonomy and integrity, and refrains from all forms of condemnation, punishment, abusive treatment and the exercise of power. Women who sought abortion care were contacted at the abortion clinic at the Department of Gynaecology and Reproductive Medicine, Sahlgrenska University Hospital (SU), Gothenburg, Sweden in June 2020, when the number of COVID-19-positive patients was high in Sweden. Forty women aged >18 years who understood and spoke Swedish or English, and attended the abortion clinic for counselling for abortion were asked to participate in the

study. Women with severe mental illness were excluded in order not to aggravate their suffering. Considerations were made to include women of different ages and GWs. Seventeen informants accepted to participate in the study, but two declined before the interviews. All informants received oral and written information about the study purpose, that participation was voluntary, anonymised, and that they could decline participation at any time without giving any reason. They also received information about whom to contact if they needed counselling after the interview. The informants signed an informed written consent before the interviews started. ME, who was working as a midwife at the clinic but not involved in the women's care, carried out the interviews during the women's first visit. The interview guide contained demographic questions and two open-ended questions about the experience of seeking abortion care and of being pregnant during the COVID-19 pandemic.

The abortion clinic at SU is the major abortion clinic in Gothenburg, the second largest city in Sweden. It manages abortions at all GWs and is the only abortion clinic in Gothenburg with an inpatient clinic for patients in the second trimester and patients with intercurrent diseases that require in-hospital care. It was therefore possible to recruit informants pregnant in different gestational ages and who chose different abortion methods. All interviews were recorded and transcribed verbatim.

### Data analysis

The only available option for collection of data on abortions from the Swedish National Board of Health and Welfare were quarterly numbers. The number of abortions performed during January–March and April–June 2020 was compared with the same periods during 2018 and 2019. The data are presented as number of abortions/1000 women aged 15–44 years, percentage of abortions in different GWs (divided into <7 GW, 7–9 GW, 9–12 GW, 12–18 GW and >18 GW) and as a percentage of abortions according to the method used (surgical, medical in-hospital and medical home abortion).

Since abortions are displayed as numbers of abortions/1000 women aged 15–44 years of age quarterly, also births are displayed as numbers/1000 women aged 15–44 years of age.

The interviews were analysed by systematic text condensation (STC) according to Malterud.<sup>18</sup> STC was chosen because it aims to describe the informants' experiences, as expressed by themselves, rather than to explore the possible underlying meaning of their statements.

The process involved four steps: (1) reading all the materials several times to obtain an overall impression; (2) identifying units of meaning, representing different aspects of the research question, and coding and subcoding for these; (3) condensing and summarising the contents of each of the coded groups; and (4) creating generalising descriptions and concepts reflecting the informants' most important expectations and apprehensions about pregnancy and abortion care. All authors

read the text separately. ME, VN and HH did the analysis and created the themes, and all authors agreed on the results. During the analysis process, the authors, all working within reproductive and perinatal care, reflected on their own pre-understanding, and the fact of unintentionally influencing the outcomes.

### Patient and public involvement

Patients or the public were not involved in the design, recruitment or analysis of this study. The results will be issued in a press release to the public media.

## RESULTS

### Number of abortions and births

The number of abortions/1000 women (15–44 years) was 18.3 during the whole year of 2020, compared with 19.2 during the 2 previous years in Sweden. Even when comparing the national figures for the number of abortions/1000 in women aged 15–44 years during the first two quartiles of 2020 (5.0 and 4.3) with the corresponding quartiles of 2018 (4.9 and 4.5) and 2019 (4.6 and 5.2), there was no significant decline (figure 1). Neither did the numbers change in the region where Gothenburg is situated, where the numbers of abortions/1000 women aged 15–44 years were 4.3, 4.2 and 4.4 during the second quartiles of 2018, 2019 and 2020, respectively. The number of surgical abortions declined from 6.3% and 5.2% during the first quartiles of 2019 to 5.1% and 3.5% during the first two quartiles of 2020, and consequently medical home abortions increased from 66.8% and 70% during the first quartiles of 2019 to 69.6% and 74.5% during the first two quartiles of 2020 (figure 2). There was no change in what pregnancy week the patient sought abortion care (figure 3).

The number of births/1000 women (15–44 years) was 12.6 during the fourth quartile of 2020 and 14.2 during the first quartile of 2021, which reflects ongoing pregnancies during the first 6 months of 2020, and did not change significantly compared with the fourth quartile of 2019 (12.9), and the first quartile of 2020 (14.3) (figure 1).

### Interviews

Demographic data of the informants are shown in table 1.

Two themes and subthemes were identified: meeting with abortion care during the COVID-19 pandemic (availability, and fear of being infected and infecting others), and the impact of the COVID-19 pandemic on the abortion decision (to catch COVID-19 during pregnancy, feelings of loneliness and isolation, and social aspects) (table 2).

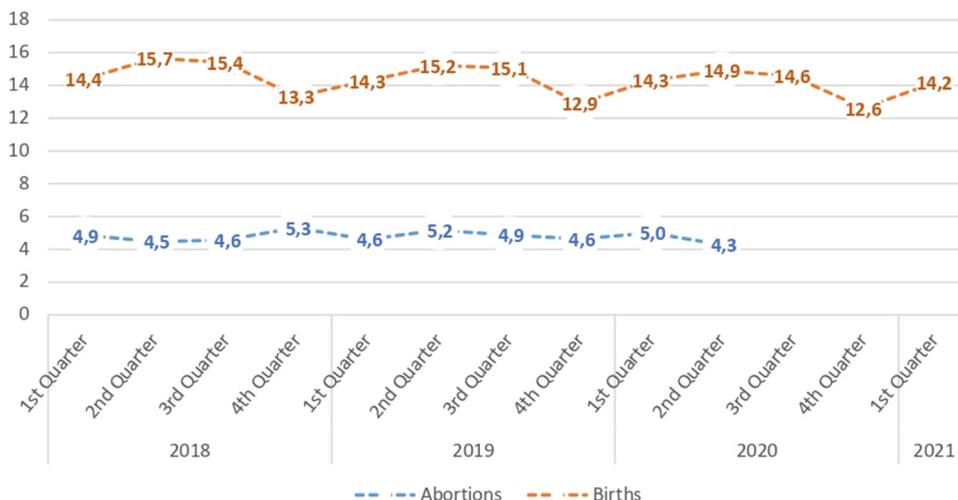
### Meeting with abortion care during the COVID-19 pandemic

#### Availability

Participants described that it was easy to obtain an appointment at the abortion unit. Participants expressed thankfulness for living in a country where abortion care was available during the pandemic. Although not hesitating to seek abortion care, they did describe a fear before the visit of not



**BIRTHS AND ABORTIONS/1000 WOMEN 15-44 YEARS QUARTERLY**



**Figure 1** Births/1000 women quarterly, January 2018–March 2021, and abortions/1000 women quarterly, January 2018–June 2020.

being welcome. Some participants were worried that there would not be room for abortion patients on the gynaecological ward. Others were afraid of not being allowed to enter the ward due to symptoms that could be associated with a COVID-19 infection. After the consultation, several participants described the staff as supportive, accommodating, helpful and friendly.

I was a little worried. I did not think you could get in, that you could book an appointment. (participant no. 17)

**Fear of being infected and infecting others**

Participants expressed a fear of contracting COVID-19 during the visit or during public transportation to the appointment. There was also a fear of infecting others. One participant described that she did not want to visit the hospital since she was in a risk group.

I myself am very scared of getting this disease, what if I go to the hospital now, here I am today, and then I get infected. (participant no. 3)

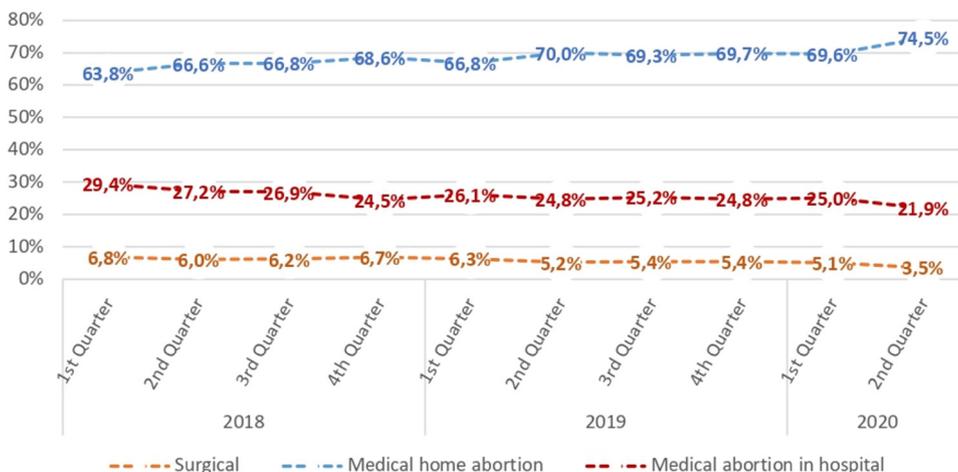
**The impact of the pandemic on the abortion decision**

**To catch COVID-19 during pregnancy**

Participants expressed that they did not plan a pregnancy or wanted to give birth during the pandemic. Some articulated that they would have been concerned about both their own and the baby’s health in case they would contract COVID-19 while being pregnant.

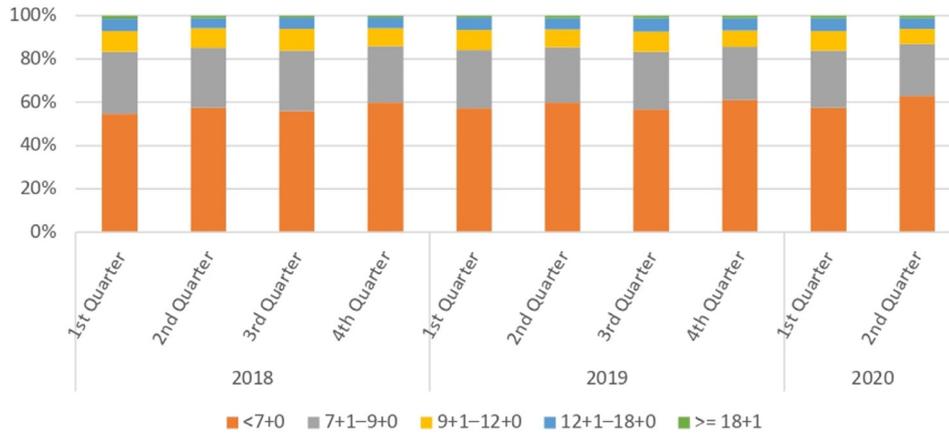
What if I get it [COVID-19] when I’m pregnant? Can it affect my child? Can I get well? (participant no. 16)

**ABORTION METHOD**



**Figure 2** Distribution of abortion methods in percentage quarterly, January 2018–June 2020.

### GESTATIONAL LENGTH AT ABORTION



**Figure 3** Distribution of gestational length at abortion quarterly, January 2018–June 2020.

#### Feelings of loneliness and isolation

Participants missed having a partner, friend or relative for support during their stay at the hospital. Instead, they obtained support by having contact with their partner or others via, for example, a mobile phone when the first pill was taken at the ward. However, the participants also expressed understanding for the restrictions due to the pandemic. The participants who chose home abortion did not suffer from this and one participant said that she chose to have a home abortion in order to be able to have somebody close by.

Actually, both a man and a woman are required to get pregnant, but it is only the woman who should suffer

and it felt very bad and it affected a lot. (participant no. 10)

#### Social aspects

Participants stated that the COVID-19 pandemic did not influence their decision to seek abortion care. However, one participant expressed that the unstable situation concerning work and income influenced her decision to some extent and one participant responded that she was afraid that the healthcare system might not be able to give her complete maternal healthcare during the pandemic if she continued her pregnancy.

At work, there have been notices of redundancy so we don't know for how long we have a job. Things like that might influence if a pregnancy is welcomed or not. (participant no. 4)

Table 1 Demographic data of the informants	
Age	Abortion
34	GW <9+0*
32	GW 9–12*
44	Home abortion†
20	GW 9–12*
31	GW 9–12*
33	GW <9+0*
19	Surgical abortion
23	GW 9–12*
25	GW 9–12*
39	GW <9+0*
26	Home abortion†
20	Home abortion†
46	GW >12+0*
39	Home abortion†
28	GW >12+0*

\*Medical in-hospital abortion at GW <9+0.  
 †Medical home abortion at GW <9+0.  
 GW, gestational week;

#### DISCUSSION

This study provides an insight into abortion-seeking women's perspectives during the COVID-19 pandemic. The number of abortions and ongoing pregnancies did not change during the first wave of the pandemic in 2020 compared with 2018 and 2019, indicating that women sought abortion care to the same extent as before the pandemic. From the qualitative data analysis, we found that despite a number of aggravating and worrying

Table 2 Themes and subthemes	
Meeting with abortion care during the COVID-19 pandemic	The impact of the COVID-19 pandemic on the abortion decision
Availability	To catch COVID-19 during pregnancy
Fear of being infected and infecting others	Feelings of loneliness and isolation
	Social aspects



factors, the pandemic did not influence the abortion-seeking women's decisions to proceed with the abortion.

In previous pandemics, a decrease in care-seeking behaviour has been observed. For an abortion-seeking woman, this could result in presenting at a higher GW and subsequently undergoing later abortions, which is associated with greater medical risks. This has not been the case in Sweden during the study period (figure 3). This is also reflected in the interviews where participants described that they did not hesitate to seek abortion care although some expressed a fear of not being welcomed prior to the visit and worried about both contracting and spreading the virus.

The participants in this study expressed that they did not want to plan a pregnancy during the pandemic due to fear for their own and the baby's health, and also due to the unstable employment and income situation. They also expressed worries that their partner was not allowed into the postnatal ward. Similar results were found in the meta-synthesis by Shorey and Chan as well as in a British study where pregnant women's perception of COVID-19 and the healthcare services was further explored. Themes were: 'barriers to accessing healthcare', 'lack of wider support' and 'media influence'.<sup>8 19</sup> In an Australian study, the authors also focused on lack of partner support as well as risks of acquiring the infection and concerns with telehealth.<sup>20</sup> We believe there is enough scientific support to the conclusion that pregnant women are a particularly vulnerable group concerning the risk of psychological un-well-being during a pandemic.

The proportion of surgical abortions decreased, and medical home abortions increased during the study period. This could be due to a lack of surgical resources as a consequence of allocating staff to COVID-19 intensive care units, but the shift from surgical abortions towards home abortion started long before the pandemic. In 2014, surgical abortions constituted 12% and home abortion 52%, of all abortions, compared with 6.8% and 64%, respectively, at the beginning of 2018.<sup>10</sup> This could be looked upon as a long-term trend due to enhancing medical protocols and patients' preference for home abortion which has been shown in previous studies.<sup>21 22</sup> During the pandemic, home abortion was the only alternative if the patient wanted support from a partner, friend or relative. In this study, the participants who chose home abortion did not express feelings of loneliness or lack of support as opposed to some of the other participants.

The main strength of this first ever reported study from Sweden, which explores abortion care during the COVID-19 pandemic, is the convergent parallel mixed-methods study design combining quantitative and qualitative data.

The main limitation is that the interviews were conducted on women who actually sought abortion care. Further perspectives could have been explored in interviews with women who contemplated seeking abortion care but then decided not to. It would have been a great challenge to get in contact with and interview

such informants especially since non-essential contacts between patients and healthcare providers were restricted due to the pandemic.

In conclusion, this study has shown that the number of abortions and ongoing pregnancies remained stable and that abortion-seeking women did not hesitate to proceed with the abortion due to the pandemic during the first period of the COVID-19 pandemic in Sweden.

This result might be due to the fact that Sweden has a long tradition of defending the right to induced abortion and that Swedish women trust that abortion care is considered essential.<sup>23</sup> However, although the study participants did not hesitate to seek abortion care, they expressed a number of fears and worries concerning both the availability of care and their health. Sweden has made no official statement that abortion care was considered essential and prioritised during the pandemic, and maybe some of the fears and worries could have been prevented if this had been stated by the relevant authorities. Also, we suggest that Sweden should have followed the example set by Great Britain, where an order was issued already in March 2020 to include telemedicine as an alternative for abortion care,<sup>24</sup> in order to avoid unnecessary spread of the infection and increase the safety and availability of the abortion care.

**Acknowledgements** We thank the study participants in the interview section of the study.

**Contributors** JR, TJ-A and HH developed the study design. ME, JR and HH collected the data, and HH, JR, TJ-A, ME and VN analysed the data. JR, ME, VN, TJ-A, IM and HH had access to the data, prepared the final manuscript and approved of the final version of the manuscript submitted. HH acts as a guarantor for the study.

**Funding** This work was supported by a National LUA/ALF grant GBG3050 and grants from the Hjalmar Svensson's Fund (grant HJSV2021003).

**Disclaimer** The researchers were independent of the funders.

**Competing interests** All authors have completed the Unified Competing Interest form at <http://icmje.org/disclosure-of-interest/> (available on request from the corresponding author) and declare that HH has received compensation from Gedeon Richter for lectures, JR, TJ-A, IM, ME and VN have no competing interests. For all authors, their spouses, partners or children have no financial interests that may be relevant to the submitted work.

**Patient and public involvement** Patients and/or the public were not involved in the design, or conduct, or reporting, or dissemination plans of this research.

**Patient consent for publication** Obtained.

**Ethics approval** This study involves human participants and was approved by the Ethics Committee Stockholm Avd 1 Medicin (Dnr 2020-02661). Participants gave informed consent to participate in the study before taking part.

**Provenance and peer review** Not commissioned; externally peer reviewed.

**Data availability statement** Data are available upon reasonable request. Data will be available upon reasonable request after communication with the main author.

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