

Ivana Hardi (Croatia)

Faculty of Education, J. J. Strossmayer University of Osijek

ihardi@foozos.hr

ORCID iD: 0009-0004-6214-9916

Zdenka Omrčen (Croatia)

Faculty of Education, J. J. Strossmayer University of Osijek

zomrcen@foozos.hr

ORCID iD: 0009-0007-3959-2743

TELEMEDICINE: BENEFITS, CHALLENGES AND ETHICAL DILEMMAS

Abstract

The digital transformation of the healthcare system, particularly through the development of telemedicine and telenursing, introduces a range of ethical and professional challenges that profoundly reshape healthcare practice. Changes in communication, decision-making processes, and data storage require a re-examination of the role of healthcare professionals, especially nurses. The aim of this paper is to explore how digitally mediated care affects fundamental ethical principles, including autonomy, privacy, justice, and responsibility, and how these challenges are reflected in nursing practice. Through a qualitative analysis of relevant literature and legal documents, the paper identifies key points of vulnerability within existing professional and legal frameworks. The conclusion highlights the need for stronger institutional support, clear ethical guidelines, and targeted education to enable nurses to operate effectively in digital environments while preserving humanity and professional integrity.

Keywords: ethics in healthcare, digital health, informed consent, telemedicine, telenursing

1. Introduction

Traditional relationships between healthcare professionals and patients were based on direct communication and clearly defined roles. However, with the development of digital technologies and advances in medicine, these relationships have increasingly come to include new, often invisible participants, ranging from software solutions to network intermediaries, thereby altering the traditional dynamics of care (Grebenshchikova, 2019: 211–223). According to Bagarić (2019: 12), the digital transformation of medical practice leads to a growing perception of the patient as a client, while health itself is increasingly treated as a commodity. In this context, the patient assumes the characteristics of a consumer: their health status becomes an object of market exchange and their illness a potential source of profit for service providers. Čukljek et al. (2024: 5–16) emphasise that the COVID-19 pandemic further accelerated the use of contemporary forms of communication, encouraging wider implementation of telemedicine and telenursing and prompting changes in attitudes towards digital healthcare. Despite the increasing prevalence of digitally mediated care, there remains a lack of integrated analyses that connect the ethical, legal, and professional dimensions of telemedicine within the context of nursing practice. The aim of this paper is to present contemporary aspects of the development of telemedicine and telenursing, with particular emphasis on the ethical challenges arising from the digitalisation of healthcare.

2. Telemedicine as a Form of Digital Healthcare

2.1. Definition and Types

Telemedicine is defined as the provision of healthcare services at a distance through information and communication technologies, enabling consultation, diagnosis, treatment, and monitoring of patients without their physical presence (Ghosh et al., 2020: 2). According to the World Health Organization (2010: 8), telemedicine encompasses four core areas: the provision of clinical services, education of healthcare professionals, research and evaluation, and healthcare system administration. Based on the mode of communication, telemedicine is most commonly divided into synchronous and asynchronous forms. Synchronous telemedicine involves real-time communication between a healthcare professional and a patient, for example through video consultations or telephone counselling. Asynchronous telemedicine, by contrast, refers to indirect communication that does not require simultaneous presence. This includes email correspondence, the transmission of medical images (such as in teleradiology), and data

obtained from health monitoring systems (e.g. applications used for measuring blood glucose levels). According to Haleem et al. (2021: 2–3), the most common forms of telemedicine include teleconsultations, teleradiology, telepsychiatry, teledermatology, telerehabilitation, and the monitoring of patients with chronic conditions through wearable devices and mobile applications.

2.2. Development and Role During the Pandemic

The COVID-19 pandemic served as a significant accelerator in the implementation of telemedicine-based models of care. Healthcare systems were compelled to rapidly adapt existing protocols in order to ensure the availability of healthcare services while simultaneously limiting epidemiological risk. During the pandemic, telemedicine enabled continuity of medical care and made a substantial contribution to protecting vulnerable populations from infection (Schlachta-Fairchild et al., 2008: 3). According to Mann et al. (2020: 1133), during this period telemedicine shifted in many healthcare institutions from a supplementary option to a primary mode of care delivery, particularly in urban settings. Crouch et al. (2023: 141–148) further emphasise that patient experiences during the pandemic played a significant role in shaping contemporary guidelines and policies in the field of digital healthcare.

2.3. Benefits and Challenges

Telemedicine enables patients to access medical services without the need for physical attendance at healthcare facilities. This improves the availability of care, reduces travel and waiting costs, and lowers the risk of exposure to infectious diseases, which is particularly important in the context of global health crises. The main benefits of telemedicine include improved access to healthcare services, especially for rural and remote areas, savings in time and resources, and the possibility of continuous patient monitoring. As noted by the World Health Organization (2010: 8), telemedicine enables the remote provision of clinical services, education of healthcare professionals, research and evaluation, and healthcare system administration, thereby reducing the need for patients' physical presence. In addition, Haleem et al. (2021: 2–3) emphasise the role of digital applications and wearable devices in monitoring chronic diseases, which contributes to greater efficiency and safety of care. The use of virtual consultations has further facilitated access to specialist opinions for primary care physicians, particularly in cases of diagnostic uncertainty. Medical documentation, test results,

radiographic images, and other diagnostic materials can be sent to specialists for assessment, thereby reducing the need for patient referrals, accelerating treatment processes, and eliminating the need for travel (Haleem et al., 2021: 3). Beyond accessibility, telemedicine also supports the development of interdisciplinary models of care. Specialised healthcare teams can collaborate remotely, providing patients with coordinated and comprehensive care. Additional positive effects of telemedicine include the ability to obtain prescriptions without in-person visits, the possibility of choosing medical support according to individual needs, and access to second opinions when required. An increasing number of insurance companies, private clinics, and polyclinics now offer online consultations as a regular service, enabling flexible and timely communication between patients and healthcare professionals (Grebenshchikova, 2019: 211–223).

Despite its numerous advantages, the implementation of telemedicine in everyday healthcare practice faces a range of challenges that may limit its effectiveness and acceptance. As highlighted by Butta et al. (2023: 2–3), key challenges include technical difficulties, limited access to the internet and modern technologies, and risks related to privacy and data protection. Similarly, Haleem et al. (2021: 3) emphasise the importance of ensuring information security standards and establishing clear regulatory frameworks. Technological barriers represent one of the most serious obstacles to the implementation of telemedicine. Many patients, particularly those living in rural areas and individuals from socioeconomically disadvantaged groups, lack stable internet access, rely on outdated devices, or have limited digital literacy. Such circumstances contribute to digital inequality and reduce access to services precisely for those who need them most. Furthermore, in certain cases telemedicine cannot fully replace physical examination. During virtual consultations, healthcare professionals rely predominantly on verbal and visual information, which may complicate accurate diagnosis and the selection of optimal treatment. The quality of communication may be further compromised by technical issues such as unstable internet connections or poor video resolution, negatively affecting patients' experience of care. Education and training of healthcare professionals represent another significant challenge. In order to ensure the effectiveness and safety of telemedicine, systematic education is required not only in the technical use of new technologies but also in ethical considerations and the protection of personal data (Poreddi et al., 2021: 6). Without continuous professional development, the quality of telemedicine services may be seriously compromised.

One of the most significant challenges in the development of digital medicine is the ethical issue arising from the commercialisation of healthcare, whereby the patient is transformed into a client and health into a commodity. This trend threatens core medical values such as altruism and concern for patients' well-being. In addition, the introduction of digital intermediaries, including software platforms and commercial service providers, creates legal gaps, as their responsibilities and practices often remain outside existing ethical and legal frameworks.

3. Telenursing as a Form of Digital Nursing

One of the key forms of telemedicine is telenursing, which involves the application of telecommunication technologies in the provision of nursing care at a distance. The American Nurses Association defines telenursing as the use of technology to deliver nursing care and to carry out nursing practice. This form of care enables patient counselling, education, and remote monitoring of health status. In its implementation, nurses use various communication technologies, including telephones, fax machines, computers, tablets, and other modern devices that allow for the recording, storage, analysis, and distribution of data such as text, photographs, and video materials through telecommunication channels. Widely available technologies, including mobile phones, computers, and applications such as Instagram, WhatsApp, and Telegram, are used to maintain continuity of nursing care (Kord et al., 2021: 993). In addition, patients' health status can be monitored through applications installed on smartphones, which also serve to educate patients and members of their families (Butta et al., 2023: 3).

During the COVID-19 pandemic, telenursing demonstrated its full potential, particularly in the care of vulnerable populations who were unable to access healthcare facilities in person. In a qualitative study by Tort-Nasarre et al. (2023: 5–8), patients emphasised that the availability of nurses, counselling, and encouragement of self-care during periods of isolation were crucial for emotional security and a sense of support. Raesi et al. (2021: 5–6) found that telephone-based education and follow-up of patients with COVID-19 after hospital discharge significantly improved quality of life, with the SF-36 score increasing from 63.6 to 72.6 points.

The introduction of telenursing services in primary healthcare has proven to be an effective strategy for reducing the number of in-person visits to healthcare facilities, including outpatient clinics and emergency departments. It has also contributed to shorter hospital stays, improved quality of life for patients, and optimisation of overall care costs (Rygg, Bjørkquist and Wesseltoft-Rao, 2021: 1–2). Particular benefits of the telenursing approach have been observed

among patients with chronic conditions, individuals with cancer at all stages of treatment, post-operative patients, and recipients of home and palliative care, where individualised support is essential for maintaining quality of life and reducing the burden on the healthcare system (Kamei, 2022: 1–2).

4. Methodology

This paper is based on a qualitative, narrative analysis of recent scientific and professional literature in the fields of telemedicine, telenursing, bioethics, and professional ethics in digital healthcare. The aim of the study was to identify key bioethical principles and challenges that arise in the application of technologies in remote healthcare, with a critical focus on their impact on the practice of nurses and physicians. The analysis was conducted using a targeted theoretical and thematic approach, which enables the identification of ethical patterns, dilemmas, and interpretations within the discourse of digital medicine. For the purpose of source collection, a systematic search was conducted across scientific databases including PubMed, Scopus, Google Scholar, and Hrčak, as well as official legal and professional repositories of the Republic of Croatia and the European Union.

The following keywords were used in the search process: telemedicine, telenursing, digital health, bioethics and technology, ethics in healthcare, informed consent, and remote nursing care, along with their corresponding terms in the Croatian language. Included publications addressed ethical and professional aspects of digital healthcare, particularly in relation to the healthcare professional–patient relationship, protection of privacy, accessibility of care, and the dehumanisation of medicine. Inclusion criteria comprised publications released between 2010 and 2024, including scientific and professional articles, examples of good practice, guidelines issued by professional bodies, legal acts, and academic publications. Full-text availability was required, regardless of the language of the source, provided that the content was relevant to the research topic. The collected texts were analysed using a qualitative descriptive synthesis. This process highlighted dominant ethical principles, namely autonomy, beneficence, justice, and responsibility, as well as the challenges associated with their application in digital environments and potential directions for ethically sustainable telemedicine and telenursing practice.

5. Discussion

5.1. Ethical Dilemmas and Challenges of the Digitalisation of Healthcare

The introduction of telemedicine and, more broadly, the digitalisation of the healthcare system raise a number of important ethical questions that go beyond technical and organisational dimensions and require deeper reflection on the role of healthcare professionals in a digitalised environment (Sharon, 2016: 566). This represents a deep transformation of the relationship between patients and healthcare providers, in which new digital intermediaries emerge, including software platforms, data management systems, and commercial providers of virtual infrastructure. As Grebenshchikova (2019: 212–213) warns, these actors become an integral part of the medical process, yet they often remain outside the traditional ethical and legal frameworks that regulate responsibility, privacy, and professional conduct. Although technology enables greater accessibility and efficiency of healthcare services, it may simultaneously undermine core values of the nursing profession such as presence, empathy, and personal contact. One of the key challenges is the dehumanisation of the relationship between nurses and patients. In the context of remote communication, nursing care may be perceived solely as a technical service, whereby the patient becomes a service user and professional empathy is marginalised (Bagarić, 2019: 12; Grebenshchikova, 2019: 211–223). From an ethical perspective, this raises concerns regarding the fundamental purpose of digital medicine, namely whether it is oriented towards patients' well-being or towards service providers' profit. Nursing ethics thus acquires a new dimension, requiring healthcare professionals to preserve the human aspect of care despite digital mediation.

An additional ethical concern relates to the commercialisation of healthcare. Bagarić (2019: 12) notes that market logic is gradually transforming the core purpose of medicine, with patients increasingly viewed as clients and health treated as a commodity. As a result, healthcare risks moving away from its humane and altruistic foundations. Furthermore, questions of equity in access to telehealth services arise. Digital literacy, internet access, and technological resources are not equally distributed among patients, which may further deepen existing health inequalities. In this context, healthcare professionals, particularly nurses, are required to assume the role of educators and advocates for equity in care (Crouch et al., 2023: 141–148). This highlights the need for systematic education of healthcare professionals in digital competencies, including technical literacy, knowledge of legal obligations and ethical standards (Domitrović et al., 2018: 65–66).

In addition to ethical considerations, the digitalisation of healthcare raises significant legal issues. A further challenge is the absence of a unified legal approach to digital medicine. As Becker et al. (2019: 2) point out, there is currently no single, coherent legal framework governing telehealth, which continues to present a major obstacle to its development. Such legal fragmentation complicates the creation of effective and secure models of remote care delivery. In the Croatian context, although telemedicine is not explicitly mentioned in legislation, its regulation can be inferred from the Act on Healthcare Data and Information (Official Gazette 14/19). This Act stipulates that health data may be processed electronically only if their privacy, integrity, and availability are ensured and unauthorised access is prevented (Act on Health Data and Information, Official Gazette 14/19: Art. 6). Furthermore, all health data are classified as special category personal data and are therefore subject to strict processing rules in accordance with the General Data Protection Regulation (GDPR) (*ibid.*, Art. 5). Given that telemedicine inherently involves the remote transmission, processing, and storage of data, it must comply with the requirements of the Act, which further prescribes that all systems must be based on secure digital infrastructure and be subject to professional and inspection supervision (*ibid.*, Arts. 9 and 19). Within such a complex framework, nurses and other healthcare professionals must understand the legal context in order to act in compliance with statutory obligations while maintaining high ethical standards in digital practice.

Finally, the protection of patients' privacy and confidentiality remains one of the most significant ethical challenges. Čukljek et al. (2024: 5–16) emphasise the necessity of developing adequate digital infrastructure, particularly in rural and technologically underdeveloped areas, as well as adapting legal and institutional frameworks to safeguard security and trust among all stakeholders. The healthcare system must strike a balance between technological advancement and the preservation of fundamental ethical values. At the centre of the digital transformation of healthcare must remain the patient as a person, rather than merely a service user.

5.2. Informed Consent in the Digital Environment: Ethical Challenges

Informed consent is a process in which a patient, based on clear, understandable, and comprehensive information provided by a healthcare professional, consciously and voluntarily gives or withholds consent for a medical procedure, diagnostic intervention, or therapeutic measure. Informed consent enables patients to make decisions about their treatment on the basis of clearly presented information regarding procedures, risks, and benefits. This process strengthens patient autonomy and protects patients' rights (Koščević and Režić, 2023: 194).

Informed consent represents a fundamental patient right and an ethical prerequisite for medical intervention. However, its implementation in a digital healthcare environment, for example through telemedicine applications without the patient's physical presence, faces a number of specific challenges (Khairat and Obeid, 2018: 63). The emergence of new technologies such as telehealth alters traditional patterns of communication between patients and healthcare professionals and requires adaptation of existing ethical and legal standards. Recent studies indicate that consent obtained through telehealth platforms, commonly referred to as teleconsent, is comparable to traditional, in-person approaches in terms of comprehension and decision-making (Khairat et al., 2018: 63–64; Welch et al., 2016: 74–75). Nevertheless, in order to ensure the credibility and ethical integrity of this process, additional security and communication mechanisms must be implemented. These include video supervision, identity verification through time-stamped screen recordings, and the facilitation of two-way interaction and verbal clarification during consultations. Khairat and Obeid (2018: 64) also draw attention to reduced cognitive engagement associated with asynchronous approaches and emphasise the importance of a controlled communication environment. Welch et al. (2016: 77–78) further highlight potential risks of exclusion for individuals who lack stable internet access, appropriate devices, or sufficient digital literacy.

Teleconsent refers to a form of remote informed consent achieved through digital technologies, most commonly via video calls, electronic forms, and secure online platforms. It allows patients to receive all necessary information about a medical procedure and to provide consent without physically attending a healthcare institution. Although teleconsent is increasingly used in digital healthcare practice, its legal acceptability within European and Croatian regulatory frameworks has not yet been clearly defined, creating additional uncertainty for service providers. For example, although the General Data Protection Regulation (GDPR) stipulates that personal data may be processed on the basis of lawful, informed, and documented consent (Arts. 6 and 7), it does not specify in detail how such consent should be obtained in the context of digital healthcare services. Similarly, the Act on Healthcare Data and Information (Official Gazette 14/19) does not elaborate procedures for digital consent in telemedicine contexts, despite prescribing technical and organisational conditions for data protection. Within the context of the digital transformation of healthcare services, it has become increasingly evident that static, one-time consent models are insufficient for complex and long-term data processing practices. Contemporary approaches increasingly recognise the need for consent models that are more flexible, interactive, and oriented towards

individual autonomy. One such approach is dynamic consent, a personalised and digitally mediated mechanism that enables ongoing consent management and greater patient involvement, particularly in the context of biomedical research and systems of secondary data use. According to Budin-Ljøsne et al. (2017: 3), dynamic consent is a personalised digital communication interface that allows greater participant engagement in the research process, detailed decision-making regarding data and sample use, and the option to modify decisions over time. This represents a shift from the traditional model in which participants are passive providers of consent to a model that promotes active and informed participation, thereby strengthening transparency and ethical accountability. Similarly, Lee et al. (2024: 2) emphasise that maintaining continuous two-way communication is essential for achieving authentic informed consent in digital environments. They argue that dynamic models enable personalised data-sharing options that enhance individual autonomy and self-determination, including the possibility of withdrawing consent at any time. Although the fundamental ethical principles of informed consent, namely clarity, comprehensibility, and voluntariness, remain unquestioned, the digital environment necessitates the development of new forms of consent documentation adapted to the specific characteristics of telemedicine (Bagarić, 2019: 12–42; Čukljek et al., 2024: 13). At the same time, the privacy and security of personal data are exposed to additional risks, particularly in cases where communication takes place via unsecured networks or unprotected devices (Grebenshchikova, 2019: 211–223). At the normative level, legislative frameworks in the Republic of Croatia and the European Union still fail to provide sufficiently clear guidance for specific situations in the field of telehealth. This lack of regulatory clarity may result in legal uncertainty for both patients and healthcare service providers. For this reason, it is necessary to modernise legislation in a timely manner and align it with the challenges and opportunities arising from digital healthcare practice. According to the Oviedo Convention (Official Gazette 13/2003), human dignity, informed consent, and autonomy take precedence over technological and societal imperatives. This confirms that digital medicine, including telemedicine, must be implemented in a manner that respects these fundamental rights.

5.3. Professional Responsibility and Communication

The role of nurses in digital healthcare extends beyond the technical implementation of procedures and encompasses complex professional responsibilities that include ethical decision-making, high-quality communication, and the protection of patients' rights. With the

increasing use of digital technologies in healthcare, nurses are more frequently required to make clinical decisions based on information obtained through digital devices or applications. Although such tools can be highly beneficial, they also increase the risk of errors, particularly in cases of data transmission irregularities, device malfunctions, or misinterpretation of algorithm-based recommendations. This raises questions of professional and legal responsibility, specifically regarding who bears responsibility in the event of adverse outcomes resulting from digital mediation (Bagarić, 2019: 17; see also Becker et al., 2019: 2–3).

Healthcare professionals have expressed concern about a reduced capacity for empathetic communication with patients in digital environments, as the absence of non-verbal cues can hinder emotional understanding of patients' situations (Medina-Martin et al., 2023: 1129). Under such conditions, it is particularly important for nurses to develop digital communication competencies in order to recognise patients' emotional needs and maintain a sense of professional presence. Digital communication therefore requires heightened sensitivity to tone of voice, clarity of messages, and active listening, especially in the absence of physical contact (Schlachta-Fairchild et al., 2010: 3). A lack of formal education on the ethical aspects of telemedicine within nursing education programmes has been identified, contributing to healthcare professionals' perceptions of insufficient preparedness for addressing emerging challenges (Medina-Martin et al., 2023: 1131). Furthermore, systematic investment in the education of nurses in digital health has become an indispensable element of professional responsibility. Research indicates that technological advancements often outpace the content of educational curricula, resulting in inadequate preparation for the ethical, communicative, and security-related challenges of digital practice (Poreddi et al., 2021: 6). Čukljek et al. (2024: 13) emphasise the need to develop educational programmes that incorporate both digital competencies and ethical considerations in remote care. In line with these findings, the International Council of Nurses (ICN) recommends the integration of digital care ethics into undergraduate, graduate, and postgraduate education programmes, as well as continuous professional development, in order to ensure professional quality and patient protection in digital environments (International Council of Nurses, 2023). In conclusion, professional responsibility in telehealth must be clearly defined through education, institutional support, and the development of ethical guidelines that evolve alongside technological progress. The digital transformation of healthcare can truly serve patients only if it is accompanied by clearly articulated standards of good practice and ethics, rather than being driven solely by technological imperatives.

6. Conclusion

The digitalisation of healthcare, while offering numerous advantages in terms of accessibility, efficiency, and adaptability, simultaneously raises complex ethical and professional questions that must not be overlooked. At the centre of these challenges is the nurse, whose role extends beyond technical implementation and entails a deep responsibility to preserve the core values of care, including empathy, autonomy, patient safety, and dignity. Telemedicine and telenursing are transforming the relationship between healthcare professionals and patients, making it necessary to develop new models of communication, consent, and professional responsibility. This paper has emphasised that the application of technology must not replace the fundamental values of the healthcare professions, but should instead support and strengthen them. The responsibility of healthcare professionals, particularly nurses, is reflected not only in technical competence, but also in their ability to safeguard trust, privacy, and patient dignity within digital environments. Although legislative and institutional frameworks have not yet fully kept pace with the rapid development of technology, it is evident that without the active integration of ethics into educational curricula and everyday practice, digital healthcare risks losing its humanistic foundation. Particular emphasis should therefore be placed on the inclusion of digital health ethics content at all levels of nursing education, the development of clear institutional guidelines for informed consent in digital environments, and the ensuring of equitable access to digital resources and education, especially in technologically underdeveloped settings.

Furthermore, it is necessary to align national regulations with international ethical and legal standards and to encourage interdisciplinary cooperation in the development and evaluation of digital healthcare technologies. In conclusion, ethically acceptable and professionally grounded use of telemedicine and telenursing requires normative clarity, continuous education of healthcare professionals, and a consistent humanistic approach to the patient. Technology in healthcare must remain in the service of people, rather than the reverse.

7. References

1. Bagarić, M. (2019). *Bioetika i suvremena tehnologija* (Diplomski rad). Sveučilište u Zagrebu, Medicinski fakultet. <https://urn.nsk.hr/urn:nbn:hr:105:100956>
2. Becker, C. D., Dandy, K., Gaujean, M., Fusaro, M., & Scurlock, C. (2019). Legal perspectives on telemedicine part 1: Legal and regulatory issues. *The Permanente Journal*, 23, 18–293. <https://doi.org/10.7812/TPP/18-293>
3. Budin-Ljøsne, I., Teare, H. J. A., Kaye, J., Beck, S., Bentzen, H. B., Caenazzo, L., Collett, C., D'Abramo, F., Felzmann, H., Finlay, T., Javaid, M. K., Jones, E., Katić, V., Simpson, A., & Mascalzoni, D. (2017). Dynamic consent: A potential solution to some of the challenges of modern biomedical research. *European Journal of Human Genetics*, 25(7), 816–821. <https://doi.org/10.1038/ejhg.2016.71>
4. Butta, H., Khan, M. A., Zakar, R., & Fischer, F. (2023). Awareness and knowledge of telenursing care among registered nurses in Punjab, Pakistan. *Heliyon*, 9(3), e14013. <https://doi.org/10.1016/j.heliyon.2023.e14013>
5. Crouch, J., Winters, K., Zhang, L., & Stewart, M. W. (2023). Telehealth during the pandemic: Patient perceptions and policy implications. *Journal of Nursing Scholarship*, 55(1), 141–148. doi:10.1111/jnu.12832.
6. Čukljek, S., Kurtović, B., Hošnjak, A. M., Ledinski, S., Smrekar, M., & Babić, J. (2024). Nursing students' knowledge and attitudes towards telenursing. *Croatian Nursing Journal*, 8(1), 5–16. <https://doi.org/10.24141/2/8/1/1>
7. Domitrović, R., Horvat, V., & Pavleković, G. (2018). Obrazovanje medicinskih sestara u Republici Hrvatskoj – stanje i izazovi. *Hrvatski časopis za javno zdravstvo*, 14(55), 63–68.
8. Ghosh, A., Gupta, R., & Misra, A. (2020). Telemedicine for diabetes care in India during COVID-19 pandemic and national lockdown period: Guidelines for physicians. *Diabetes & Metabolic Syndrome: Clinical Research & Reviews*, 14(4), 273–276. <https://doi.org/10.1016/j.dsx.2020.04.001>
9. Grebenschikova, E. (2019). Digital medicine: Bioethical assessment of challenges and opportunities. *JADR*, 10(1), 211–223. <https://doi.org/10.21860/j.10.1.12>
10. Haleem, A., Javaid, M., Singh, R. P., Suman, R., & Rab, S. (2021). Telemedicine for healthcare: Capabilities, features, barriers, and applications. *Sensors International*, 2, 100117. <https://doi.org/10.1016/j.sintl.2021.100117>
11. International Council of Nurses. (2023). *Digital health transformation and nursing practice* [Izjava o položaju]. ICN. Preuzeto s <https://www.icn.ch/what-we-do/position-statements>

12. Khairat, S., & Obeid, J. S. (2018). Teleconsent - A new modality for informed consenting. *European Journal of Biomedical Informatics*, 14(4), 63–64.
13. Kamei, T. (2022). Telenursing and artificial intelligence for oncology nursing. *Asia-Pacific Journal of Oncology Nursing*, 9, 100119. <https://doi.org/10.1016/j.apjon.2022.100119>
14. Khairat, S., Ottmar, P., Chourasia, P., & Obeid, J. (2025). Effectiveness of telehealth versus in-person informed consent: Randomized study of comprehension and decision-making. *Journal of Medical Internet Research*, 27, e63473. <https://doi.org/10.2196/63473>
15. Kord Z, Fereidouni Z, Mirzaee MS, Alizadeh Z, Behnammoghadam M, Rezaei M, et al. Telenursing home care and COVID-19: a qualitative study. *BMJ supportive & palliative care*. 2021; bmjspcare-2021-003001. doi:10.1136/bmjspcare-2021-003001.
16. Košćević, M., & Režić, S. (2023). Informirani pristanak pacijenta – zaštita za pacijenta ili liječnika. *Sestrinski glasnik/Nursing Journal*, 28(3), 187–194. <https://doi.org/10.11608/sgnj.28.3.8>
17. Lee, A. R., Koo, D., Kim, I. K., Lee, E., Yoo, S., & Lee, H.-Y. (2024). Opportunities and challenges of a dynamic consent-based application: Personalized options for personal health data sharing and utilization. *BMC Medical Ethics*, 25(92). <https://doi.org/10.1186/s12910-024-01091-3>
18. Mann, D. M., Chen, J., Chunara, R., Testa, P. A., & Nov, O. (2020). COVID-19 transforms health care through telemedicine: Evidence from the field. *Journal of the American Medical Informatics Association*, 27(7), 1132–1135.
19. Medina-Martin, C., Gómez-Salgado, J., Rojas-Ocaña, M. J., Ortega-Moreno, M., Ruiz-Frutos, C., & Romero-Martín, M. (2023). Nurses' perspectives on ethical aspects of telemedicine: A scoping review. *Nursing Ethics*, 30(1), 3–19. <https://doi.org/10.1177/09697330221139433>
20. Poreddi, V., Veerabhadraiah, K. B., Reddy, S. N., Narayana, M., Channaveerachari, N., & BadaMath, S. (2021). *Nursing interns' perceptions of telenursing: Implications for nursing education*. *Telehealth and Medicine Today*, 6, 258. <https://doi.org/10.30953/tmt.v6.258>
21. Raesi, R., et al. (2021). The impact of education through nurse-led telephone follow-up (telenursing) on the quality of life of COVID-19 patients *Journal of the Egyptian Public Health Association*, 96, 30. <https://doi.org/10.1186/s42506-021-00093-y>
22. Vlada Republike Hrvatske. (2003). *Zakon o potvrđivanju Konvencije o zaštiti ljudskih prava i dostojanstva ljudskog bića u pogledu primjene biologije i medicine: Konvencija o ljudskim pravima i biomedicini (Ovijska konvencija)*. *Narodne novine*, 13/2003. https://narodne-novine.nn.hr/clanci/medunarodni/2003_08_13_109.html

23. Rygg, L. Ø., Bjørkquist, C., & Wesseltuft-Rao, N. (2021). Nurse-led remote monitoring and telecare services in primary health care: A qualitative study. *BMC Health Services Research*, 21, 1221. <https://doi.org/10.1186/s12913-021-07255-0>
24. Schlachta-Fairchild, L., Elfrink, V., & Deickman, A. (2008). Patient safety, telenursing, and telehealth. In R. G. Hughes (Ed.), *Patient Safety and Quality: An Evidence-Based Handbook for Nurses* (Vol. 2, pp. 1–28). Agency for Healthcare Research and Quality. <https://www.ncbi.nlm.nih.gov/books/NBK2641/>
25. Sharon, T. (2016). The Googlization of health research: From disruptive innovation to disruptive ethics. *Personalized Medicine*, 13(6), 563–574. <https://doi.org/10.2217/pme-2016-0057>
26. Tort-Nasarre, G., et al. (2023). Experiences of Telenursing in Overcoming Challenges and Applying Strategies by COVID-19 Patients in Home Isolation: Qualitative Study in Primary Care *Healthcare*, 11(14), 2093. <https://doi.org/10.3390/healthcare11142093>
27. Zakon o podacima i informacijama u zdravstvu. (2019). *Narodne novine*, 14/19. Dostupno na: <https://www.zakon.hr/z/1883/Zakon-o-podacima-i-informacijama-u-zdravstvu>
28. Welch, B. M., Marshall, E., Qanungo, S., Aziz, A., Laken, M., Lenert, L., & Obeid, J. (2016). Teleconsent: A novel approach to obtain informed consent for research. *Contemporary Clinical Trials Communications*, 3, 74–79. <https://doi.org/10.1016/j.conctc.2016.03.002>
29. World Health Organization. (2010). *Telemedicine: Opportunities and developments in Member States: Report on the second global survey on eHealth* (Global Observatory for eHealth Series, Volume 2). World Health Organization. <https://apps.who.int/iris/handle/10665/44497>

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Ivana Hardi (Hrvatska)

Fakultet za odgojene i obrazovne znanosti, Sveučilište Josipa Jurja Strossmayera u Osijeku

ihardi@foozos.hr

ORCID iD: 0009-0004-6214-9916

Zdenka Omrčen (Hrvatska)

Fakultet za odgojene i obrazovne znanosti, Sveučilište Josipa Jurja Strossmayera u Osijeku

zomrcen@foozos.hr

ORCID iD: 0009-0007-3959-2743

TELEMEDICINA: PREDNOSTI, IZAZOVI I ETIČKE DILEME

Sažetak

Digitalna transformacija zdravstvenog sustava, posebno kroz razvoj telemedicine i telenursing-a, donosi niz etičkih i profesionalnih izazova koji duboko mijenjaju praksu zdravstvene skrbi. Promjene u komunikaciji, načinu odlučivanja i pohrani podataka zahtijevaju novo promišljanje uloge zdravstvenih djelatnika, osobito medicinskih sestara. Cilj ovog rada je istražiti kako digitalno posredovana skrb utječe na temeljne etičke principe, autonomiju, privatnost, pravičnost i odgovornost, te kako se ti izazovi odražavaju na sestrinsku praksu. Kroz kvalitativnu analizu relevantne literature i zakonskih dokumenata, rad identificira ključne točke ranjivosti u postojećim profesionalnim i pravnim okvirima. Zaključno se ističe potreba za snažnijom institucionalnom podrškom, etičkim smjernicama i edukacijom koja će medicinskim sestrama omogućiti djelovanje u digitalnom okruženju uz očuvanje humanosti i profesionalnog integriteta.

Ključne riječi: etika u zdravstvenoj skrbi, digitalno zdravstvo, informirani pristanak, telemedicina, telesestrinstvo