

Telephone consultations — its quality in the opinion of pregnant and women in postpartum period and patients' sense of security

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ABSTRACT

Objectives: To explore the opinions of pregnant and postpartum women on the services provided via remotely conducted consultation and to assess the sense of security of patients under the care conducted remotely by midwives and gynecologists.

Material and methods: An anonymous, self-administered survey questionnaire was completed by 86 women who had at least one telephone consultation with a gynecologist or midwife during pregnancy or after birth. The questionnaire was spread via social media between February 1 and August 1, 2022.

Results: More than half of the surveyed group (51.2%) had 1–3 consultations performed remotely during pregnancy and 53.5% after birth. Phone call only was the most popular form of remote consultations performed during pregnancy (69.8%) and after birth (43.0%). Simple app was used in 10.5% consultations during pregnancy and 4.7% after birth. The predominant reason of the remotely conducted consultation during pregnancy and after birth was the need of getting the prescription or consultation of blood/urine test results (61.6%). Although phone-made medical consultations were a convenience and time-saver for most women, the preferred form of visit is to meet the caregiver in person.

Conclusions: Special times, such pandemic was, requires a different, individual approach, and perhaps thanks to these experiences we will be able to behave wiser in future states of public health emergency. Teleconsultations were an acceptable form of medical consultation to discuss the results, effects of treatment or to write a referral or prescription.

Keywords: tele-care; pandemics; 2019 novel coronavirus disease (COVID-19); severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2); pregnancy; postpartum period

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INTRODUCTION

Conceptual frameworks of practicing medicine involve health care representatives meeting the patient in person, taking a history and performing a physical examination as well as using telemedicine/telehealth/telephone consultations in recent years. As a novelty for many, for some a model of care that has been in use for years, increasing accessibility to receiving specialized medical advice [1–3].

Telephone consultation, according to the Regulation of the Minister of Health of August 12, 2020 on the organizational standard of telephone consultation in primary health care (Polish Journal of Laws of 2020, Section 1395,

as amended), as opposed to advice provided at the place of service, is a health care service provided at a distance using telecommunications or information and electronic systems [4].

Primary care facilities were required to provide patients the option of receiving a telephone consultation from January 1, 2020, but the widespread use of this type of contact with a doctor was prompted by the outbreak of the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) pandemic and the declaration of an epidemic state in Poland on March 20, 2020 [5]. The basic idea of introducing such a form of contact was to prevent the spread of coronavirus disease

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of 2019 (COVID-19) disease while allowing the patient to receive medical recommendations, e-referral, e-prescription or recommendation to visit the facility directly or to contact the sanitary-epidemiological station in case of necessity [5]. Due to the occurrence of a new, highly infectious pathogen and a hitherto unknown disease, the initial guidelines for the care of pregnant, parturient and postpartum women were dynamically changing [6]. Despite the changes, the Ordinance of the Minister of Health of August 16, 2018 on the organizational standard of perinatal care was still in force, precisely indicating the timing of individual preventive services and health promotion activities, as well as diagnostic tests and medical consultations, performed on women during pregnancy [7]. There were certain restrictions and conditions under which tests were allowed to be performed, and the majority of women pointed out the difficulty in accessing the guaranteed medical services [8–9]. In view of the lack of popularity of this method of contact with a doctor and midwife in Poland, the sudden change in the method of contact to remote may have disturbed patients' sense of security and affected their opinion of the quality of medical services provided in this way.

The objective of this study was to explore the opinions of pregnant and postpartum women on the services provided via remotely conducted consultation and to assess the sense of security of patients under the care conducted remotely by midwives and gynecologists.

MATERIAL AND METHODS

An anonymous, self-administered survey questionnaire was completed by 86 women who had at least one telephone consultation with a gynecologist or midwife during pregnancy or after birth. The questionnaire was spread via social media between February 1 and August 1, 2022. Inclusion criteria for the study were the fact of pregnancy or childbirth during the current and previous waves of the pandemic and use of community midwife and/or gynecologist care during pregnancy and after giving birth. The questionnaire included 13 closed-ended questions and a metric. Some of the questions included statements, and respondents were asked to address each statement and assign a score: 0 (not applicable), 1 — strongly disagree, 2 — disagree, 3 — have no opinion, 4 — partially agree, 5 — strongly agree. The respondents were asked about concerns about the risk of contracting the new coronavirus, whether they had been vaccinated, chronic diseases and illnesses that occurred during pregnancy, the number of telephone consultations and how they were conducted (only a phone call, a webcam call or a mobile app designed for these purposes), the reason for such contact with a doctor or midwife, and feelings about the sense of safety and quality during such visits.

Statistical analyses were carried out using the IBM SPSS Statistics 27 package, with which analysis of basic descriptive statistics, the Kruskal–Walis test and intersectional table analyses were performed along with the Chi square test of independence. The level of significance in this study was considered $\alpha = 0.05$.

RESULTS

The mean age in the study group of women was 30.86 ± 4.74 years. Women mostly were married (66.3%) and lived in the urban areas (66.3%). 52.3% of the respondents were primiparous, and all pregnancies were singleton. Most respondents were postpartum at the time of completing the questionnaire (82.6%) and mostly gave birth via cesarean section (45.0%). Before pregnancy 52.3% respondents were healthy, thyroid diseases (hypo/hyperthyroidism) were the most prevalent (20.9%), gynaecological diseases (e.g. endometriosis) — 10.5%, depression — 8.1% of surveyed group. During pregnancy women suffered from urinary tract infection (33.7%), diabetes (8.1%), hypo/hyperthyroidism (24.4), hypertension (19.8%), cervical shortening (7.4%), vomiting (15.1%) and preterm contractions (14%). Healthy were group of 12.8% of respondents. Regarding the COVID-19 vaccination 32.5% were vaccinated after birth, 24.4% during pregnancy, 20.9% before pregnancy. 16.3% were afraid of COVID-19 vaccinations and did not decide for this, 14% did not believe in the COVID-19 vaccines efficiency and were not vaccinated. 3.5% declared medical contraindications to be vaccinated (Tab. 1).

More than half of the surveyed group (51.2%) had 1–3 consultations performed remotely during pregnancy and 53.5% after birth. 4–5 phone consultations during pregnancy declared 14.0% women and after birth 3.5%. More than 5 remotely conducted consultations during pregnancy declared 16.3% of respondents and after birth 2.3%. None of visit was conducted remotely for 18.6% pregnant women and 40.7% respondents in postpartum period.

Phone call only was the most popular form of remote consultations performed during pregnancy (69.8%) and after birth (43.0%). Simple app was used in 10.5% consultations during pregnancy and 4.7% after birth. Only 3.5% consultations performed remotely during pregnancy were conducted by doctor/midwife through an app dedicated to performing medical consultations and 1.2% after birth.

More than half (58.1%) of the women had their first remote consultation when they were pregnant and spoke with their gynecologist, and 37.2% of the women spoke with a midwife. The predominant form of consultation during pregnancy was exclusively by phone (69.8%).

Predominant reason of the remotely conducted consultation during pregnancy and after birth was the need of getting the prescription or consultation of blood/urine

Table 1. Characteristics of the surveyed group		
Variable		Number of women [%]
Maternal age, years (mean ± SD)	30.86 ± 4.74	
Marital status	Married	57 (66.3)
	Single	8 (9.3)
	Informal relationship	21 (24.4)
Place of residence	Rural area	29 (33.7)
	Urban area	57 (66.3)
First pregnancy		41 (47.7)
Pregnant		15 (17.4)
After birth		71 (82.6)
Birth mode	Vaginal, without episiotomy	8 (11.3)
	Vaginal, with episiotomy	23 (32.4)
	Vacuum ex./forceps	8 (11.3)
	Cesarean section	32 (45.0)
Diseases before pregnancy*	Hypo/hyperthyroidism	18 (20.9)
	Gynaecological (e.g. endometriosis)	9 (10.5)
	Depression	7 (8.1)
	Other	17 (19.6)
	Healthy individual	45 (52.3)
Diseases diagnosed during pregnancy*	Urinary tract infection	29 (33.7)
	Diabetes during pregnancy	7 (8.1)
	Hypo/hyperthyroidism	21 (24.4)
	Hypertension	17 (19.8)
	Cervical shortening	15 (7.4)
	Vomiting	13 (15.1)
	Preterm contractions	12 (14)
	No diseases (healthy person)	1 (12.8)
COVID-19 vaccination status*	Vaccinated before pregnancy	18 (20.9)
	Vaccinated during pregnancy	21 (24.4)
	Vaccinated after birth	28 (32.6)
	Not vaccinated — afraid of COVID-19 vaccines	14 (16.3)
	Not vaccinated, does not believe in the COVID-19 vaccines efficiency	12 (14)
	Not vaccinated — medical contraindications to be vaccinated	3 (3.5)

*Multiple choice question

test results (61.6%), then the cancellation in-person appointments — by midwife or gynecologist (36.1%) and COVID-19 or other patient's infection/quarantine (34.9%) (Tab. 2).

The largest number of women indicated that having a remote consultation with a gynecologist or midwife during pregnancy and after childbirth was a convenience for them (32.6%) and was a time-saver for them (39.5%).

At the same time, the largest percentage of women indicated that consultation in the form of a remote consultation with a gynecologist or midwife during pregnancy as well as after childbirth was insufficient for them. In this

case, the women surveyed most often indicated a response of 1 — strongly disagree.

On the other hand, during pregnancy, most women surveyed were concerned about coronavirus infection (37.2%). In contrast, in postpartum period, a similar percentage of respondents were very concerned (23.3%) as or not at all concerned (25.6%) about coronavirus infection.

Most women surveyed during pregnancy (59.3%) and in postpartum period (53.5%) would not choose remote consultation again.

In the case of consultation conducted remotely by a gynecologist, 19.8% of the women surveyed said they were

Table 2. Characteristics of consultations conducted remotely

Variable		Number of women [%]
How many consultations performed remotely during pregnancy	1–3	44 (51.2)
	4–5	12 (14.0)
	> 5	14 (16.3)
	N/A	16 (18.6)
How many consultations performed remotely after birth	1–3	46 (53.5)
	4–5	3 (3.5)
	> 5	2 (2.3)
	N/A	35 (40.7)
Please specify in what form the remote consultations were performed during the pregnancy	Phone call only	60 (69.8)
	I saw and heard the doctor/midwife through a simple app	9 (10.5)
	I saw and heard a doctor/midwife through an app dedicated to performing medical consultations	3 (3.5)
	N/A	15 (17.4)
Please specify in what form the remote consultations were performed after birth	Phone call only	37 (43.0)
	I saw and heard the doctor/midwife through a simple app	4 (4.7)
	I saw and heard a doctor/midwife through an app dedicated to performing medical consultations	1 (1.2)
	N/A	32 (37.2)
Why the visit was conducted remotely*	COVID-19 or other patient's infection/quarantine	30 (34.9)
	Cancellation in-person appointments — by midwife or gynecologist	31 (36.1)
	Other (e.g., for prescription only, consultation of blood/urine test results)	52 (61.6)

*Multiple choice question, N/A — not applicable

inadequate. In contrast, the figure for a consultation conducted remotely by a midwife was 23.3%.

When it came to feelings during the appointment conducted remotely, women tended to be satisfied with it, although the rest of the answers were marked just as often.

In addition, the recommendations given during the consultation by 40.7% of the women were understood.

In contrast, the poor quality of the connection affected the understanding of the recommendations in a small percentage of women.

Many women (43.0%) felt that the quality of the remote consultation was far less qualitative than a visit to a doctor's office (Tab. 3).

Almost half of the surveyed women (41.9%) did not get the impression that the gynecologist or midwife avoids making an inpatient form of visit.

In contrast, most women did not experience any deterioration in their health due to the lack of opportunities for inpatient visits with a gynecologist or midwife during pregnancy (39.5%) and after birth (26.7%). The situation is analogous for the community midwife. The lack of her visit after delivery did not result in worsening of the baby's condition (22.1%) or lactation problems (20.9%).

Many women received prescriptions for new medications (32.6%) prescriptions, for medications they were

already taking (32.6%), and received referrals for tests (37.2%) during the phone consultations.

More than half of the surveyed women did not participate in prenatal education (55.8%) and lactation instruction (54.7%) provided through remote access.

Most women surveyed prefer the in-patient form of visits to that provided by telephone. Although women prefer in-patient visits with a doctor, they highly rate the quality of consultations conducted remotely with both a gynecologist (30.2%) and a midwife (25.6%). Nevertheless, despite the necessity of remotely conducted consultations with a gynecologist (19.8%) or midwife (24.4%), women felt safe (Tab. 4).

There were no statistically significant correlations between the analyzed variables, and therefore they are not presented. We can share them with the readers who are interested.

DISCUSSION

According to the American College of Obstetricians and Gynecologists term (ACOG) "telemedicine" is used to refer to traditional clinical diagnosis and monitoring that are delivered by technology. The term "telehealth" refers to the technology-enhanced health care framework that includes services such as virtual visits, remote patient monitoring, and mobile health care [10]. In Poland, in the pre-pandemic

Table 3. Distribution of responses to the question on attitudes toward remotely conducted appointments

Statements and attitude (scoring 1–5, 0 — N/A)		0	1	2	3	4	5	General
Remotely conducted appointment was a convenience for me	N	12	16	8	4	18	28	86
	%	14.0	18.6	9.3	4.7	20.9	32.6	100
Remotely conducted appointment was a time-saver	N	12	10	3	5	22	34	86
	%	14.0	11.6	3.5	5.8	25.6	39.5	100
Remotely conducted appointments with gynecologist during pregnancy were sufficient	N	28	28	6	5	9	10	86
	%	32.6	32.6	7.0	5.8	10.5	11.6	100
Remotely conducted appointments with gynecologist in postnatal period were sufficient	N	42	22	8	3	5	6	86
	%	48.8	25.6	9.3	3.5	5.8	7.0	100
Remotely conducted appointments with midwife during pregnancy were sufficient	N	30	18	8	4	15	11	86
	%	34.9	20.9	9.3	4.7	17.4	12.8	100
Remotely conducted appointments with midwife in postnatal period were sufficient	N	38	20	11	1	8	8	86
	%	44.2	23.3	12.8	1.2	9.3	9.3	100
I was concerned about coronavirus infection during pregnancy	N	10	19	7	7	11	32	86
	%	11.6	22.1	8.1	8.1	12.8	37.2	100
I was concerned about coronavirus infection in postpartum period	N	16	22	9	5	14	20	86
	%	18.6	25.6	10.5	5.8	16.3	23.3	100
If I could choose the form of visit during my pregnancy, I would choose remote consultation	N	11	51	13	4	4	3	86
	%	12.8	59.3	15.1	4.7	4.7	3.5	100
If I could choose the form of visit in postnatal period, I would choose remote consultation	N	17	46	16	2	3	2	86
	%	19.8	53.5	18.6	2.3	3.5	2.3	100
Consultations conducted remotely by a gynecologist were sufficient	N	32	17	8	7	9	13	86
	%	37.2	19.8	9.3	8.1	10.5	15.1	100
Consultations conducted remotely by a midwife were sufficient	N	27	20	5	8	10	16	86
	%	31.4	23.3	5.8	9.3	11.6	18.6	100
I felt that during the conversation I was able to express my concerns	N	13	16	13	8	14	22	86
	%	15.1	18.6	15.1	9.3	16.3	25.6	100
I felt that during the conversation I was able to ask all the questions that were bothering me	N	13	14	13	9	13	24	86
	%	15.1	16.3	15.1	10.5	15.1	27.9	100
I felt that during the remotely conducted appointment all my fears were allayed	N	15	15	15	7	12	22	86
	%	17.4	17.4	17.4	8.1	14.0	25.6	100
I felt that during the conversation I got answers to all the questions I asked	N	14	13	10	12	10	27	86
	%	16.3	15.1	11.6	14.0	11.6	31.4	100
The recommendations given during the consultation were understandable for me	N	13	6	6	11	15	35	86
	%	15.1	7.0	7.0	12.8	17.4	40.7	100
the poor quality of the connection affected the understanding of the recommendations	N	46	24	6	7	1	2	86
	%	53.5	27.9	7.0	8.1	1.2	2.3	100
The quality of the remotely conducted consultations was this same qualitative as an in-person visit	N	15	37	16	8	4	6	86
	%	17.4	43.0	18.6	9.3	4.7	7.0	100

N/A — not applicable; N — number

period, the practice of this type of counseling was not popular, despite the gradual implementation of prescriptions and referrals to specialists in electronic form. For this type of processing of personal data and medical records, European Union member states are required to follow the legislation that applies in this regard [11].

Obstetrics, gynecology and midwifery are one of the most beautiful specializations, and at the same time the most difficult, burdened with high demands from patients. A gynecologist and a midwife taking care of a pregnant woman are responsible for the health and life of the mother and child [12–14]. Not every visit and medical

Table 4. Distribution of responses to the question on attitudes toward remotely conducted appointments

Statements and attitude (scoring 1–5, 0–N/A)		0	1	2	3	4	5	General
I get the impression that the gynecologist or midwife avoids making an inpatient form of visit	N	28	36	8	3	4	7	86
	%	32.6	41.9	9.3	3.5	4.7	8.1	100.0
Due to my inability to make an inpatient visit to a gynecologist/midwife during my pregnancy, I experienced a deterioration in my health condition	N	41	34	2	5	1	3	86
	%	47.7	39.5	2.3	5.8	1.2	3.5	100.0
Due to the inability to have an inpatient visit with a gynecologist/midwife after birth, I experienced a deterioration in my health condition	N	54	23	2	4	1	2	86
	%	62.8	26.7	2.3	4.7	1.2	2.3	100
The lack of an inpatient community midwife visit to my home after birth has resulted in the deterioration of my baby's condition	N	58	19	4	3	0	2	86
	%	67.4	22.1	4.7	3.5	0	2.3	100.0
Lack of a community midwife visit in my home after birth resulted in lactation problems	N	59	18	3	2	2	2	86
	%	68.6	20.9	3.5	2.3	2.3	2.3	100
During remotely conducted consultations, I received/receive prescriptions for new drugs	N	36	9	5	8	0	28	86
	%	41.9	10.5	5.8	9.3	0	32.6	100.0
During remotely conducted consultations, I received/receive prescriptions for medications that I have been taking for some time/permanently	N	35	8	2	8	5	28	86
	%	40.7	9.3	2.3	9.3	5.8	32.6	100.0
During remotely conducted consultations, I received/receive referrals for medical tests	N	31	9	3	6	5	32	86
	%	36.0	10.5	3.5	7.0	5.8	37.2	100.0
Antenatal education conducted remotely was satisfactory	N	48	12	4	5	8	9	86
	%	55.8	14.0	4.7	5.8	9.3	10.5	100
Lactation education and instruction provided remotely was sufficient	N	47	15	7	4	5	8	86
	%	54.7	17.4	8.1	4.7	5.8	9.3	100.0
I prefer remotely conducted appointments/consultations	N	14	42	14	10	4	2	86
	%	16.3	48.8	16.3	11.6	4.7	2.3	100.0
If need be, I would choose remotely conducted consultation over a visit to the doctor/midwife's office	N	15	42	6	9	4	10	86
	%	17.4	48.8	7.0	10.5	4.7	11.6	100.0
If given the option, I would choose an in-person visit over a remotely conducted consultation	N	10	13	2	7	8	46	86
	%	11.6	15.1	2.3	8.1	9.3	53.5	100.0
Remotely conducted by gynecologist consultations were in high quality	N	33	3	4	12	8	26	86
	%	38.4	3.5	4.7	14.0	9.3	30.2	100
Remotely conducted by a midwife consultation were in high quality	N	34	7	3	8	12	22	86
	%	39.5	8.1	3.5	9.3	14.0	25.6	100
Despite the need for virtual conducted appointments at the gynecologist, I felt/feel safe	N	36	8	10	7	8	17	86
	%	41.9	9.3	11.6	8.1	9.3	19.8	100
Despite the need for virtual conducted appointments at the midwife, I felt/feel safe	N	31	10	10	6	8	21	86
	%	36.0	11.6	11.6	7.0	9.3	24.4	100

N/A — not applicable; N — number

consultation can take place in the form of teleconsultation [15, 16]. Every patient, especially a pregnant or postpartum woman, should know in what situations she should urgently report to the nearest gynecological and obstetrics hospital. Such symptoms include: bleeding, water breaking, severe contractions, a significant reduction or sudden alteration in fetal movement [17], and exacerbation of other chronic diseases or diseases occurring for the first time during pregnancy, such as hypertension, diabetes and cholestasis [18].

Waiting for teleconsultation in these clinical situations may lead to miscarriage, premature delivery, intrauterine fetal death, sepsis and the patient's death.

The study conducted by Sienicka et al. [19], published in 2021 revealed that the COVID-19 pandemic has affected Polish people's reproductive intentions — 22% of the respondents wanted to have a child later than they previously planned and main concerns were: limited access to prenatal care, limited delivery services, fear about giving birth at the hospital.

Presented survey was conducted between February 1 and August 1, 2022 — during the fifth COVID-19 cases wave in Poland [20], so we assumed that the time that has passed since the beginning of the pandemic should be sufficient for midwives and obstetricians to prepare themselves to provide medical services under conditions of infectious disease emergency. When asked about the number of counseling sessions conducted remotely during pregnancy, respondents indicated 1–3 (51.2%), 4–5 (14%), and >5 (16.3%), while after childbirth 1–3 (53.5%), 4–5 (3.5%), >5 (2.3%). Most women reported that the counseling was carried out through a phone call only (during pregnancy — 69.8%, after childbirth — 43%). At the same time, in 61.6% of cases, the visit was conducted exclusively to consult the results of previously conducted blood and/or urine tests, or to obtain an e-prescription. Cancellation in-person appointments — by midwife or gynecologist was the reason of 36.1% remotely provided consultations and COVID-19 or other patient's infection/quarantine — 34.9%. The data show the consultations were conducted mainly by telephone. The American federal agency — Centers for Medicare & Medicaid Services (CMS) indicates that to be classified as a telehealth visit by CMS rules, the visit must include two-way audio and video communication [21]. Therefore, the first element needed is a virtual platform for video communication [22] while the World Health Organization (WHO) defines telehealth as the *delivery of health care services, where patients and providers are separated by distance. Telehealth uses information communication technology for the exchange of information for the diagnosis and treatment of diseases and injuries, research and evaluation, and for the continuing education of health professionals* [23] and indicates a list of technical requirements that telehealth platforms must have to ensure accessible telehealth service provision for persons with disabilities [24]. Greiner [25] presents a wide range of possibilities due to the development of remote surveillance methods in obstetrics — from remote monitoring of fetal heart rate, perinatal mental health services, blood glucose monitoring, blood pressure monitoring or Bluetooth-enabled hand-held spirometry among pregnant women with asthma.

An interesting aspect for us was the percentage of respondents vaccinated against COVID-19 — only 20.9% decided for it before pregnancy, 24.4% during pregnancy and 32.5% were vaccinated after giving birth. 16.3% were afraid of COVID-19 vaccinations (in general, not only during pregnancy or breastfeeding) and did not decide for this, 14% did not believe in the COVID-19 vaccines efficiency and were not vaccinated. Skjefte et al. [26] found that among the top three reasons for pregnant women to decline COVID-19 vaccination were, among others: worries about possible side-effects and the perceived need

of more data on vaccine safety and effectiveness. Among the factors affecting this, Fiammenghi et al. [27] pointed to inadequate or incomprehensible information about vaccination from a health care professional, receiving conflicting information from different medical professionals, and feeling unsupported in the decision-making. In the same way, Hagenbeck et al. [28] indicated that consistent educational interventions are essential to achieve the desired goals in population immunization rates. This is important because a number of recommendations have been issued in this context and have been regularly updated by the authorities publishing them [29].

The subjective feeling of safety towards the care provided via remote care to pregnant and postpartum women in analyzed group demonstrates the involvement of caregivers in this type of contact, despite the patients prefer in-person consultations. According to a survey conducted in 2021 by Priyadarshani et al. [30] through telephone interviews, patients' satisfaction with the telemedicine was high.

Although we haven't analyzed the perceptions of midwives and gynecologists providing care via remote consultations, a qualitative study published by Deldar et al. [31] in 2017 is certainly worth noting — authors saw a need of formal training sessions and considering new approaches of teleconsultation and telemedicine among experts and residents.

Many women (43.0%) felt that the quality of the remote consultation was far less qualitative than an in-person visit, and most women surveyed during pregnancy (59.3%) and in postpartum period (53.5%) would not choose remote consultation again. At the same time, more than a third of respondents found this form of advice convenient and 39.5% indicated that it was a time-saver. Ackerman et al. [32] indicate that the service of perinatal mental health support using telemedicine (TMH, Telemental Health Services) is well perceived by women. For those living in rural areas, the ability to connect with a specialist in this way increases accessibility to mental health care [32].

The primary goal seems to be to create a platform enabling the transmission of laboratory test results and diagnostic test results in the form of scans or digitally, as well as further medical recommendations. The platform should have a security certificate for data storage and transmission in accordance with European Union and General Data Protection Regulation (GDPR) guidelines [33]. Health care workers should be properly prepared to send test results and further medical recommendations. It should be the patient's responsibility to receive and follow medical recommendations [34]. From the legal point of view, the patient should bear legal responsibility for failure to continue further treatment — failure to attend recommended tests and consultations. On the digital platform, the patient should

confirm that he has read and understood further medical recommendations. Authorized medical professionals should have access to all medical data about the patient.

The survey was very clear and detailed. The study limitation is that the survey has included a group deeply involved in motherhood, so perhaps it should be more concise in the future.

CONCLUSIONS

Even though the study did not show significant statistical differences and it might seem that patients appreciated stationary visits more than teleconsultations, it should be remembered that the consultations took place during the pandemic and the work was performed after it. Patients often had a point of reference from previous births, but they did not bear in mind that the pandemic was a special time. Special times which required a different, individual approach, and perhaps thanks to these experiences we will be able to behave wiser in future states of emergency. Teleconsultations were an acceptable form of medical consultation to discuss the results, effects of treatment or to write a referral or prescription although there is a need in Poland to use a platform enabling the transmission of laboratory test results and diagnostic test results in the form of scans or digitally, as well as further medical recommendations. The platform should have a security certificate for data storage and data transmission.

Article information and declarations

Data availability statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Ethics statement

The study was approved by the Bioethics Commission of the Poznan University of Medical Sciences No. 103/22.

Author contributions

KW — concept, assumptions, study design, acquisition of data, analysis and interpretation of data, article draft, corresponding author; DP — concept, assumptions, study design, acquisition of data, analysis and interpretation of data, article draft; SMK — acquisition of data, analysis and interpretation of data, article draft; KCW — acquisition of data, analysis, interpretation of data, article draft, revised article critically; MP — acquisition of data, analysis, interpretation of data, article draft; MW — acquisition of data, analysis, interpretation of data, article draft, revised article critically, supervision.

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Conflict of interests

All authors declare no conflict of interest.

REFERENCES

- Hallam L. Patient access to general practitioners by telephone: the doctor's view. *Br J Gen Pract.* 1992;42(358): 186–189, indexed in Pubmed: [1389428](#).
- Car J. Telephone consultations. *BMJ.* 2003; 326(7396): 966–969, doi: [10.1136/bmj.326.7396.966](#).
- Karwowski R, Gasiorowska J. Telemedicine consultations in obstetrics and gynecology — a population based study in Polish speaking women. *Ginekol Pol.* 2018;89(12): 677–681, doi: [10.5603/GPa.2018.0114](#), indexed in Pubmed: [30618035](#).
- Rozporządzenie Ministra Zdrowia z dnia 12 sierpnia 2020 r. w sprawie standardu organizacyjnego teleporady w ramach podstawowej opieki zdrowotnej (Dz. U z 2020 r poz 1395, z późn zm.; 2020).
- Raport z badania satysfakcji pacjentów korzystających z teleporad u lekarza podstawowej opieki zdrowotnej w okresie epidemii COVID-19. In: Departament Obsługi Pacjenta NFZ. Warszawa: Departament Obsługi Pacjenta, Narodowy Fundusz Zdrowia.; 2020.
- Wszolek KM, Chmaj-Wierzychowska K, Wilczak M. Management of birth, postpartum care and breastfeeding — Polish recommendations and guidelines during SARS-CoV-2 pandemic. *Ginekol Pol.* 2021; 92(5): 387–391, doi: [10.5603/GPa.2021.0059](#), indexed in Pubmed: [33914312](#).
- Rozporządzenie Ministra Zdrowia z dnia 16 sierpnia 2018 r. w sprawie standardu organizacyjnego opieki okołoporodowej (Dz.U. z 2018, poz.; 1756: 018).
- Wszolek K, Pruski D, Tomczyk K, et al. Women's healthcare services since the COVID-19 pandemic outbreak in Poland. *Int J Environ Res Public Health.* 2021; 19(1), doi: [10.3390/ijerph19010180](#), indexed in Pubmed: [35010440](#).
- Jakubowski D, Sys D, Kajdy A, et al. Application of telehealth in prenatal care during the COVID-19 pandemic — a cross-sectional survey of Polish women. *J Clin Med.* 2021; 10(12), doi: [10.3390/jcm10122570](#), indexed in Pubmed: [34200723](#).
- Implementing telehealth in practice: ACOG committee opinion summary, Number 798. *Obstet Gynecol.* 2020; 135(2): 493–494, doi: [10.1097/AOG.0000000000003672](#), indexed in Pubmed: [31977794](#).
- Commission Recommendation of 6.2. 2019 on a European Electronic Health Record exchange format. 2019.
- The American College of Obstetricians and Gynecologists. *Obstetrics & Gynecology.* 2017; 130(5), doi: [10.1097/aog.0000000000002393](#).
- Fullerton JT, Thompson JB. Examining the evidence for The International Confederation of Midwives' essential competencies for midwifery practice. *Midwifery.* 2005; 21(1): 2–13, doi: [10.1016/j.midw.2004.10.004](#), indexed in Pubmed: [15740812](#).
- Gruszka JZA, Komar-Gruszka K, Adamczyk-Gruszka O. New technologies in medicine. *Pielęgniarstwo w Opiece Długoterminowej/Long-Term Care Nursing.* 2022; 7(3): 61–69.
- Bhaskar S, Bradley S, Chattu VK, et al. Telemedicine as the new outpatient clinic gone digital: position paper from the Pandemic Health System Resilience PROGRAM (REPROGRAM) International Consortium (Part 2). *Front Public Health.* 2020; 8: 410, doi: [10.3389/fpubh.2020.00410](#), indexed in Pubmed: [33014958](#).
- Carrillo de, Sia KL, A H. A. H. The effectiveness of teleconsultations in primary care: systematic review *Fam Pract.* 2022; 39(1): 168–182.
- Clark JA, Smith LK, Armstrong N. Midwives' and obstetricians' practice, perspectives and experiences in relation to altered fetal movement: a focused ethnographic study. *Int J Nurs Stud.* 2024; 150: 104643, doi: [10.1016/j.ijnurstu.2023.104643](#), indexed in Pubmed: [38043485](#).
- Bindra V. Telemedicine for women's health during COVID-19 pandemic in India: a short commentary and important practice points for obstetricians

- and gynaecologists. *J Obstet Gynaecol India*. 2020; 70(4): 279–282, doi: [10.1007/s13224-020-01346-0](https://doi.org/10.1007/s13224-020-01346-0), indexed in Pubmed: [32760174](https://pubmed.ncbi.nlm.nih.gov/32760174/).
19. Sienicka A, Pisula A, Pawlik KK, et al. The impact of COVID-19 pandemic on reproductive intentions among the Polish population. *Ginekol Pol*. 2022; 93(5): 345–350, doi: [10.5603/GP.a2021.0135](https://doi.org/10.5603/GP.a2021.0135), indexed in Pubmed: [34263917](https://pubmed.ncbi.nlm.nih.gov/34263917/).
 20. Suligowski R, Ciupa T. Five waves of the COVID-19 pandemic and green-blue spaces in urban and rural areas in Poland. *Environ Res*. 2023; 216(Pt 3): 114662, doi: [10.1016/j.envres.2022.114662](https://doi.org/10.1016/j.envres.2022.114662), indexed in Pubmed: [36374652](https://pubmed.ncbi.nlm.nih.gov/36374652/).
 21. Ross Mullner M. Centers for Medicare and Medicaid Services (CMS). *Encyclopedia of Health Services Research*. 2009, doi: [10.4135/9781412971942.n59](https://doi.org/10.4135/9781412971942.n59).
 22. Fryer K, Delgado A, Foti T, et al. Implementation of obstetric telehealth during COVID-19 and beyond. *Matern Child Health J*. 2020; 24(9): 1104–1110, doi: [10.1007/s10995-020-02967-7](https://doi.org/10.1007/s10995-020-02967-7), indexed in Pubmed: [32564248](https://pubmed.ncbi.nlm.nih.gov/32564248/).
 23. Telehealth: Analysis of third global survey on eHealth based on the reported data by countries. World Health Organisation Geneva 2016.
 24. WHO-ITU global standard for accessibility of telehealth services. World Health Organization and International Telecommunication Union. Licence: CC BY-NC-SA 3.0 IGO. World Health Organization and International Telecommunication Union. Geneva 2022.
 25. GREINER A. Telemedicine applications in obstetrics and gynecology. *Clin Obst Gynecol*. 2017; 60(4): 853–866, doi: [10.1097/grf.0000000000000328](https://doi.org/10.1097/grf.0000000000000328).
 26. Skjefte M, Ngirbabul M, Akeju O, et al. COVID-19 vaccine acceptance among pregnant women and mothers of young children: results of a survey in 16 countries. *Eur J Epidemiol*. 2021; 36(2): 197–211, doi: [10.1007/s10654-021-00728-6](https://doi.org/10.1007/s10654-021-00728-6), indexed in Pubmed: [33649879](https://pubmed.ncbi.nlm.nih.gov/33649879/).
 27. Fiammenghi C, Mbaye NA, Pelleri D, et al. Covid-19 vaccination during pregnancy: A mixed-methods study of attitudes in a sample of Italian women and the role of health professionals' communication. *Patient Educ Couns*. 2023; 115: 107929, doi: [10.1016/j.pec.2023.107929](https://doi.org/10.1016/j.pec.2023.107929), indexed in Pubmed: [37542822](https://pubmed.ncbi.nlm.nih.gov/37542822/).
 28. Hagenbeck C, Zöllkau J, Helbig M, et al. COVID-19 Vaccination during pregnancy and lactation: attitudes and uptakes before and after official recommendations in Germany. *Vaccines (Basel)*. 2023; 11(3), doi: [10.3390/vaccines11030627](https://doi.org/10.3390/vaccines11030627), indexed in Pubmed: [36992211](https://pubmed.ncbi.nlm.nih.gov/36992211/).
 29. Ignaszak-Kaus N, Chmaj-Wierzchowska K, Wszolek K, et al. COVID-19 vaccination and pregnancy. *Clin Exper Obstet Gynecol*. 2022; 49(10): 220, doi: [10.31083/j.ceog4910220](https://doi.org/10.31083/j.ceog4910220).
 30. Priyadarshani P, Purwar R, Pipal V, et al. Patient satisfaction with telemedicine services in obstetrics and gynecology during the COVID-19 pandemic. *J South Asian Feder Obstet Gynaecol*. 2022; 13(6): 382–386, doi: [10.5005/jp-journals-10006-1974](https://doi.org/10.5005/jp-journals-10006-1974).
 31. Deldar K, Tara F, Mirteimouri M, et al. Experiences of obstetricians and gynecologists in teleconsultation with medical residents: a qualitative study. *Global J Health Sci*. 2016; 9(6): 1, doi: [10.5539/gjhs.v9n6p1](https://doi.org/10.5539/gjhs.v9n6p1).
 32. Ackerman M, Greenwald E, Noulas P, et al. Patient satisfaction with and use of telemental health services in the perinatal period: a survey study. *Psychiatr Q*. 2021; 92(3): 925–933, doi: [10.1007/s11126-020-09874-8](https://doi.org/10.1007/s11126-020-09874-8), indexed in Pubmed: [33389477](https://pubmed.ncbi.nlm.nih.gov/33389477/).
 33. The European directive on the protection of individuals with regard to the processing of personal data and on the free movement of such data. *Data privacy in the information age*. 2000: 205–236, doi: [10.5040/9798400637858.0011](https://doi.org/10.5040/9798400637858.0011).
 34. Parmanto B, Jr. AL, Graham K, et al. Development of the telehealth usability questionnaire (TUQ). *Intern J Telerehabilit* 2016; 8(1): 3–10, doi: [10.5195/ijt.2016.6196](https://doi.org/10.5195/ijt.2016.6196).