

The Impact of Using Virtual Space on Women's Sports and Health: A Systematic Review

Foroozandeh Zaravar¹, Sara Hashemi², Marjan Gholami³, Maryam Gholami^{3*}

¹Department of General Sciences, School of Paramedical Sciences, Shiraz University of Medical Sciences, Shiraz, Iran

²Clinical Research Development Center, Nemazee Hospital, Shiraz University of Medical Sciences, Shiraz, Iran

³Clinical Research Development Center, Shiraz University of Medical Sciences, Nemazee Hospital, Shiraz, Iran

Abstract

Introduction: In the era of information and communication, media and cyberspace are among the most crucial tools for achieving social and cultural objectives, playing a pivotal role in promoting women's sports and health, and shaping new perspectives on these topics. This study aimed to systematically review the impact of cyberspace on women's sports and health and to identify the associated opportunities and challenges.

Methods: This systematic review evaluated the role of cyberspace and social media in women's health and physical activity. A comprehensive search of the PubMed and Google Scholar databases was conducted, with a time limit of 10 years from 2015 to the present. This systematic review was conducted based on the reporting preferences for systematic reviews and meta-analyses. Keywords and MeSH terms related to cyberspace, media, social networks, and women's health were used in the search strategy.

Results: A total of 8,258 records were identified through database searches, and 11 studies met the eligibility criteria. The findings indicated that social media platforms enhanced motivation, peer support, and access to health information; however, they also posed risks, such as misinformation and pressure to conform to body image ideals. Overall, cyberspace interventions show promising potential, provided that issues of quality control and digital equity are addressed. Out of 8258 identified studies, 11 were included in the analysis. 64% of the articles found were domestic, indicating the importance of this topic within the country.

Conclusion: This review showed that cyberspace and social networks generally enhanced women's health awareness, motivation, and participation in physical activity, though risks such as misinformation, pressure to maintain a positive body image, and online harassment were also noted. It is recommended that policymakers and health professionals design gender-sensitive digital interventions that promote health literacy while minimizing harms. Future studies should adopt longitudinal and interventional designs to evaluate the sustainability and safety of these approaches, particularly in Iran.

Keywords: Women's Health, Social Media, Cyberspace, Physical Activity, Sports Participation, Health Promotion

Article History:

Received: 8 August 2025

Accepted: 4 November 2025

Please cite this paper as:

Zaravar F, Hashemi S, Gholami M, Gholami M. The Impact of Using Virtual Space on Women's Sports and Health: A Systematic Review. *Health Man & Info Sci.* 2026; 13(1): 1-12. doi: 10.30476/jhmi..2025.107653.1297.

*Correspondence to:

Maryam Gholami,
Clinical Research Development
Center, Shiraz University of
Medical Sciences, Nemazee
Hospital, Shiraz, Iran
Email: ghomresearch5@gmail.com

Introduction

Today, the era of new communication technologies and social networks has transformed the way we think and structure our relationships (1). The world around us is now moving towards utilizing all types of media and cyberspace in various fields, including health and sports (2). Today, an important and influential part of the information available on social networks and cyberspace is health content (3).

Media and cyberspace are the most important tools for achieving goals in the

age of communication and information (4). They are among the fundamental factors of change in society, helping to create a new perspective on sports and physical education (5). Media and cyberspace play important roles in transmitting culture and ideas, impacting social fields, communication, education, and information dissemination (6). They can also influence people's attitudes and behaviors, particularly in sports. Additionally, they can serve as powerful tools in advancing women's sports development (7).

Sports can be influential in developing and nurturing effective traits such as self-confidence, patience, honesty, responsibility, mutual respect for others' rights, and teamwork, which, in turn, contribute to the individual's mental health and, consequently, the health of society. It also plays a crucial role in the physical and mental health of individuals (8-10).

Women, who comprise half of society and serve as a vital force in a country's progress and development, deserve greater recognition and support for their participation in sports (11, 12). Women bear the serious responsibility of educating the future generation. The trend of urban development and changing daily movement patterns has resulted in a decrease in physical activity, especially among women (13). This has put their bodies and organs at serious risk of inactivity, physical weakness, overweight, and the development of various diseases (2, 14). To prevent or address this problem, it seems necessary to create attractions and facilities that encourage young people to engage in sports. One of the most important and efficient tools in this regard is cyberspace (15, 16).

Virtual social networks are considered the most effective platforms for social communication in today's world, with a relatively high user connection rate (2, 17). The rapid expansion of cyberspace has significantly altered the landscape of communication in comparison to the past. In light of this, the sports community, known for its highly social nature, should not only keep pace with these changes but also strive to facilitate optimal use of cyberspace to foster meaningful communication with the media and the public, with a particular focus on engaging women (18-20).

Virtual exercise involves using digital technologies, such as apps and online platforms, to engage in sports and fitness activities (15, 21). In this way, you can watch educational videos or perform specific exercises using a dedicated application at any time, as long as you have a device connected to the Internet (22). The advantages of this type of exercise include adherence to the exercise program, easy access, time- and cost-effectiveness, variety in exercises, and personalized workouts (15, 23). Virtual educational networks offer a valuable opportunity for individuals unable to participate in traditional sports clubs (24). By offering daily

exercise routines and instruction on proper movement techniques, these networks empower people to execute sports movements accurately in any location or situation (5, 25).

In addition to the positive effects of cyberspace, its misuse can lead to a series of challenges that, according to psychology, can result in disorders affecting an individual's morality and identity (11, 26, 27). If this trend persists, individuals become disconnected from the realities in which they have grown up. The norms and patterns once considered insignificant were replaced by values and elements defined within cyberspace (28, 29).

Therefore, this study aimed to examine the influence of cyberspace on women's sports and health. According to a United Nations report, approximately 63% of women worldwide have access to the digital environment (the Internet), compared to 69% for men (30). In our country, according to the results of the latest national survey conducted by ISPA (Iranian Student Opinion Polling Center) on the use of messengers and social networks by Iranians over the age of 18 living in rural and urban areas, it was found that 82.2% of Iranians used at least one messenger or social network (31).

This study examined the role of utilizing cyberspace and social networks in increasing women's awareness of their physical health. In this way, the rapid spread of cyberspace and social media has changed how women experience health and sports, offering both new opportunities and challenges. These digital spaces are no longer optional; they have become an inseparable part of women's daily lives, shaping how they access information, find support, and engage in physical activity. Recognizing this transformation, the present study aimed to systematically review the impact of cyberspace use on women's health and sports, highlighting its positive contributions and potential risks.

Methods

This is a systematic review study designed to address the following research questions:

1. To what extent do the roles of new mass and social media, and cyberspace affect people's participation in sports, especially by women?
 2. What is the impact of the role of media and cyberspace on women's participation in sports? (32)
- This study aimed to examine the impact of cyberspace on women's health and sports.

Systematic reviews were initially developed in the context of clinical trials and are now designed to synthesize large bodies of evidence in a structured way. In this study, we employed a four-step data collection process followed by a thematic synthesis for data analysis. This approach allows researchers to remain “close” to the study data and to integrate the findings transparent (7). Consistent with prior systematic reviews in health and sports research, we followed the PRISMA 2020 guidelines.

The current systematic review was conducted using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) checklist (30, 33-35). The primary search of articles was conducted in PubMed, which is recognized as the most comprehensive and reliable database for indexing peer-reviewed literature in health and physical activity. To ensure access to grey literature, such as theses, reports, and conference papers that may not be indexed in PubMed, Google Scholar was used as a supplementary source. The search was limited to the last 10 years (2015 to present) and employed keywords and MeSH terms related to cyberspace, social media, women's health, and sports (Table 1). This strategy ensured methodological rigor using PubMed as the primary source, while also enhancing inclusiveness by consulting Google Scholar to capture relevant grey literature (36).

The keywords and search strategies used are shown in Table 1. As shown, the database search strategy was consistent and included searching all fields. Original articles, written in English or Persian and open access, that explored the influence of cyberspace and social media on women's health and sports were considered for this study. Theses, book chapters, letters to the editor, reviews, meta-analyses, surveys, and studies focusing solely on the impact of cyberspace on men's health were excluded.

Data Collection

Data collection was conducted systematically in accordance with the PRISMA 2020 guidelines. First, a comprehensive search was conducted across the PubMed and Google Scholar databases to identify potentially relevant studies published between 2015 and 2025. Duplicate records were carefully identified and removed.

After deduplication, the remaining articles were screened in two stages. In the first stage, titles and abstracts were independently reviewed by two researchers to exclude irrelevant studies. In the second stage, full texts of the potentially eligible studies were retrieved and assessed against the predefined inclusion and exclusion criteria. Any disagreements between the two reviewers were resolved through discussion, and if necessary, consultation with a third reviewer.

Finally, studies that met all the criteria were included in the systematic review. The overall selection process was documented in a PRISMA flow diagram to ensure transparency and reproducibility. Reference management was done using EndNote version 20.

Eligibility Criteria

The eligibility criteria for including studies in this systematic review were defined based on the PICOS framework (Population, Intervention, Comparison, Outcomes, and Study design).

Population: Studies focusing on women of any age group.

Intervention/Exposure: Use of cyberspace, digital platforms, or social media related to health, sports, or physical activity.

Comparison: Studies with or without a control/comparison group were considered.

Outcomes: Any reported outcomes related to women's health, awareness, physical activity, sports participation, or well-being.

Table 1: Keywords and search strategy in databases

Component	Subcomponent
Keywords	Women's Health, Social Media, Cyberspace, Physical Activity, Sports Participation, Health Promotion
Search strategy(pubmed)	(“Women”[MeSH Terms] OR “Woman” OR “Female” OR “Ladies” OR “Girls”) AND (“Women's Health”[MeSH Terms] OR “Health Promotion”[MeSH Terms] OR “Health” OR “Wellbeing”) AND (“Social Media”[MeSH Terms] OR “Cyberspace”[MeSH Terms] OR “Virtual Space” OR “Online Platform*” OR “Digital Media”) AND (“Physical Activity”[MeSH Terms] OR “Exercise”[MeSH Terms] OR “Sports”[MeSH Terms] OR “Sports Participation” OR “Practice”)
Search strategy (Google Scholar)	(“Women” OR “Female” OR “Lady”) AND (“Social media” OR “Cyberspace” OR “Virtual space”) AND (“Exercise” OR “Sport” OR “Physical activity”)

Study Design: Original research articles, both quantitative and qualitative, published in peer-reviewed journals or available as open access.

Studies were included if they:

1. were published in English or Persian between 2015 and 2025.
2. explicitly examined the role of cyberspace or social media in women's health, sports, or physical activity.
3. reported sufficient data to extract relevant findings.

Studies were excluded if they:

1. focused exclusively on men or mixed populations without sex-specific analysis.
2. were review articles, editorials, letters to the editor, book chapters, theses, or conference abstracts without full text.
3. did not address the relationship between cyberspace/social media and women's health or physical activity (37).

Data Extraction and Management

Data extraction was carried out independently by two reviewers using a predefined data extraction form. For each included study, the following information was collected: author(s), year of publication, country of study, study design, sample characteristics, type of cyberspace or social media platform, intervention or exposure details, and reported outcomes related to women's health and physical activity.

To ensure accuracy, we compared the extracted data from both reviewers, and any discrepancies were resolved through discussion. If necessary, a third reviewer was consulted to reach a consensus.

The extracted data were then organized in summary tables to facilitate comparison across studies. These tables provided a structured overview of the included studies, enabling transparent synthesis of findings in the results section.

Quality Assessment

The methodological quality of the included studies was assessed to ensure the validity and reliability of the findings. Two independent reviewers evaluated each study using appropriate appraisal tools tailored to its design. For observational studies, the STROBE (Strengthening the Reporting of Observational Studies in Epidemiology) checklist was applied, while for

qualitative studies, the CASP (Critical Appraisal Skills Programme) checklist was used (38, 39).

Each study was rated as high, moderate, or low quality according to such criteria as clarity of objectives, appropriateness of methodology, adequacy of sample size, transparency in reporting, and relevance of outcomes. Any discrepancies between reviewers were resolved through discussion, and, when necessary, a third reviewer was consulted (40).

The quality assessment results were not used to exclude studies, but they were considered in the interpretation of findings during the synthesis phase. This approach ensured that the conclusions of the review were based on evidence of the highest possible rigor while also acknowledging potential limitations (41).

Data Synthesis

A thematic synthesis approach was applied to integrate the findings of the included studies. After data extraction, the results from individual studies were carefully reviewed and grouped into common themes related to women's health, sports participation, and the role of cyberspace and social media.

Given the heterogeneity of study designs, populations, and reported outcomes, a narrative synthesis rather than a meta-analysis was performed. This method enabled us to highlight patterns, similarities, and differences across studies while preserving the richness of both qualitative and quantitative findings.

The synthesis process followed three stages: 1. identifying recurring themes and subthemes across studies, 2. mapping the relationships between these themes, and 3. generating a comprehensive narrative that integrates evidence from diverse sources.

This approach provided a transparent and reproducible framework for summarizing the impact of cyberspace on women's health and sports, while also acknowledging potential risks and limitations reported in the literature.

Results

In this section, the findings of the systematic review are presented. The study selection process, including identification, screening, eligibility assessment, and final inclusion, was conducted in accordance with the PRISMA 2020 guidelines to ensure transparency and reproducibility.

The overall flow of the selection process is illustrated in Figure 1.

As illustrated in the PRISMA flow diagram, the systematic search initially yielded 8,258 records (2,428 from PubMed and 5,830 from Google Scholar). After duplicates were carefully removed, 7,525 records were screened. At this stage, titles and abstracts were reviewed in detail, and 733 studies were considered relevant. Among these, 83 full-text articles were assessed for eligibility against the predefined inclusion and exclusion criteria. Ultimately, 11 studies met all the criteria and were included in the final review.

This rigorous selection process highlights the comprehensive nature of the search and ensures that only studies with the highest relevance and methodological appropriateness are included. The final pool of studies, which serves as the foundation of this systematic review, provides a reliable basis for analyzing the impact of cyberspace and social media on women's sports and health. A detailed description of the included

studies is presented in Table 2.

Study Characteristics

The 11 studies included in this review were published between 2017 and 2024, with the most significant proportion appearing in 2024 (three studies, 27%); this demonstrates a recent surge of interest in this area. Regarding geographic distribution, 7 studies (64%) were conducted in Iran. In comparison, four studies (36%) originated from other countries, reflecting both national and international recognition of the importance of cyberspace and social media in women's health and sports.

As to the study design, the reviewed articles encompassed a wide range of methodologies, including cross-sectional surveys, qualitative analyses, systematic reviews, and conceptual studies. The diversity in methodological approaches and sample sizes—from small qualitative groups to extensive population-based investigations—highlights the multifaceted nature of research in this field.

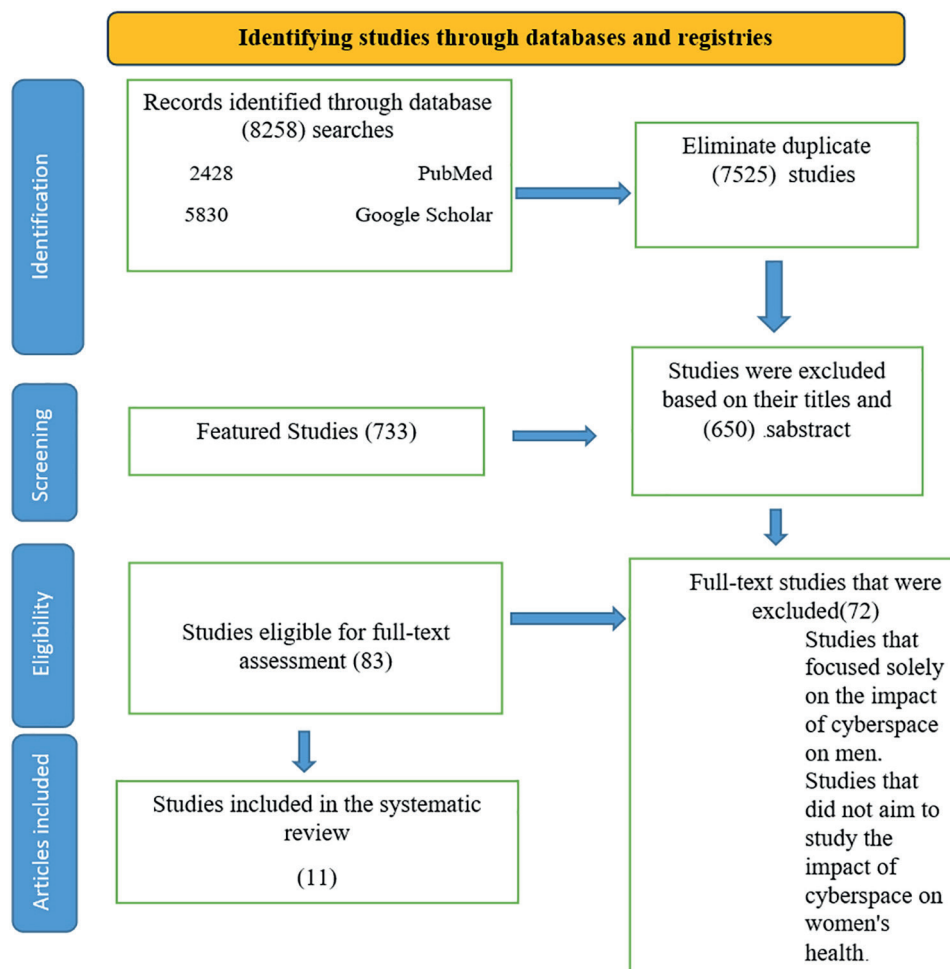


Figure 1: Steps for selecting articles from databases (PRISMA)

Table 2: Summary of articles included in the study

No	Title	First Authors	Year	Country	Study Design	Main Findings
1	Keeping Fit & Staying Safe: A Systematic Review of Women's Use of Social Media for Fitness(7)	Doireann Peelo Dennehy	2024	Ireland	Systematic Review	Social media enhanced women's motivation and adherence to fitness routines through community support and educational content, but raised concerns about misinformation and lack of professional oversight.
2	The impact of technology on promoting physical activities and mental health: a gender-based study(22)	Yangyang Liu	2023	China	Cross-sectional	Digital tools and online platforms increased women's engagement in physical activity and improved mental health, though gender-based differences in usage persisted.
3	The Influential Aspects of Cyberspace in Promotion of Sports(18)	Nabi Motallebi	2018	Iran	Cross-sectional	Cyberspace played a crucial role in promoting sports culture, particularly encouraging women's participation, though risks of overuse were noted.
4	The role of virtual social networks in women's body management (Telegram & Instagram)(15)	Yaghoob Moradian	2024	Iran	Qualitative	Instagram and Telegram strongly influenced women's body image practices; while providing access to fitness trends, they also reinforced unhealthy beauty standards.
5	The role of contextual factors of virtual social media in leisure time with a sports approach(5)	Vahid Saetchian	2020	Iran	Survey	The social and cultural context of online media significantly affected women's choice to spend leisure time in sports-related activities.
6	Social Media and Mental Health: Benefits, Risks, and Opportunities(42)	John A. Naslund	2021	USA	Review/ Conceptual	Social media offered valuable peer support and health information, but also exposed users to risks such as anxiety, cyberbullying, and addictive behaviors.
7	Sporting women and social media: sexualization, misogyny, and violence(11)	Emma Kavanagh	2019	Australia	Qualitative	Female athletes experienced widespread sexualization, misogyny, and gender-based harassment in online spaces, limiting the positive potential of social media.
8	Health-Related Factors Affecting Institutionalization of Sports in Iranian Families(43)	Abolfazl Kargar	2022	Iran	Cross-sectional	Women were identified as central in embedding sports culture within families, and their participation was linked to the long-term sustainability of healthy lifestyles.
9	Impact of social media on women's awareness of physical health(2)	Fereshteh Kazemi	2024	Iran	Cross-sectional	Exposure to health-related content on social networks improved women's awareness of physical health issues and encouraged preventive behaviors.
10	The role of the media in women's sports(8)	Marzieh Ghobadipour	2017	Iran	Conceptual/ Review	Traditional and digital media were found to play a vital role in shaping attitudes toward women's sports and promoting female participation.
11	Examining the role of cyberspace use on mental health(28)	Abbas Mir	2019	Iran	Cross-sectional	Cyberspace use had mixed effects on mental health; while improving connectivity and knowledge, overuse was associated with risks of isolation, depression, and anxiety.

Thematically, the studies revealed both opportunities and challenges. Positive outcomes included increased motivation for exercise, stronger peer support, improved health literacy, and greater accessibility to health-related resources. On the other hand, negative consequences were also reported, such as misinformation, body image pressures, gender-based discrimination, and exposure to harmful online behaviors.

Taken together, these findings provide a comprehensive and nuanced picture of how cyberspace and social media can simultaneously empower women's participation in sports and pose risks to overall health promotion.

Key Findings

The final set of 11 studies included in this review covered a wide range of topics related to cyberspace, women's health, and sports,

reflecting the growing scholarly interest in this field. Among these studies, three were published in 2024, one in 2023, and the remaining studies between 2017 and 2022, indicating an increasing trend in research activity in recent years.

Enhancement of Health Awareness and Physical Activity: Multiple studies (2, 7, 22) demonstrated that social media and digital technologies significantly enhanced women's motivation, awareness of physical health, and participation in physical activity. Findings indicated that engaging with health-related content on social media platforms and using fitness applications promoted adherence to exercise routines and facilitated the adoption of healthier lifestyles.

Cultural and Social Dimensions: Other studies (8, 18, 42) highlighted the broader cultural and social role of media and cyberspace. Digital platforms were shown to not only support individual-level engagement in sports but also to foster participation among women within families and communities. They facilitate knowledge sharing, peer support, and the formation of virtual communities centered on sports and healthy living.

Risks and Challenges: Despite the benefits, several studies underscored potential risks associated with cyberspace use. Moradian and Samanipour (2024) and Kavanagh et al. (2019) (11, 15) reported pressures related to body image and gender-based online harassment. Similarly, Mir and Shahraki (2019) and Naslund et al. (2021)(28, 43) discussed both the advantages and drawbacks of cyberspace for mental health, noting that excessive or improper use may contribute to anxiety, social isolation, or distorted self-perceptions.

Synthesis: Collectively, these findings suggest that cyberspace and social media function as a double-edged sword: on one hand, they provide opportunities to enhance women's health, increase sports participation, and strengthen social and educational support; on the other hand, they pose potential psychological and social risks that require careful management. These results underscore the importance of designing targeted interventions and digital literacy programs to optimize benefits while mitigating potential harms.

Discussion

This systematic review examined the impact

of cyberspace and social media on women's health and participation in sports. The findings from the 11 included studies indicate that virtual platforms play a dual role; on the one hand, they provide significant opportunities by enhancing motivation, raising health awareness, and facilitating access to physical activity; on the other hand, they also present challenges such as misinformation, body image pressures, and gender-based discrimination in online environments. These results suggest that cyberspace has become an influential and unavoidable component of women's health promotion, requiring careful attention from researchers, practitioners, and policymakers.

The findings of this review collectively underscore the positive effects of cyberspace and social media on women's health and sports participation. Some of the included studies demonstrated that digital platforms acted as powerful facilitators of behavioral change. For instance, Dennehy et al. (2024)(7) showed that women's use of social media for fitness not only increased motivation and adherence to exercise routines but also created new opportunities for safe, accessible physical activity. In a similar vein, Kazemi and Tavassoli (2024)(2) highlighted how exposure to health-related content on social networks enhanced women's awareness of their physical health and encouraged preventive behaviors. Liu et al. (2023)(22) further extended these findings by demonstrating the effectiveness of technology-driven interventions in improving both physical activity levels and mental well-being, noting that women often benefit more from such platforms due to gender-specific patterns of use.

Evidence from the Iranian context also reinforced these positive trends. Motallebi et al. (2018)(18) emphasized that cyberspace contributed to the development of a culture of sports participation, while Ghobadipour (2017)(8) 8) highlighted the media's critical role in encouraging women's participation in athletic activities. Similarly, Kargar et al. (2022) (42) demonstrated that women served as central figures in institutionalizing sports within families, transmitting health-oriented norms and values across generations. Together, these findings suggest that cyberspace should not be considered merely a communication tool, but rather a social catalyst that empowers women,

expands access to exercise opportunities, and strengthens community-level engagement with sports and health.

A closer look at these studies reveals both consistencies and contextual nuances in how cyberspace benefits women's health and sports engagement. For example, the works of Dennehy et al. (2024)(7) and Liu et al. (2023)(22) both highlight increased motivation and adherence as key outcomes of digital interventions. However, they emerge from different cultural and technological contexts, such as Ireland and China, respectively, suggesting that the empowering role of cyberspace is not confined to a specific setting but may represent a broader global trend. Similarly, the findings from Kazemi and Tavassoli (2024)(2) in Iran are in the same line with international evidence in showing that women use online platforms as accessible sources of health information. However, cultural and structural barriers—such as restrictions on women's public participation in sports—make the role of virtual platforms arguably even more critical in Iran compared to Western contexts. The contributions of Ghobadipour (2017) (8) and Kargar et al. (2022)(42) also support this argument, emphasizing that in societies where traditional avenues for women's sports participation are limited, cyberspace provides an alternative pathway to strengthen awareness, build supportive communities, and integrate sports into family life.

Although the overall evidence highlights enabling effects, several studies identified non-trivial risks associated with women's engagement in cyberspace. Body image pressure emerged as a recurrent concern; Moradian and Samanipour (2024)(15) showed that image-based platforms such as Instagram and Telegram reinforced unrealistic beauty ideals and intensive body management practices, often leading to body dissatisfaction and unhealthy behaviors. This aligns with evidence of online hostility toward female athletes in the study of Kavanagh et al. (2019)(11); it was reported that widespread sexualization, misogyny, and gender-based abuse in digital spaces not only threatened psychological well-being but also limited women's active participation in sports.

At the informational level, misinformation and lack of professional oversight were also identified as the key risks. Dennehy et al. (2024)

(7) and Naslund et al. (2021)(43) warned that mixing commercial content with health advice can amplify unverified recommendations, encouraging unsafe self-directed practices. Finally, mental health burdens linked to overuse were documented. Mir and Shahraki (2019)(28) found associations between excessive cyberspace use and symptoms of anxiety, depression, and addictive behaviors; however, these risks were sometimes balanced by the benefits of online connectivity and support.

Taken together, these findings suggest several shared mechanisms behind the risks: (1) algorithmic amplification of idealized content, which rewards extreme images and narratives (Moradian & Samanipour, 2024)(15); (2) relative anonymity and power dynamics that enable harassment and misogyny (Kavanagh et al., 2019) (11); and (3) low barriers to content production, which increase the visibility of non-evidence-based health advice (Dennehy et al., 2024; Naslund et al., 2021)(7, 43). Notably, the socio-cultural context appears to moderate these risks; in Iran, the same factors that make cyberspace a powerful tool for women's empowerment also magnify vulnerabilities to comparison and misinformation, particularly among younger women and users of highly visual platforms.

From a methodological perspective, the dominance of cross-sectional designs in this field limits causal inference, highlighting the need for longitudinal studies and media literacy interventions. In practice, two clear implications arise: first, integrating content regulation and health/media literacy training into women's sport promotion programs; and second, developing reporting mechanisms and psychological support systems to mitigate online harassment. These strategies help ensure that its potential harms do not undermine the benefits of cyberspace for women's health and sport.

Limitations

Despite providing valuable insights, this review has several limitations. Most included studies were cross-sectional, which limits causal inference and the assessment of long-term effects of cyberspace use on women's health and sports participation. A majority of studies (64%) were conducted in Iran, enhancing understanding of the local context but potentially limiting generalizability to other cultural settings. Sample

sizes varied widely, from small qualitative inquiries to large-scale surveys, making direct comparisons difficult. Furthermore, few studies explicitly evaluated intervention-based approaches, leaving questions regarding the sustainability and scalability of digital health initiatives. Finally, the review was restricted to accessible databases, which may have excluded relevant publications not indexed or retrievable due to database constraints.

Recommendations for Future Research

Future research should move beyond descriptive and cross-sectional designs toward longitudinal and experimental studies that can better capture the long-term effects of cyberspace on women's health behaviors. In the Iranian context, where women may face cultural and structural barriers to public participation in sports, it is imperative to evaluate gender-sensitive digital health interventions that address these barriers while promoting equity. Moreover, there is a need for studies focusing on diverse age groups, as most existing evidence concerns young women and adolescents, while middle-aged and older women remain underrepresented. The rapid growth of mobile health applications, artificial intelligence, and virtual fitness platforms also calls for rigorous evaluation of their effectiveness and cultural appropriateness in different populations, including Iranian women.

Policy and Practical Implications

The findings of this review offer several implications for policy and practice. First, the consistent evidence that cyberspace enhances motivation, awareness, and participation in physical activity (Dennehy et al., 2024; Kazemi & Tavassoli, 2024; Liu et al., 2023)(2, 7, 22) highlights the need for health authorities to actively incorporate digital platforms into national strategies for women's health promotion. In the Iranian context, where cultural and structural barriers can limit women's direct access to sports facilities, online platforms represent an important alternative arena for increasing engagement in exercise and health education.

Second, given the risks of misinformation and unverified content (Dennehy et al., 2024; Naslund et al., 2021)(7, 43), policymakers should develop guidelines for reliable digital health communication and strengthen collaborations

between public health professionals and digital content creators. Educational campaigns that aim to improve media and health literacy among women are essential to empower them to evaluate online information critically.

Third, the evidence of body image pressures and online harassment (Moradian & Samanipour, 2024; Kavanagh et al., 2019)(11, 15) underscores the need for protective regulations and supportive mechanisms. Practical steps include safe reporting systems, enforcement of anti-harassment policies in online sports communities, and access to psychological support for women exposed to harmful online interactions.

Finally, the broader cultural role of cyberspace in family- and community-level health promotion (Motallebi et al., 2018; Ghobadipour, 2017; Kargar et al., 2022)(8, 18, 42) suggests that national campaigns should leverage women's central role as health promoters within families. Programs that encourage mothers and young women to share digital health knowledge can institutionalize sports and healthy lifestyles across generations.

Collectively, these strategies will allow policymakers, practitioners, and educators to maximize the empowering potential of cyberspace while minimizing its risks, ensuring that digital platforms become sustainable tools for advancing women's health and sports participation in Iran and beyond.

The reviewed evidence indicates that cyberspace and social media have emerged as influential tools in shaping women's health behaviors and sports participation, particularly in contexts where traditional opportunities are limited. The findings highlight both opportunities and risks, suggesting that digital platforms offer valuable avenues to empower women, promote health literacy, and foster active lifestyles. Addressing the identified challenges through informed policies, educational interventions, and protective measures will be essential. These observations provide a clear foundation for the concluding section, where the broader implications for women's health and directions for future research are discussed.

Conclusion

This review comprehensively examined the influence of cyberspace and social networks on women's health, physical activity, and awareness

of well-being. The findings demonstrate that digital platforms are increasingly instrumental in enhancing women's knowledge, motivation, and engagement in physical activity, while also providing accessible, evidence-based information on nutrition, exercise, and healthy lifestyles. Beyond individual benefits, these platforms can foster supportive virtual communities, facilitate peer-to-peer learning, and amplify public health initiatives by disseminating accurate health information on a large scale.

At the same time, the evidence highlights potential risks, including exposure to misinformation, body image pressures, and online harassment, which may adversely affect mental health and well-being. These challenges underscore the need for proactive strategies, including the development of digital literacy programs, educational interventions, and robust policies to ensure safe and responsible use of cyberspace for health promotion.

Significantly, the practical implications of these findings extend across multiple levels: policymakers can leverage the insights to design targeted interventions and supportive policies; educators can develop structured programs to enhance women's digital and health literacy; and healthcare professionals can use online platforms to promote preventive care, adherence to fitness regimens, and psychosocial support. By integrating these approaches, cyberspace and social media can serve as powerful tools to empower women, reduce health disparities, and foster active, informed, and resilient communities.

In summary, the responsible use of digital platforms offers unprecedented opportunities to promote women's health, advance health equity, and create sustainable, culturally sensitive programs that support physical and mental well-being across diverse contexts.

Acknowledgment

We want to express our gratitude to all the participants who took part in this research. The authors would like to thank Shiraz University of Medical Sciences, Shiraz, Iran, and also the Center for Development of Clinical Research at Nemazee Hospital. We are especially grateful to Dr. Nasrin Shokrpour for reviewing the manuscript and checking the English language and style, which helped improve the clarity and

readability of the article at these points.

Authors' Contribution

FZ conceived and designed the study, and led the writing of the manuscript.

SH conducted the comprehensive literature search, synthesized the relevant data, and played a major role in drafting and writing the initial manuscript.

MaGh contributed to data acquisition and critically reviewed the manuscript for important intellectual content.

M.Gh supervised the project and acted as the corresponding author.

All authors have read and approved the final manuscript.

Funding

Not applicable

Ethics Approval and Consent for Participation

Not applicable

Consent for Publication

Not applicable

Conflict of Interest

There are no conflicts of interest.

References

1. Yacoub C, Spoede J, Cutting R, Hawley D. The impact of social media on romantic relationships. *J Educ Soc Dev.* 2018;2(2):53-8.
2. Kazemi F, Tavassoli A. The impact of using social networks on women's awareness of their physical health. *Soc Welf.* 2024;24(92):117-53. Persian.
3. Zhao Y, Zhang J. Consumer health information seeking in social media: a literature review. *Health Info Libr J.* 2017;34(4):268-83. doi: 10.1111/hir.12191.
4. Mbanaso UM, Dandaura ES. Cyberspace: redefining a new world. *IOSR J Comput Eng.* 2015;17(3):17-24. doi: 10.9790/0661-17331724.
5. Saatchian H, Ghorbani H, Izadkhah M. The role of contextual factors of virtual social media in leisure activities with a focus on sports. *Cult Commun Stud.* 2022;18(66):251-68. Persian.
6. Bennis M. Cyberculture/cyberspace as a mode of transmission of cultures, identities and power relations: a theoretical perspective.

- J Humanit Soc Sci Stud.* 2024;6(6):36-42. doi: 10.32996/jhsss.2024.6.6.5.
7. Dennehy DP, Murphy S, Foley S, McCarthy J, Morrissey K. Keeping fit & staying safe: a systematic review of women's use of social media for fitness. *Int J Hum Comput Stud.* 2024;103361. doi: 10.1016/j.ijhcs.2024.103361.
 8. Ghobadipour M. The role of media in women's sports. *Proc Int Congr Humanit Cult Stud.* 2016. Persian.
 9. Eime RM, Young JA, Harvey JT, Charity MJ, Payne WR. A systematic review of the psychological and social benefits of participation in sport for children and adolescents: informing development of a conceptual model of health through sport. *Int J Behav Nutr Phys Act.* 2013;10(1):98. doi: 10.1186/1479-5868-10-98.
 10. Ghildiyal R. Role of sports in the development of an individual and role of psychology in sports. *Mens Sana Monogr.* 2015;13(1):165. doi: 10.4103/0973-1229.153288.
 11. Kavanagh E, Litchfield C, Osborne J. Sporting women and social media: sexualization, misogyny, and gender-based violence in online spaces. *Int J Sport Commun.* 2019;12(4):552-72. doi: 10.1123/ijsc.2018-0315.
 12. Farzaneh S, Ezabadi RR, Rad SSK, Marandi PK, Ranawat V. Identifying barriers to women's participation in sports activities in both urban and rural communities. *Int J Hum Mov Sports Sci.* 2021;9(3):536-42. doi: 10.13189/saj.2021.090324.
 13. Coogan PF, White LF, Adler TJ, Hathaway KM, Palmer JR, Rosenberg L. Prospective study of urban form and physical activity in the Black Women's Health Study. *Am J Epidemiol.* 2009;170(9):1105-17. doi: 10.1093/aje/kwp273.
 14. Gonzalez K, Fuentes J, Marquez JL. Physical inactivity, sedentary behavior and chronic diseases. *Korean J Fam Med.* 2017;38(3):111-5. doi: 10.4082/kjfm.2017.38.3.111.
 15. Yaghoub M, Yousef Samani P. The role of virtual social networks in women's body management (with emphasis on Telegram and Instagram). *J Cyberspace Soc Media Stud.* 2024;1(2):39-71. Persian.
 16. Rani. The effect of social media on youth sport participation: measuring the impact of social media on the youth of Jakarta and West Java in Indonesia. 2018.
 17. Lei X, Wu H, Deng Z, Ye Q. Self-disclosure, social support and postpartum depressive mood in online social networks: a social penetration theory perspective. *Inf Technol People.* 2023;36(1):433-53. doi: 10.1108/ITP-03-2021-0187.
 18. Motallebi N, Davoodzadeh K, Borjalilu S, Kashanimovahhed B, Anbari M, Nikfarjad H, et al. The influential aspects of cyberspace in promotion of sports. *Asian J Sports Med.* 2018;9(3). doi: 10.5812/asjms.64064.
 19. Barzilai-Nahon K. Gatekeepers, virtual communities and the gated: multidimensional tensions in cyberspace. *Int J Commun Law Policy.* 2006;11:1-28.
 20. Mahan JE, McDaniel SR. The new online arena: sport, marketing, and media converge in cyberspace. In: *Handbook of sports and media.* Routledge; 2009. p. 443-66.
 21. Mokmin NAM, Jamiat N. The effectiveness of a virtual fitness trainer app in motivating and engaging students for fitness activity by applying motor learning theory. *Educ Inf Technol.* 2021;26(2):1847-64. doi: 10.1007/s10639-020-10337-8.
 22. Liu Y, Zhang H, Xu R. The impact of technology on promoting physical activities and mental health: a gender-based study. *BMC Psychol.* 2023;11(1):298. doi: 10.1186/s40359-023-01341-w.
 23. Ferrer-Garcia JC, Lopez PS, Pablos-Abella C, Albalat-Galera R, Elvira-Macagno L, Sanchez-Juan C, et al. Benefits of a home-based physical exercise program in elderly subjects with type 2 diabetes mellitus. *Endocrinol Diabetes Nutr (Engl Ed).* 2011;58(8):387-94. doi: 10.1016/j.endoen.2011.07.003.
 24. Khan Z, Rojas D, Kapralos B, Grierson L, Dubrowski A. Using a social educational network to facilitate peer-feedback for a virtual simulation. *Comput Entertain.* 2018;16(2):1-15. doi: 10.1145/3278140.
 25. Armour KM, Chambers FC. Sport & exercise pedagogy: the case for a new integrative sub-discipline in the field of sport & exercise sciences/kinesiology/human movement sciences. *Sport Educ Soc.* 2014;19(7):855-68. doi: 10.1080/13573322.2012.713857.
 26. Saulnier L, Krettenauer T. Internet impropriety: moral identity, moral disengagement, and antisocial online

- behavior within an early adolescent to young adult sample. *J Adolesc.* 2023;95(2):264-83. doi: 10.1002/jad.12139.
27. Lyu W, Zhang J. The influence of childhood psychological maltreatment on mainland China college students' cyberbullying: the mediating effect of moral disengagement and the moderating effect of moral identity. *Eurasia J Math Sci Technol Educ.* 2017;13(11):7581-90. doi: 10.12973/eurasia.2017.01110a.
 28. Mir A, Shahraki M. The role of cyberspace use on mental health. Proc 3rd Conf Psychol Educ Sci Sociol Iran. 2019. Persian.
 29. Coteli S. The impact of new media on the forms of culture: digital identity and digital culture. 2019.
 30. Chang Y, Shahzeidi M, Kim H, Park M-c. Gender digital divide and online participation: a cross-national analysis. 2012.
 31. Erfanian M, Javadinia SA, Abedini M, Bijari B. Iranian students and social networking sites: prevalence and pattern of usage. *Procedia Soc Behav Sci.* 2013;83:44-6. doi: 10.1016/j.sbspro.2013.06.009.
 32. Piche MC, Naraine ML. Off the court: examining social media activity and engagement in women's professional sport. *Int J Sport Commun.* 2022;15(1):23-32. doi: 10.1123/ijsc.2021-0031.
 33. Hashemi S, Faramarzi S, Rahmani Pirouz L, Yazdani A. Analysis and identification of factors influencing the survival of burn injury patients with an artificial intelligence approach. *Payavard Salamat.* 2024;18(2):187-97. Persian.
 34. Kiani S, Abasi S, Yazdani A. Evaluation of m-health-rehabilitation for respiratory disorders: a systematic review. *Health Sci Rep.* 2022;5(3):e575. doi: 10.1002/hsr2.575.
 35. Kiani S, Rezaei I, Abasi S, Zakerabasali S, Yazdani A. Technical aspects of virtual augmented reality-based rehabilitation systems for musculoskeletal disorders of the lower limbs: a systematic review. *BMC Musculoskelet Disord.* 2023;24(1):4. doi: 10.1186/s12891-022-06104-3.
 36. Adams RJ, Smart P, Huff AS. Shades of grey: guidelines for working with the grey literature in systematic reviews for management and organizational studies. *Int J Manag Rev.* 2017;19(4):432-54. doi: 10.1111/ijmr.12102.
 37. Hayman MJ, Alfrey K-L, Waters K, Cannon S, Mielke GI, Keating SE, et al. Evaluating evidence-based content, features of exercise instruction, and expert involvement in physical activity apps for pregnant women: systematic search and content analysis. *JMIR Mhealth Uhealth.* 2022;10(1):e31607. doi: 10.2196/31607.
 38. CASP. Critical appraisal skills programme (CASP) checklist: 10 questions to help you make sense of a qualitative research. Oxford: CASP UK; 2018.
 39. Von Elm E, Altman DG, Egger M, Pocock SJ, Gotsche PC, Vandembroucke JP. The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) statement: guidelines for reporting observational studies. *Lancet.* 2007;370(9596):1453-7. doi: 10.1016/S0140-6736(07)61602-X.
 40. Shea BJ, Reeves BC, Wells G, Thuku M, Hamel C, Moran J, et al. AMSTAR 2: a critical appraisal tool for systematic reviews that include randomised or non-randomised studies of healthcare interventions, or both. *BMJ.* 2017;358:j4008. doi: 10.1136/bmj.j4008.
 41. Higgins JP, Altman DG, Gotsche PC, Juni P, Moher D, Oxman AD, et al. The Cochrane Collaboration's tool for assessing risk of bias in randomised trials. *BMJ.* 2011;343:d5928. doi: 10.1136/bmj.d5928.
 42. Naslund JA, Bondre A, Torous J, Aschbrenner KA. Social media and mental health: benefits, risks, and opportunities for research and practice. *J Technol Behav Sci.* 2020;5(3):245-57. doi: 10.1007/s41347-020-00134-x.
 43. Kargar A, Nazari R, Salimi M. Explaining the health-related factors affecting the institutionalization of sports in Iranian families. *J Toloobehdasht.* 2022. Persian.