



Telehealth Effectiveness in Pregnancy Service : Integrative Review

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Abstract

Antenatal examination is an essential part of pregnancy care to detect complications in the mother and fetus. It can also improve and maintain the health of the mother and fetus during pregnancy. The Covid-19 pandemic has resulted in lockdown regulation and hampered all health services, especially maternal and child healthcare. This forces health service providers to use remote technology, known as telehealth, telemedicine, and telemonitoring, to monitor pregnant women. Telehealth is considered an effective method to reduce the spread of the COVID-19 virus. This literature review used an integrative review method. Articles were searched using databases, including Pubmed, Wiley Online Library, ScenceDirect, and ProQuest. Assessment of the articles' quality used the instrument tool from JBI (Joana Briggs Institute). Result: The ten articles obtained consisted of eight original research articles and two review articles. The results of this review showed seven indicators of the effectiveness of telehealth in pregnancy care, namely: 1) the length of time used; 2) telehealth reuse; 3) services provided; 4) the technology used; 5) inspection plan compliance; 6) time efficiency of the health workers; 7) patient satisfaction, and there are two unfound indicators, namely: 1) diagnostic accuracy and 2) closeness of patients to health workers. There are other indicators found regarding usage costs. Most articles state that telehealth is effective in prenatal care, but it cannot be used completely in pregnancy checks. Therefore, a face-to-face visit is still necessary to learn more about the mother's condition.

INTRODUCTION

Pregnant women are included in the vulnerable group whose condition needs to be monitored routinely to find out the development of the health condition of the mother and fetus during pregnancy. In addition, routine pregnancy checks or antenatal care can improve and maintain the health of the mother and fetus and see complications that may occur during pregnancy. Pregnancy check-ups can also help prevent an increase in maternal and child morbidity and mortality, so this article is written concerning the HTA (Health

Technology Assessment) to determine and assess the effectiveness of telehealth in antenatal care during the Covid-19 pandemic.

The Coronavirus Disease 2019 (Covid-19) pandemic has made the government set many policies to control the spread of the Covid-19 virus. One is a social restriction that limits people from leaving the house. This makes accessing healthcare facilities difficult (Hunie Asratie, 2021; Kassie et al., 2021). Health services for pregnant women during the Covid-19 pandemic are minimal. This is important to keep going to maintain the achieve-

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vement of minimum service standards (Fauzy, 2020). Pregnant women should routinely carry out antenatal care from early pregnancy until the last week. Pregnant women with high risk should be screened quickly to minimize the possibilities that will worsen their pregnancy (H. Chen et al., 2020).

Physical distancing policies limit access to and the need for pregnancy care, so long-distance health services, known as telehealth, telemedicine, and telenursing, are one of the solutions for handling health problems, especially for pregnant women (Purbaningsih & Hariyanti, 2020). This condition makes everyone have to adapt by using technology that has the potential to facilitate the services (Gates, 2020). The Indonesian government is making various efforts to bring health services closer, especially in remote areas, one of which is using information technology in the health sector through telemedicine or remote consultation (Kemenkes RI, 2019).

Health workers must continue to provide health services to pregnant women while prioritizing safety and preventing the spread of the Covid-19 virus using telehealth technology (Pfefferbaum, B., 2020). Telehealth is considered one of the proposed means to overcome problems related to providing medical care during the Covid-19 pandemic to optimize service delivery and minimize patient exposure to the virus (Lurie & Carr, 2018).

Most patients were generally satisfied with telehealth since they did not need to go to health services to meet medical personnel directly (Cahyati et al., 2021). Indicators of the success or effectiveness of telehealth in antenatal care services can be seen from several assessment points, namely: the length of consultation time, diagnosis accuracy, telehealth reuse, services provided, the technology used, the closeness of health workers to patients, compliance with the inspection plan, time efficiency of the health workers, and patient satisfaction (Quashie, 2018).

In a study conducted in Australia from April to July 2020, the proportion of antenatal consultations conducted via telehealth increased during the implementation period, with an average telehealth consultation reaching 766 patients each week (Ramanathan et al., 2020). During the Covid-19 pandemic, pregnant women often changed the schedule of ANC (Antenatal Care) visits without their obstetrician's permission. Online midwifery consultations were very welcome and satisfying for pregnant women during the Covid-19 pandemic in China (M. Chen et al., 2020). This is not in line with research conducted by

Hwang and Yihhan before the pandemic. About 29% of patients chose telehealth services, while the rest, 71%, preferred to consult in person or face-to-face to check their health condition (Hwang et al., 2021). Because the article was about HTA (Health Technology Assessment), the group chose how telehealth effectively provides pregnancy care services. Due to the condition of Covid-19, which requires everybody to stay in the house to prevent the spread of the virus, telehealth is widely used.

Based on the background description, the purpose of the assessment is to examine the effectiveness of telehealth in pregnancy checks, which can be seen from 9 indicators (Quashie, 2018).

METHOD

The assessment method used is an integrative review. An integrative review is a literature review that produces new knowledge or perspectives on a particular topic by reviewing, critiquing, and synthesizing related articles in an integrated manner (Torraco, 2016). This integrative review method is an approach that allows the inclusion of multiple methodologies to identify, analyze, and synthesize the results of studies on the same subject so that it can contribute to a beneficial impact on the quality of care provided, integrative review that includes the synthesis of knowledge and puts into practice significant study outcomes (Aprn & Knafl, 2005; Souza et al., 2010). An integrative review summarizes past empirical or theoretical literature to provide a more comprehensive understanding of a particular phenomenon (da Silva et al., 2020). A systematic review uses articles from all relevant individual studies on health-related issues (Munn et al., 2018). The authors chose an integrative review to find out whether there are gaps in theory with the articles found. All authors contributed to the process of each stage of article writing.

Identification of Assessment Questions

The Covid-19 pandemic has impacted all health services, especially for pregnant women. Thus, innovations are considered solutions for providing health services, especially for pregnant women, by using telehealth. In compiling this review question, the authors use the PICO framework listed in Table 1. Based on the framework, the authors have decided that the assessment question is "How is the effectiveness of telehealth in pregnancy care services?"

Eligibility Criteria

The authors determined the inclusion and

Table 1. Framework

P (Population)	I (Intervention)	C (Comparison)	O (Outcome)
Pregnant Women	Telehealth	-	Effectivity Length of Consultation Time Diagnosis Accuracy Telehealth Reuse Services Provided The Technology Used The Closeness of Health Workers to Patients Compliance With The Inspection Plan Time Efficiency of The Health Workers Patient Satisfaction.

exclusion criteria for the articles to be searched to make it easier to select their sources. The inclusion criteria were articles published in the last 3 years, free full-text articles, articles published in English or Indonesian, and literature that discusses the effectiveness of telehealth in antenatal care. The exclusion criteria in this assessment were articles that do not use English.

Database Selection

After the authors made inclusion and exclusion criteria from an article, the next step was determining the database as an article search website. In this assessment, the authors chose several databases to search for research on articles related to the effectiveness of telehealth in ANC examination. The database used in the article search was from PubMed, Wiley Online Library, ProQuest, and ScienceDirect, and reference lists for articles missed during the search.

The authors used a Boolean search strategy by combining keywords specifically determined using the word AND-OR-NOT.

Critical Appraisal

The ten articles obtained consisted of 8 original research articles and 2 review articles. The articles included in this assessment use different methodologies so that the authors conduct a critical appraisal to determine the quality of the articles found. In assessing the quality of the articles, all authors agreed to use the instrument tool from JBI (Joana Briggs Institute) and a summary of critical appraisal. The critical appraisal assessment is carried out in groups by the five existing authors. The purpose of this JBI tool is to include a summary of the best available evidence with a checklist created according to the research design used by the study to be assessed for quality. The Joana Briggs Institute is a tool for assessing the quality and methodology of an article; the checklist in each assessment will differ according to the method used in an article (Jordan et al., 2019). This tool from JBI does not have a cut-off value or score, so the threshold is determined by at least two reviewers (Munn et al., 2019). In this stage, the authors used grades A, B, and C to assess the article's quality. This value means that if the sco-

Table 2. Article Keyword

Focus	Search Sequence
Pregnant Women	Pregnant women OR Mother
Telehealth	Telehealth OR Telemedicine OR Telemonitoring
Effectiveness	Effectiveness OR Evectifity
Length of Consultation	Length of Consultation
Diagnostic Accuracy	Diagnostic Accuracy
Reuse	Reuse
Service Provided	Service Provided
Technology Used	Technology Used
Time	Time Efficiency OR Time
Follow-Up Plan	Follow-Up Plan
Patient Satisfaction	Patient Satisfaction

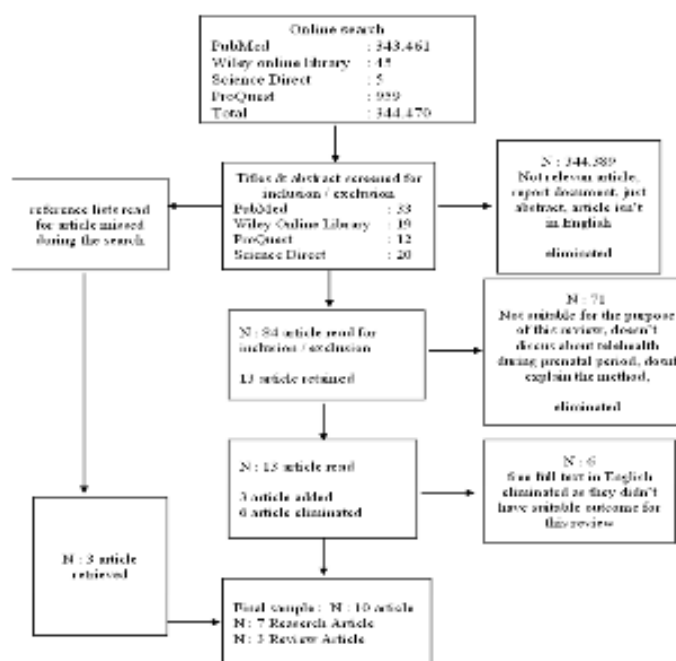


Figure 1. Search Strategy
(Bulmer Smith et al., 2009)

re obtained from the checklist assessment gets a good score, more than 81% - 100 %, the article gets an A, and if the article gets a score of 60 – 80 %, it gets a B, and C for the article with the score under 60 %.

RESULT AND DISCUSSION

The articles used in this study are included with the authors' names, years and titles, country, purpose, methods, and results. Articles are numbered 1-10 for easy article search. Based on the critical appraisal that the authors did, there were 3 cross-sectional articles [3, 8, 9], 2 qualitative articles [4, 7], 1 quasi-experimental article [1], 2 cohort articles [5, 10], and 2 review articles [2, 6].

Result Selection

The selection process was carried out in three steps. The first step was an extensive literature search to identify abstracts that meet the inclusion criteria. It found 344,470 articles published in the 2019-2022 timeframe. Titles and abstracts were selected, duplicates were removed, and the remaining abstracts were screened using inclusion/exclusion criteria. The complete articles of the chosen abstracts were read carefully to further determine whether they meet the inclusion/exclusion criteria. It resulted in 84 articles to be read and 71 articles to be excluded. The article reference list is used to identify additional articles of interest, and then 6 articles were eliminated for a final total of 10 articles.

Table 3 Result of Critical Appraisal

Number Article	Method	Grade
1	Quasi-Experimental	B
2	Systematic Review	A
3	Cross-Sectional	C
4	Qualitative Study	A
5	Cohort Study	B
6	Systematic Review	A
7	Qualitative Study	A
8	Cross-Sectional	B
9	Cross-Sectional	A
10	Cohort Studi	B

Table 4. Data Charting

No	Title/ Author	Country	Purpose	Method	Result
1	Widespread implementation of a low-cost telehealth service in the delivery of antenatal care during the COVID-19 pandemic: an interrupted time-series analysis (Palmer et al., 2021a)	Australia	To assess the effectiveness and safety of telehealth in antenatal care	This study uses a quasi-experimental method with a time-series design approach taken from pregnancy services in Australia. It uses data extraction from the birth outcomes system with a sample of 685 pregnant women.	Examination services using telehealth have been suggested not only to improve risk preparedness, but antenatal examinations using telehealth also result in examinations or treatments similar to face-to-face care. Technology is used during the consultation via video call. Some mothers said that they always made face-to-face visits that had been scheduled from the beginning. The costs incurred are considered very effective.
2	Effects of mHealth Interventions on Improving Antenatal Care Visits and Skilled Delivery Care in Low- and Middle-Income Countries: Systematic Review and Meta-analysis (Rahman et al., 2022)	Canada	To determine the effect of m-health on increasing ANC visits	This systematic review is conducted using a search method using 9 databases: APA PsycINFO, British Nursing Index, CINAHL Plus, Embase, MEDLINE, POPLINE, PubMed, Cochrane Library, and Web of Science. There are 10 articles found in this review.	The effect of consultation in increasing ANC visits increased by 43% using m-health compared to face-to-face consultation visits, but in telehealth visits, two-way consultations are more effective than one-way consultations. The interventions provided are appointment reminders and health advice. Mhealth provides an opportunity to improve ANC services, increase deliveries to health workers and create closer relationships between service providers and recipients.
3	Telehealth for High-Risk Pregnancies in the Setting of the COVID-19 Pandemic (Aziz et al., 2020a)	New York	To review telehealth adoption for high-risk patients in New York hospitals	This study is a quantitative study with a retrospective cross-sectional approach in several hospitals that provide telehealth.	Pregnant women at high risk get a longer consultation period than face-to-face visits. Patients with hypertension are also facilitated and taught to use blood pressure measuring devices so that patients can monitor blood pressure independently with the support of instructional videos to help mothers understand how to measure blood pressure. Mothers with hypertension also always make scheduled repeat visits. Telehealth visits are also useful in pregnancy monitoring.

No	Title/ Author	Country	Purpose	Method	Result
4	Home-based telemonitoring versus hospital admission in high-risk pregnancies: a qualitative study on women's experiences (Van Den Heuvel et al., 2020a)	Netherland	To find out the experiences of pregnant women with a high risk of using tel-ehealth during pregnancy in the hospital.	This study uses a qualitative study using online 2 group discussions. There are 22 participants. One discussion group is for pregnant women who are hospitalized (n=11), and one for pregnant women who are monitored using telehealth (n=11).	Most (n=10) mothers said that they are satisfied with monitoring pregnant women with high risk using tel-ehealth because they can ask questions and communicate with doctors anytime and anywhere. They also said that they always consult using tel-ehealth. The application used is e-health. Monitoring using telehealth also provides flexibility for health workers to reduce the demand for more personnel in the hospital.
5	Role of Usual Healthcare Combined with Telemedicine in the Management of High-Risk Pregnancy in Hangzhou, China (Zhu et al., 2019a)	China	To investigate the combination of ordinary health care with telemedicine	This study used a cohort study method with data on pregnant women obtained from the Hangzhou maternity hospital from October 2012 to September 2016. The sample size of 93,465 high-risk pregnant women was considered an ordinary group. While the other 134,884 serve in telemedicine.	Pregnant women can be monitored from the beginning of pregnancy planning until after delivery. Pregnant women are facilitated by telemedicine to arrange antenatal visit planning in primary medical services.
6	Exploring digital health interventions for pregnant women at high risk for preeclampsia and eclampsia in low-income and middle-income countries: a scoping review (Feroz, Afzal, et al., 2022a)	Canada	To explore digital health interventions used to support pregnant women at high risk for preeclampsia/ eclampsia in low-income and middle-income countries.	Scoping review Data extraction and synthesis of two authors independently completed data extraction for each of the last 19 articles. An inductive approach is used to organize and summarize the results of the articles thematically.	The review identifies the key functions of the intervention, including data collection, prediction of adverse maternal outcomes, integrated diagnostics and clinical decision support, and personalized health tracking. This review reports three main outcomes: maternal health outcomes, including maternal and infant morbidity and mortality (n=4); usefulness and acceptability, perceived ease of use described in several articles (n=5); and intervention feasibility and accuracy of the intervention, including device accuracy, and implementation of the intervention using telehealth is successful in monitoring preeclampsia patients (n=7).

No	Title/ Author	Country	Purpose	Method	Result
7	Understanding the Needs of a Mobile Phone-Based Telemonitoring Program for Pregnant Women at High Risk for Preeclampsia: Interpretive Qualitative Description Study (Feroz, De Vera, et al., 2022)	Toronto, Canada	To explore the need for Telemonitoring (TM) for pregnant women at high risk for preeclampsia in Karachi, Pakistan, To inform future potential feasibility trials of mobile-based programs	Interpretive qualitative description The conventional content analysis approach was used to analyze all interview transcripts inductively.	The feasibility of a mobile-based telemonitoring program for pregnant women at high risk for preeclampsia can be felt. This provides insights that can be directly used to design future telemonitoring programs to reduce mortality and morbidity from preeclampsia and eclampsia in LMICs.
8	Patient Satisfaction with Virtual-Based Prenatal Care: Implications after the COVID-19 Pandemic (Liu et al., 2021)	United States	To understand the factors involved in virtual prenatal care satisfaction among pregnant women during the COVID-19 pandemic and consider potential predictors such as mental health symptoms.	Quantitative Research with Cross-Sectional Approach The sample in this study was pregnant women and postpartum mothers who received virtual health services from the beginning of the pandemic. The number of samples in this study is 416 samples. The sampling technique used is snowball sampling. The data are taken from the Perinatal Experiences and COVID-19 Effects (PEACE) study (www.peace study 2020.com). An online survey is administered to pregnant and postpartum women in the US during the COVID-19 pandemic.	Overall, participants report being very satisfied (27.9%) and moderately satisfied (43.5%) with the virtual service experience, but 89.9% indicate a preference for face-to-face care because the limitations of telehealth are unable to perform physical examinations.

No	Title/ Author	Country	Purpose	Method	Result
9	Addressing Disparities in Prenatal Care via Telehealth during COVID-19: Prenatal Satisfaction Survey in East Harlem (Futerman et al., 2021)	New York City (East Harlem)	To determine patient satisfaction with telehealth prenatal care services.	This is a quantitative study with a cross-sectional research design. The number of samples is 140 patients. Identified patients must receive at least one telehealth and one in-person visit during the COVID-19 pandemic. Patient satisfaction is measured using a survey from the Short Assessment of Patient Satisfaction (SAPS). Patients are asked questions over the phone.	Participants stated that they are satisfied with telehealth which made it easier for them to get health services both during the pandemic and non-pandemic times because access is difficult.
10	Comparison Between In-Person and Audio-Only Virtual Prenatal Visits and Perinatal Outcomes (Duryea et al., 2021)	Texas (Dallas)	To find out the relationship between virtual perinatal care and the results obtained	This is a quantitative study with a cohort study design. The number of samples was 6559 patients in traditional perinatal care. About 6048 sample visits using virtual audio.	The application of virtual visits during the Covid-19 period is growing very rapidly. The findings obtained by virtual visits are considered acceptable among the community but not as complete visits, but there must be a combination of monitoring through virtual and direct monitoring of pregnant women.

Finding Synthesis

In this review, all authors reviewed the results of the findings of the articles obtained regarding the effectiveness of telehealth in pregnancy examinations with the indicators: 1) the length of time used; 2) telehealth reuse; 3) services provided; 4) the technology used; 5) inspection plan

compliance; 6) time efficiency of the health workers; and 7) patient satisfaction. Two indicators were not found: the service provided and the closeness of health workers to the patients. This answer whether there are gaps in theory and articles found.

Table 5. Result

Indicators	Articles
The length of consultation time	3, 4
Telehealth reuse	4,6
Services provided	1,3,5,6
The technology used	1,3,4,5,6
Compliance with the inspection plan	1,3,5,2
Time efficiency of the health workers	4,5,6
Patient satisfaction	8,9,7,10

Length of Consultation Time

Telehealth in antenatal care services is very effective during the COVID-19 pandemic so that pregnant women can still be monitored without visiting health facilities to prevent transmission of the Covid-19 virus. Consultations using telehealth are conducted in a very flexible time so that they can be done anywhere and anytime by the patients. Based on several articles obtained, the effectiveness of consultation time using telehealth can be adjusted to the patient's wishes, and usually, the length of time used for consultation is longer when compared to face-to-face visits (Aziz et al., 2020a; Van Den Heuvel et al., 2020a).

This is the same as stated in the review article, which said that the increase in visits or consultations made by pregnant women had reached 88% compared to services carried out face-to-face because the time was very flexible. It is adapted to the needs and wishes of the mother to consult using telehealth (Faizmillati, 2022).

Telehealth Reuse

A flexible time can affect the reuse of telehealth for pregnant women to visit and consult. Pregnant women can use telehealth repeatedly. This is known from several articles which state that telemonitoring activities used by pregnant women are highly valued and are always used to consult with their midwife or obstetrician (Van Den Heuvel et al., 2020b). The convenience of consultation using telehealth makes mothers always want to do consultations repeatedly through predetermined applications (Feroz, Afzal, et al., 2022a).

The COVID-19 pandemic, with various applicable policies regarding physical distancing and social restrictions, has developed technology, one of which is that monitoring pregnant women can be done virtually. It makes pregnant women monitor their health repeatedly using telehealth (Riyanto, 2021).

Services Provided

Services using telehealth have been suggested by health workers not only to cope with the worst preparation but also to be an initial plan in pregnancy monitoring. Some articles said that the health services provided using telehealth are the same as face-to-face treatments (Palmer et al., 2021b).

Consultation services provided to pregnant women using telehealth are much more effective than face-to-face. This is explained in several articles which said that some pregnant women, especially pregnant women with hypertension, who

have skills like how to measure blood pressure independently by watching videos given by doctors to patients, can measure their blood pressure any time without having to go to the medical facility. Services using telehealth also help them detect early signs of pregnancy risk and offer access to consult a specialist doctor needed by the mother (Aziz et al., 2020b; Zhu et al., 2019a).

During monitoring from home using telehealth, mothers who have hypertension are also given urine protein and urine glucose dipsticks to be able to monitor independently, with the results obtained will be sent to the doctor or midwife (Feroz, Afzal et al., 2022b). This is also stated in research on telehealth applications, which said that this technology could be used for risk screening in pregnant women and monitoring mothers from low-risk to high-risk (Fatmawati et al., 2021).

The Technology Used

Consultations using video calls and SMS are often used by clients. Doctors and midwives can provide instructional videos for monitoring pregnant women at risk or pregnant women with hypertension (Aziz et al., 2020b; Palmer et al., 2021b). In addition, clients often use applications made by the hospital for pregnancy consultations, such as KIA App and e-Health (Van Den Heuvel et al., 2020b; Zhu et al., 2019b). Pregnant women with telehealth monitoring can be distinguished by low (yellow) and high risk (red) by using the POTM application. This makes monitoring easier for doctors and health professionals (Feroz, Afzal, et al., 2022b).

This is in line with research conducted on telemedicine technology that can be provided to increase mothers' knowledge through written messages, voice messages, videos, and interactive short message services (Ayu & Handayani, 2021).

Compliance With The Inspection Plan

Monitoring pregnant women using telehealth can be consulted anytime and anywhere. It can make it easier for mothers to schedule follow-up checks with doctors. There is an article that discussed scheduling a face-to-face examination of pregnant women carried out at the beginning of the first consultation with a doctor so that mothers can take the time for a face-to-face examination from afar. Pregnant women with high risk can easily schedule an appointment with a doctor so that mothers do not need to undergo treatment in a hospital which can increase the risk of stress due to boredom and privacy (Aziz et al., 2020b; Palmer et al., 2021b).

Consultations in increasing ANC visits

resulted in a 43% increase in using m-health compared to face-to-face consultations. Follow-up checks after telehealth use are always carried out because face-to-face visits are scheduled from early pregnancy to delivery (Rahman et al., 2022; Zhu et al., 2019b).

The Efficiency of Time Used by Health Workers

Monitoring carried out using telehealth can provide flexibility in the time and place of consultation for doctors, reducing the demand for more personnel in a hospital or clinic. In addition, the data on pregnant women obtained using telehealth can be used many times so that it not only reduces the repetitive work of doctors and health workers but also ensures that the data obtained are correct (Van Den Heuvel et al., 2020b; Zhu et al., 2019b).

The data obtained during a virtual consultation can be developed as a face-to-face visit to make it easier for doctors to determine the risks to pregnant women (Feroz, Afzal, et al., 2022b).

This is in line with the article on the use of telemedicine in mothers at risk, which states that telemedicine can facilitate the work of health workers because it can not only provide services needed by clients but also consider telecommunications technology to obtain information from clients in a private manner so that mothers do not hesitate to state the conditions validly. This makes it easier for doctors to decide on the proper treatment and diagnoses (Purbaningsih & Hariyanti, 2020).

Patient Satisfaction

Several articles are found to provide evidence that clients are satisfied using telehealth. However, there were still some shortcomings in monitoring pregnant women using telehealth, such as that physical examinations could not be carried out. Another finding also said that monitoring mothers during pregnancy using telehealth could be beneficial, but it could not be considered a complete visit. As a result, face-to-face monitoring should still be carried out to ensure the mother's condition during pregnancy. Monitoring pregnant women using telehealth also promises mothers to reduce depression during the perinatal period. Clients feel helped by telehealth, which can reduce stressors due to the need to travel and wait for a long time under stressful conditions anytime they have to do a face-to-face consultation (Futterman et al., 2021; Liu et al., 2021).

Virtual visits are considered acceptable to the community, not as complete visits but as a

combination of virtual and direct monitoring of pregnant women (Duryea et al., 2021). The feasibility of a mobile phone-based telemonitoring program for pregnant women at high risk, such as preeclampsia, can provide insight into pregnant women using telehealth. This can be used for future telemonitoring designs to reduce mortality and morbidity (Feroz, De Vera, et al., 2022).

During the COVID-19 pandemic, many pregnant women felt helped and satisfied with this technology since it reduced their fear of being exposed to the Covid-19 virus. On the other hand, mothers living in remote areas with no network distribution felt it difficult to monitor their pregnancy using telehealth, and they still chose face-to-face monitoring and examination with health workers (Nurritzka, Rahmah H., Yuri N., 2021).

New Finding

The costs spent for pregnancy visits using telehealth are reduced. Some articles said that by using this method, clients can save travel costs and treatments and the risk of salary cuts or income due to increased face-to-face visits during pregnancy. Consultation using telehealth can reduce costs (Palmer et al., 2021b; Van Den Heuvel et al., 2020b). This follows the existence of this technology which affects the level of success regarding policy and administrative changes to reduce medical costs, especially for pregnant women, by creating a comprehensive service model using telehealth (Purbaningsih & Hariyanti, 2020).

CONCLUSION

Based on 10 articles obtained by the authors, only seven indicators were found from the nine indicators sought regarding the effectiveness of telehealth in pregnancy care services. Most articles said the use of telehealth is effective in prenatal care. Monitoring pregnant women using telehealth can be beneficial, but this cannot be considered a permanent visit because of the weakness of telehealth itself, which is the inability to perform physical examinations on pregnant women. The effectiveness of telehealth in pregnant women also needs other evidence because several indicators have not been obtained in this review. Suggestions for further research are regarding the accuracy of the enforced diagnosis, especially in pregnant women with high risk, and how close the health workers are to the patient. The new finding in this review is regarding the costs spent during the visit. Monitoring pregnant women using telehealth can reduce travel costs to

treatment and minimize the risk of salary deductions. The results of this assessment are expected to be a consideration for health workers, especially midwives, in using telehealth. Telehealth can assist health workers in providing health education to patients. Considering the aim of this article, which is to examine the effectiveness of telehealth in pregnancy care services, telehealth can be used by all health workers in handling or providing service during pregnancy. This technology makes it easier for patients to consult with health workers. Recommendations for health workers to maximize benefits through telehealth can be added with a home visit to ensure the patient's condition, especially pregnant women.

Limitation

The limitation of this review is in the search for articles. Most articles discussing the effectiveness of telehealth in antenatal care only have one indicator, namely an indicator of satisfaction. Hence, the authors have difficulty finding other indicators of effectiveness in antenatal care. The articles found are only in the form of original research and reviews. The absence of a specific theory regarding the effectiveness of telehealth in antenatal care makes it difficult for the authors to make comparisons. The authors only found seven indicators out of nine indicators.

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