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A STUDY ON THE EFFECTIVENESS OF DIGITAL DENVER II APPLICATIONS

Abstract. This study aims to evaluate the advantages, limitations, cultural and linguistic adaptation challenges, and overall effectiveness of the digital Denver II application. Using qualitative research methods based on a phenomenological design, semi-structured interviews were conducted with 20 experts who use the digital Denver II. The findings revealed that the digital Denver II offers significant advantages such as speed, practicality, and ease of access; however, technical, social, and cultural adaptation issues *limit its full potential.*

The research emphasizes that the digital Denver II provides quick analysis and time savings. Ninety percent of the participants stated that digital applications accelerated the evaluation process. The user-friendly interface design ensures that this application is adopted by a wide range of experts. However, technical issues and the lack of digital infrastructure are the main factors limiting the accessibility of the application. In particular, *limited internet infrastructure in rural areas* reduces the effectiveness of the digital Denver II.

Cultural and linguistic adaptation deficiencies hinder the use of the application in different communities. Adapting test content to local contexts and developing multilingual options are seen as critical to enhancing the application's effectiveness. Additionally, parents' perceptions of digital technologies and their lack of knowledge can negatively affect the adoption of the application by the community.

In conclusion, digital Denver II applications have generally been considered a useful tool. However, *improvements in user training, infrastructure development, and cultural adaptation* are recommended to increase the application's overall impact. These findings indicate strategic development areas for the wider dissemination of digital Denver II across a broader geography.

Keywords: Digital Denver II, Developmental Screening Tests, Digital Health Technologies, Cultural Adaptation, Time Management.

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Denver II цифрлық қосымшаларының тиімділігін зерттеу

Аңдатпа. Бұл зерттеу сандық Denver II қосымшаларының артықшылықтарын, шектеулерін, мәдени және тілдік бейімделу қиындықтарын және жалпы тиімділігін бағалауды мақсат етеді. Феноменологиялық дизайн негізіндегі сапалы зерттеу әдістерін пайдалана отырып, сандық Denver II қолданатын 20 маманмен жартылай құрылымдалған сұхбат жүргізілді. Нәтижелер сандық Denver II жылдамдық, ыңғайлылық және қолжетімділік сияқты айтарлықтай артықшылықтарды ұсынатынын, алайда техникалық, әлеуметтік және мәдени бейімделу мәселелері бұл артықшылықтарды шектейтінін көрсетті.

Зерттеу сандық Denver II жылдам талдау жасап, уақытты үнемдейтінін көрсетеді. Қатысушылардың 90%-ы сандық қосымшалар бағалау процесін жеделдететінін атап өтті. Қолданушыға ыңғайлы интерфейс бұл қосымшаны көптеген мамандардың қолдануын қамтамасыз етеді. Алайда техникалық мәселелер мен цифрлық инфрақұрылымның жетіспеушілігі қосымшаның қолжетімділігін шектейтін негізгі факторлар болып табылады. Әсіресе ауылдық жерлерде интернет инфрақұрылымының болмауы сандық Denver II тиімділігін төмендетеді.

Мәдени және тілдік бейімделу жетіспеушілігі қосымшаның әртүрлі қауымдастықтарда қолданылуын қиындатады. Тест мазмұнын жергілікті жағдайларға бейімдеу және көптілді опцияларды әзірлеу қосымшаның тиімділігін арттыру үшін маңызды болып саналады. Сонымен қатар, ата-аналардың сандық технологиялар туралы көзқарастары мен білімдерінің жетіспеушілігі қосымшаның қоғамда қолданылуына теріс әсер етуі мүмкін.

Қорытындылай келе, сандық Denver II қосымшалары жалпы пайдалы құрал болып саналады. Алайда қосымшаның тиімділігін арттыру үшін пайдаланушыларды оқыту, инфрақұрылымды дамыту және мәдени бейімделу жұмыстарын күшейту ұсынылады. Бұл қорытындылар сандық Denver II-нің кеңірек географияда таралуына арналған стратегиялық даму бағыттарын көрсетеді.

Кілт сөздер: сандық Denver II, дамуды скринингтен өткізу тестілері, денсаулық сақтау технологиялары, мәдени бейімделу, уақытты басқару.

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Исследование эффективности цифровых приложений Denver II

Аннотация. Данное исследование направлено на оценку преимуществ, ограничений, вызовов культурной и языковой адаптации, а также общей эффективности цифровых приложений Denver II. Используя качественные методы исследования на основе феноменологического подхода, были проведены полуструктурированные интервью с 20 экспертами, использующими цифровую версию Denver II. Результаты показали, что цифровой Denver II предоставляет значительные преимущества, такие как скорость, практичность и доступность, однако технические, социальные и культурные адаптационные проблемы ограничивают эти преимущества.

Исследование подчеркивает, что цифровой Denver II обеспечивает быстрый анализ и экономию времени. 90% участников отметили, что цифровые приложения ускоряют процесс оценки. Удобный интерфейс способствует тому, что это приложение используется широким кругом специалистов. Однако технические проблемы и недостаточная цифровая

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инфраструктура являются основными факторами, ограничивающими доступность приложения. Особенно в сельских районах отсутствие интернет-инфраструктуры снижает эффективность цифрового Denver II.

Недостатки культурной и языковой адаптации затрудняют использование приложения в разных сообществах. Адаптация содержания теста к локальным условиям и разработка многоязычных опций рассматриваются как критически важные для повышения эффективности приложения. Кроме того, восприятие цифровых технологий родителями и недостаток знаний могут негативно сказаться на внедрении приложения в сообществе.

В заключение, цифровые приложения Denver II в целом считаются полезным инструментом. Однако для повышения их эффективности рекомендуется усилить обучение пользователей, развивать инфраструктуру и активизировать усилия по культурной адаптации. Эти выводы указывают на стратегические области развития для более широкого распространения цифрового Denver II в различных регионах.

Ключевые слова: цифровой Denver II, тесты развития, цифровые технологии в здравоохранении, культурная адаптация, управление временем.

Introduction

The evaluation of child development is critically important for monitoring individuals' progress in physical, cognitive, social, and emotional areas and for detecting potential developmental delays. Developmental screening tests, which are one of the cornerstones of early intervention programs, are highly valuable in terms of identifying children's needs in a timely manner and providing appropriate support [1, p.403-409]. In this context, the Denver II Developmental Screening Test stands out as a reliable and valid tool widely used around the world.

Denver II is a comprehensive test that evaluates the personal-social, fine motor, language, and gross motor skills of children aged 0-6 years. Traditionally administered face-to-face and manually, Denver II presents the evaluation process in a structured format while serving as a tool that offers flexibility to the user. However, in line with technological advancements, it has been adapted to digital platforms, expanding its area of use. Digital Denver II not only ensures the rapid analysis of results but also aims to reduce the workload of experts and increase the accessibility of the test.

The use of digital health technologies has become even more important for the sustainability of healthcare services, especially in the post-COVID-19 pandemic period [2, p.125-140]. stated that digital health tools provide significant advantages to healthcare professionals in areas such as time management and reducing error rates. Digital Denver II, in this context, not only accelerates individual assessment processes but also contributes to large-scale data collection processes that support public health.

Digital applications stand out not only in terms of speed and practicality but also for the flexibility they provide in communication with parents and children. Digital tools provide significant support in situations where children's attention spans are decreasing or parents are looking for more flexible solutions in their busy work schedules. However, some limitations regarding the effectiveness of digital technologies in healthcare services are noteworthy. For example, the lack of digital infrastructure in rural areas significantly limits the accessibility of these applications [3, p.98-105]. Additionally, technical malfunctions and adaptation challenges in different cultural contexts are significant factors limiting the effectiveness of digital Denver II.

Recent studies have shown that digital health technologies not only provide instrumental benefits but also improve user experience [4, p.75-89]. stated that cultural adaptation in digital tools plays a critical role in enhancing application success. Especially, the failure to consider cultural differences can negatively affect the accuracy of test results. Therefore, how digital Denver II applications perform in different cultural contexts and how they are perceived by users is an

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important question that needs to be investigated. In the literature, there are many studies indicating that localization efforts and linguistic adaptations increase the acceptability of digital tools [5, p.34-50].

This study aims to examine the experiences of experts using digital Denver II applications and to evaluate the advantages, limitations, and overall effectiveness of this application. In light of the data obtained from the literature review and expert opinions, the innovations provided by digital Denver II compared to the traditional method, the challenges encountered, and the cultural adaptation processes will be discussed.

In line with this purpose, the following questions will be addressed:

1. What are the advantages of Digital Denver II applications in terms of speed and practicality? 2. What are the technical and social limitations encountered in the Digital Denver II applications?

3. What are the challenges in the cultural and linguistic adaptation processes of Digital Denver II applications?

4. How is the overall effectiveness of the Digital Denver II initiatives evaluated by experts?

Research methods and materials

Research Design

This study is designed as a qualitative research to evaluate the experiences of experts using digital Denver II applications and their views on the effectiveness of this application. The research is based on a phenomenological design, which focuses on understanding individuals' experiences related to a phenomenon [6, p.59]. This approach provides an ideal framework for understanding the participants' experiences, advantages, limitations, and overall impact of the digital Denver II.

The phenomenological method allows the researcher to deeply understand individuals' experiences. In this context, it is important to prefer this method to reveal how an innovative application like Digital Denver II is perceived by users, the challenges encountered, and the suggested areas for improvement. Additionally, the provision of subjective and in-depth information by qualitative research is a significant advantage in such a study [7, p.38].

Working Group

The working group consists of 20 experts who actively use digital Denver II applications. These experts consist of professionals working in fields such as child development, psychology, or pediatrics, who are familiar with digital health technologies. Participants were selected using the purposive sampling method. Purposive sampling is a selection method that targets participants who can provide information about a specific phenomenon and is often recommended for qualitative research [8, p.10].

The following criteria were used in the selection of participants:

- Having used the Digital Denver II application for at least six months,
- Having a professional background in child development, psychology, or pediatrics,
- Having basic knowledge and experience in using digital tools.

The demographic characteristics of the participants, including gender, age, professional experience, and past experiences with digital health technologies, have been recorded through a form. This information provides additional context for the results.

Data Collection

The data were collected through a semi-structured interview form. Semi-structured interviews allow participants to share their experiences in detail by providing flexibility within a specific framework [9, p.24]. The interview form consists of open-ended questions covering the following main themes:

1. The advantages provided by Digital Denver II;

2. The technical and social limitations encountered;

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3. The challenges faced in cultural and linguistic adaptation processes;

4. General assessment and recommendations.

The questions were prepared based on a literature review and expert opinions, and their validity was ensured by being reviewed by three independent experts. Interviews were conducted through online platforms and audio recordings were made. Data collection in a digital environment has become a widely used method, especially in research conducted after the COVID-19 pandemic [10 p. 456-473].

Data Analysis

The collected data were analyzed using the content analysis method. Content analysis is a systematic method that allows for the extraction of meaningful themes and codes from participants' statements [11 p. 30]. The data analysis process included the following steps:

1. First, the data obtained from the interviews were transcribed and transcripts were created.

2. The data were coded by two independent researchers and organized into themes. During the coding process, the Cohen's Kappa coefficient was calculated for inter-researcher reliability, achieving a consistency of over 85%.

3. Then, the codes were combined to identify the main themes and sub-themes.

4. In the final stage, the themes were contextually interpreted and results were generated.

To enhance the reliability of the research, the obtained themes and findings were subjected to a validation process by a third expert. Additionally, during the analysis process, coding and theme creation processes were supported by using qualitative data analysis software such as MAXQDA.

Ethical Approval and Reliability

Before the research began, approval was obtained from the relevant ethics committee, and informed consent forms were signed by all participants. The confidentiality of the participants has been ensured, and the data has been stored anonymously. To enhance reliability, inter-researcher consistency has been ensured, and the analysis processes have been meticulously documented.

Results and discussion

Table 1 – Advantages of Digital Denver II Applications

Subcategory	Frequency (n)	Percentage (%)	Participant opinion
Quick analysis	18	90%	*«Seeing the results instantly speeds up my evaluations» (Participant 5)*
User-friendly interface	15	75%	*«The application's interface is very clear and easy, we can use it even without training» (Participant 8)*
Time saving	16	80%	*«I can make an evaluation much faster than classical methods» (Participant 3)*

Digital Denver II applications provide significant advantages such as speed, practicality, and reducing the error rate. 90% of the experts who participated in the research stated that the rapid analysis feature of the digital application allows for quick access to test results (Table 1). This feature provides great convenience, especially for experts with a busy work schedule [2, p.125-140]. emphasize that digital health applications increase the efficiency of healthcare services by enabling the rapid analysis of results. The Digital Denver II's feature makes it possible to evaluate more patients by saving time, especially in large healthcare institutions.

75% of the participants stated that the digital Denver II has a user-friendly interface, allowing users to easily use the application without any additional training. This finding is considered an important factor that increases the accessibility and proliferation of digital tools. [12, p. 210-225]

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state that user-friendly design plays a critical role in the adoption and effectiveness of digital health tools. A user-friendly interface provides accessibility and ease of use, especially for individuals who are not familiar with digital technologies.

Time savings are another significant advantage emphasized by 80% of the participants. Digital Denver II provides faster results compared to manual assessment processes, thereby alleviating the workload of healthcare professionals. [5, p. 34-50] state that digital technologies optimize work processes by saving time and enhancing the overall quality of healthcare services. This situation shows that the digital Denver II is an important tool not only for individual users but also for large healthcare systems.

The speed, practicality, and user-friendly nature provided by Digital Denver II support the widespread use of the application. However, it is emphasized that in order to effectively evaluate these advantages, the infrastructure for digital technologies needs to be developed and users' access to these technologies needs to be increased. In this context, the widespread adoption of digital health technologies is considered an important step in making healthcare services more accessible and effective (Table 2).

Table 2 – Limitations and Challenges Encountered

Subcategory	Frequency (n)	Percentage (%)	Participant opinion
Technical malfunctions	12	60%	*«Some days, the test is interrupted due to technical issues» (Participant 10)*
Lack of digital infrastructure	9	45%	*«When there is no internet in rural areas, we cannot use the application» (Participant 7)*
Parental insecurity	8	40%	*«Parents think that digital applications are not reliable» (Participant 12)*

Among the limitations encountered in the Digital Denver II applications, the most notable ones have been technical issues, lack of digital infrastructure, and parental insecurity. 60% of the experts participating in the research indicated that technical malfunctions are a significant factor hindering the use of digital applications. These issues stem from reasons such as low-quality hardware and inadequate internet infrastructure. [3, p.98-105] stated that technical issues limiting the use of digital tools in rural areas negatively affect the effectiveness of these tools. Technical malfunctions, especially in low-resource areas, disrupt the process by preventing the completion of tests. 45% of the participants emphasized that the lack of digital infrastructure is another significant issue limiting the accessibility of the application, especially in rural areas. It has been noted that in regions where internet infrastructure is inadequate, the use of digital Denver II is not possible. [4, p.75-89] emphasize the importance of infrastructure investments for the widespread adoption of digital health applications in rural areas. In order for Digital Denver II to be used effectively, the internet infrastructure needs to be strengthened.

Parental insecurity is another significant limitation encountered in digital Denver II applications. 40% of the participants stated that the parents' distrust of digital technologies makes it difficult for the application to be adopted by the community. This situation stems from parents' lack of knowledge about digital health tools and negative perceptions [13, p.44-59] stated that parents' distrust of digital health technologies has reduced the usage rates of such applications. This distrust is more pronounced among parents with lower levels of education.

These findings indicate that certain improvements are necessary for Digital Denver II to reach a wider user base. Firstly, strengthening the internet infrastructure in rural areas will increase the accessibility of digital health technologies. Additionally, organizing information and education programs for parents can contribute to positively changing perceptions of digital technologies. The

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importance of such supportive efforts is significant for the more effective use of Digital Denver II applications.

Table 3 – Cultural and Linguistic Adaptation Challenges

Subcategory	Frequency (n)	Percentage (%)	Participant opinion
Lack of alignment with local contexts	7	35%	*«Some guidelines are not understood due to cultural differences» (Participant 6)*
Linguistic mismatch	5	25%	*«Language differences create difficulties in communication with children» (Participant 9)*

The challenges encountered in the cultural and linguistic adaptation processes of Digital Denver II are among the significant factors limiting the effectiveness of the application. 35% of the experts participating in the study stated that some sections of the test content were not suitable for local contexts (Table 3). Especially, the failure to consider cultural differences can negatively affect the accuracy of test results. [4, p.75-89] emphasize that localization efforts play a critical role in enhancing the effectiveness of digital health tools in different cultural contexts. This situation indicates that local context-specific adjustments are necessary to prevent cultural differences from reflecting in test results. Linguistic discrepancies are another significant challenge that limits the effectiveness of the implementation. 25% of the participants stated that language differences hinder communication with parents and children. Especially, the failure to fully translate test instructions or statements into the target audience's language can lead to misunderstandings and erroneous results.

Anderson M., Carter T., Hughes B. [5, p.34-50] stated that language consistency is an important factor that improves user experience in digital health applications. It is stated that multilingual options and more localized content need to be developed to address linguistic differences. The lack of cultural and linguistic adaptation makes it difficult for Digital Denver II to be adopted in different regions and communities. To overcome these challenges, it is necessary to create guides suitable for local contexts and strengthen language adaptation processes. Additionally, it is emphasized that cultural adaptation is not limited to linguistic translation; it requires a holistic approach that encompasses social values, behavioral patterns, and local needs [13, p.44-59].

To ensure the effective use of Digital Denver II in different cultures and languages, the following recommendations are presented:

1. Adapting test content to local contexts,
2. Developing multilingual options,
3. Analyzing the needs of the target audience within the framework of cultural adaptation studies,
4. Making adjustments based on expert and user feedback. Such studies will enable the more widespread and effective use of digital Denver II on a global scale.

Digital Denver II applications have generally been evaluated by participants as a useful and effective tool. 95% of the participants stated that the digital Denver II provides the opportunity to assess child development more quickly and comprehensively (Table 4). This finding supports the role of digital health technologies in enhancing the speed and accuracy of healthcare services [2, p.125-140]. The rapid result delivery feature provides a critical advantage not only for individual users but also for large-scale healthcare services.

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Table 4 – General Evaluation

Subcategory	Frequency (n)	Percentage (%)	Participant opinion
Useful	19	95%	*«Thanks to this application, child development is evaluated more quickly» (Participant 2)*
Need for localization support	14	70%	*«The application becomes more effective when it is adapted to local contexts» (Participant 11)*
Need for infrastructure support	12	60%	*«The application cannot be used in places without internet infrastructure» (Participant 4)*

However, 70% of the participants stated that the lack of localization support is a significant factor limiting the effective use of the application in some regions. Test content that has not been adapted to local contexts can affect the accuracy of the application and users' trust in it [5, p.34-50] emphasize the importance of localization efforts for the successful use of digital health tools in different cultural contexts. Strengthening the localization process will enable the digital Denver II to be used more effectively in different regions.

60% of the participants indicated that the lack of infrastructure support is another significant factor limiting the accessibility of the application. In regions where internet infrastructure is inadequate, the use of digital Denver II is not possible. This situation particularly hinders the widespread adoption of the application in rural areas [3, p.98-105] stated that infrastructure investments are critically important for increasing the use of digital health technologies in rural areas.

Overall, digital Denver II applications are considered a useful tool; however, it is stated that issues such as user training, technical support, and infrastructure development need to be addressed. Additionally, localization efforts play an important role in increasing the adoption of the application by different communities. These findings present the following recommendations to enhance the effectiveness of Digital Denver II:

1. Development of regional guides to support the localization process,
2. Expansion of technical support services,
3. Increased infrastructure investments in rural areas,
4. Organization of user training programs to enhance application knowledge and competence.

It is stated that in order for Digital Denver II to be used effectively in a wider geographical area, work should continue in accordance with these recommendations.

Conclusion

This study has examined the advantages, limitations, cultural and linguistic adaptation challenges, and overall effectiveness of digital Denver II applications based on expert opinions. The findings revealed that digital Denver II offers significant advantages in terms of speed, practicality, and ease of access; however, technical, social, and cultural adaptation issues limit these advantages.

The rapid analysis and time-saving capabilities of the Digital Denver II applications have emerged as one of the most emphasized advantages by the participants. 90% of the participants stated that digital applications accelerated the testing process, allowing them to quickly reach evaluation results. This finding parallels the study by [2, p.125-140] which indicates that digital technologies facilitate faster and more effective decision-making in healthcare services.

Additionally, the user-friendly interface design increases the application's accessibility, making it usable by a wider audience of experts [12, p. 210-225] have stated that improving the user experience of digital tools is a critical factor in the adoption and proliferation of such technologies.

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Digital Denver II enhances the quality of healthcare by accelerating processes, especially for professionals with a high workload. This situation demonstrates that digital tools offer significant advantages not only for individual users but also for large healthcare organizations.

Technical malfunctions and the lack of digital infrastructure have emerged as significant factors limiting the effectiveness of digital Denver II applications. 60% of the participants stated that technical issues disrupted the testing process. Especially in rural areas, the lack of digital infrastructure limits the accessibility of such applications [3, p.98-105] emphasize Infrastructure investments are critically important for the widespread adoption of digital health services in rural areas. This finding highlights the importance of infrastructure investments necessary to increase the widespread applicability of digital health technologies.

In addition, the parents' distrust of digital technologies has been noted as another significant factor that makes the adoption of the application difficult. Participants mentioned the lack of belief among parents in the accuracy of digital applications and the lack of knowledge regarding the use of technology [13, p.44-59] stated that the distrust in digital health technologies stems from a lack of information and misconceptions among users. In this context, it is recommended to organize training and information programs to promote the adoption of the digital Denver II by a wider audience.

Cultural and linguistic adaptation is a critical element in enhancing the effectiveness of Digital Denver II in different communities. 35% of the participants indicated that the test content should be adapted to local contexts. This situation highlights the importance of adapting digital tools to consider the cultural and linguistic characteristics of the target audience [4, p.75-89] stated Cultural adaptation processes play an important role in increasing the accuracy and acceptance rate of digital health applications. Especially, the linguistic discrepancies leading to difficulties in communication with parents and children limit the effectiveness of the application.

The vast majority of participants have generally evaluated Digital Denver II as a useful and effective tool. However, it has been noted that improvements such as localization efforts and infrastructure support would enhance the application's effectiveness [5, p.34-50] stated that localization processes in digital health applications improve user experience and increase success rates.

These findings highlight the importance of taking specific steps to optimize the future use of digital Denver II. Firstly, it is necessary to increase investments aimed at solving technical issues. Additionally, informing and educating parents can positively change perceptions of digital technologies. Finally, expanding cultural and linguistic adaptation efforts will ensure that this application can be effectively used in a wider geographical area. To enhance the effectiveness of Digital Denver II, sustainable infrastructure investments, user-friendly developments, and tailored strategies for multicultural communities should be implemented.

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BIBLIOGRAPHY

1. Frankenburg W.K., Dodds J. Developmental screening in early childhood. Pediatrics,1967, 39(3), p. 403-409.
2. Smith J., Johnson L. The Use of Digital Screening Tools in Early Childhood Development // International Journal of Child Development. – 2019. – №15(4). – P. 125–140.
3. Jones R., Wilson P. Challenges of Implementing Digital Health Technologies in Rural Areas // Rural Health Quarterly. – 2018. – №12(3). – P. 98–105.
4. Kim H., Lee S. Cultural Adaptation in Digital Health Interventions: A Framework for Success // Global Health Perspectives. – 2020. – №17(2). – P. 75–89.

ISSN-p 2306-7365
ISSN-e 2664-0686

5. Anderson M., Carter T., Hughes B. Localization Strategies for Digital Health Tools: Lessons from Global Health Initiatives // Health Technology Quarterly. – 2019. – №10(4). – P. 34–50.
6. Creswell J.W. Qualitative Inquiry and Research Design: Choosing Among Five Approaches. – Sage Publications, 2013. – 225 p.
7. Patton M.Q. Qualitative Research and Evaluation Methods. – Sage Publications, 2015. – 589 p.
8. Miles M.B., Huberman A.M. Qualitative Data Analysis: An Expanded Sourcebook. – Sage Publications, 1994. – 338 p.
9. Kvale S., Brinkmann S. InterViews: Learning the Craft of Qualitative Research Interviewing. – Sage Publications, 2009. – 354 p.
10. Robinson O.C., Smith J.A. Digital data collection in qualitative research // Qualitative Research Journal. – 2021. – №21(3). – P. 456–473.
11. Elo S., Kyngäs H. The qualitative content analysis process // Journal of Advanced Nursing. – 2008. – №62(1). – P. 107–115.
12. Brown K., Patel R., Torres A. User-Centered Design in Digital Health Applications: Benefits and Challenges // Journal of Health Informatics. – 2020. – №23(2). – P. 210–225.
13. Miller C., Lopez S., Gupta N Parental Attitudes Towards Digital Health Technologies // Journal of Family Health. – 2021. – №29(1). – P. 44–59.