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Exploring Human - AI interaction in Primary Healthcare: A Qualitative study

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INTRODUCTION & AIM

Artificial intelligence (AI) is rapidly transforming healthcare systems worldwide. Although technological developments create new opportunities for improving healthcare delivery, professionals working in Primary Healthcare (PHC) often feel insufficiently prepared to integrate AI tools into everyday clinical practice.
In countries where AI applications in PHC remain limited, exploring healthcare professionals' perceptions is essential for understanding potential opportunities, concerns, and readiness for responsible implementation.

AIM

This study explores healthcare professionals' perceptions in Greek Primary Healthcare regarding the future use of AI, focusing on expected benefits, potential risks, ethical concerns, and their readiness for human-AI-assisted care.

METHOD

Qualitative design
2 focus groups

Participants were recruited from a Health Center and a Primary Healthcare Unit (TOMY).

18 Primary Healthcare professionals
- 3 physicians
- 8 nurses
- 1 midwife
- 3 health visitors
- 3 administrative staff

The discussions were audio-recorded, transcribed, and analyzed using thematic analysis following Braun and Clarke (2006).

Data were collected using a semi-structured discussion guide addressing perceptions, potential applications, risks and challenges, ethical concerns, and professional readiness regarding AI in healthcare.

RESULTS & DISCUSSION

Potential Uses in Primary Healthcare

Participants identified several potential applications
- decision-making support in diagnosis and care
- management and organization of patient data
- scheduling and organizing preventive programs (e.g. vaccination)
- supporting health promotion actions in the community
- reduction of bureaucratic and administrative workload
- triage and patient safer identification

Challenges and Risks

Key concerns included:
- misinformation or unreliable information
- overdependence on AI systems
- reduced professional initiative and autonomy
- potential weakening of collaboration and communication.

Ethical Concerns

Participants emphasized ethical dimensions such as:
- lack of empathy and human understanding
- difficulty providing individualized care
- confidentiality and protection of personal data
- unclear responsibility and accountability.

Readiness and training needs

Participants reported mixed readiness:
- younger professionals report higher perceived readiness
- need for reliable information on AI benefits and risks
- need for structured education and continuous training
- importance of institutional guidelines and responsible governance.

Trust factors

Trust in AI systems was linked to:
- human oversight and professional control
- strong data protection safeguards
- use of AI as a supportive tool rather than a replacement.

Impact on professional roles and skills

Participants anticipated that AI may lead to:
- transformation of healthcare professionals' roles
- Administrative staff expressed concerns about possible job loss due to automation. Physicians, nurses, and other healthcare professionals expected only minor changes in their roles.
- potential expansion of nursing autonomy
- automation of administrative tasks
- possible deskilling of soft skills, such as communication, collaboration, and critical thinking

CONCLUSION

The findings highlight that healthcare professionals recognize the potential benefits of Artificial Intelligence in improving efficiency and supporting clinical practice in Primary Healthcare. However, concerns regarding ethical issues, professional skills, data protection, and human oversight remain significant. Developing digital readiness, structured training, and clear governance frameworks will be essential to ensure that AI supports healthcare professionals while maintaining the human-centered nature of healthcare.

FUTURE WORK

Future research should focus on:
- ✓ **developing training programs for healthcare professionals in AI-assisted care**
- ✓ **establishing ethical and regulatory frameworks for AI use in Primary Healthcare**
- ✓ **examining the long-term impact of AI on professional roles, skills, and interprofessional collaboration.**

REFERENCES

1. Yousefi, F.; Dehnavieh, R.; Laberge, M.; Haghdoost, A.; Sasseville, M.; Hekmat, S.N.; Ghaemi, M.M.; Nadali, M. Integrating Artificial Intelligence (AI) in Primary Health Care (PHC) Systems: A Framework-Guided Comparative Qualitative Study. *Healthcare* **2026**, *14*, 145. https://doi.org/10.3390/healthcare14020145
2. Martínez-Martínez, H.; Martínez-Alfonso, J.; Sánchez-Rojo-Huertas, B.; Reynolds-Cortez, V.; Turégano-Chumillas, A.; Meseguer-Ruiz, V.A.; Cekrezi, S.; Martínez-Vizcaíno, V. Perceptions of, Barriers to, and Facilitators of the Use of AI in Primary Care: Systematic Review of Qualitative Studies. *J Med Internet Res* **2025**, *27*, e71186, doi:10.2196/71186
3. Catalina, Q.M.; Fuster-Casanovas, A.; Vidal-Alaball, J.; Escalé-Besa, A.; Marin-Gomez, F.X.; Femenia, J.; Solé-Casals, J. Knowledge and Perception of Primary Care Healthcare Professionals on the Use of Artificial Intelligence as a Healthcare Tool. *DIGITAL HEALTH* **2023**, *9*, 20552076231180511, doi:10.1177/20552076231180511.
4. Liyanage, H.; Liaw, S.-T.; Jonnagaddala, J.; Schreiber, R.; Kuziemsky, C.; Terry, A.L.; De Lusignan, S. Artificial Intelligence in Primary Health Care: Perceptions, Issues, and Challenges: Primary Health Care Informatics Working Group Contribution to the Yearbook of Medical Informatics 2019. *Yearb Med Inform* **2019**, *28*, 041–046, doi:10.1055/s-0039-1677901.