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Research on the Application of "Internet + Continuous Nursing" in the Pregnancy Management of Pregnant Women with High-Risk Pregnancy

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Abstract: Pregnant women with high-risk pregnancy face a higher risk of complications due to factors such as chronic diseases, multiple pregnancies, and a history of adverse pregnancy and childbirth, requiring more systematic and dynamic health management support. In view of this, "Internet + continuous nursing" can break the limitations of time and space by integrating mobile communication, remote monitoring, data sharing, and intelligent analysis technologies, realizing closed-loop care with collaboration among hospitals, communities, and families. Research shows that continuous nursing based on the "Internet +" significantly improves the professional response ability of caregivers. Medical staff can grasp the patient's status in real time, optimize diagnosis and treatment decisions, providing a feasible path for building an efficient, precise, and humanized high-risk pregnancy management system, which has broad clinical promotion value and public health significance.

Keywords: Internet + continuous nursing; Pregnant women with high-risk pregnancy; Pregnancy management

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1. Introduction

High-risk pregnancies, characterized by factors such as pre-existing chronic conditions, multiple gestations, or a history of adverse outcomes, present a significantly elevated risk of maternal and fetal complications. This necessitates more systematic and dynamic health management. The "Internet + continuous nursing" model, which leverages mobile communication, remote monitoring, and data analytics, offers a promising solution. By facilitating real-time collaboration among hospitals, communities, and families, this model breaks spatiotemporal barriers in care delivery. Evidence indicates that such an approach enhances the responsiveness of healthcare providers, optimizes clinical decision-making, and contributes to a more efficient, precise, and patient-centered

management system for high-risk pregnancy, holding substantial value for clinical practice and public health.

2. Intervention modes of "internet + continuous nursing"

2.1. Internet + hospital-community-family linked continuous management mode

By integrating medical resources and information technology, the "Internet + Hospital-Community-Family" linked continuous management mode provides a systematic and continuous health management path for pregnant women with high-risk pregnancy [1]. With tertiary medical institutions as the core, this mode relies on the regional medical alliance structure to realize data sharing and collaborative services between professional medical teams in hospitals and grassroots community health service centers. Specifically, after pregnant women complete prenatal examinations or treatment in the hospital, their health records, risk assessment results, and personalized nursing plans are synchronously uploaded to the regional health information platform, allowing community medical staff to retrieve them in real time and carry out follow-up work.

At the hospital level, a multidisciplinary collaboration team composed of obstetricians, midwives, dietitians, and psychological consultants is established to conduct regular remote consultations on cases submitted by the community and dynamically adjust nursing plans. Community health institutions assume the intermediate connection function, assigning special personnel to connect with high-risk pregnant and lying-in women in their jurisdiction, collecting physiological parameters through mobile terminal devices, conducting health education lectures, and supervising the implementation of home care [2]. As the basic unit for care implementation, families complete daily health data collection with the help of smart wearable devices and mobile applications, forming an information closed loop from hospital to community to family. In the entire process, all participants achieve role division and information interaction on a unified technical platform, breaking the time and space limitations of traditional medical services. This mode strengthens the collaboration efficiency between medical institutions at different levels, transforming high-risk pregnancy management from passive response to active prevention [3].

2.2. "One-stop" platform service mode

The "one-stop" platform service mode builds an integrated medical service system relying on information technology, integrating electronic medical record systems, remote monitoring equipment, intelligent early warning modules, and multidisciplinary collaboration mechanisms. It can effectively break down data barriers between hospitals, communities, and families, allowing pregnant women to receive continuous and precise services in different care scenarios [4].

The platform sets up personalized health management paths, automatically generating customized monitoring plans and educational content based on the specific risk factors of pregnant women, such as gestational hypertension, diabetes, or placenta previa. Health education resources are presented in the form of pictures, texts, audio, and short videos, covering nutrition guidance, exercise suggestions, complication prevention, and childbirth preparation, improving pregnant women's disease awareness and self-management abilities [5]. The online consultation function supports text, voice, and image interaction, shortening the distance between doctors and patients and reducing the number of unnecessary outpatient visits. For high-risk pregnant women with significant emotional fluctuations, the platform also embeds mental health assessment tools and psychological counseling channels, collaborating with psychologists to provide timely intervention.

The platform is connected to the regional medical and health system to realize mutual recognition of

inspection results and seamless connection of two-way referral. Community health service centers can obtain nursing plans issued by higher-level hospitals through the platform and feedback the implementation status, forming an upper-lower linked collaborative care network. After authorization, family members can view the pregnant woman's health status, participate in daily supervision and emotional support, and enhance care synergy. The platform also has data analysis and visualization functions, allowing managers to grasp core indicators such as service coverage, early warning response time, and patient compliance in real time, providing a basis for optimizing resource allocation and quality improvement. Currently, with the continuous iteration and upgrading of technology, the "one-stop" platform continuously integrates artificial intelligence-assisted decision-making and wearable device data access, promoting the development of high-risk pregnancy management towards intelligence and refinement [6].

2.3. "Neo Raksha" mobile health application and "video consultation"

The "Neo Raksha" mobile health application realizes real-time data collection and transmission through intelligent terminal devices. Pregnant and lying-in women can complete daily recording of key indicators such as blood pressure, blood glucose, weight, and fetal movement at home. The system automatically identifies abnormal values and triggers an early warning mechanism to promptly notify medical staff for intervention. The application has built-in personalized health management plans, customizing follow-up plans and health education content according to the specific risk factors of each pregnant woman, such as gestational hypertension, diabetes, or placenta previa, improving management accuracy [7].

The "video consultation" function is embedded in the "Neo Raksha" platform, enabling visual communication between doctors and patients. After discharge, pregnant women with high-risk pregnancy can still receive regular one-on-one online follow-up from specialist nurses or obstetricians. Consultations can be scheduled in advance, saving time and physical costs of traveling to the hospital. During video conversations, medical staff can observe the pregnant woman's mental state, home environment, and self-care behaviors, providing targeted technical guidance and psychological counseling [8]. For individuals with limited mobility or living in remote areas, this service effectively makes up for the geographical limitations of traditional continuous nursing, ensuring the continuity of medical services.

All communication content adopts encrypted transmission technology to ensure the privacy and security of patients. The platform also has a reminder function, automatically prompting medication time, prenatal examination dates, and the completion of health tasks to improve compliance. Clinical practice shows that with the help of the "Neo Raksha" application and video consultation services, the self-management ability of pregnant women with high-risk pregnancy is significantly enhanced, the incidence of adverse pregnancy outcomes is reduced, and the efficiency of medical resource utilization is optimized.

3. Application effects of "internet + continuous nursing" in the pregnancy management of pregnant women with high-risk pregnancy

3.1. "Internet + continuous nursing" can improve caregivers' capabilities

Caregivers play a key role in the health management of pregnant women with high-risk pregnancy, and their professional level and response capabilities directly affect the safety and rehabilitation process of pregnant and lying-in women. The "Internet + continuous nursing" mode empowers caregivers through information means,

enabling them to achieve significant improvements in knowledge acquisition, risk identification, and emergency handling [9]. With the help of the Internet platform, caregivers can real-time access standardized training resources provided by medical institutions, such as key points for identifying common complications of high-risk pregnancy, methods for interpreting pregnancy monitoring indicators, and disposal procedures in emergency situations. In the actual care process, the platform supports caregivers to establish instant communication channels with the medical team. This remote collaboration mode shortens the decision-making response time and improves the scientificity and accuracy of care behaviors. Some systems integrate intelligent early warning functions, which can automatically analyze the vital sign data uploaded by pregnant women, issue reminders to caregivers once deviations from the normal range are found, and push corresponding intervention suggestions. This not only enhances caregivers' risk sensitivity but also improves their ability of independent judgment and initial handling [10].

"Internet + continuous nursing" also promotes the collaboration of multi-level care forces. On the one hand, hospital nurses can monitor the overall status of pregnant women in the background and conduct regular online follow-up and guidance for family caregivers; on the other hand, community medical staff can carry out offline home visits and health education according to platform task assignments. In this linkage mechanism, caregivers continuously accumulate practical experience and form standardized operating habits. Mobile applications record each care behavior and generate electronic logs for review and improvement. In addition, the platform has an experience sharing area, encouraging caregivers to exchange typical cases and nursing experiences, and improving overall care literacy through interaction. Long-term operation data shows that the pass rate of caregivers participating in this mode in knowledge assessment, skill operation, and stress response has increased significantly, and their ability to identify complex conditions and intervention efficiency have been substantially enhanced.

3.2. "Internet + continuous nursing" can improve pregnant women's self-care capabilities

Pregnant women with high-risk pregnancy face many physical and psychological challenges during pregnancy. The traditional nursing mode is limited by time, space, and resource allocation, making it difficult to achieve continuous and personalized health guidance [11]. After the introduction of "Internet + continuous nursing", pregnant women can obtain systematic and precise self-management support at different gestational weeks, significantly improving their self-care capabilities. With the help of mobile health platforms, pregnant women can real-time obtain personalized health education content through intelligent devices, such as dietary guidance, exercise suggestions, weight control, blood pressure monitoring, and methods for managing key indicators such as fetal movement recording. It helps pregnant women complete prenatal examination appointments, medication taking, and daily monitoring tasks on time, forming regular health management behaviors.

Through remote data upload, the nursing team can dynamically grasp the changes in the pregnant woman's vital signs and symptoms and promptly feedback adjustment suggestions, enabling pregnant women to receive professional guidance in a home environment. For example, pregnant women with gestational hypertension can measure their blood pressure at home and upload the data. The system automatically identifies abnormal values and triggers an early warning, and medical staff then intervene to avoid disease progression [12]. Psychological state is an important factor affecting self-care behaviors. "Internet + continuous nursing" can integrate psychological assessment tools and emotional counseling services, regularly pushing psychological adjustment resources such as relaxation training and mindfulness meditation to help pregnant women relieve anxiety and depression. Some applications also have mood check-in and sleep tracking functions to assist in identifying psychological risks and improving overall mental health. In the process of continuously receiving emotional support and technical

guidance, pregnant women can gradually establish self-efficacy and are willing to take active health behaviors.

4. Application prospects of "internet + continuous nursing" in the pregnancy management of pregnant women with high-risk pregnancy

4.1. Standardization of pregnancy management services in "internet + continuous nursing"

Under the "Internet + continuous nursing" mode, standardization is reflected in multiple dimensions. The establishment of information collection standards enables the standardized entry of pregnant women's basic information, medical history records, examination results, and other data, facilitating cross-institutional sharing and dynamic tracking. The application of nursing assessment tools tends to be consistent, such as the adoption of a unified risk grading scale for the early identification of pregnancy complications, which helps to promptly formulate personalized intervention plans [13]. The design of service paths reflects phased and continuous characteristics. From early pregnancy filing to postnatal follow-up, each stage has clear nursing goals and operational guidelines. The online platform automatically pushes health education content, follow-up reminders, and self-monitoring tasks according to the preset path, reducing human omissions. The remote consultation link sets response time limits and service language standards to ensure the professionalism and timeliness of communication. The division of responsibilities among medical team members is clear, with doctors, nurses, midwives, and health managers working collaboratively to form a closed-loop management mechanism. Data transmission and privacy protection comply with relevant national technical standards to ensure the security of patient information. System interfaces are compatible with electronic medical records, maternal and child health information systems, and other regional health platforms to support multi-source data integration and analysis [14].

Continuously optimize service content based on big data feedback to achieve evidence-based decision-making. The quality control system runs through the entire process, regularly conducting service evaluations, including indicator compliance rates, abnormal situation handling efficiency, and patient compliance, as the basis for improvement. Standardization also promotes the replicable and scalable development of services. Different regions can adjust according to mature templates based on local conditions, shortening the exploration cycle. Policy support further accelerates the implementation of standards, providing a foundation for building a national high-risk pregnancy management system.

4.2. Professionalization of pregnancy care personnel in "internet + continuous nursing"

The advancement of the "Internet + continuous nursing" mode has transformed the role of pregnancy care personnel from traditional passive execution to active management, full-cycle tracking, and personalized guidance. Care personnel need to have solid professional knowledge in obstetrics and gynecology, be familiar with the pathological mechanisms and clinical manifestations of various high-risk factors such as gestational hypertension, diabetes, placenta previa, and multiple pregnancies, and be able to accurately identify changes in the condition and intervene in a timely manner. In the information context, care personnel also need to proficiently use "one-stop" service platforms and mobile health applications, such as "Neo Raksha", to carry out online consultations, health education, psychological support, and follow-up management. This requires them to have certain information technology operation capabilities and network communication skills, enabling them to establish trust relationships in non-face-to-face situations and improve service accessibility and continuity. The application of video consultation services further improves the quality of interaction. Care personnel need to maintain a professional

image in front of the camera, with clear and standardized language expression, ensuring the accuracy and safety of medical information transmission [15]. In addition, the construction of a professional nursing team relies on systematic training and continuing education mechanisms. Medical institutions should formulate special training courses for high-risk pregnancy management, covering remote nursing processes, emergency response plans, legal and ethical norms, to strengthen care personnel's risk assessment and crisis response capabilities. By establishing a multidisciplinary collaboration mechanism, care personnel can form efficient linkage with obstetricians, dietitians, psychotherapists, etc., play a coordinating role in complex cases, and promote the transformation of nursing practice from experience-based to evidence-based.

5. Conclusion

In summary, the pregnancy management of pregnant women with high-risk pregnancy involves the collaborative cooperation of multiple links and multiple subjects. "Internet + continuous nursing" effectively connects hospitals, communities, and families through information technology, building a full-cycle nursing service system covering pre-pregnancy, pregnancy, and post-pregnancy. Relying on "one-stop" service platforms and mobile health applications such as "Neo Raksha", this mode realizes real-time monitoring of health data, remote consultation, personalized guidance, and risk early warning functions, making nursing services break through time and space limitations. Research shows that with the help of video consultation and online follow-up mechanisms, medical staff can timely grasp the physical condition and psychological changes of pregnant women, conduct dynamic assessment and intervention on common high-risk factors such as hypertension, diabetes, and abnormal fetal position, significantly reducing the incidence of complications. The trend of deep integration of technology and nursing is irreversible. In the future, further exploration should be made on unified data standards and cross-institutional collaboration mechanisms to improve the compatibility and security of the system.

Disclosure statement

The author declares no conflict of interest.

References

[1] Wang Z, Wang P, Cao Y, 2020, Discussion on the Construction and Development of Internet Hospitals for "Internet + Medical and Health Management" in the New Era. Chinese Hospital Management, 40(11): 90–92.

[2] Yuan Z, Lin M, Li X, et al., 2022, Construction and Application of a Maternal and Child Continuous Health Management Platform. Chinese Journal of Nursing, 57(18): 2212–2216.

[3] National Health Commission, 2022, Notice of the National Health Commission on Printing and Distributing the "National Nursing Career Development Plan (2021–2025)" (Guo Wei Yi Fa (2022) No.15). Gazette of the State Council of the People's Republic of China, 2022(23): 57–63.

[4] National Health Commission, 2022, Notice of the National Health Commission on Printing and Distributing the "National Nursing Career Development Plan (2021–2025)" (Guo Wei Yi Fa (2022) No.15). Gazette of the National Health Commission of the People's Republic of China, 2022(4): 4–10.

[5] Zhang J, Wu Y, 2016, Research Progress on the Application of Social Media in Medical and Nursing Fields. Chinese Journal of Nursing, 51(2): 206–210.

[6] Wu X, Zhang Y, Dai Y, 2021, Research on Internet + Hospital–Community–Family Linked Continuous Management for Primiparas with Preterm Birth. Journal of Nursing Science, 36(4): 86–90.

[7] Zhu D, Ye X, Zhu X, Lu L, Liu J, 2024, Impact of Internet + Continuous Nursing on the Growth and Development of Extremely Preterm Infants After Discharge. Chinese Clinical Nursing, 16(11): 677–680.

[8] Chi C, Tan B, Zeng J, et al., 2021, Impact of Family Participation in Continuous Nursing Using Internet + on the Growth and Development of Preterm Infants and Family Satisfaction. Qilu Journal of Nursing, 27(21): 46–49.

[9] Yang X, Zhao L, Lu R, et al., 2022, Application of "Internet +" Hospital–Family Linked Standardized Feeding Management Mode in Preterm Infants. Chinese Journal of Modern Nursing, 28(7): 943–948.

[10] Li L, Yi H, Li W, 2020, Research on the Application of Cluster-Continuous Nursing Mode in the Nursing Management of Preterm Infants. Chinese Journal of Social Medicine, 37(1): 109–112.

[11] He X, Lin M, Yang Q, et al., 2020, Research Progress on the Participation Strategies of Specialist Nurses Under the Multidisciplinary Team (MDT) Model. Chinese Journal of Critical Care Nursing, 2020(6): 549–553.

[12] Jiang Z, Lin F, 2020, Research Progress on Early Mobilization of ICU Patients and Its Barriers. Chinese Journal of Critical Care Nursing, 2020(6): 508–511.

[13] Han J, Wang J, Cao J, 2021, Early Neurological Assessment Methods for High-Risk Infants. Chinese Journal of Child Health Care, 29(9): 981–985.

[14] Chen X, 2019, Application of Multi-Station Nursing Mode Combined with Visual Management in the Nursing of Preterm Infants. Chinese Nursing Management, 19(S1): 86–88.

[15] Lin H, 2024, Clinical Research on Family-Based Continuous Nursing Mode Improving the Development of Preterm Infants and Parents' Care Ability. Heilongjiang Journal of Traditional Chinese Medicine, 53(2): 341–343.