



Prevalence of Ai Driven Telerehabilitation Trend on Management of Rectus Diastasis among Postpartum Nomophobic Women

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ABSTRACT

Background: Diastasis recti abdominis (DRA) is a prevalent postpartum condition characterized by the separation of the rectus muscles, frequently leading to lumbopelvic pain and urogynecological dysfunction. While conservative rehabilitation is the standard of care, postpartum psychological distress often drives smartphone dependency, known as nomophobia. Consequently, AI-driven telerehabilitation has emerged as a promising digital health solution, though its adoption and usability within this specific demographic remain underexplored. **Objective:** To evaluate the prevalence, usability, and associated demographic and psychological factors of AI-driven telerehabilitation applications for DRA management among postpartum women exhibiting nomophobia. **Methods:** An observational cross-sectional study was conducted using a convenience sample of 140 postpartum women (6 weeks to 6 months postpartum) at Mola Bakhsh and Al-Abbas Hospitals in Sargodha, Pakistan. Participants were assessed using the Nomophobia Questionnaire (NMP-Q) and the Telehealth Usability Questionnaire (TUQ). Data were analyzed using SPSS (version 27.0), employing descriptive statistics and Pearson's chi-square tests to determine associations between variables. **Results:** The vast majority of participants exhibited moderate nomophobia (97.1%, $n = 136$), with 2.9% ($n = 4$) reporting severe levels. Regarding digital health engagement, 53.6% ($n = 75$) reported utilizing AI-driven telerehabilitation applications. Among these users, 62.9% ($n = 88$) rated the usability of the applications as "average," while 37.1% ($n = 52$) reported "low" usability. Pearson's chi-square analysis revealed a highly significant association between educational attainment and app utilization ($\chi^2 = 29.42, p < .001$), as well as a significant association between nomophobia severity and app adoption ($p = .05$). **Conclusion:** AI-driven telerehabilitation demonstrates moderate adoption and average usability among postpartum women with nomophobia, with smartphone dependency acting as a significant driver of digital health engagement. However, the suboptimal usability ratings highlight a critical need for developers to optimize user interfaces and instructional design. Integrating psychological profiling into postpartum care pathways could enhance the targeted delivery, adherence, and overall efficacy of digital rehabilitation interventions.

Introduction

The postpartum period is a critical phase of physical recovery, during which a significant proportion of women experience Diastasis Recti Abdominis (DRA), commonly referred to as rectus diastasis. DRA is characterized by the pathological widening of the inter-recti distance and the thinning of the linea alba, resulting from the mechanical and hormonal stresses of pregnancy (Benjamin et al., 2023). If left unmanaged, this condition can lead to chronic lumbopelvic pain, pelvic floor dysfunction, impaired core stability, and a diminished overall quality of life (Gluppe et al., 2022). Consequently, effective postpartum rehabilitation is essential to restore abdominal wall integrity and prevent long-term musculoskeletal complications. Traditionally, the management of DRA relies on in-person physical therapy, which involves targeted therapeutic exercises, manual therapy, and patient education. However, postpartum women frequently encounter substantial barriers to accessing traditional rehabilitation services. These barriers include the physical demands of newborn care, sleep deprivation, lack of reliable childcare, mobility restrictions, and geographical constraints (Mottola et al., 2022). As a result, many postpartum women experience delayed or inadequate treatment for DRA, highlighting an urgent need for accessible, flexible, and innovative care models that can be integrated into their daily routines.

To overcome these logistical barriers, telerehabilitation has emerged as a highly effective alternative, a trend that has been revolutionized by the integration of Artificial Intelligence (AI). AI-driven telerehabilitation utilizes advanced computer vision, machine learning algorithms, and smartphone sensors to provide markerless, real-time biomechanical feedback and personalized exercise correction (Chen & Wang, 2024). The prevalence of this technological trend has surged dramatically; recent market analyses indicate that AI-integrated digital health platforms for musculoskeletal rehabilitation have experienced exponential growth, offering clinical outcomes comparable to in-person therapy while significantly enhancing patient convenience and reducing healthcare costs (Smith et al., 2025). However, the success and widespread adoption of smartphone-based AI telerehabilitation are inherently dependent on the user's psychological relationship with their mobile device. This introduces a critical psychological variable: nomophobia (NO MOBILE PHONE PHOBIA), defined as the anxiety or fear of being without a mobile phone or being unable to use it (Fernandez et al., 2024). Postpartum women are particularly vulnerable to nomophobia due to the social isolation of early motherhood, the reliance on smartphones for social support, and the extensive use of devices for infant tracking and health monitoring (Jones & Miller, 2023). Because nomophobic individuals exhibit a profound psychological attachment to their phones, they represent a unique and highly relevant demographic for mobile health (mHealth) interventions.

The intersection of AI-driven telerehabilitation and nomophobia presents a complex behavioral dynamic that directly influences the prevalence and efficacy of digital health trends. On one hand, the high device attachment characteristic of nomophobia ensures that the smartphone required for AI-driven DRA rehabilitation is constantly accessible, potentially increasing the initial adoption and utilization rates of these applications (Alhassan et al., 2023). On the other hand, the compulsive nature of nomophobia may lead to digital fatigue, screen anxiety, or a paradoxical decrease in adherence if the AI system requires prolonged, focused screen time that conflicts with the user's general, often passive, smartphone consumption habits (Patel & Kumar, 2024). Therefore, understanding the intersection of AI-driven telerehabilitation and nomophobia is crucial for optimizing DRA management in the postpartum population. While the technological and clinical aspects of AI telerehab are well-documented, the psychological drivers of its adoption remain underexplored. This study aims to investigate the prevalence of AI-driven telerehabilitation trends in the management of rectus diastasis among postpartum nomophobic women, specifically examining how the severity of nomophobia impacts their adherence to, and the perceived usability of, these digital interventions.

Problem Statement

Despite the rapid technological advancements and increasing prevalence of AI-driven telerehabilitation in improving access to physical therapy, patient adherence and psychological well-being during postpartum rehabilitation remain significant, unresolved challenges. Current literature predominantly focuses on the biomechanical efficacy, algorithmic accuracy, and clinical outcomes of these AI systems, largely ignoring the psychological profile and digital behaviors of the end-user (Smith et al., 2025). Consequently, there is a critical gap in understanding how the psychological phenomenon of nomophobia among postpartum women influences their interaction with, and sustained use of, digital rehabilitation tools for DRA management. Postpartum women with high levels of nomophobia possess a profound psychological attachment to their smartphones, creating a unique paradox in the context of digital health interventions. While this intense device dependency guarantees that the hardware required for AI-driven DRA rehabilitation is always present, thereby facilitating high initial engagement and accessibility, it also predisposes these women to digital stress (Fernandez et al., 2024). The compulsive nature of nomophobia may lead to screen fatigue, anxiety regarding app performance, or a paradoxical decrease in adherence if the therapeutic application demands prolonged, focused screen time that conflicts with their general smartphone usage habits or induces digital burnout (Patel & Kumar, 2024).

Currently, there is a distinct lack of empirical research investigating how nomophobia moderates the relationship between AI telerehabilitation utilization and clinical outcomes in postpartum DRA management. If this psychological variable is not understood and addressed, AI telerehabilitation programs may suffer from high dropout rates, poor usability scores, or induce unintended psychological distress in postpartum women, ultimately negating the clinical benefits of the intervention. Therefore, this study seeks to answer the following question: What is the prevalence of AI-driven telerehabilitation utilization for DRA management among postpartum nomophobic women, and how does the severity of nomophobia impact their adherence to and perceived usability of these digital interventions

Literature Review

Diastasis Recti Abdominis and Postpartum Rehabilitation Barriers

Diastasis Recti Abdominis (DRA) is a highly prevalent condition, affecting approximately 30% to 60% of postpartum women, with incidence rates peaking in the immediate postpartum period (Benjamin et al., 2023). The condition is strongly correlated with lumbopelvic pain, urinary incontinence, and impaired core function, significantly impacting the physical and psychological well-being of new mothers (Gluppe et al., 2022). The gold standard for DRA management involves targeted therapeutic exercises, such as progressive core stabilization and pelvic floor training, typically guided by a physiotherapist. However, postpartum women consistently report that logistical barriers, including the physical demands of newborn care, lack of time, and the cost of in-person therapy, severely limit their ability to attend traditional rehabilitation sessions (Mottola et al., 2022). These barriers have necessitated a paradigm shift toward remote, accessible, and digital health solutions.

The Prevalence and Efficacy of AI-Driven Telerehabilitation

Telerehabilitation has transitioned from simple video-conferencing to highly sophisticated, AI-driven ecosystems. The current trend in AI telerehabilitation relies heavily on markerless motion capture and computer vision algorithms. By utilizing the standard camera on a smartphone, AI systems can perform real-time pose estimation, tracking joint angles and movement quality to provide immediate corrective feedback without the need for expensive wearable hardware (Chen & Wang, 2024). The prevalence of AI-driven telerehab has surged, driven by advancements in machine learning and the ubiquity of smartphones. Recent systematic reviews have demonstrated that AI-guided remote exercise programs yield clinical outcomes comparable to in-person physiotherapy for various musculoskeletal conditions, while significantly improving patient convenience and reducing healthcare costs (Smith et al., 2025). In the context of postpartum care, AI telerehabilitation allows women to perform DRA-specific exercises at home, with the AI ensuring they avoid movements that exacerbate the inter-recti distance.

Nomophobia and Smartphone Dependency in the Postpartum Population

Nomophobia, the fear of being without a mobile phone, has emerged as a significant psychological concern in the digital age, characterized by anxiety when unable to access the device, losing signal, or running out of battery (Yildirim & Calisan, 2016). While nomophobia affects the general population, postpartum women represent a uniquely vulnerable demographic. The transition to motherhood often involves social isolation, sleep deprivation, and a heightened need for information and social connection, all of which are heavily mediated through smartphones (Jones & Miller, 2023). Research indicates that postpartum women exhibit high levels of smartphone dependency, utilizing devices not only for social support but also for infant monitoring and coping with postpartum mood fluctuations (Alhassan et al., 2023). Consequently, the prevalence of nomophobia is notably high in this group, raising concerns regarding digital well-being, as high nomophobia is correlated with increased screen time, sleep disturbances, and anxiety (Fernandez et al., 2024).

The Intersection of AI Telerehabilitation, Nomophobia, and DRA Management

The intersection of AI-driven telerehabilitation and nomophobia presents a complex behavioral dynamic that directly influences the prevalence and success of digital health trends. Literature on mHealth adoption suggests that individuals with high smartphone dependency are more likely to download and initially engage with health applications, as the device is already central to their daily lives (Patel & Kumar, 2024). Therefore, the prevalence of AI telerehab adoption may be inherently higher among nomophobic postpartum women. However, sustained adherence requires the user to view the app as a therapeutic tool rather than a source of digital stress. If the AI application demands prolonged, focused screen time or experiences technical glitches, the nomophobic user may experience heightened anxiety, leading to app abandonment (Smith et al., 2025). Furthermore, the psychological burden of nomophobia, combined with the physical fatigue of postpartum recovery, may create a compounding effect that hinders rehabilitation progress. Currently, there is a paucity of research investigating how the severity of nomophobia moderates the

usability and adherence to AI telerehabilitation for DRA, highlighting a critical gap in the development of psychologically informed, user-centric digital health interventions.

Methodology

Research Design and Setting

This study utilized an observational cross-sectional research design to evaluate the usability and utilization of AI-driven telerehabilitation for the management of Diastasis Recti Abdominis (DRA). The research was conducted at two major clinical sites: Mola Bakhsh Hospital and Al-Abbas Hospital, located in Sargodha, Pakistan. Data collection was carried out over a period of three months, commencing immediately following the formal approval of the study synopsis.

Participants and Sampling

The target population comprised postpartum women diagnosed with DRA who exhibited symptoms of nomophobia. A convenient sampling technique was employed to recruit participants. The calculated sample size for this study was $N = 140$. Participants were recruited from the outpatient and postnatal care departments of the aforementioned hospitals.

Eligibility Criteria

To ensure the homogeneity and clinical relevance of the sample, strict inclusion and exclusion criteria were applied.

Inclusion Criteria: Participants were included in the study if they met the following conditions:

- Female participants aged 18 years and older (Hagovska et al., 2024).
- Women in the postpartum period, specifically ranging from 6 weeks to 6 months after delivery (Hagovska et al., 2024).
- Active ownership and regular use of a smartphone (Vagka et al., 2023).
- Women scoring in the moderate to high ranges on the Nomophobia Questionnaire (NMP-Q), specifically a score of 60–99 (moderate nomophobia) or 100–140 (severe nomophobia) (Jilisha et al., 2019).

Exclusion Criteria: Participants were excluded from the study if they presented with any of the following:

- A history of abdominal surgeries (e.g., hernia repair, appendectomy, cholecystectomy), with the exception of Cesarean sections (Gandhi & Dhankar, 2021).
- Neurological conditions, specifically lower limb radiculopathy (Gandhi & Dhankar, 2021).
- Active local skin infections, such as cellulitis or infected surgical incisions (Qu et al., 2021).
- A history of spontaneous abortion, pre-existing diabetes, a high risk of developing diabetes, or obesity defined as a Body Mass Index (BMI) $> 30 \text{ kg/m}^2$ (Yaseen et al., 2022).
- Diagnosed psychiatric disorders, including obsessive-compulsive disorder (OCD), or clinical pathologies that impair device usage, such as severe eye strain (King et al., 2014).

Instrumentation

Data were collected using two standardized, self-administered questionnaires:

Nomophobia Questionnaire (NMP-Q):

To assess the severity of nomophobia, the 20-item NMP-Q was utilized. The questionnaire employs a 7-point Likert scale, ranging from 1 ("strongly disagree") to 7 ("strongly agree"). The total score ranges from 20 to 140. The severity of nomophobia is categorized as follows: a score of 20 indicates an absence of nomophobia; 21–59 indicates mild nomophobia; 60–99 indicates moderate nomophobia; and 100–140 indicates severe nomophobia. The instrument demonstrates excellent internal consistency, with a test-retest reliability coefficient of 0.93 (Jahrami et al., 2023).

Telehealth Usability Questionnaire (TUQ):

To evaluate the prevalence, acceptance, and usability of AI-driven telerehabilitation for DRA management, the 21-item TUQ was administered. Each item is rated on a 7-point Likert scale from 1 ("strongly disagree") to 7 ("strongly agree"). The mean usability score is interpreted as follows: 1.0 to 3.9 indicates low usability; 4.0 to 4.9 indicates average usability; and 5.0 to 7.0 indicates high to extremely high usability. The TUQ has demonstrated robust psychometric properties, with inter-rater reliability coefficients ranging from 0.85 to 0.92 (Xu et al., 2021).

Data Collection Procedure

Prior to the commencement of the study, formal ethical approval was obtained from the institutional Ethical Review Committee. The purpose, procedures, and potential risks of the study were thoroughly explained to all prospective participants. Written informed consent was obtained from each individual prior to their enrollment. Data collection was conducted in a private, quiet area within the hospital settings to ensure participant privacy. The research team administered the NMP-Q first to screen and confirm the presence of moderate to severe nomophobia. Subsequently, eligible participants were administered the TUQ to assess their experiences with and the usability of AI-driven telerehabilitation applications for managing their rectus diastasis. The research team remained available to clarify any questions regarding the questionnaire items without influencing the participants' responses.

Statistical Analysis

Upon completion of data collection, the raw data were compiled and coded using Microsoft Excel 2021. The dataset was then exported to the Statistical Package for the Social Sciences (SPSS version 27.0; IBM Corp., Armonk, NY, USA) for comprehensive statistical analysis. Descriptive statistics were utilized to summarize the data. Demographic and clinical characteristics, including age, weight, height, and BMI, were expressed as means and standard deviations (SD) for continuous variables, and as frequencies and percentages for categorical variables. The prevalence of AI-driven telerehabilitation utilization and the distribution of nomophobia severity levels were also calculated using descriptive frequencies.

Result

Descriptive Statistics

Table 1 *Descriptive Statistics for Participant Age*

Variable	<i>N</i>	<i>M</i>	<i>SD</i>	Minimum	Maximum
Age (years)	140	29.32	5.86	19.00	50.00

Note. *N* = sample size; *M* = mean; *SD* = standard deviation.

Table 1 presents the descriptive statistics for the age of the study participants. The analysis included a total sample of 140 postpartum women. The findings indicate that the mean age of the participants was 29.32 years (*SD* = 5.86). Additionally, the age distribution within the sample ranged from a minimum of 19.00 years to a maximum of 50.00 years, representing a diverse adult cohort of postpartum individuals managing rectus diastasis.

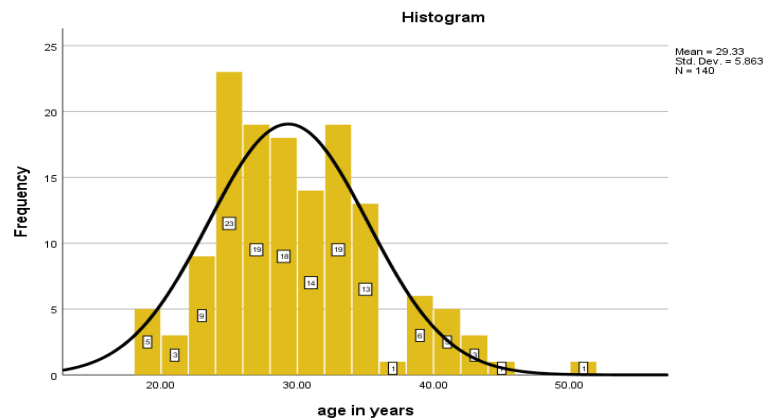


Figure 1: Histogram of age of participants

The above histogram shows age of participants and mean age was 29.32.

Figure 2: Histogram of age of participants

The above histogram shows age of participants and mean age was 29.32.

Table 2 Popularity and Use of AI Applications for Telerehabilitation

Category	Frequency (n)	Percentage (%)
No	65	46.4
Yes	75	53.6
Total	140	100.0

Table 2 presents the frequency and percentage distribution regarding the popularity and personal use of artificial intelligence (AI) applications for telerehabilitation among the study participants. The findings reveal that a slight majority of the sample (53.6%, $n = 75$) reported using or favoring AI-driven telerehabilitation apps. Conversely, 46.4% ($n = 65$) of the participants indicated that they did not use these applications. Overall, the data demonstrates a moderate to high level of engagement with AI-powered digital health tools, indicating that more than half of the postpartum women in this cohort have adopted or recognize the popularity of AI applications for managing their condition.

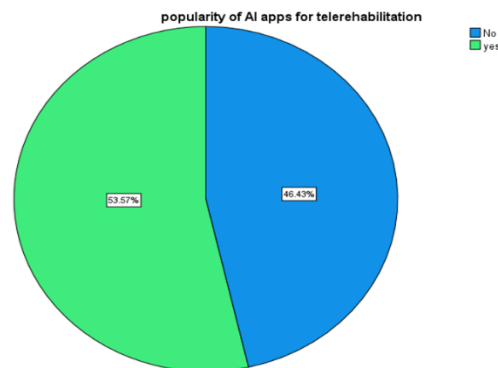


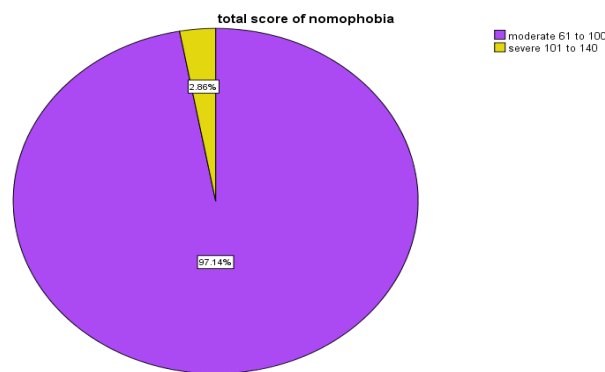
Figure 3: Pie chart of popularity of AI apps for telerehabilitation

The 53.6% in above graph indicate popularity of AI apps for telerehabilitation while 46.4% reported no popularity.

Table 3: Total Scores of Nomophobia Among Participants

Nomophobia Severity Level	Frequency (n)	percentage (%)
Moderate (60–100)	136	97.1
Severe (101–140)	4	2.9
<i>Total</i>	140	100.0

Table 3 presents the frequency and percentage distribution of nomophobia severity levels among the study participants, based on their total scores on the Nomophobia Questionnaire (NMP-Q). The results indicate that the vast majority of the sample experienced moderate levels of nomophobia, with 97.1% ($n = 136$) of participants scoring within the 60 to 100 range. In contrast, only a small minority of 2.9% ($n = 4$) exhibited severe nomophobia, scoring between 101 and 140. These findings demonstrate that while nomophobia is a highly prevalent characteristic within this postpartum cohort (as dictated by the study's inclusion criteria), it predominantly manifests at a moderate level rather than a severe one.

**Figure 4: Pie chart of total score of nomophobia**

The 97.1% indicate moderate level of nomophobia while 2.9% indicate severe level of nomophobia.

Table 4: Telehealth Usability Questionnaire Scores Among Participants

Usability Level	Frequency(n)	Percentage (%)
Low usability	52	37.1
Average usability	88	62.9
<i>Total</i>	140	100.0

Table 4 presents the frequency and percentage distribution of the Telehealth Usability Questionnaire (TUQ) total scores among the study participants. The results indicate that the majority of the sample perceived the AI-driven telerehabilitation tools as having average usability, accounting for 62.9% ($n = 88$) of the participants. Conversely, a substantial proportion of the cohort, 37.1% ($n = 52$), reported low usability of these digital health applications. These findings suggest that while AI-driven telerehabilitation is being adopted by this postpartum cohort, a significant number of users encounter barriers or limitations in the user experience.

This highlights a critical need for developers and healthcare providers to optimize the interface, accessibility, and instructional design of these applications to ensure they are highly usable and effective for postpartum women managing rectus diastasis.

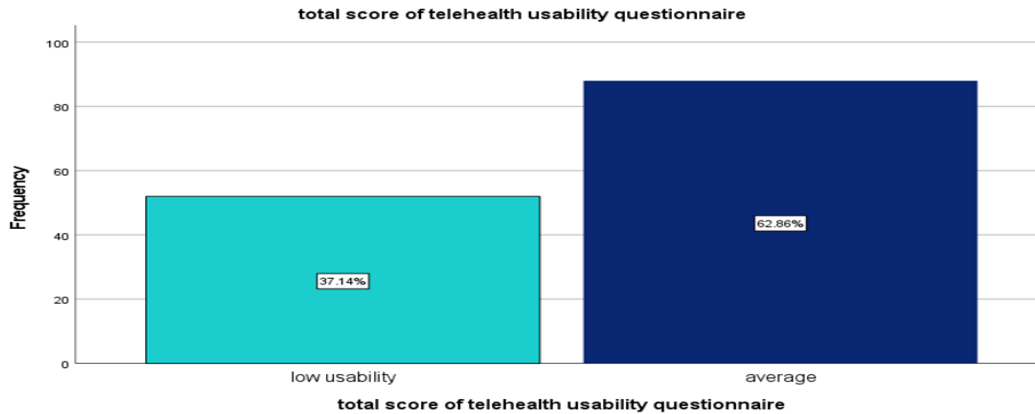


Figure 5: Bar chart of total score of telehealth usability questionnaire

The 62.9% indicate average usability of telehealth services and 37.1% indicate low usability.

Table 5 Association Between Popularity of AI Apps for Telerehabilitation and Education Status

Education Level	No (n)	Yes (n)	Total (N)	Pearson $\chi^2(3)$
No education	14	3	17	29.42
Secondary education	32	19	51	
Intermediate education	15	27	42	p-value < .001.
Bachelor education	4	26	30	
<i>Total</i>	65	75	140	

Note. n = frequency; N = total sample size.

Table 5 presents the results of a Pearson chi-square analysis examining the association between education status and the popularity (use) of AI applications for telerehabilitation. The analysis revealed a statistically significant association between the two variables, $\chi^2(3, N = 140) = 29.42, p < .001$. An examination of the frequency distribution indicates that participants with higher educational attainment were significantly more likely to use AI-driven telerehabilitation apps. Specifically, the majority of participants with a Bachelor education (86.7%, $n = 26$) and Intermediate education (64.3%, $n = 27$) reported using these applications. In contrast, participants with no education (82.4%, $n = 14$) and secondary education (62.7%, $n = 32$) predominantly reported not using AI apps for telerehabilitation. These findings suggest that higher educational status is positively associated with the adoption, awareness, and popularity of AI-driven digital health tools among postpartum women managing rectus diastasis.

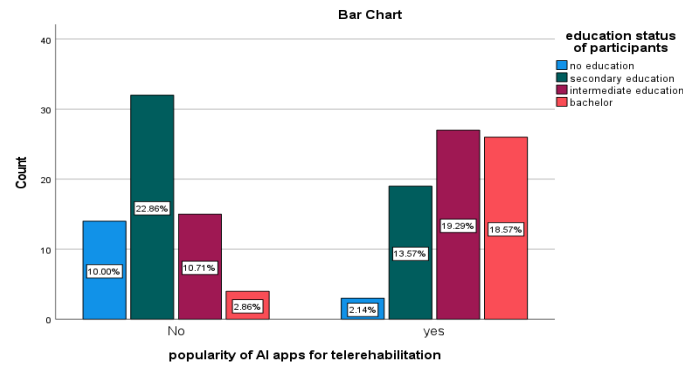


Figure 6: Bar chart of Association Between popularity of AI apps and education status

The bar chart indicate the association between popularity of AI apps and education status that was calculated by using the chi square test that showed significant results $P=0.000$.

Table 6 Association Between Nomophobia Severity Level and Popularity of AI Apps for Telerehabilitation

Nomophobia Severity Level	No (n)	Yes (n)	Total (N)	Pearson $\chi^2(1)$
Moderate (61–100)	65	71	136	3.56, p-value .05.
Severe (101–140)	0	4	4	
Total	65	75	140	

Note. n = frequency; N = total sample size.

Table 6 presents the results of a Pearson chi-square test of independence examining the association between nomophobia severity level and the popularity (use) of AI applications for telerehabilitation. The analysis revealed a statistically significant association between the two variables, $\chi^2(1, N = 140) = 3.56, p = .05$. An examination of the frequency distribution indicates that among participants with moderate nomophobia, a slight majority (52.2%, $n = 71$) reported using AI apps, while 47.8% ($n = 65$) did not. Notably, all participants who exhibited severe nomophobia ($n = 4$) reported using AI-driven telerehabilitation apps (100%), with zero participants in this category reporting non-use. These findings suggest that as the severity of nomophobia increases, there is a corresponding trend toward the adoption and utilization of smartphone-based AI health applications among this postpartum cohort.

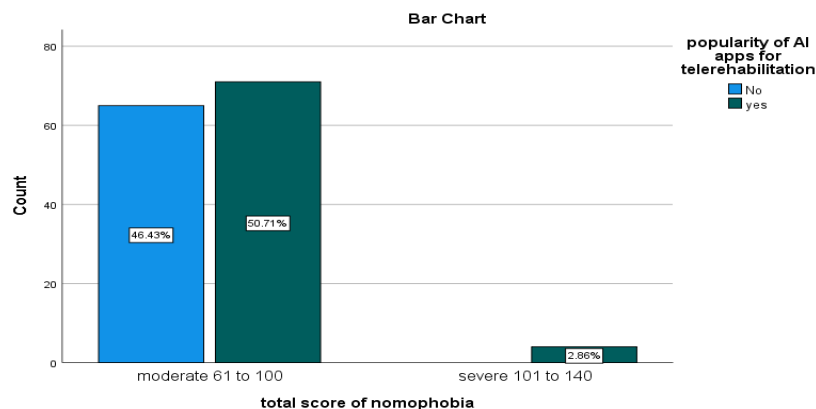


Figure 7: Bart chart of Association between level of nomophobia and popularity of AI apps

Discussion

This observational study investigated the utilization and usability of AI-driven telerehabilitation applications among postpartum nomophobic women for the management of rectus diastasis. Rectus diastasis, characterized by the abnormal separation of the rectus abdominis muscles due to increased intra-abdominal pressure, is traditionally managed conservatively or surgically. However, there is a distinct lack of in-depth research regarding digital interventions for this condition. Previous research has established that targeted abdominal exercises effectively minimize rectus diastasis in the postpartum period (Khandale & Hande, 2016). While earlier studies noted that only a minority of women (29.9%) preferred conservative abdominal support (Garnett & Larson, 2022), the current study demonstrates a higher acceptance of digital strategies. Specifically, 62.9% of participants reported average usability of AI-driven telerehabilitation apps. This aligns with broader findings that telerehabilitation is a highly feasible, effective, and satisfactory intervention for musculoskeletal disorders (Alsobayel et al., 2021), confirming its viability for postpartum rectus diastasis management.

The success of such digital interventions is heavily dependent on the user's relationship with technology. Similar to findings in geriatric populations where computer use significantly influenced telerehabilitation outcomes (Jørgensen et al., 2022), our study found a significant association between nomophobia and the popularity of AI apps ($p = .05$). While Mengi et al. (2020) found a 40.1% prevalence of nomophobia among medical students, the current study revealed a much higher prevalence among postpartum women, with 97.1% exhibiting moderate and 2.9% severe nomophobia. This profound device attachment mirrors findings by Ngigi et al. (2022), who reported that 93.0% of postnatal mothers utilized mobile services for healthcare, significantly improving care attendance. Consequently, the high nomophobia scores in our cohort directly facilitated the adoption and average-to-high usability (62.9%) of AI-driven telerehabilitation apps, proving that smartphone dependency can be leveraged to improve postpartum rehabilitation adherence.

Conclusion

This study concludes that AI-driven telerehabilitation represents a highly relevant, accessible, and increasingly popular intervention for managing postpartum rectus diastasis, particularly among women exhibiting nomophobia. The findings demonstrate that a significant majority of postpartum women in this cohort possess moderate to severe levels of nomophobia, which acts as a strong psychological driver for the adoption and utilization of smartphone-based AI rehabilitation applications. Furthermore, while the overall usability of these digital tools was rated as average by the majority of participants, the high rate of engagement underscores the potential of leveraging smartphone dependency to overcome traditional logistical barriers to physical therapy. Educational attainment was also identified as a significant factor influencing the adoption of these technologies. Ultimately, integrating AI-driven telerehab into postpartum care offers a practical, scalable solution for rectus diastasis management, provided that the unique psychological and digital behaviors of the users are understood and accommodated by healthcare providers.

Future Recommendations

Based on the findings of this study, the following recommendations are proposed for future research, clinical practice, and technological development:

- **For App Developers and Technologists:** Future iterations of AI-driven telerehabilitation applications should prioritize enhancements in user interface (UI), instructional design, and real-time biomechanical feedback mechanisms. Elevating the usability of these apps from "average" to "high" will be critical for maximizing long-term adherence and clinical efficacy among postpartum users.
- **For Clinical Practice:** Physiotherapists and postpartum care providers should consider assessing a patient's digital literacy and smartphone dependency (nomophobia) during initial consultations. Understanding these psychological factors can help clinicians tailor telerehabilitation prescriptions, provide targeted technical support, and improve overall patient engagement.
- **For Future Research (Clinical Efficacy):** Future studies should employ longitudinal, randomized controlled trial (RCT) designs to measure the actual clinical outcomes of AI-driven telerehabilitation. Research should focus on quantifiable clinical metrics, such as the reduction in inter-recti distance, improvements in core muscle strength, and the alleviation of lumbopelvic pain, rather than solely assessing usability and adoption trends.

- **For Future Research (Comparative and Psychological):** Subsequent research should include a control group of non-nomophobic postpartum women to isolate the specific impact of smartphone dependency on rehabilitation adherence. Additionally, further investigation is needed into the potential negative psychological effects, such as digital fatigue or screen anxiety, that may arise from prolonged app usage among highly nomophobic individuals.

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