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Short communication

From innovation to implementation: professional perspectives of personalized healthcare in Albania and Kosovo

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Introduction

Personalized healthcare (PHC) is increasingly presented as a strategic direction for modern health systems because it aims to tailor prevention, diagnosis, and treatment to the individual patient. In practice, this means combining genomic, biomarker, clinical, and digital information to improve treatment choice and outcomes. Previous studies from Canada, Greece, and Egypt have shown that healthcare professionals usually view personalized medicine positively, but often report knowledge gaps and limited preparedness for routine adoption. These challenges may be even more pronounced in low- and middle-income settings, where financing, testing capacity, and access to innovative therapies remain constrained. This study therefore examined awareness, attitudes, current practice, and perceived barriers related to personalized healthcare among healthcare professionals in Albania and Kosovo (Nagy et al., 2020; Solis et al., 2021)

Materials and methods

A quantitative cross-sectional survey was administered online to practicing healthcare professionals in Albania and Kosovo during August to September 2021. In total, 94 respondents completed the questionnaire, including 50 from Kosovo and 44 from Albania. The study received ethical approval through the University of Sheffield International Faculty, CITY College. The survey explored four domains: demographics and background; awareness, attitudes, and knowledge regarding personalized healthcare; current practices related to genetic testing, multidisciplinary work, and service readiness; and perceived benefits and barriers to implementation. Descriptive statistics were used to summarize the responses, and country-level comparisons were interpreted cautiously because of the relatively small sample.

Results and discussion

Overall, 93.6% of respondents reported that they had heard the term, and attitudes toward the concept were overwhelmingly favorable. Kosovo respondents

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more often described themselves as strongly positive, while Albanian respondents were more likely to report a positive attitude, suggesting broad acceptance in both settings. However, confidence in explaining the concept was more moderate than attitudes alone would suggest, and many participants indicated a need for further education in genetics, pharmacogenomics, and next-generation sequencing. Current adoption of personalized healthcare tools was partial rather than routine. Approximately 48.9% of respondents had advised a patient to undergo genetic testing or next-generation sequencing. Nearly half also reported that patients had asked about genetic testing or had sought help interpreting test results. These findings suggest that patient demand already exists, while provider preparedness and service availability remain uneven. This pattern is consistent with previous studies, which found that clinicians often express positive attitudes toward personalized medicine before they feel fully trained or able to use it systematically in everyday practice (Mai et al., 2014). Only about half of respondents reported regular participation in multidisciplinary teams, and awareness of formal guidance, registries, and regulatory frameworks remained modest. The survey responses repeatedly pointed to the importance of better diagnostic services, stronger digital systems, national registries, and clearer policy support if personalized healthcare is to move beyond isolated cases. This interpretation is aligned with the wider literature, which emphasizes that the value of personalized medicine depends on connected diagnostics, interpretation pathways, and usable health-system infrastructure rather than on testing alone. The perceived benefits were clear and mainly clinical. Respondents most often identified more accurate and effective treatment as the principal advantage of personalized healthcare, followed by faster diagnosis and better treatment decision-making. They also linked personalized healthcare with improved patient outcomes and more appropriate use of health resources. At the same time, the leading barriers were lack of investment in healthcare, high individual and system costs, and the expectation that implementation would take considerable time. These findings are highly consistent with reports from other lower-resource settings, where financing, workforce development, and access to validated diagnostics and targeted therapies remain the main conditions for implementation (Solis et al., 2021).

Conclusion

Healthcare professionals in Albania and Kosovo appear ready to endorse personalized healthcare in principle but not yet fully equipped to implement it in routine practice. High awareness, favorable attitudes, and substantial interest in further training provide a strong professional foundation. However, limited use of genetic testing, uneven multidisciplinary integration, and persistent concerns about cost, infrastructure, regulation, and investment indicate that implementation will depend on coordinated health-system reform rather than isolated technological adoption. Artificial intelligence can further accelerate personalized healthcare by supporting earlier risk stratification, clinical decision-making, patient segmentation, and more efficient use of limited diagnostic and healthcare resources. In both countries, progress is most likely to come from a combined agenda of clinician education, stronger diagnostic and digital capacity, better multidisciplinary pathways, and clearer policy and financing frameworks.

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