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Digital care and intersessional support for psychoemotional well-being: a case study of a mobile application prototype for women of reproductive age

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The psychoemotional health of women of reproductive age requires special attention during periods of chronic stress, social displacement, and reduced access to regular psychological care. Mobile mental health technologies offer new opportunities for maintaining psychological well-being between psychotherapy sessions.
The objective: **to analyze the innovative international experience of using the mobile application for psychoemotional support as a tool for intersessional psychological support of psychoemotional health among women of reproductive age.**
Materials and methods**. The study involved 827 women aged 22–45 years from 14 countries, including Ukraine, Spain, Germany, Montenegro, Hungary, Poland, the Netherlands, Portugal, Israel, the United Kingdom, Switzerland, Croatia, the USA, and Canada. The majority of participants were Ukrainians (87%), while 13% represented other nationalities. Among the total sample, 46% of women were Ukrainian residents, whereas 54% or persons were living abroad. The methodology included pre- and post-intervention assessments using the GAD-7 (Generalized Anxiety Disorder scale), and Qualitative Feedback Analysis. Quantitative data were processed using IBM SPSS Statistics v.27 and Microsoft Excel 2016. Statistical indicators such as means (M), standard deviations (SD), and significance levels (p) were calculated using Student's t-test. Additionally, qualitative feedback from anonymized user responses and semi-structured interviews was analyzed.**
Results**. A statistically significant decrease in generalized anxiety (GAD-7) was observed in women who used mobile application for psychoemotional support, compared to those who received standard psychological support without digital tools ($p \leq 0.05$). Thematic analysis of user reports revealed positive changes in mood regulation, stress resilience, and perceived safety. Participants emphasized the personalized format of the content, the emotional tone of the voice recordings, and the daily structure of the mobile application for psychoemotional support as factors that enhanced their psychological stability.**
Conclusions**. The mobile application for psychoemotional support demonstrates strong potential as an intersessional support tool for the psychoemotional well-being of women of reproductive age. It may serve as an accessible supplement to traditional psychotherapy, especially in cross-cultural, remote, or crisis contexts. Future versions of the application could integrate biometric feedback and artificial intelligence driven personalization.**
Keywords: *mental health, mobile psychological support, intersessional care, psychoemotional well-being, emotional burnout, personalized digital care, GAD-7 scale, reproductive-age women.*

Цифрова турбота та міжсесійна підтримка психоемоційного благополуччя: кейс дослідження прототипу мобільного застосунку для жінок репродуктивного віку

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Психоемоційне здоров'я жінок репродуктивного віку потребує особливої уваги в умовах хронічного стресу, соціального переміщення та обмеженого доступу до регулярної психотерапевтичної підтримки. Мобільні технології психічного здоров'я відкривають нові можливості для міжсесійного супроводу.
Мета дослідження: проаналізувати інноваційний міжнародний досвід використання мобільного застосунку для психоемоційної підтримки як інструменту міжсесійної психологічної підтримки психоемоційного стану жінок репродуктивного віку.
Матеріали та методи. У дослідженні взяли участь 827 жінок віком від 22 до 45 років із 14 країн: Україна, Іспанія, Німеччина, Чорногорія, Угорщина, Польща, Нідерланди, Португалія, Ізраїль, Великобританія, Швейцарія, Хорватія, США, Канада. Більшість учасниць є українками за національністю (87%), тоді як 13% представляли інші національності. Серед загальної вибірки 46% були резидентами України, а 54% проживали за кордоном. Застосовували шкалу оцінювання генералізованої тривожності – GAD-7 (General Anxiety Disorder), а також якісний аналіз зворотного зв'язку щодо використання мобільного застосунку для психоемоційної підтримки. Кількісні дані обробляли за допомогою IBM SPSS Statistics (версія 27) та Microsoft Excel 2016; обчислювалися середні значення (M), стандартні відхилення (SD) та рівні значущості (p) з використанням t-критерію Стьюдента. Також було проаналізовано якісні відповіді користувачок та напівструктуровані інтерв'ю.
Результати. Виявлено статистично достовірне зниження рівня тривожності (GAD-7) жінок, які використовували застосунок для психоемоційної підтримки, порівняно з тими, хто отримував лише традиційну підтримку ($p \leq 0,05$).

Тематичний аналіз користувацьких звітів засвідчив покращення у сфері саморегуляції, стресостійкості та суб'єктивного відчуття безпеки. Користувачки відзначали переваги персоналізованого контенту, емоційного забарвлення голосових повідомлень і щоденної структури програми.

Висновки. Мобільний застосунок для психоемоційної підтримки має значний потенціал як засіб міжсесійної психологічної підтримки психоемоційного благополуччя жінок репродуктивного віку. Його використання доцільне як доповнення до психотерапії, особливо в умовах кризи або віддаленого доступу. Подальший розвиток може включати функції біозворотного зв'язку та персоналізації на основі штучного інтелекту.

Ключові слова: *психічне здоров'я, мобільна психологічна підтримка, міжсесійний супровід, психоемоційне благополуччя, емоційне вигорання, персоналізована цифрова турбота, шкала GAD-7, жінки репродуктивного віку.*

The psychoemotional health of women of reproductive age is one of the key indicators of quality of life, fertility potential, and resilience to stress in the modern world [1, 2]. Over the past decade, scholars have reported increasing psychoemotional burdens among women, driven by the interplay of reproductive, social, informational, and professional challenges [3–5]. These burdens are frequently accompanied by sleep disturbances, anxiety, and emotional instability, which may adversely affect pregnancy outcomes, hormonal regulation, and overall reproductive functioning [6–8].

Recent studies point to the effectiveness of digital mental health interventions, particularly mobile applications, in providing accessible, ethical, and personalized support in the form of digital care [9–13]. Systematic reviews highlight that mobile psychotherapeutic apps enhance emotional awareness and self-regulation skills, while also reducing symptoms of anxiety and depression, particularly in women during vulnerable life phases [14–17]. Despite substantial progress in the field of e-mental health, limited research has explored how such mobile tools may be integrated into intersessional psychological support for women of reproductive age [18–22]. It is essential not only to assess the technical efficacy of mobile applications but also to investigate their interplay with the therapeutic process and their long-term transformative effects for specific user groups, including women.

Concurrently, the concept of "digital care", which includes ethical, empathetic, and personalized support in digital environments, is gaining prominence in the context of psychological assistance during reproductive decision-making, hormonal transitions, and life adaptations [23].

An interdisciplinary convergence of psychology, reproductive medicine, digital pedagogy, and cognitive-behavioral therapy creates a foundation for innovative models of support-flexible, adaptive, and capable of integrating offline counseling with digital components.

The objective of this study is to analyze the innovative experience of using a mobile application as a tool for intersessional psychological support aimed at enhancing the psychoemotional well-being of women of reproductive age.

MATERIALS AND METHODS

This research follows a quasi-experimental comparative design with pre- and post-test measurement in two groups. It employs a mixed-methods approach and is grounded in a case-based analysis of a digital psychological intervention for women of reproductive age using the mobile application for psychoemotional support. For reasons of ethical integrity and to prevent perceived conflicts of interest, the commercial name of the mobile application has been omitted. The focus remains on the structure, content, and psychological outcomes of the intervention. Between December 2023 and July 2025, a total of 827 women aged 22–45 voluntarily participated in the psychological experiment involving intersessional support delivered via the application. The mean age of participants was 31.2 ± 5.4 years. Countries of residence-permanent or temporary-included Ukraine, Spain, Germany, Montenegro, Hungary, Poland, the Netherlands, Portugal, Israel, the United Kingdom, Switzerland, Croatia, the USA, and Canada. The sample was balanced according to key sociodemographic parameters. All participants in the study had a direct connection with Ukraine. Among the total sample of 827 women, 87% were Ukrainian by nationality, while 13% held citizenship of other countries. At the time of data collection, 46% of respondents resided in Ukraine, whereas 54% were living abroad, primarily in Poland, Germany, Austria, and the Czech Republic. Accordingly, the study group represented both women remaining in conditions of war-related stress within Ukraine and those exposed to migration-related stress in host countries.

Although participants of the study were geographically dispersed across 14 countries due to migration or relocation, standardized psychoemotional support was provided exclusively online by a team of licensed Ukrainian psychologists. The core team included O. Cherepiekhina, V. Bulanov, A. Turubarova, and O. Puchyna –specialists with formal clinical and psychotherapeutic training. All interventions were conducted via video calls over a period exceeding two months, using Ukrainian and English as working languages, depending on the participant's preference.

This ensured cultural and linguistic alignment across the sample and allowed for the implementation of a unified protocol of psychoemotional support, regardless of participants' country of residence. The methodological principles guiding the support were rooted in evidence-based approaches adopted within Ukrainian psychological practice, with attention to ethical standards, emotional safety, and trauma-informed care.

Therefore, the term "standard psychoemotional support" in this context refers not to country-specific institutional norms, but to the structured model of care developed and implemented by the aforementioned professionals as part of their coordinated work within several partner institutions in Ukraine, including the Municipal Institution of Higher Education (MIHE) "Khortytsia National Educational and Rehabilitational Academy", the Crisis Response Department of the Institute for the Development of Practical Psychology, the Centre for Psychological Rehabilitation of the Charitable Organisation "Charitable Foundation "Superhumans", and the Municipal Non-Profit Enterprise (MNPE) "Primary Health Care Centre No. 9".

Group 1 (intervention group – IG, n = 414) included women who used the mobile application for psychoemotional support for 16 weeks or more. Group 2 (control

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group – CG, n = 413) received standard psychoemotional support (without using the mobile application for psychoemotional support) in the form of online video-based psychological consultations lasting for a period of at least 4 months. The support was provided by certified psychologists O. Cherepiekhina, V. Bulanov, A. Turubarova, and O. Puchyna within the framework of several institutional bases, including the Department of Crisis Psychological Support of the Institute for the Development of Practical Psychology, the MNPE "Primary Health Care Centre No. 9", the Social and Psychological Service of the MIHE "Khortytsia National Educational and Rehabilitational Academy", and the Centre for Psychological Rehabilitation of the Charitable Organisation "Charitable Foundation "Superhumans". All participants provided informed consent. All women were in their active reproductive period and had experienced at least one reproductive event (pregnancy, childbirth, miscarriage, or pregnancy planning), in line with the inclusion criteria.

Psychoemotional condition was assessed using the validated GAD-7 (Generalized Anxiety Disorder Scale) to measure pre- and post-intervention levels of anxiety [24]. In addition, automated self-reports within the mobile application for psychoemotional support (mood tags, well-being trackers) and optional short qualitative reflections on effects (optional short qualitative reflections on the perceived effects were submitted by 132 women, representing 32% of all participants) were analyzed. A particular focus was placed on the qualitative feedback from users. Thematic analysis was performed according to V. Braun & V. Clarke [25], with dual coding procedures used to verify core meanings. In addition to the GAD-7 questionnaire, open-ended qualitative self-reports (Qualitative Feedback Analysis) were collected from participants in the IG (n = 414). These reports included spontaneous reflections on emotional states such as anxiety, exhaustion, and well-being. However, no standardized scale was used to assess emotional exhaustion.

Procedure

Both groups underwent initial testing using the GAD-7 scale and an emotional exhaustion scale. IG engaged with the mobile application for psychoemotional support on a daily basis, completing one to two practices per day, either independently or as recommended by their psychologist. The app offered a variety of tools, including audio-guided exercises, affirmations, breathing techniques, brief mindfulness meditations, self-assessment tests, and personalized self-regulation recommendations. After 12 weeks-considered the minimal interval necessary to stabilize psychoemotional indicators according to A. Hanley et al. [26] – both groups underwent repeated testing. Quantitative outcomes were complemented by a qualitative analysis of user feedback.

All digital data (e.g., interaction duration, frequency of practice selection, content preferences) were automatically aggregated and synthesized via the application's visual analytics system. This enabled nuanced interpretation of user engagement patterns and contextualized outcome evaluation.

A mobile platform for psycho-emotional support was developed to facilitate the processing of emotionally charged experiences and to promote stabilization of users' psychological states. The conceptual framework is grounded in evidence-based therapeutic approaches and the principles of sensorimotor integration. Over time, its functionality was expanded to incorporate inter-session support tools designed to maintain therapeutic gains between face-to-face sessions with a professional.

Several modules of the platform are tailored to the specific psycho-emotional needs of women of reproductive age, including work with embodiment, enhancement of stress resilience, adaptation to hormonal fluctuations, recovery after loss, and prevention of emotional burnout. The platform architecture combines universal support components with adjustable sequences of messages that can be customized according to the user's individual needs, menstrual cycle phase, therapy focus, and current emotional state. In some cases, licensed psychologists prepared individualized micro-series of materials that emulate the depth of therapeutic interaction in a digital format.

The platform is available in three languages and can function either as an independent self-help tool or as a complement to ongoing psychotherapy. The recommended engagement period was 14–16 weeks, with a frequency of 4–5 sessions per week. The most sustained positive changes were observed when the tool was used under professional guidance, enabling the practitioner to monitor the user's emotional dynamics through reports and reflections.

The tool is not a substitute for comprehensive treatment in cases of severe mental disorders and is contraindicated in acute psychotic episodes, active suicidal ideation, or severe depressive episodes without clinical supervision.

Key integration scenarios in psychological support practice include:

- inter-session support to consolidate the outcomes of in-person therapy;
- use as a primary self-help resource when regular therapy is inaccessible;
- temporary substitution of psychological consultations during episodes of acute stress;
- mobile access for women in rural or hard-to-reach areas.

Qualitative analysis indicated reductions in anxiety, decreased emotional exhaustion, and the development of a structured sense of psychological safety among users. Incorporating the tool into the therapeutic process enhanced client autonomy, reduced practitioner workload, and ensured continuity of support.

Unlike many mainstream apps that rely solely on general relaxation techniques, the mobile application for psychoemotional support is distinguished by several unique features [27–29]:

1. Individualized content customization. As noted by C. Khor and P. Chandrashekar, most mental health apps employ standardized algorithms, whereas the mobile application for psychoemotional support delivers context-sensitive, personalized content based on the user's emotional state, lifestyle, and real-time psychological needs [11, 30]. Similarly, E. Zakharina, V. Mazin, and O. Shutko emphasize the efficacy of individualized digital support tools, highlighting their superior outcomes over one-size-fits-all interventions [31].

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2. Multisensory therapeutic design. In contrast to traditional chatbot- or text-based apps [32], the mobile application for psychoemotional support incorporates therapeutic voice guidance, ambient soundscapes, affirmations, and body-based regulation practices. This aligns with findings by J. Lee and R. Trudel on the emotional engagement benefits of multisensory interventions [33].
3. Linguistic and cultural adaptation. Whereas most global apps are available exclusively in English, the mobile application for psychoemotional support was specifically designed for Ukrainian-speaking users, with attention to the unique psychosocial context of war, displacement, and cultural trauma. This corresponds to the "digital care culture" approach described by O. Cherepiekhina [23].
4. Authentic therapist voices. User feedback consistently highlights the therapeutic value of listening to real psychologists' voices with natural breathing and intonation. This rarely addressed feature is supported by Alemany-Martínez [18], who introduced the concept of "psychoacoustic presence" in emotional support tools.

Advantages of this design include:

- Empirical verification of intervention effectiveness;
- Ethical safety through non-interference with participants' primary therapy;
- Use of an existing active user base within the mobile application for psychoemotional support ecosystem.

Informed consent was obtained from all participants, and the study was approved by the Ethics Committee of the Institute for the Development of Practical Psychology (Zaporizhzhia), Protocol No. 3, 30.03.2024. Ethical principles of anonymity, voluntariness, and confidentiality were strictly followed in accordance with the Declaration of Helsinki.

Descriptive statistics were expressed as means (M) and standard deviations (SD). Statistical analysis was conducted using IBM SPSS Statistics v.27 and Microsoft Excel 2016. The Student's t-test for independent samples and the Mann–Whitney U test were employed to assess intergroup differences, with the threshold for statistical significance set at $p \leq 0.05$. For qualitative analysis, inter-rater reliability was assessed using Cohen's Kappa coefficient.

Practical Recommendations for the Mobile Application for Psychoemotional Support Use

To ensure optimal benefits, users are encouraged to follow structured scenarios and best practices. Table 1 presents the recommended approaches based on user feedback and the clinical experience of the authors.

General Recommendations for Users:

- Do not use the app while driving or operating machinery.
- Allocate 5–10 minutes daily for practice in a distraction-free environment.
- Select 1–2 preferred voices and tracks for consistent stabilization.
- Keep a self-observation journal (in-app notes or on paper) to track emotions and bodily responses.
- Use the mobile application for psychoemotional support as a supplement to psychotherapy, particularly in the intersessional period.

RESULTS AND DISCUSSION

Positive dynamics were observed in indicators of emotional self-regulation, reduced anxiety, improved sleep, and the formation of a sense of psychological support and internal stability. Data collection included user diaries, results from psychological questionnaires, and in-app behavioral analytics.

Following the 16-week intervention phase, a statistically significant reduction in anxiety levels was recorded in the IG according to the GAD-7 scale ($p < 0.01$), whereas the CG did not demonstrate statistically significant changes ($p > 0.05$). Within-group comparison confirmed that reductions in anxiety in the IG from baseline to post-intervention were statistically significant ($p < 0.01$). Between-group comparisons after the intervention further indicated significant differences between IG and CG ($p < 0.05$). The dynamics of these changes are presented in Table 2.

A detailed comparison of anxiety levels before and after the intervention, as measured by the GAD-7 scale, revealed significant positive dynamics within the IG. The

Table 1

Practical scenarios and recommended tracks

Situation	Recommended tracks / Voices
Morning mood setting	"I Wake Up in Resource", "A New Day – A New Me" (dynamic female voice)
Panic attack or anxiety	"Calm Point", "I Breathe" (whisper, slow tempo)
Fatigue or exhaustion	"Let the Day Go", "Gratitude to the Body" (meditative pace, soft female voice)
Physical tension or insomnia	"Fall Asleep with Love", "Hugs to the Body" (melodic timbre, nature sounds)
Pre-event focus	"I Am Centered", "I Can" (steady rhythm, male or neutral voice)

Table 2

Dynamics of anxiety levels (GAD-7, points) in IG and CG before and after support

Indicator	IG (n = 414)		CG (n = 413)	
	Before support	After support	Before support	After support
Anxiety score	10.3 ± 2.1	6.8 ± 2.4*, **	10.1 ± 1.9	9.6 ± 2.2

Notes: * – statistically significant difference within IG before vs after support ($p < 0.01$); ** – statistically significant difference between IG and CG after support ($p < 0.05$).

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Table 3

Distribution of participants by GAD-7 anxiety severity levels (n, %)

Anxiety level, points	IG (n = 414)		CG (n = 413)	
	Before support	After support	Before support	After support
Minimal (0–4)	36 (8.7)	146 (35.3)*°	33 (8.0)	45 (10.9)
Mild (5–9)	106 (25.6)	127 (30.7)*	103 (24.9)	105 (25.4)
Moderate (10–14)	193 (46.6)	104 (25.1)*°	191 (46.2)	187 (45.3)
Severe (15–21)	79 (19.1)	37 (8.9)*°	86 (20.8)	76 (18.4)

Notes: * – statistically significant difference within the group (before vs after support), $p < 0.05$;
° – statistically significant difference between groups after support, $p < 0.05$.

proportion of participants with minimal anxiety (GAD-7 score 0–4) increased markedly from 8.7% (n = 36) at baseline to 35.3% (n = 146) post-intervention. Conversely, the number of women in the IG with severe anxiety (GAD-7 score 15–21) decreased substantially from 19.1% (n = 79) to 8.9% (n = 37). Participants with moderate anxiety (GAD-7 score 10–14) also decreased in the IG, from 46.6% to 25.1%, indicating a meaningful shift toward lower anxiety severity levels. Meanwhile, the share of women with mild anxiety (5–9 points) remained relatively stable (25.6% to 30.7%), suggesting that some participants transitioned from higher to milder states of anxiety rather than full remission.

In contrast, the CG, which received standard psychological support without the mobile application for psychoemotional support, showed only minor changes. The proportion of participants with minimal anxiety increased slightly from 8.0% (n = 33) to 10.9% (n = 45), while the rate of severe anxiety remained high (20.8% to 18.4%). The number of women with moderate anxiety in the CG decreased only marginally (46.2% to 45.3%). These findings support the hypothesis that the integration of the mobile application for psychoemotional support digital tool as an adjunct to standard care contributed to the statistically significant reduction in anxiety levels among women of reproductive age ($p < 0.01$). The distributional shift toward minimal and mild anxiety levels further indicates the clinical relevance of this improvement. Detailed values are presented in Table 3.

Qualitative Feedback Analysis. All participants in the IG (n = 414; 100%) provided qualitative feedback during or after the 16-week period of using the mobile application for psychoemotional support. Reflections were submitted via optional in-app prompts, structured feedback forms, or post-session surveys. A thematic analysis of the responses revealed several recurring categories that characterized users' subjective experience with the digital support tool.

Sense of presence and emotional support: 241 women (57.8%) described the app as a "safe space", a "gentle companion", or "something that holds you when no one else is around". The emotionally attuned tone and daily rhythm of the messages were perceived as fostering a feeling of psychological presence and containment.

Emotional stabilization: 219 participants (52.5%) reported decreased emotional reactivity and increased inner calm. Most attributed this to the audio practices, affirmations, and predictability of daily support.

Enhanced self-reflection and internal clarity: 204 women (48.9%) noted that the microtexts encouraged deeper emotional awareness, pattern recognition, and a sense of "seeing oneself from the outside".

Somatic awareness and bodily reconnection: 177 participants (42.4%) shared that the body-oriented practices helped reduce physical tension, improve sleep, and regulate their nervous system.

Therapeutic presence and personalization: 163 women (39.1%) emphasized the powerful effect of listening to a human therapist's voice, describing it as "warm", "alive", and "as if it were speaking directly to me".

Linguistic and cultural resonance: 145 users (34.8%) highlighted the emotional richness, poetic style, and culturally sensitive language of the app's content, especially in contrast to overly technical or English-only digital tools.

Increased autonomy and resourcefulness: 127 women (30.5%) described feeling more responsible for their emotional state and more empowered to manage it independently between sessions.

Critical remarks and reported limitations. Despite predominantly positive feedback, 43 participants (10.3%) expressed critical or mixed opinions. These included:

- 19 women (4.6%) struggled to use the app regularly due to daily overload, digital fatigue, or difficulty establishing a consistent practice routine.
- 11 participants (2.6%) found some content emotionally distant or insufficiently personalized, stating that certain messages felt too abstract or generic.
- 9 respondents (2.2%) requested more interactivity – such as feedback loops, greater customization options, or integrated communication with a professional.
- 4 women (1.0%) reported emotional saturation or fatigue, expressing a desire for lighter, more humorous content at times, rather than constant introspection.

These qualitative findings reinforce the quantitative results and confirm the potential of the mobile application for psychoemotional support as an effective digital tool for intersessional psychological support, particularly for women experiencing high emotional load, isolation, or limited access to in-person therapy. At the same time, critical comments underscore the need for flexible pacing, deeper personalization, and hybrid interaction formats. Acknowledging both strengths and limitations supports a more nuanced understanding of how digital emotional care can be ethically and effectively integrated into broader therapeutic ecosystems.

The results confirm the effectiveness of the mobile application for psychoemotional support as an innovative tool for intersessional psychological support among women experiencing emotional exhaustion, anxiety, or hormonal imbalance. In line with existing systematic reviews and

meta-analyses, the findings support the positive impact of e-mental health interventions on users' psychoemotional well-being [1, 4, 9–11]. Notably, J. Linardon et al. [13] emphasize that apps tailored to individual emotional response patterns show greater efficacy compared to standardized Cognitive Behavioral Therapy platforms. Similarly, E. Ford et al., L. Zettergren [19, 21, 22] highlight the correlation between high-quality digital content and improved reproductive health awareness and self-regulation in women [16].

Our empirical results also align with the findings of V. Mazin, Y. Kovalov, and V. Bytsiuk [2], who reported significant improvements in both physical and psychoemotional health among women aged 35–55 across three countries following participation in an adapted fitness program that included mental health support components. As with the mobile application for psychoemotional support, the key factor in effectiveness was the combined influence of physical and emotional regulation strategies tailored to cross-cultural contexts. This underscores the importance of developing culturally relevant digital tools that address both language and psychosocial needs.

Thus, the obtained results not only confirm the positive impact of the mobile application for psychoemotional support on women's psychoemotional states but also demonstrate its potential integration into hybrid models of psychological care. When combined with previous evidence on digital wellness solutions (A. Sadigursky; E. Ford et al.; M. Duggirala et al.) [16, 19, 21, 32] and individualized mobile platforms in related domains (E. Zakharina et al.) [31], the mobile application for psychoemotional support can be considered a next-generation high-efficiency application with strong scalability potential in multicultural and psychosocial support settings.

CONCLUSIONS

This study systematically investigated the effectiveness of the mobile application for psychoemotional support as an intersessional psychoemotional support tool for women of reproductive age. Based on a mixed-methods design involving 827 participants (414 in the IG and 413 in the CG), the findings provide statistically validated evidence of the app's positive impact.

Quantitative analysis using the GAD-7 scale revealed a statistically significant reduction in anxiety levels in the IG after 16+ weeks of app use (from $M = 10.3$, $SD = 2.1$ to $M = 6.8$, $SD = 2.4$; $p < 0.01$), whereas the CG showed no significant changes ($p > 0.05$). Specifically, in the IG, the proportion of women with minimal anxiety (GAD-7 score 0–4) increased from 8.7% (n = 36) to 35.3% (n = 146), and those with severe anxiety (GAD-7 score 15–21) decreased from 19.1% (n = 79) to 8.9% (n = 37). In comparison, the CG showed only slight changes: minimal anxiety increased from 8.0% (n = 33) to 10.9% (n = 45), while severe anxiety slightly decreased from 20.8% (n = 86) to 18.4% (n = 76).

In addition to quantitative improvements, qualitative feedback from 414 users demonstrated enhanced emotional self-regulation, reduced anticipatory anxiety between sessions, and the formation of new daily emotional care routines. Self-reports documented perceived improvements in well-being in contexts of migration-related stress, postpartum exhaustion, professional burnout, and hormonal transition.

The app was particularly effective during the intersessional period, functioning as a relapse-preventive, emotionally stabilizing resource that preserved a sense of therapeutic presence. Its effectiveness can be attributed to several features:

- personalized voice-guided sessions by licensed psychologists;
- multisensory and culturally adapted content;
- multilingual interface (in particular, Ukrainian, and English);
- and ease of integration into hybrid psychological care models (online/offline).

Given the urgency of safe, accessible tools for mental health in conditions of forced migration, motherhood, and psychoendocrine instability, the mobile application for psychoemotional support shows promise not only for individual self-care but also for implementation in clinical, educational, and humanitarian systems.

The results highlight the need for further rigorous, large-scale studies on the use of mobile technologies in women's mental health care, with attention to the principles of personalization, ethical responsibility, cultural sensitivity, and confidentiality. The mobile application for psychoemotional support experience contributes to the global discourse on digital mental health as a holistic, sustainable model of support at the intersection of technology, psychology, and human connection.

The findings underscore the importance of further research and refinement of digital solutions in the domain of women's mental health, with attention to the principles of personalization, ethical responsibility, confidentiality, and multicultural sensitivity. The mobile application for psychoemotional support implementation experience opens new avenues for the development of digital care as a holistic culture of support for women-at the intersection of psychology, technology, and human connection.

Limitations and future directions. This study has several limitations that should be acknowledged when interpreting the findings. Firstly, participation in the study was entirely voluntary, which may have introduced a self-selection bias, as more motivated or psychologically aware users may have been more likely to provide feedback. Secondly, although the total user base was international and relatively large, the proportion of in-depth qualitative interviews remained limited, thus restricting the depth of interpretive insights into the lived experiences of individual users. Thirdly, the current dataset includes no systematically recorded observations of male users, which narrows the gender scope of applicability and generalization.

Looking ahead, the future development of the mobile application for psychoemotional support may involve the integration of biofeedback functionality and algorithm-driven personalization of content delivery. These advancements are expected to improve user engagement and therapeutic effectiveness by enabling adaptive, physiology-informed practice pathways tailored to each user's psychophysiological profile.

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