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Determinants of perinatal medical care at the ambulatory level in the conditions of the COVID-19 pandemic

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It is important to determine mothers' perceptions of health care services during the pandemic to ensure equity in the provision of such services in the future.

The objective: to determine the determinants of pregnant women's perception of perinatal care services during the COV-ID-19 pandemic.

Materials and methods. An original sociological study was conducted to assess the state of perinatal care during the COVID-19 pandemic using a questionnaire. 110 questionnaires were included in the analysis. Group 1 included 45 female respondents were sick with COVID-19 during pregnancy, group 2 - 65 women were not sick with COVID-19 during pregnancy.

All questionnaires were analysed both in the general sample and in the section of COVID-19 during pregnancy.

Results. Certain shortcomings in the provision of perinatal care during the COVID-19 pandemic at the ambulatory level were identified. Insufficient vaccination coverage of pregnant women (65.5% of respondents were vaccinated during pregnancy). 87.3% of patients considered insufficient information about vaccination of pregnant women. A negative attitude towards vaccination during pregnancy was expressed by 30.0% of respondents. 65.4% of respondents considered insufficient availability of perinatal care in the conditions of the COVID-19 pandemic.

Remote counseling was received by less than half of patients (41.8%), and mainly those who were sick with COVID-19 (62.2%). A negative attitude towards remote counseling was expressed by 49.1% of women. More than half (56.4%) of the respondents considered the provided information about COVID-19, treatment and prevention to be insufficient. Only 9.1% of patients received full psychological support.

Half of the patients were not satisfied with the qualifications of the medical staff, and 59.1% were not satisfied with the staff's attitude. More than half (55.4%) of patients were not satisfied with the care provided at the outpatient stage in general, especially those who did not suffer from COVID-19, which may be due to a shift in the focus of attention on infected pregnant women.

Conclusions. The following positions can be recommended to improve perinatal care: expansion of information provision of the population, in particular with the involvement of mass media; conducting explanatory work with patients on prevention, vaccination, treatment, possible complications during pregnancy; provision of remote counseling in possible cases; psychological support of the pregnant woman and her family at all stages of perinatal care.

Keywords: pregnancy, COVID-19, perinatal care, questionnaires, ambulatory medicine.

Детермінанти перинатальної медичної допомоги на амбулаторному рівні в умовах пандемії COVID-19

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Важливо визначити сприйняття вагітними послуг охорони здоров'я під час пандемії, щоб забезпечити справедливість надання таких послуг у майбутньому.

Мета дослідження: визначити детермінанти сприйняття вагітними послуг перинатальної допомоги за пандемії COVID-19.

Матеріали та методи. Проведено оригінальне соціологічне дослідження для оцінювання стану перинатальної допомоги у період пандемії COVID-19 шляхом анкетування. До аналізу включено 110 анкет. До групи 1 увійшли 45 респонденток, які хворіли на COVID-19 під час вагітності, до групи 2 – 65 жінок, які не хворіли на COVID-19 під час вагітності. Усі анкети аналізували як за загальною вибіркою, так і у розрізі перенесеного під час вагітності COVID-19.

Результати. Виявлено певні недоліки надання перинатальної допомоги у період пандемії COVID-19 на амбулаторному рівні. Недостатнім є охоплення вагітних вакцинацією, про що свідчить те, що вакцинованими на час вагітності були 65,5% опитаних. Недостатньою інформацію про вакцинацію вагітних вважали 87,3% пацієнток. Негативне ставлення до вакцинації під час вагітності висловили 30,0% опитаних. Недостатньою доступність перинатальної допомоги в умовах пандемії COVID-19 вважали 6,4% опитуваних.

Віддалене консультування отримували менше половини пацієнток (41,8%), причому переважно тих, які хворіли на COVID-19 (62,2%). Негативне ставлення до віддаленого консультування висловили 49,1% жінок. Більше половини (56,4%) опитаних вважали недостатньою надану інформацію про COVID-19, лікування та профілактику. Повноцінний психологічний супровід отримували лише 9,1% пацієнток.

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Половина пацієнток була незадоволена кваліфікацією медичного персоналу, а 59,1% – ставленням персоналу. Більше половини (55,4%) пацієнток не задоволені наданою допомогою на амбулаторному етапі у цілому, особливо це стосується тих, які не хворіли на COVID-19, що, можливо, зумовлено зсувом центру уваги на інфікованих вагітних.

Висновки. Для покращення перинатальної допомоги можна рекомендувати таке: розширення інформаційного забезпечення населення, зокрема із залученням засобів масової інформації; проведення роз'яснювальної роботи з пацієнтами з питань профілактики, вакцинації, лікування, можливих ускладнень під час вагітності; забезпечення віддаленого консультування у можливих випадках; психологічний супровід вагітної та її родини на всіх етапах надання перинатальної допомоги. **Ключові слова:** вагітність, COVID-19, перинатальна допомога, анкетування, амбулаторна медицина.

The coronavirus disease 2019 (COVID-19) pandemic has had a devastating impact on healthcare delivery systems around the world. The novel coronavirus has meant a lack of knowledge and understanding of the nature of the infection, including a lack of data on the epidemiology, mechanisms of transmission, disease progression, and treatment options for people with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) [1].

Following the outbreak of the COVID-19 in 2020, many countries implemented local or national quarantine and social distancing measures [2], which also complicated the timeliness of medical care.

Compared to previous epidemics in recent decades, the COVID-19 pandemic had a greater global impact and lasted longer [3]. Moreover, although the impact of COV-ID-19 has decreased compared to the beginning of 2020, new variants are still spreading worldwide [4].

Pregnant women and their newborns need special attention due to the increased risk of adverse consequences [5–7]. According to various reports, the prevalence of SARS-CoV-2 infection among pregnant women is 3–20%, with a wide spectrum of severity ranging from asymptomatic to extremely severe cases [8, 9].

During the early phase of the COVID-19 pandemic, pregnant women faced uncertain maternal and perinatal risks associated with SARS-CoV-2 [10] and unpreparedness of the perinatal care delivery system for the pandemic [11].

Infection with COVID-19 during pregnancy can lead to adverse pregnancy outcomes, including preterm birth, maternal mortality, intensive care unit admission, and neonatal death. Vertical transmission from mother to fetus is possible, but its immediate and remote consequences for the newborn are unclear [12].

Even after the end of the pandemic in 2023, there are no definitive conclusions about the perinatal consequences of COVID-19. Due to the insufficient amount of data, further studies are needed to assess the long-term impact of COVID-19 on pregnancy and vital parameters of the newborn [13].

COVID-19 is associated with a higher risk of severe disease in pregnant women than in age-matched non-pregnant women [14–16]. Vaccination against COVID-19 is especially important for pregnant and lactating women. Vaccination reduces the risk of progression of COVID-19 to a severe or critical form and the need for hospitalization of pregnant women [17, 18]. The risk of stillbirth is 15% lower in the vaccinated cohort. Furthermore, there was no evidence of an increased risk of adverse maternal, pregnancy, or neonatal outcomes following prenatal vaccination against COVID-19, supporting the safety of COVID-19 vaccines during pregnancy [19]. Vaccination of pregnant women against COVID-19 is also beneficial for their children, as it reduces the risk of hospitalization due to COVID-19 before 6 months of age and the severity of the disease [20]. Regarding vaccination during breastfeeding, the breast milk of vaccinated individuals has been shown to contain antibodies and T cells specific for SARS-CoV-2, which may contribute to the development of the breastfed child's immune system [21, 22].

Although vaccination against severe acute respiratory syndrome, coronavirus 2 (SARS Cov-2) is considered safe during pregnancy [23, 24], pregnant women are hesitant about vaccination [25]. Pregnant and breastfeeding women should be provided with specialized, evidence-based information about vaccines against COVID-19 to avoid unfounded fears about vaccines and to facilitate shared decision-making in this population.

The pandemic also had a negative impact on uninfected pregnant women. In this regard, Zheng X. et al. reported in a systematic review that the COVID-19 pandemic has disrupted reproductive plans and routine care for pregnant women. Because the availability and quality of maternal care play a critical role in maternal and fetal outcomes, it is suggested that government or health care providers balance restrictions and access to maternal care during future pandemics [26].

With the emergence of COVID-19 in society, stress and anxiety are increasing in pregnant women and people around them [27]. Such trends can increase the risks of pregnancy [28].

The focus on COVID-19 may change the way pregnant women think about the importance of regular perinatal care. Health care of the mother and child must have an unchanging priority in the provision of medical care. Perinatal care during a pandemic should continue as usual, especially in pregnant women with known risk factors, to ensure safe motherhood and delivery [29, 30].

Randomized controlled trials confirm the safety and effectiveness of shortened schedules of prenatal visits and virtual visits, which were widely used during the pandemic, but real data are lacking [31].

Maternal perceptions, including pregnant women's psychosocial and health needs, should be prioritized in maternal care during the COVID-19 pandemic. It is important to determine mothers' perceptions of health care services during the pandemic to ensure the equity of health care services in the future in the face of new challenges [32].

In order to prepare for future pandemics, it is necessary to learn the lessons of this pandemic and to improve our preparation and response to new infections that may arise in the future. Policymakers and health leaders must identify effective and reliable strategies to maintain safe perinatal care even during global emergencies [33].

Satisfaction with and trust in health care providers is associated with better pregnancy health outcomes [34, 35]. Further research with qualitative and quantitative evidence is needed on this topic.

Mothers' perceptions of antenatal care services during a pandemic will differ from perceptions before the pandemic was announced and may have a more adverse impact [32].

The purpose of the study is to determine the determinants of pregnant women's perception of perinatal care services during the COVID-19 pandemic.

MATERIALS AND METHODS

An original complex sociological study was conducted by means of a questionnaire to assess the state of perinatal care during the COVID-19 pandemic. Methodological recommendations of the Ministry of Health of Ukraine were taken into account when conducting research and developing questionnaires [36].

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

To assess the satisfaction of patients with the level of perinatal care during the pandemic, a questionnaire was developed, which consisted of several blocks: the introductory part (appeal to the patient); a block related to the patient's social status (age, place of residence, education, professional employment, marital status, income), separate 2 blocks on satisfaction with the care provided at the outpatient stage and attitude to vaccination.

The research was carried out on the basis of women's consultations No. 1, 2, 3 of the Communal non-profit enterprise "City Clinical Perinatal Center of the Ivano-Frankivsk City Council" and the department of the family planning center Communal non-profit enterprise "Ivano-Frankivsk Regional Perinatal Center of the Ivano-Frankivsk Regional Council" in the period February-April 2024. Women who received outpatient perinatal care during the period of quarantine restrictions at the height of the COVID-19 pandemic (2020–2022) were interviewed.

A representative sample of 120 women's consultation patients who were pregnant during the pandemic was formed for the questionnaire. 120 questionnaires were distributed to women's consultation patients. After the analysis of the completed questionnaires, 10 of them turned out to be unsuitable for further analysis, that is, 110 questionnaires were included in the final analysis and calculations. 45 female respondents were sick with COVID-19 during pregnancy – group 1, 65 women were not sick with COVID-19 during pregnancy – group 2. All responses of female respondents were analyzed both in the general sample and in the section of COVID-19 during pregnancy. The questionnaire was approved by the ethics committee of the Shupyk National Healthcare University of Ukraine (Protocol No. 3/24 dated March 22, 2024).

The conduct of the study was approved by the ethics committee of the Shupyk National Healthcare University of Ukraine., the work is a fragment of the Scientific research work «Improving tactics of preconception counseling and management of early pregnancy of women with reproductive health disorders» (state registration number 0124U001616).

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

According to the data in Table 1, the majority of respondents 68 (61.8%) were aged 20–30. Attention is drawn to the 2 times larger share of women older than 30 years in the group of those who were sick with COVID-19 during pregnancy (26.7% versus 13.8% of women in group 2, p<0.05), age is known to be a risk factor for COVID-19.

As for employment, there were the most housewives (21.8%), employees (20.0%) and private entrepreneurs (18.2%), the least among those studying (10.0%). In group 1, the frequency of private entrepreneurs is significantly higher (26.7% versus 12.3% in group 2, p<0.05), which may be due to a higher intensity of contacts, which contributes to the infection of COVID-19. According to the level of education, the distribution was as follows: the largest share of respondents had secondary special (40.0%) and secondary (31.8%) education.

Group 1 had a higher percentage of women with higher education (28.9% vs. 13.8% in group 2, p<0.05), which may also reflect a higher frequency of contact. By place of residence, a larger share lives in the village (66.4%), and more women from group 1 live in the city than from group 2 (42.2% and 27.7%, respectively).

By marital status: the vast majority of women are in a registered marriage (72.7%). Group 1 has 2.5 times more single women and widows (15.5% versus 6.1% in group 2). In terms of income, the largest share, namely 40.0%, of female patients had an average income (10,000–20,000 per family member), while 9.1% of respondents had an extremely low income (up to UAH 2,000 per person). In terms of income, groups 1 and 2 did not have a significant difference.

65.5% of the surveyed women were vaccinated during pregnancy (Table 2), and twice as many were vaccinated before pregnancy (23.6% versus 10.9%). Among women who were sick with COVID-19, the percentage of unvaccinated women was significantly higher by 1.6 times (84.4% versus 52.3% of women whose pregnancy was not burdened by COVID-19, p<0.05), which caused the disease and its severity. Accordingly, the frequency of a positive attitude to vaccination was significantly lower in group 1 (55.6% vs. 80.0%, p<0.05), it is interesting that the same proportion of women had a completely negative attitude.

87.3% of patients considered the information about vaccination of pregnant women to be partially or completely insufficient, which also requires analysis and certain organizational conclusions. Moreover, the percentage of those who chose the answer «no» is significantly higher in group 1 (57.8% versus 30.8%, p<0.05), which may have caused the refusal of vaccination before or during pregnancy.

Social status of the interviewed patients

Table 1

Indicator	All respondents	dents, n=110 Group 1, n		=45	Group 2, n	oup 2, n=65	
Indicator	Abs. number	%	Abs. number	%	Abs. number	%	
Age up to 20	21	19.1	6	13.3	15	23.2	
21–25	40	36.4	13	28.9	27	41.5	
26–30	28	25.4	14	31.1	14	21.5	
more 30	21	19.1	12	26.7*	9	13.8	
Employment: studying	11	10.0	3	6.7	8	12.3	
official	22	20.0	11	24.4	11	16.9	
private entrepreneur	20	18.2	12	26.7*	8	12.3	
worker	16	14.5	6	13.3	10	15.4	
housewife	24	21.8	8	17.8	16	24.6	
temporarily not working	17	15.5	5	11.1	12	18.5	
Education level: secondary	35	31.8	14	31.1	21	32.3	
secondary special	44	40.0	14	31.1	30	46.2	
unfinished higher	9	8.2	4	8.9	5	7.7	
higher	22	20.0	13	28.9*	9	13.8	
Place of residence city	37	33.6	19	42.2	18	27.7	
village	73	66.4	26	57.8	47	72.3	
Marital status: in a registered marriage	80	72.7	29	64.5	51	78.5	
in an unregistered marriage	19	17.3	9	20.0	10	15.4	
widow	3	2.7	2	4.4	1	1.5	
lonely	8	7.3	5	11.1	3	4.6	
Income per family member, UAH: less than 2,000	10	9.1	5	11.1	5	7.7	
2000-5000	15	13.7	8	17.8	7	10.8	
5000-10 000	26	23.6	12	26.6	14	21.5	
10000-20 000	45	40.9	16	35.6	29	44.6	
more than 20 000	14	12.7	4	8.9	10	15.4	

Note. * - Significant difference relative to the indicator of group 2 (p<0.05).

Vaccination of pregnant women against COVID-19

Table 2

Indicator	All respondents, r	Group 1, n	=45	Group 2, n=65			
Indicator	Abs. number	%	Abs. number	%	Abs. number	%	
Were you vaccinated at the time of pregnancy? No	72	65.5	38	84.4*	34	52.3	
before pregnancy	26	23.6	5	11.1*	21	32.3	
during pregnancy	12	10.9	2	4.5*	10	15.4	
Was there enough information about vaccination of pregnant women? Yes	14	12.7	4	8.9	10	15.4	
part	50	45.5	15	33.3*	35	53.8	
No	46	41.8	26	57.8*	20	30.8	
Your attitude towards vaccination during pregnancy? positive	35	31.8	12	26.7	23	35.4	
rather positive	42	38.2	13	28.9*	29	44.6	
rather negative	22	20.0	13	28.9*	9	13.8	
negative	11	10.0	7	15.5	4	6.2	

Note. * - Significant difference relative to the indicator of group 2 (p<0.05).

A third of respondents considered perinatal care available in the conditions of the COVID-19 pandemic (Table 3): 40.0% in group 1 and 30.8% in group 2. Telephone or Internet counseling was received by less than half of the patients (41.8%). and mostly those who were sick with COVID-19 (62.2% vs. 27.7% of those who were not sick

p<0.05), which indicates the possibility of expanding such access to counseling to reduce the risk of spreading the disease among pregnant women.

Moreover, the majority (64.5%) of women in group 1 had a positive or rather positive attitude to remote counseling against 41.5% of women in group 2 (p<0.05), i.e.

Indicator	All respondents, n=110		Group 1, n=45		Group 2, n=65	
	Abs. number	%	Abs. number	%	Abs. number	%
The availability of help during the pandemic sufficient	38	34.5	18	40.0	20	30.8
partially insufficient	48	43.7	20	44.4	28	43.1
insufficient	24	21.8	7	15.6	17	26.1
Have you received telephone or Internet counseling? Yes	46	41.8	28	62.2*	18	27.7
No	64	58.2	17	37.8*	47	72.3
Your attitude to telephone or Internet counseling positive	17	15.5	8	17.8	9	13.8
rather positive	39	35.5	21	46.7*	18	27.7
rather negative	33	30.0	9	20.0*	24	36.9
negative	21	19.1	7	15.5	14	21.6

Availability of ambulatory care in pandemic conditions COVID-19

Note. * - Significant difference relative to the indicator of group 2 (p<0.05).

Table 4

Table 3

Conditions for providing outpatient care, informational and psychological support at COVID-19

In dia share	All respondents, n=110		Group 1, n=45		Group 2, n=65	
Indicator	Abs. number	%	Abs. number	%	Abs. number	%
Are you satisfied with the conditions at the outpatient stage? yes, completely	20	18.2	10	22.2	10	15.4
rather satisfied	33	30.0	15	33.3	18	27.7
rather not satisfied	35	31.8	13	28.9	22	33.8
not satisfied at all	22	20.0	7	15.6	15	23.1
Were you given full information about COVID-19, treatment and prevention at the outpatient stage? Yes	13	11.8	8	17.8	5	7.7
rather yes	35	31.8	15	33.3	20	30.7
rather not	45	40.9	17	37.8	28	43.1
No	17	15.5	5	11.1	12	18.5
Were you provided with psychological support? Yes	10	9.1	7	15.6*	3	4.6
part	40	36.4	16	35.6	24	36.9
No	60	54.5	22	48.8	38	58.5

Note. * - Significant difference relative to the indicator of group 2 (p<0.05).

more than half of women who did not suffer from COV-ID-19, considered this method of counseling insufficient, which requires some explanatory work.

18.2% of respondents are completely satisfied with the conditions for providing care at the outpatient stage (Table 4), the same share is not satisfied at all (20.8%), the distribution according to this indicator has no statistical difference in groups of women. The result of the survey draws attention to the fact that more than half (56.4%) of all female respondents considered the information provided at the outpatient stage about COVID-19, treatment and prevention to be incomplete, and a slightly higher percentage of women in group 2 considered themselves less informed. Attention should be paid to the insufficiency of psychological support for pregnant women, which was fully received by only 9.1% of patients (15.6% and 4.6%, respectively, in groups and 2, p<0.05), and half (54.5%) of women did not receive such support at all.

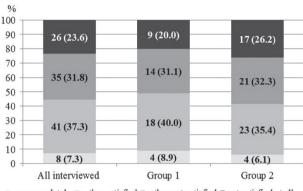
65 (59.0%) of female patients were completely or rather satisfied with the qualifications of the medical staff (Table 5), even fewer female respondents 45 (41.0%) were satisfied with the attitude of the staff, and there is a tendency for less satisfaction with the staff in group 2.

The need to increase the level of perinatal care at the outpatient stage is evidenced by the distribution of patients according to the level of satisfaction with such care during the COVID-19 pandemic (Figure): more than half 61 (55.4%) of patients are to one degree or another not satisfied with the care provided, slightly higher this share is in group 2 (58.5% versus 51.1% in group 1).

Indicator	All respondents, n=110		Group 1, n=45		Group 2, n=65	
indicator	Abs. number	%	Abs. number	%	Abs. number	%
Are you satisfied with the qualifications of the medical staff? yes, completely	14	12.6	7	15.6	7	10.7
rather satisfied	51	46.4	23	51.1	28	43.1
rather not satisfied	28	25.5	10	22.2	18	27.7
not satisfied at all	17	15.5	5	11.1	12	18.5
Are you satisfied with the attitude of the medical staff? yes, completely	12	10.9	5	11.1	7	10.7
rather satisfied	33	30.0	17	37.8	16	24.6
rather not satisfied	39	35.5	14	31.1	25	38.5
not satisfied at all	26	23.6	9	20.0	17	26.2

Satisfaction with the medical staff of the ambulator	y stage of perinatal care in the conditions of	a pandemic COVID-19

Note. * - Significant difference relative to the indicator of group 2 (p<0.05).



yes, completely = rather satisfied = rather not satisfied = not satisfied at all

Patient satisfaction with the quality of perinatal care at the ambulatory stage in the conditions of the COVID-19 pandemic

We did not find any publications in Ukraine that would reflect the results of a survey on patient satisfaction with perinatal care during the COVID-19 pandemic. However, a survey was conducted on the satisfaction and awareness of the population regarding the services of a general practitioner — a family doctor [37], according to which 45.2% of respondents were dissatisfied with the quality of medical services, 25.6% did not receive information on the treatment and prevention of diseases. Similar results were obtained in this study: 55.4% of patients are dissatisfied with perinatal care; 56.45% of female respondents considered incomplete information about COVID-19, treatment and prevention at the outpatient stage.

In addition, specialists of the Institute of Sociology of the National Academy of Sciences of Ukraine presented the results of a large sociological study of 2020-2021 on the social consequences of the COVID-19 pandemic [38], in which a low level of satisfaction with the provision of medical care during the pandemic (up to 25%) was revealed. in our study, 7.3% of patients were not at all satisfied with the quality of perinatal care at the outpatient stage in the conditions of the COVID-19 pandemic, and 37.2% were rather dissatisfied. The authors also investigated the attitude to vaccination against COVID-19. Yes, 42.4% are not going to do it, even when there is an opportunity, and 22.1% have not yet made up their minds about it. Only a third (35.5%) plan to get vaccinated. The carriers of attitudes about the harm of vaccinations are primarily women. According to our data, a third (30.0%) have a negative attitude to vaccination during pregnancy.

A study conducted in Saudi Arabia, which included 303 pregnant women [39], showed a higher adherence to vaccination than our study. More than 73% of participants were vaccinated against COVID-19 before pregnancy. Almost half of the remaining respondents were vaccinated during pregnancy (42.2%).

In the European multinational study [40], different levels of vaccination among pregnant women in different countries were found. Among 3194 pregnant women, the proportion of women who were vaccinated or willing to be vaccinated ranged from 80.5% in Belgium to 21.5% in Norway. Among 1659 women who gave birth, the proportion of women who were vaccinated or willing to be vaccinated ranged from 86.0% in the UK to 58.6% in Switzerland.

Studies were conducted on indicators of awareness, attitude and use of prevention of infection with COVID-19 among pregnant women, which turned out to be low (from 35 to 60% depending on the region of residence, level of education, age of respondents, access to medical services, state policy on information, trust in local authorities etc.) [41].

The peculiarity of our study is that we evaluated the assessment of the quality of perinatal services in terms of patients who were sick and who were not sick with CO-VID-19. During the COVID-19 pandemic, uninfected women experienced difficulties in accessing appropriate health services during pregnancy, both in our data and those of other researchers. Evidence [42] suggests that delays and dissatisfaction with health care services during the pandemic led to inadequate and low-quality prenatal care.

CONCLUSIONS

An original comprehensive sociological survey conducted through a questionnaire to assess the state of perinatal care during the COVID-19 pandemic by surveying

Table 5

female patients revealed certain shortcomings in the provision of such care at the outpatient level.

Insufficient coverage of pregnant women by vaccination (65.5% of the surveyed women were vaccinated during pregnancy, while the proportion was twice as large as before pregnancy). 87.3% of patients considered information about vaccination of pregnant women to be partially or completely insufficient. A negative attitude towards vaccination during pregnancy was expressed by 30.0% of respondents.

65.4% of respondents considered insufficient availability of perinatal care in the conditions of the COVID-19 pandemic. Telephone or Internet counseling was received by less than half of the patients (41.8%), and mainly those who were sick with COVID-19 (62.2%). A negative attitude towards remote counseling was expressed by 49.1% of women.

More than half (56.4%) of the respondents considered the provided information about COVID-19, treatment and prevention to be insufficient. Only 9.1% of patients received full psychological support.

Half of the patients to one degree or another were not satisfied with the qualifications of the medical staff, and 59.1% - with the attitude of the staff.

More than half (55.4%) of female patients are to one degree or another not satisfied with the care provided at the outpatient stage as a whole. Patients who did not suffer from COVID-19 turned out to be more dissatisfied with the level of perinatal care, which may be due to a shift in the focus of attention to infected pregnant women.

In general, the provision of perinatal care during the COVID-19 pandemic, according to the patients, was carried out at a relatively sufficient level, however, certain shortcomings were identified, the consideration of which could improve the quality of the provision of such care. Based on the conducted research, the following recommendations can be offered: expansion of information provision of the population with the involvement of mass media; conducting explanatory work with patients on prevention, vaccination, treatment, possible complications during pregnancy; provision of remote counseling in possible cases (without the need for an examination); psychological support of the pregnant woman and her family at all stages of perinatal care.

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REFERENCES

1. Filip R, Gheorghita PR, Anchidin-Norocel L, Dimian M, Savage WK. Global Challenges to Public Health Care Systems during the COVID-19 Pandemic: A Review of Pandemic Measures and Problems. J Pers Med. 2022;12(8):1295. doi: 10.3390/jpm12081295.

 Ebrahim SH, Ahmed QA, Gozzer E, Schlagenhauf P, Memish ZA. Covid-19 and community mitigation strategies in a pandemic. BMJ. 2020;368:m1066. doi: 10.1136/bmi.m1066.

3. Watson R, Hayter M. The COVID-19 epidemic of manuscripts. J Adv Nurs. 2020;76(10):2454-5. doi: 10.1111/ jan.14437.

4. Kimball S. WHO says Covid remains a global emergency but pandemic could near its end in 2023 [Internet]. Geneva: WHO; 2023. Available from: https://www. cnbc.com/2023/01/30/who-says-covidremains-a-global-emergency-but-pandemic-could-near-its-end-in-2023.html. 5. Celik IH, Ozkaya Parlakay A, Canpolat FE. Management of neonates with maternal prenatal coronavirus infection and influencing factors. Pediatr Res. 2024;95(2):436-44. doi: 10.1038/ s41390-023-02855-0.

6. Zhdanovich OI, Vorobey LJ, Kolomiichenko TV, Kaminskyi AV, Laksha OT. Perinatal aspects of early neonatal period disorders in children with COVID-19 transmitted by the mother during pregnancy. Modern Pediatr. 2022;26(126):42-8. doi: 10.15574/SP.2022.126.4.

7. Turyanytsya SM, Korchins'ka OO, Sabova AV, Baloga OA, Petrov VO. Influence of SARS-CoV-2 acute respiratory viral disease on pregnancy and childbirth. Reprod Health Woman. 2021;(2):15-8. doi: 10.30841/2708-8731.2.2021.232515.

8. Vintzileos WS, Muscat J, Hoffmann E,

John NS, Vertichio R, Vintzileos AM, et al. Screening all pregnant women admitted to labor and delivery for the virus responsible for coronavirus disease 2019. Am J Obstet Gynecol. 2020;223(2):284-6. doi: 10.1016/j.ajoq.2020.04.024.

9. Jamieson DJ, Rasmussen SA. An update on COVID-19 and pregnancy. Am J Obstet Gynecol. 2022;226(2):177-86. doi: 10.1016/j.ajog.2021.08.054.

10. Wiersinga WJ, Rhodes A, Cheng AC, Peacock SJ, Prescott HC. Pathophysiology, Transmission, Diagnosis, and Treatment of Coronavirus Disease 2019 (COVID-19): A Review. JAMA. 2020;324(8):782-93. doi: 10.1001/ jama.2020.12839.

11. Altman MR, Gavin AR, Eagen-Torkko MK, Kantrowitz-Gordon I, Khosa RM, Mohammed SA. Where the System Failed: The COVID-19 Pandemic's Impact on Pregnancy and Birth Care. Glob Qual Nurs Res. 2021;8:23333936211006397. doi: 10.1177/2333936211006397.

12. Simbar M, Nazarpour S, Sheidaei A. Evaluation of pregnancy outcomes in mothers with COVID-19 infection: a systematic review and meta-analysis. J Obstet Gynaecol. 2023;43(1):2162867. doi: 10.1080/01443615.2022.2162867.

13. Charuta A, Smuniewska M, Wo niak Z, Paziewska A. Effect of COV-ID-19 on Pregnancy and Neonate's Vital Parameters: A Systematic Review. J Pregnancy. 2023;2023:3015072. doi: 10.1155/2023/3015072.

14. Favre G, Maisonneuve E, Pomar L, Daire C, Poncelet C, Quibel T, et al. Maternal and perinatal outcomes following pre-Delta, Delta, and Omicron SARS-CoV-2 variants infection among unvaccinated pregnant women in France and Switzerland: a prospective cohort study using the COVI-PREG registry. Lancet Reg Health Eur. 2023:100569. doi: 10.1016/j.lanepe.2022.

15. Smith ER, Oakley E, Grandner GW, Rukundo G, Farooq F, Ferguson K, et al Clinical risk factors of adverse outcomes among women with COVID-19 in the pregnancy and postpartum period: a sequential, prospective meta-analysis. Am J Obstet Gynecol. 2023;228(2):161-77. doi: 10.1016/j.ajog.2022.08.038.

16. Lassi ZS, Ana A, Das JK, Salam RA, Padhani ZA, Irfan O, et al. A systematic review and meta-analysis of data on pregnant women with confirmed COVID-19: Clinical presentation, and pregnancy and perinatal outcomes based on COVID-19 severity. J Glob Health. 2021;(11):05018. doi: 10.7189/ jogh.11.05018.

17. Theiler RN, Wick M, Mehta R, Weaver AL, Virk A, Swift M. Pregnancy and birth outcomes after SARS-CoV-2 vaccination in pregnancy. Am J Obstet Gynecol MFM. 2021;3(6):100467. doi: 10.1016/j.ajogmf.2021.100467.

18. Rahmati M, Yon DK, Lee SW, Butler L, Koyanagi A, Jacob L, et al. Effects of COVID-19 vaccination during pregnancy on SARS-CoV-2 infection and maternal and neonatal outcomes: A systematic review and meta-analysis. Rev Med Virol. 2023;33(3):e2434. doi: 10.1002/ rmv.2434.

19. Prasad S, Kalafat E, Blakeway H, Townsend R, O'Brien P, Morris E, et al. Systematic review and meta-analysis of the effectiveness and perinatal outcomes of COVID-19 vaccination in pregnancy. Nat Commun. 2022;13(1):2414. doi: 10.1038/s41467-022-30052-w.

20. Halasa NB, Olson SM, Staat MA, Newhams MM, Price AM, Pannaraj PS, et al. Maternal Vaccination and Risk of Hospitalization for Covid-19 among Infants. N Engl J Med. 2022;387(2):109-19. doi: 10.1056/NF.IMoa2204399.

21. Low JM, Gu Y, Ng MSF, Wang LW, Amin Z, Zhong Y, et al. Human Milk Antibodies after BNT162b2 Vaccination Exhibit Reduced Binding against SARS-CoV-2 Variants of Concern. Vaccines (Basel). 2022;10(2):225. doi: 10.3390/ vaccines10020225.

22. Shook LL, Edlow AG. Safety and Efficacy of Coronavirus Disease 2019 (COV-ID-19) mRNA Vaccines During Lactation. Obstet Gynecol. 2023;141(3):483-91. doi: 10.1097/AOG.000000000005093.

23. Ceulemans M, Foulon V, Panchaud A, Winterfeld U, Pomar L, Lambelet V, et al. Vaccine Willingness and Impact of the COVID-19 Pandemic on Women's Perinatal Experiences and Practices-A Multinational, Cross-Sectional Study Covering the First Wave of the Pandemic. Int J Environ Res Public Health. 2021;18(7):3367. doi: 10.3390/ijerph18073367.

24. Maisonneuve E, Gerbier E, Tauqeer F, Pomar L, Favre G, Winterfeld U, et al. Determinants of Vaccination and Willingness to Vaccinate against COVID-19 among Pregnant and Postpartum Women during the Third Wave of the Pandemic: A European Multinational Cross-Sectional Survey. Viruses. 2023;15(5):1090. doi: 10.3390/v15051090.

25. Kontovazainitis CG, Katsaras GN, Gialamprinou D, Mitsiakos G. Covid-19 vaccination and pregnancy: a systematic review of maternal and neonatal outcomes. J Perinat Med. 2023;51(7):823-39. doi: 10.1515/jpm-2022-0463.

26. Zheng X, Zhang J, Ye X, Lin X, Liu H, Qin Z, et al. Navigating through motherhood in pregnancy and postpartum periods during the COVID-19 pandemic: A systematic review and qualitative meta-synthesis. J Nurs Manag. 2022;30(8):3958-71. doi: 10.1111/ jonm.13846.

27. Larki M, Sharifi F, Roudsari LR. Models of maternity care for pregnant women during the COVID-19 pandemic 2020. EMHJ. 2020;26(9):994-8.

28. Muñoz-Vela FJ, Rodríguez-Díaz L, Gómez-Salgado J, Fernández-Carrasco FJ, Allande-Cussó R, Vázquez-Lara JM, et al. Fear and Anxiety in Pregnant Women During the COVID-19 Pandemic: A Systematic Review. Int J Public Health. 2023;68:1605587. doi: 10.3389/ijph.2023.1605587.

29. Goldstein JT, Eden AR, Taylor MK, Dotson A, Barreto T. Impact of COV-ID-19 on perinatal care: Perceptions of family physicians in the United States. Birth. 2022;49(4):719-27. doi: 10.1111/ birt.12637.

30. Joo JY, Liu MF. Antenatal care experiences of uninfected pregnant women during the COVID-19 pandemic: A qualitative systematic review. Nurs Outlook. 2023;71(3):101964. doi: 10.1016/j.outlook.2023.101964.

31. Peahl AF, Powell A, Berlin H, Smith RD, Krans E, Waljee J, et al. Patient and provider perspectives of a new prenatal care model introduced in response to the coronavirus disease 2019 pandemic. Am J Obstet Gynecol. 2021;224(4):384.e1-384.e11. doi: 10.1016/j.ajog.2020.10.008.

32. Bahari NI, Sutan R, Abdullah Mahdy Z. The determinants of maternal perception of antenatal care services during the COVID-19 pandemic critical phase: A systematic review. PLoS ONE. 2024;19(2):e0297563. doi: 10.1371/ journal.pone.0297563.

33. Kim YK, Kim EH. Pregnancy and COVID-19: past, present and future.

Obstet Gynecol Sci. 2023;66(3):149-60. doi: 10.5468/ogs.23001.

34. Cui C, Zhai L, Sznajder KK, Wang J, Sun X, Wang X, et al. Prenatal anxiety and the associated factors among Chinese pregnant women during the COVID-19 pandemic - a smartphone questionnaire survey study. BMC Psychiatry. 2021;21(1):619. doi: 10.1186/s12888-021-03624-1.

35. Liu CH, Goyal D, Mittal L, Erdei C. Patient Satisfaction with Virtual-Based Prenatal Care: Implications after the COV-ID-19 Pandemic. Matern Child Health J. 2021;25(11):173543. doi: 10.1007/ s10995-021-03211-6.

 Horachuk, W, Goyda NG, Krishtopa BP, Matyukha LF, Orlova NM, Kareta OO. Organization of sociological surveys of patients / their representatives and medical personnel in health care institutions (methodological recommendations). Family Med. 2016;(5):118-25.

37. Zhylka NYa, Kudria AV. Level satisfaction and awareness on services of family doctor (Internet survey). Ukr Nation's Health. 2015;(4):66-9.

38. Stepanenko VP, editor. Pandemic of COVID-19 in Ukraine: social consequences. Kyiv: Interservice; 2021. 406 p.

39. Alkhalifah M, AlHusseini N, Mc-Ghee J. COVID-19 Vaccine Hesitancy Among Pregnant Women. Cureus. 2023;15(6):e41126. doi: 10.7759/cureus.41126.

40. Maisonneuve E, Gerbier E, Tauqeer F, Pomar L, Favre G, Winterfeld U, et al. Determinants of Vaccination and Willingness to Vaccinate against COVID-19 among Pregnant and Postpartum Women during the Third Wave of the Pandemic: A European Multinational Cross-Sectional Survey. Viruses. 2023;15(5):1090. doi: 10.3390/v15051090.

41. Jahromi AS, Jokar M, Sharifi N, Omidmokhtarloo B, Rahmanian V. Global knowledge, attitude, and practice towards COVID-19 among pregnant women: a systematic review and metaanalysis. BMC Pregnancy Childbirth. 2023;23(1):278. doi: 10.1186/s12884-023-05560-2.

42. Atmuri K, Sarkar M, Obudu E, Kumar A. Perspectives of pregnant women during the COVID-19 pandemic: A qualitative study. Women Birth. 2022;35(3):280-8. doi: 10.1016/j.wombi.2021.03.008.

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