

Analysis of physicians' experience in providing perinatal care during the COVID-19 pandemic

O. I. Zhdanovych, R. M. Savchuk, T. V. Kolomiichenko

Shupyk National Healthcare University of Ukraine, Kyiv

In pandemic conditions, a survey of doctors can provide important information about their experience, problems and preferences, which will ultimately lead to increased effectiveness of obstetric and perinatal care.

The objective: to determine the determinants of doctors' perception of perinatal care services during the COVID-19 pandemic.

Materials and methods. 70 doctors were surveyed using a developed questionnaire for doctors: 30 of them provided perinatal care during the COVID-19 pandemic at the hospital stage (group 1), 40 doctors – at the outpatient level (group 2).

Results. The survey of doctors showed that the vast majority (81.4%) of them experienced an increase in workload at the workplace. At the same time, only 10.0% of respondents noted an increase in wages during the pandemic: 16.7% and 5.0% of respondents at the hospital and outpatient stages. Also, the vast majority (78.6%) of doctors observed an increased number of conflict situations, more so at the outpatient stage (82.5% versus 73.3%). The vast majority of respondents (91.4%) noted the provision of special conditions for COVID-infected patients in order to prevent the spread of infection: separate outpatient appointment times (22.5%), separate rooms, separate entrance. Distance consultations (by telephone or online) were provided by the majority of doctors at the outpatient stage (62.5%) and a third (36.7%) of doctors at the hospital stage. More than half of the doctors considered the level of information and regulatory support during the pandemic to be insufficient, and this lack was especially acutely felt by outpatient workers (80.0% versus 33.3%, $p < 0.05$). The hospital stage was significantly better equipped with personal protective equipment: 60.0% of the surveyed doctors assessed its adequacy at 70–100%, while at the outpatient stage only 15.5% of the surveyed doctors chose such an assessment ($p < 0.05$). Among the most frequent proposals of doctors were: increasing the remuneration of medical personnel during the pandemic (80.0%), improving material and technical support, improving information and operational regulatory support (78.6%), as well as introducing a psychological support service for personnel (71.4%).

Conclusions. In general, the provision of perinatal care during the COVID-19 pandemic, according to doctors, was carried out at a relatively sufficient level, however, certain shortcomings were identified, the consideration of which could improve the quality of such care.

Keywords: COVID-19, perinatal care, questionnaire, doctors' satisfaction with working conditions.

Аналіз досвіду лікарів у наданні перинатальної допомоги під час пандемії COVID-19

О. І. Жданович, Р. М. Савчук, Т. В. Коломійченко

В умовах пандемії опитування лікарів може надати важливу інформацію про їхній професійний досвід, труднощі та потреби, що, своєю чергою, здатне сприяти підвищенню ефективності акушерсько-перинатальної допомоги.

Мета дослідження: визначення детермінант, що впливають на сприйняття лікарями організації перинатальної допомоги в умовах пандемії COVID-19.

Матеріали та методи. За допомогою розробленої анкети було опитано 70 лікарів акушерів-гінекологів. З них 30 надавали перинатальну допомогу на госпітальному етапі під час пандемії COVID-19 (1-ша група), 40 – на амбулаторному рівні (2-га група).

Результати. Опитування лікарів засвідчило, що переважна більшість респондентів (81,4%) відчула збільшення навантаження на робочому місці. Водночас підвищення оплати праці під час пандемії зафіксували лише 10,0% опитаних: серед них 16,7% – представники госпітального етапу, 5,0% – амбулаторного. Більшість лікарів (78,6%) повідомила про зростання кількості конфліктних ситуацій, причому частіше це відзначали фахівці амбулаторної ланки (82,5% проти 73,3%). Абсолютна більшість респондентів (91,4%) відзначила забезпечення особливих умов для пацієнток, інфікованих COVID-19, з метою запобігання поширенню інфекції: окремий час амбулаторного прийому (22,5%), окремі приміщення, окремий вхід. Дистанційні консультації (телефоном або в мережі Інтернет) частіше надавали лікарі на амбулаторному етапі (62,5%) і третина (36,7%) – на госпітальному. Понад половина респондентів вважала рівень інформаційного та нормативного забезпечення під час пандемії недостатнім, особливо серед лікарів амбулаторної ланки (80,0% проти 33,3%, $p < 0,05$). На госпітальному етапі було достовірно краще оснащення засобами індивідуального захисту: 60,0% опитаних лікарів оцінили забезпечення на рівні 70–100%, тоді як серед амбулаторних фахівців таку оцінку надали лише 15,5% ($p < 0,05$). Серед найчастіших пропозицій лікарів були: підвищення оплати праці медичного персоналу в умовах пандемії (80,0%), покращення матеріально-технічного забезпечення, удосконалення інформаційного та оперативного нормативного супроводу (78,6%), а також запровадження служби психологічної підтримки персоналу (71,4%).

Висновки. Надання перинатальної допомоги в період пандемії COVID-19, за оцінками лікарів, загалом відбувалося на відносно достатньому рівні. Водночас було виявлено низку недоліків, усунення яких потенційно може сприяти підвищенню якості надання такої допомоги.

Ключові слова: COVID-19, перинатальна допомога, анкетування, задоволеність лікарів умовами праці.

An outbreak in China in 2019 of an infectious disease caused by a new disease quickly spread around the world in 2020. The World Health Organization declared a global pandemic [1]. The world's health systems were overwhelmed to an unprecedented extent to deal with the pandemic [2]. The virus was named SARS-CoV-2, and the disease it causes, which manifests as severe pneumonia, is called COVID-19. Governments in many countries have been forced to introduce quarantine restrictions, such as lockdowns, social distancing, etc., to reduce the spread of the virus [3].

The unprecedented scale and speed of the COVID-19 pandemic have had a significant impact on health care, leading to disruptions in many services. Perinatal care during pregnancy cannot be stopped or postponed, so this service must adapt quickly to the challenges of the pandemic [4]. The specificities of perinatal care create additional challenges for infection prevention and control. Many maternity hospitals often lack limited isolation facilities. In response to the pandemic, perinatal services around the world have implemented prevention and control measures, including organizing testing, limiting partnered births, and using remote counseling [5]. Various problems have arisen in the implementation of health care recommendations for COVID-19: inconsistencies in recommendations, their frequent updates; failure to comply with the specifics of care for pregnant women; organization of testing of women and their partners in different departments; limited resources [4]. Previous outbreaks of infectious diseases have demonstrated a high risk of infection among healthcare workers [6], mainly due to increased contact, but also due to exposure to the virus during certain medical procedures. Various researchers have reported infection rates of healthcare workers ranging from 4 to 60% [7]. The Director-General of the World Health Organization emphasized: "We cannot stop COVID-19 without protecting our healthcare workers" [8]. During emergencies, healthcare workers face extended work hours, overtime, expanded responsibilities, and increased workload. Additional stressors include frequent changes in guidelines, limited resources, and dealing with anxious patients and their families [3]. Birth is a joyful event for a woman and her family, but it can be associated with increased anxiety and the risk of disorders during pregnancy, childbirth, and the postpartum period [9]. Healthcare workers during pregnancy must continue their core perinatal care activities while adapting to the rapid changes in the healthcare system due to COVID-19. This experience is unusual for healthcare workers who feel out of their comfort zone due to concerns related to the COVID-19 pandemic and its consequences.

A number of national [10] and international [11] guidelines have also recommended limiting the number of attendants during childbirth. Caring for women who experience anxiety during pregnancy and childbirth is a challenging task. Healthcare workers experience their own inherent anxiety due to the need to support them in a new environment. This can lead to emotional overload even for the most experienced professional, especially when adverse events occur [12]. A study by M. C. T. Dimitriu et al. during the COVID-19 pandemic found that burnout was

found in 76% of physicians, reflecting significantly higher levels of anxiety compared to previous studies [13].

Medical staff in maternity hospitals may face several sources of stress during a pandemic. This may be related to [14]: with infection control; with risk of disease transmission; with multiple medical and personal needs; and stigma.

Employee satisfaction is important for the effective functioning of healthcare institutions [15]. During the pandemic, physician satisfaction increased motivation, reduced physician burnout, and prevented healthcare workers from becoming redundant [16]. Therefore, health policymakers need to determine physicians' perceptions of their safety at work and their satisfaction with personal protective equipment (PPE) provision and regulations [17]. In a rapidly changing healthcare landscape, especially during pandemics, understanding physicians' perspectives is invaluable. Surveying physicians can provide important information about their experiences, concerns, and preferences, which can ultimately lead to improved patient care and increased efficiency of healthcare systems, particularly in the area of obstetric and perinatal care.

The objective: to determine the determinants of doctors' perception of perinatal care services during the COVID-19 pandemic.

MATERIALS AND METHODS

To assess the situation with the provision of perinatal care during the COVID-19 pandemic, a questionnaire was developed for doctors. 70 obstetrician-gynecologist were interviewed, 30 of whom provided care at the hospital stage (group 1), 40 at the outpatient level (group 2).

The developed questionnaire for doctors consisted of several blocks: an introductory part (appeal to the doctor), which briefly describes the problem of the study, its purpose, emphasizes anonymity and the need to sign informed consent; a block concerning the general characteristics of doctors who provided perinatal care during the COVID-19 pandemic, a block of questions regarding changes in the workload of doctors, wages, conflict situations during the COVID-19 pandemic; a block assessing the level of provision (conditions for limiting the spread of infection, information and regulatory support, provision of equipment, medical products, drugs, PPE); a final question that suggested choosing the provided proposals for improving the quality of perinatal care or providing your own options.

The survey was anonymous, conducted with voluntary verbal consent to participate in the study after the respondents were informed of its purpose.

Simultaneous study of the opinions of doctors and patients [18] provided an idea of the organization of perinatal medical care, the state of satisfaction with the quality and accessibility for patients. The research was carried out on the basis of Communal non-profit enterprise "City Clinical Perinatal Center of the Ivano-Frankivsk City Council" and the Communal non-profit enterprise "Ivano-Frankivsk Regional Perinatal Center of the Ivano-Frankivsk Regional Council" in the period February–April 2024. Perinatal centers in Ivano-Frankivsk region were not included in the list of 240 hospitals that were identified for priority hospitalization of patients with COVID-19.

The questionnaire was approved by the ethics committee of the Shupyk National Healthcare University of Ukraine (Protocol No. 3/24 dated March 22, 2024).

All obtained data were processed by the methods of statistics accepted in medicine, using the criterion of Fisher's angular transformation, the level of significance is $p < 0.05$.

RESULTS AND DISCUSSION

As can be seen from the general characteristics of the surveyed doctors (Table 1), a significant predominance of female doctors (82.9%) was found, and at the outpatient stage the proportion of women was significantly higher than at the hospital stage (95.0% versus 66.7%, respectively, $p < 0.05$). As for the distribution of doctors by age, half of them were over 50 years old, with 12.9% over 60 years old; at the outpatient stage this proportion was significantly higher (20.0% versus 6.7%, $p < 0.05$).

Analyzing the changes during the COVID-19 pandemic noted by the respondents, it turned out that the vast majority (81.4%) of them experienced an increase in workload at the workplace, somewhat more so among hospital workers (Table 2). At the same time, an increase in wages during the pandemic was noted by only 10.0% of respondents: 16.7% and 5.0% in groups 1 and 2. Also, the vast majority (78.6%) of doctors observed an increase in

conflict situations, more so at the outpatient stage (82.5% versus 73.3% in group 1).

As the survey showed, in the vast majority of cases (91.4%) some measures were taken to ensure special conditions for COVID-infected patients in order to prevent the spread of infection (Table 3): these were separate days or hours of outpatient admission (22.5% in group 2), separate rooms were noted by more than half of the respondents in group 1 versus a quarter in group 2 (56.7% versus 25.0%, respectively, $p < 0.05$), a separate entrance in a third of cases, telephone or online consultations were provided by the majority of doctors at the outpatient stage (62.5%) and a third (36.7%, $p < 0.05$) – by doctors at the hospital stage, several respondents noted other measures (temperature measurement at the entrance, separate entrances).

More than half of the doctors considered the level of information and regulatory support during the pandemic to be insufficient, and this lack was especially acutely felt by outpatient workers (80.0% chose the answers “no” and “more no” versus 33.3% in group 1, $p < 0.05$), while half of the hospital doctors chose the answer “more yes” (53.3% versus 12.5% in group 1, $p < 0.05$). From the point of view of the vast majority (64.3%) of doctors, perinatal care facilities are equipped with equipment by 50–69%, and three times more hospital doctors consider the level of such equipment to be 70–100% (23.3% versus 7.5%, $p < 0.05$).

Table 1

General characteristics of doctors providing perinatal care during the COVID-19 pandemic

Indicator	All respondents, n = 70		Group 1, n = 30		Group 2, n = 40	
	abs. n.	%	abs. n.	%	abs. n.	%
Gender						
male	12	17.1	10	33.3*	2	5.0
female	58	82.9	20	66.7*	38	95.0
Age, years						
up to and including 29	13	18.6	9	30.0*	4	10.0
30–49	21	30.0	10	33.3	11	27.5
50–59	26	37.1	9	30.0	17	42.5
60 and more	9	12.9	2	6.7*	8	20.0

Note: * – significant difference relative to the indicator of group 2 ($p < 0.05$).

Table 2

Changes in workload on doctors, wages, conflict situations during the COVID-19 pandemic

Indicator	All respondents, n = 70		Group 1, n = 30		Group 2, n = 40	
	abs. n.	%	abs. n.	%	abs. n.	%
How has your workload changed at work during the pandemic:						
increased	57	81.4	26	86.7	31	77.5
decreased	4	5.7	1	3.3	3	7.5
nothing changed	9	12.9	3	10.0	6	15.0
How has your salary changed during the pandemic:						
increased	7	10.0	5	16.7	2	5.0
decreased	0	0.0	0	0.0	0	0.0
nothing changed	63	90.0	25	83.3	38	95.0
Rate the level of conflict situations during the pandemic:						
increased	55	78.6	22	73.3	33	82.5
decreased	3	4.3	2	6.7	1	2.5
nothing changed	12	17.1	6	20.0	6	15.0

Table 3

Level of perinatal care provision during the COVID-19 pandemic (doctors' assessment)

Indicator	All respondents, n = 70		Group 1, n = 30		Group 2, n = 40	
	abs. n.	%	abs. n.	%	abs. n.	%
Were special conditions provided for COVID-infected patients?						
Separate days (hours)	9	12.9	0	0.0	9	22.5
Separate rooms	27	38.6	17	56.7*	10	25.0
Separate entrance	25	35.7	11	36.7	14	35.0
Telephone or online consultations	36	51.4	11	36.7*	25	62.5
Other	3	4.3	2	6.7	1	2.5
Not provided	6	8.6	2	6.7	4	10.0
Was the information and regulatory support sufficient during the pandemic?						
yes	7	10.0	4	13.4	3	7.5
more yes	21	30.0	16	53.3*	5	12.5
more no	30	42.9	7	23.3*	23	57.5
no	12	17.1	3	10.0	9	22.5
Assess the level of equipment availability, in percentages						
0–49	15	21.4	4	13.4	11	27.5
50–69	45	64.3	19	63.3	26	65.0
70–100	10	14.3	7	23.3*	3	7.5
Assess the level of medical supplies availability, in percentages						
0–49	13	18.6	3	10.0*	10	25.0
50–69	43	61.4	17	56.7	26	65.0
70–100	14	20.0	10	33.3*	4	10.0
Assess the level of drug availability, in percentages						
0–49	38	54.3	11	36.7*	27	67.5
50–69	28	40.0	16	53.3*	12	30.0
70–100	4	5.7	3	10.0	1	2.5
Assess the level of PPE availability, in percentages						
0–49	21	30.0	4	13.3*	17	42.5
50–69	25	35.7	8	26.7	17	42.5
70–100	24	34.3	18	60.0*	6	15.0

Note: * – significant difference relative to the indicator of group 2 ($p < 0.05$).

A third (33.3%) of the surveyed doctors at the hospital stage considered the level of provision of medical products to be sufficient, while at the outpatient stage only 10% of them were found to be so ($p < 0.05$), while more than half of all respondents (61.4%) estimated this level at 50–69%. The lowest assessment was for the provision of drugs, with more than a third of the surveyed at the hospital stage (36.7%) choosing the 0–49% assessment and the vast majority (67.5%) choosing the outpatient stage ($p < 0.05$). The hospital stage was significantly better equipped with PPE: 60.0% of the surveyed doctors estimated it at 70–100%, while at the outpatient stage only 15.5% of the surveyed chose this assessment ($p < 0.05$).

The last item of the questionnaire for doctors was the wish for respondents to express their suggestions for improving the quality of perinatal care by choosing one or more items from the proposed ones or adding their own wishes (Table 4). Most often (80.0%) respondents chose the items “to improve the remuneration of medical personnel in the conditions of a pandemic” (this item was chosen more often by hospital-level doctors) and “to improve the material and technical provision of the hospital” (on the con-

trary, the frequency is higher for this item at the outpatient stage). High frequency (78.6%) and for the item “to increase informational and operational regulatory provision” (the insufficiency of such provision was felt more by outpatient doctors 87.5% versus 66.7%). The proposal “to introduce a psychological support service for staff, including administrative and technical staff and patients” was supported by 71.4% of all respondents: 80.0% and 65.0%, respectively, at the hospital and outpatient levels. A fifth chose the “other” option, proposing, in particular, to provide reserve places for hospitalization during pandemics, provide staff with means of communication, facilitate access to scientific conferences, foreign scientific and medical literature, equip restrooms for staff, and equip comfortable ergonomic workplaces.

Our survey of doctors showed that the vast majority (81.4%) of them experienced an increase in workload at the workplace, somewhat more so among hospital workers. At the same time, an increase in wages during the pandemic was noted by only 10.0% of respondents: 16.7% and 5.0% of hospital and outpatient respondents. Also, the vast majority (78.6%) of doctors observed an increase in conflict situations, more so at the outpatient stage (82.5% versus 73.3%).

Table 4

Doctors' wishes for improving the quality of perinatal care

Indicator	All respondents, n = 70		Group 1, n = 30		Group 2, n = 40	
	abs. n.	%	abs. n.	%	abs. n.	%
Increase information and operational regulatory support	55	78.6	20	66.7	35	87.5
Improve the material and technical support of the hospital	56	80.0	22	73.3	34	85.0
Improve the remuneration of medical personnel in the conditions of a pandemic	56	80.0	26	86.7	30	75.0
Introduce a psychological support service for personnel, including administrative and technical workers, and patients	50	71.4	24	80.0	26	65.0
Other	15	21.4	7	23.3	8	20.0

Based on the results of a survey of physicians, the authors [19] also conclude that the COVID-19 pandemic was associated with significant physical and psychological burden for physicians, with working in highly congested hospitals, low wages, and burnout predicting lower levels of job satisfaction.

A survey of female physicians in Brazil on their work experiences during the COVID-19 pandemic [20] found that 61.6% of respondents experienced signs of burnout. About 64% reported losing up to 50% of their wages during the pandemic. Some reported a lack of energy to perform daily tasks, frequent negative feelings, dissatisfaction with their work performance, and caring for others that did not add meaning to their lives.

The authors of the study surveyed doctors and midwives working in the Swedish maternity care system during the COVID-19 pandemic, most of whom faced increased job demands, including increased workload and higher emotional and cognitive demands. They found that 3 to 7% were likely to experience burnout, while another 10% were at risk of burnout during and after the pandemic [21].

The vast majority 64 (91.4%) of our respondents noted the provision of special conditions for COVID-infected patients in order to prevent the spread of infection: these were separate days or hours of outpatient admission (22.5%), separate rooms (56.7% versus 25.0% at the hospital and outpatient levels, $p < 0.05$), a separate entrance in a third of cases, telephone or online consultations were provided by the majority of doctors at the outpatient stage (62.5%) and a third (36.7%, $p < 0.05$) – by doctors at the hospital stage, several respondents noted other measures (temperature measurement at the entrance, separate entrances). Other researchers, when surveying staff, also noted certain difficulties in implementing social distancing, especially in smaller, older departments [22].

Many researchers note that the COVID-19 pandemic has given impetus to the wider use of remote audio and video consultation, telemedicine tools, and the development of relevant mobile applications for self-monitoring and communication, particularly in the field of perinatal care [23–25]. N. Alhajri et al. [23] found that telemedicine is a safe and effective alternative for providing perinatal consultations to women, and according to L. Fadaizadeh et al. [25], both patients (83%) and doctors (74%) reported a high level of satisfaction with telemedicine during the COVID-19 pandemic. More than half of doctors considered the level of information and regulatory support during the pandemic to

be insufficient, and this lack was especially acutely felt by outpatient workers (80.0% versus 33.3%, $p < 0.05$). Participants in another study also reported difficulties in providing information, feelings of confusion and fear due to lack of knowledge about the disease [26]. The vast majority (64.3%) of physicians reported that facilities were 50–69% equipped, with a higher proportion of hospital physicians reporting 70–100% (23.3% versus 7.5%, $p < 0.05$).

A third (33.3%) of the surveyed doctors at the hospital stage considered the level of provision of medical products to be sufficient, while only 10% at the outpatient level ($p < 0.05$). The lowest assessment was for the provision of drugs, with more than a third of the surveyed doctors at the hospital stage (36.7%) and the vast majority (67.5%) at the outpatient stage ($p < 0.05$). The hospital stage was significantly better equipped with PPE: 60.0% of the surveyed doctors rated it at 70–100%, while only 15.5% of the surveyed doctors at the outpatient stage chose such an assessment ($p < 0.05$). Maintaining safe and comfortable working conditions and providing healthcare workers with quality PPE helps reduce psychological stress. In Italy, a web survey of 516 doctors showed that PPE was “always” available only 13% of the time [22]. A study by H. Cai et al. among 534 healthcare workers found that the provision of appropriate PPE and strict infection control measures were important motivational factors for continuing to work [26]. Overall, perinatal care during the COVID-19 pandemic was perceived by physicians to be relatively adequate, but some shortcomings were identified that could be addressed to improve the quality of care. First of all, it is necessary to develop clear recommendations and routes for both medical workers and the population in the event of new large-scale infectious threats. Permanent measures are necessary to maintain the appropriate level of equipment, medical products, medical drugs, and PPE. Prompt development and timely updating of regulatory and information support for the treatment process. Providing the opportunity and encouragement for telephone and online consultations in possible cases (without the need for an examination). Optimization of medical personnel's remuneration, ensuring comfortable and ergonomic working and rest conditions. Creation of psychological support rooms for medical personnel.

CONCLUSIONS

To determine the determinants of physicians' perception of perinatal care services during the COVID-19 pan-

demic, a survey was conducted of obstetricians- gynecologists who provided such services at the outpatient and inpatient stages.

The vast majority (81.4%) of respondents experienced an increase in workload at the workplace. At the same time, only 10.0% of respondents noted an increase in wages during the pandemic. The vast majority (78.6%) of doctors also observed an increase in conflict situations.

The vast majority of respondents (91.4%) noted the provision of special conditions for Covid-infected patients in order to prevent the spread of infection. More than half of the doctors considered the level of information and regulatory support to be insufficient.

Respondents most often (80.0%) proposed to increase the remuneration of medical personnel and improve material and technical support, often chose proposals to increase information and regulatory support (78.6%), to introduce a psychological support service for personnel (71.4%).

Therefore, according to doctors, in general, the provision of perinatal care during the COVID-19 pandemic was carried out at a relatively sufficient level, however, certain shortcomings were identified, the consideration of which could improve the quality of such care.

Conflict of interest. The authors declare no conflicts of interest.

Information about the authors

Zhdanovych Olexsii I. – Shupyk National Healthcare University of Ukraine, Kyiv. E-mail: alexgdanovich@gmail.com
ORCID: 0000-0001-6031-8852

Savchuk Ruslan M. – Shupyk National Healthcare University of Ukraine, Kyiv
ORCID: 0009-0007-7702-8772

Kolomiichenko Tetiana V. – Shupyk National Healthcare University of Ukraine, Kyiv. E-mail: tanyakolom@gmail.com
ORCID: 0000-0003-1131-3611

Відомості про авторів

Жданович Олексій Ігорович – Національний університет охорони здоров'я України імені П. Л. Шупика, м. Київ.
E-mail: alexgdanovich@gmail.com

ORCID: 0000-0001-6031-8852

Савчук Руслан Миколайович – Національний університет охорони здоров'я України імені П. Л. Шупика, м. Київ
ORCID: 0009-0007-7702-8772

Коломійченко Тетяна Василівна – Національний університет охорони здоров'я України імені П. Л. Шупика, м. Київ. E-mail: tanyakolom@gmail.com
ORCID: 0000-0003-1131-3611

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