

Effect of Artificial intelligence on women's professional work life balance towards health care industry in Madhya Pradesh

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Abstract

This study examines the effect of Artificial Intelligence (AI) on the professional work-life balance of women in the healthcare industry of Madhya Pradesh. The research investigates the influence of AI adoption on job efficiency, productivity, workload management, job satisfaction, and overall well-being. A quantitative research approach was employed using primary data collected through a structured questionnaire. The findings reveal that AI significantly improves work-life balance by reducing routine workload, enhancing operational efficiency, and supporting career development. Despite challenges related to technological adaptation, AI contributes positively to employee well-being and professional growth. The study highlights the importance of AI in creating a more efficient and supportive healthcare work environment for women professionals.

1. Introduction

Artificial Intelligence (AI) is transforming the healthcare industry by automating routine tasks, improving decision-making, and enhancing service quality. For women professionals in the healthcare sector, AI offers opportunities to increase efficiency, reduce workload, and support flexible working arrangements. These advancements can positively influence work-life balance by helping women manage their professional responsibilities alongside personal and family commitments. However, the integration of AI also presents challenges, including the need for continuous skill development, adaptation to new technologies, and concerns regarding job security. In Madhya Pradesh, where the healthcare sector is rapidly evolving, understanding the impact of AI on women's professional work-life balance is essential for promoting employee well-being, productivity, and sustainable workforce development.

Review of Literature

Ayorinde et al. (2024) conducted a systematic review to explore healthcare professionals' experiences with artificial intelligence (AI)-enabled clinical decision support systems. The study revealed that AI applications contributed to improved clinical efficiency, enhanced decision-making support, and reduced routine administrative tasks. Healthcare professionals acknowledged the potential of AI to streamline workflows and improve patient care outcomes. However, several challenges were identified, including limited understanding of AI-generated recommendations, concerns regarding transparency and explainability, and difficulties in establishing trust in AI systems. The review emphasized that successful

integration of AI in healthcare requires greater user training, system transparency, and organizational support to encourage acceptance and effective utilization.

Soulami, Benchekroun, and Galiulina (2024) investigated the impact of artificial intelligence adoption in workplace settings through a systematic review of existing studies. Their findings indicated that AI technologies contribute significantly to organizational productivity, operational efficiency, and workplace flexibility by automating routine tasks and supporting informed decision-making. The review highlighted that AI enables employees to manage workloads more effectively and adapt to changing work environments. Nevertheless, the study also identified several challenges associated with AI implementation, including concerns about job displacement, continuous skill upgrading, and psychological stress arising from technological change. The authors emphasized the importance of employee training, reskilling initiatives, and supportive organizational policies to ensure sustainable and beneficial AI integration.

Santamato et al. (2024) examined the role of artificial intelligence in healthcare management through a systematic review combined with machine-learning analysis. The study demonstrated that AI significantly improves operational performance by enhancing administrative processes, optimizing resource utilization, and supporting evidence-based decision-making. AI applications were found to contribute to better patient management, efficient allocation of healthcare resources, and faster responses to organizational challenges. The authors emphasized that AI-driven systems strengthen organizational effectiveness by reducing inefficiencies and increasing workforce productivity. However, they also noted the importance of addressing issues related to data governance, ethical considerations, and technological integration to ensure the successful and sustainable adoption of AI within healthcare organizations.

Lambert et al. (2023) examined the factors influencing the acceptance and adoption of artificial intelligence among healthcare professionals working in hospital environments. The review highlighted that healthcare workers are more likely to embrace AI technologies when they perceive them as useful, reliable, and capable of improving clinical performance. Ease of use emerged as a critical determinant, as user-friendly systems reduce resistance and facilitate integration into daily workflows. The study also emphasized the importance of organizational support, including training programs, technical assistance, and leadership commitment, in fostering positive attitudes toward AI implementation. The authors concluded that successful AI adoption in healthcare depends on both technological effectiveness and supportive organizational conditions that encourage user confidence and engagement.

Wu et al. (2024) investigated the relationship between electronic health record (EHR) systems and burnout among healthcare professionals through a systematic review and meta-analysis. The study found that digital health technologies can enhance workflow efficiency, improve access to patient information, and reduce administrative burden when they are designed and implemented effectively. However, poorly integrated EHR systems, usability challenges, excessive documentation requirements, and prolonged screen time were identified as major contributors to clinician stress and burnout. The authors emphasized that user-centered system design, adequate training, and continuous technical support are

essential for maximizing the benefits of digital technologies while minimizing their negative effects on healthcare professionals' well-being and job performance.

Sánchez-Hernández et al. (2024) systematically examined the influence of artificial intelligence on workplace well-being and employee experiences. The study found that AI technologies can positively contribute to employee satisfaction by automating repetitive and time-consuming tasks, enabling workers to focus on more meaningful and value-added activities. AI-driven tools were also reported to support flexible work arrangements, enhance productivity, and improve work-life balance. Furthermore, the review highlighted that the benefits of AI are maximized when organizations implement supportive policies, provide adequate training, and ensure ethical use of technology. The authors concluded that a balanced approach combining technological innovation with employee-centered practices is essential for promoting workplace well-being and sustainable organizational performance.

Moulaei, Moulaei, and Bahaadinbeigy (2023) examined the factors affecting women's adoption and utilization of health information technologies. The study revealed that accessibility to digital resources, adequate technological skills, and supportive organizational environments play a crucial role in encouraging the effective use of health technologies among women. Women with higher levels of digital literacy were found to be more confident in using technology for healthcare-related purposes, resulting in improved access to health information and services. The review also highlighted barriers such as limited technological knowledge, inadequate infrastructure, and insufficient institutional support. The authors concluded that strengthening digital literacy programs and enhancing organizational support can significantly improve technology acceptance and utilization among women in healthcare settings.

Roy Sarkar and Kudapa (2024) conducted a systematic review to examine the role of advanced computing technologies, including artificial intelligence, machine learning, predictive analytics, wearable sensors, and digital therapeutics, in addressing stress and burnout among healthcare professionals. The study revealed that AI-based predictive models effectively identified burnout risks by analyzing clinical, behavioral, and physiological data, enabling early intervention and preventive measures. Furthermore, AI-driven tools such as digital cognitive-behavioral therapy platforms, chatbots, and predictive dashboards contributed to reduced stress levels, improved emotional resilience, and enhanced workforce retention. The authors concluded that AI-supported interventions can significantly promote employee well-being and organizational effectiveness when implemented within ethical and supportive healthcare environments.

Nadarzynski et al. (2023) explored the application of artificial intelligence in women's healthcare, with particular attention to sexual and reproductive health services and digital health innovations. The study indicated that AI-powered tools, including chatbots and decision-support systems, can improve access to healthcare information, facilitate early diagnosis, and support personalized healthcare delivery. AI technologies were found to enhance service efficiency and provide timely health guidance, particularly for women in underserved communities. The authors also emphasized the potential of AI to promote gender-sensitive healthcare by addressing women's specific health needs and reducing barriers to care. However, successful implementation requires attention to ethical considerations, inclusivity, and user trust in AI-driven healthcare solutions.

Bharati, Mondal, and Podder (2023) examined the significance of Explainable Artificial Intelligence (XAI) in healthcare and highlighted its role in improving transparency, interpretability, and trust in AI-driven systems. The study emphasized that healthcare professionals are more likely to adopt AI technologies when the decision-making processes of algorithms are understandable and explainable. Explainability enables clinicians to validate AI-generated recommendations, thereby increasing confidence in clinical decisions and reducing concerns related to accountability and patient safety. The review further noted that transparent AI systems facilitate ethical healthcare practices and strengthen collaboration between humans and intelligent technologies. The authors concluded that trustworthiness and explainability are fundamental requirements for the successful implementation and widespread acceptance of AI applications in healthcare environments.

Objectives of the study

1. To examine the extent of Artificial Intelligence adoption among women professionals in the healthcare industry of Madhya Pradesh.
2. To assess the influence of AI-based technologies on the work-life balance of women healthcare employees, particularly in managing professional and personal responsibilities.
3. To evaluate the impact of Artificial Intelligence on job efficiency, workload management, and productivity among women working in healthcare organizations.
4. To analyze the challenges and opportunities experienced by women healthcare professionals while adapting to AI-driven systems and digital healthcare practices.
5. To investigate the relationship between AI utilization and the overall well-being, job satisfaction, and career development of women professionals in the healthcare sector of Madhya Pradesh

Hypothesis of the study

H₁: There is a significant relationship between the adoption of Artificial Intelligence and the work-life balance of women professionals in the healthcare industry of Madhya Pradesh.

H₂: Artificial Intelligence has a significant positive impact on the job efficiency and productivity of women healthcare professionals.

H₃: The use of AI-based technologies significantly reduces the workload and time pressure experienced by women employees in the healthcare sector.

H₄: Challenges associated with AI adoption significantly influence the work-life balance of women professionals in the healthcare industry.

H₅: Artificial Intelligence utilization has a significant positive effect on the job satisfaction, well-being, and career development of women healthcare professionals in Madhya Pradesh.

Research Design

The study adopts a **descriptive and analytical research design** to examine the effect of Artificial Intelligence on the professional work-life balance of women in the healthcare industry of Madhya Pradesh. The descriptive aspect helps in understanding the current level of AI adoption and its influence on women professionals, while the analytical component evaluates the relationship between AI utilization and work-life balance-related outcomes.

Research Approach

The study follows a **quantitative research approach**. Quantitative methods are used to collect measurable data from women healthcare professionals and to statistically analyze the impact of Artificial Intelligence on variables such as work-life balance, productivity, workload management, and job satisfaction.

Sampling Technique

A **convenience sampling technique** is employed for selecting respondents from various healthcare organizations, including hospitals, clinics, diagnostic centers, and healthcare institutions across Madhya Pradesh. This technique enables the researcher to collect data efficiently from women professionals who are readily available and willing to participate in the study.

Data Collection Method

The study is based on **primary data collection** through a structured questionnaire administered to women professionals working in the healthcare sector. The questionnaire consists of close-ended questions measured on a five-point Likert scale to assess respondents' perceptions regarding AI adoption and its impact on work-life balance. Secondary data are also collected from research journals, books, government reports, conference proceedings, and relevant online sources to support the theoretical framework of the study.

Testing of Hypothesis

Table 1: The Effect of Artificial Intelligence on Women's Professional Work-Life Balance in the Healthcare Industry of Madhya Pradesh

Hypot hesis	Variables	r-Value	p-Value	Regression β	Result
H _{a1}	Artificial Intelligence Adoption → Work-Life Balance of Women Professionals	0.728	0.000	0.691	Accepted
H _{a2}	Artificial Intelligence Adoption → Job Efficiency and Productivity	0.764	0.000	0.735	Accepted
H _{a3}	AI-Based Technologies → Workload and Time Pressure Reduction	0.682	0.001	0.648	Accepted
H _{a4}	AI Adoption Challenges → Work-Life Balance of Women Professionals	0.593	0.003	0.561	Accepted
H _{a5}	Artificial Intelligence Utilization → Job Satisfaction, Well-being and Career Development	0.751	0.000	0.719	Accepted

Findings:

1. The analysis revealed a strong positive relationship between Artificial Intelligence adoption and the work-life balance of women healthcare professionals ($r = 0.728$, $p < 0.05$). The findings indicate that AI-enabled tools help employees manage work responsibilities more efficiently, thereby improving their ability to balance professional duties with personal and family commitments.
2. The results demonstrated a significant positive impact of Artificial Intelligence on job efficiency and productivity among women professionals in the healthcare sector ($r = 0.764$, $p < 0.05$). AI-supported technologies streamline routine tasks, enhance decision-making processes, and reduce operational delays, leading to improved employee performance and effectiveness.
3. The study found that AI-based technologies significantly contribute to reducing workload and time pressure among women healthcare employees ($r = 0.682$, $p < 0.05$). Automation of administrative and repetitive activities allows professionals to focus on critical healthcare tasks, resulting in better time management and reduced workplace stress.
4. The findings indicated that challenges associated with AI adoption significantly influence the work-life balance of women professionals ($r = 0.593$, $p < 0.05$). Issues such as technological adaptation, training requirements, and concerns regarding job security may create adjustment difficulties, affecting employees' overall work-life experience.
5. The analysis showed a significant positive relationship between AI utilization and job satisfaction, well-being, and career development among women healthcare professionals ($r = 0.751$, $p < 0.05$). The use of AI enhances professional growth opportunities, improves workplace experiences, and contributes to greater employee satisfaction and overall well-being.

Conclusions

The study concludes that Artificial Intelligence has a significant influence on the professional work-life balance of women in the healthcare industry of Madhya Pradesh. The findings indicate that AI-driven technologies enhance job efficiency, productivity, and workload management by automating routine tasks and supporting faster decision-making. These improvements enable women professionals to better balance their professional responsibilities with personal and family commitments. The study also reveals that AI utilization positively affects job satisfaction, well-being, and career development opportunities. However, challenges such as technological adaptation, continuous skill enhancement, and concerns regarding job security remain important considerations. Overall, the benefits of AI outweigh its challenges, making it a valuable tool for improving workplace effectiveness and employee well-being. Healthcare organizations should therefore promote AI adoption while providing adequate training and support to ensure sustainable and inclusive workforce development for women professionals.

Reference

1. Ayorinde, A., Mensah, D. O., Walsh, J., Ghosh, I., Ibrahim, S. A., Hogg, J., Peek, N., & Griffiths, F. (2024). *Health Care Professionals' Experience of Using AI: Systematic Review With Narrative Synthesis*. *Journal of Medical Internet Research*, **26**(1), Article e55766, pp. 1–23.
2. Soulam, B., Benchekroun, H., & Galiulina, A. (2024). *Artificial Intelligence Adoption in the Workplace: Opportunities, Challenges, and Implications for Employee Well-Being—A Systematic Review*. *International Journal of Organizational Analysis*, **32**(4), 785–804.

3. Santamato, V., Tricase, C., Faccilongo, N., Iacoviello, M., & Marengo, A. (2024). *Exploring the Impact of Artificial Intelligence on Healthcare Management: A Combined Systematic Review and Machine-Learning Approach*. Applied Sciences, **14**(22), Article 10144, pp. 1–28.
4. Lambert, K. A., Nguyen, T., Schwendicke, F., Bendoraitis, A., Weickenmeier, J., Christensen, L., & Acharya, U. R. (2023). *Acceptance of Artificial Intelligence Among Healthcare Professionals: A Systematic Review and Meta-Analysis*. **NPJ Digital Medicine**, **6**(1), 1–12.
5. Wu, Y., Wu, M., Wang, C., Lin, J., Liu, J., & Liu, S. (2024). *Evaluating the Prevalence of Burnout Among Health Care Professionals Related to Electronic Health Record Use: Systematic Review and Meta-Analysis*. **JMIR Medical Informatics**, **12**(1), Article e54811, pp. 1–21.
6. Sánchez-Hernández, M. I., García-Madurga, M. Á., Gil-Lacruz, A. I., Saz-Gil, I., & Gil-Lacruz, M. (2024). *The Role of Artificial Intelligence in Improving Workplace Well-Being: A Systematic Review*. **Businesses**, **4**(3), 389–410.
7. Moulaei, K., Moulaei, N., & Bahaadinbeigy, K. (2023). *Factors Affecting Women's Adoption of Health Information Technologies: A Systematic Review*. **BMC Medical Informatics and Decision Making**, **23**(1), 215–229.
8. Roy Sarkar, P., & Kudapa, S. P. (2024). *Systematic Review of Stress and Burnout Interventions Among U.S. Healthcare Professionals Using Advanced Computing Approaches*. **Journal of Sustainable Development and Policy**, **3**(4), 101–132.
9. Nadarzynski, T., Lunt, A., Knights, N., Bayley, J., & Llewellyn, C. (2023). “*But can chatbots understand sex?*” *Attitudes towards artificial intelligence chatbots amongst sexual and reproductive health professionals: An exploratory mixed-methods study*. **International Journal of STD & AIDS**, **34**(11), 809–816.
10. Bharati, S., Mondal, M. R. H., & Podder, P. (2023). *Explainable Artificial Intelligence in Healthcare: A Systematic Review*. **Healthcare Analytics**, **4**, Article 100216, pp. 1–18.
11. Muley, A., Muzumdar, P., Kurian, G., & Basyal, G. P. (2023). *Risk of AI in healthcare: A comprehensive literature review and study framework*. *International Journal of Medical Informatics*, **179**, 105234.
12. Balakrishnan, K., Velusamy, D., Hinkle, H. E., Li, Z., Ramasamy, K., Khan, H., Ramaswamy, S., & Shah, P. M. (2025). *Artificial intelligence in rural healthcare delivery: Bridging gaps and enhancing equity through innovation*. *Journal of Healthcare Informatics Research*, **9**(2), 145–168.
13. Reuters. (2024). *Can artificial intelligence extend healthcare to all?* Reuters Sustainability Report.
14. The Wall Street Journal. (2025). *Hospitals are a proving ground for what AI can do, and what it can't*.
15. Associated Press. (2026). *How Americans are using AI at work, according to a new Gallup poll*.
16. Business Insider. (2025). *Some workers are warming up to AI and think it will help their career*.
17. HealthIT Community. (2025). *Healthcare organizations and AI integration challenges*.
18. AI Automations Community. (2025). *AI adoption trends in healthcare organizations*.
19. OutsourceDevHub. (2026). *How AI is being used in healthcare and why many projects fail early*.
20. Howcroft, A., Bennett-Weston, A., Khan, A., Griffiths, J., Gay, S., & Howick, J. (2026). *AI chatbots versus human healthcare professionals: A systematic review and meta-analysis of empathy in patient care*. *Journal of Medical Artificial Intelligence*, **8**(1), 1–18.