Review of Contemporary Philosophy
ISSN: 1841-5261, e-ISSN: 2471-089X
Vol 22 (1), 2023
Pp 1524 - 1534

Addressing Health Disparities Through Culturally Tailored Nursing Interventions

[1]-Maryam Ibrahim Hadi Zabani,[2]-Fawaz Abdarab Alnaby Al_ Qariqri,[3]-Ibrahim Yahya Mohamed Alwdsani,[4]-Rayan Abdullah Ali Almotiri,[5]-Naif Hassan Mohammed Alzahrani,[6]-Hanan Ali Al Maqadi,[7]-Najaw Abduaalh Rashed Alsubai,[8]-Najwa Mohammed Ahmed Hadi,[9]-Hasnah Ibrahim Mohammad Alqasimi,[10]-Saeed Mohammed Al Zhrani,[11]-Yahya Ali Yahya Alsawadi,[12]-Salam Muthes Saif Aldosari,[13]-Abdulaziz Ahmed Hassan Alzahrani,[14]-Mohammad Yahya Mohammad Alwdani,[15]-Faisal Ahmed Alwadani

1. Ksa, Ministry of Health, Erada complex, health and psychological
2. Ksa, Ministry of Health, Erada complex, health and psychological
3. Ksa, Ministry of Health, Erada complex, health and psychological
4. Ksa, Ministry of Health, Erada complex, health and psychological
5. Ksa, Ministry of Health, Erada complex, health and psychological
6. Ksa, Ministry of Health, Erada complex, health and psychological
7. Ksa, Ministry of Health, Mental Health and Irada Complex
8. Ksa, Ministry of Health, Mental Health and Irada Complex
9. Ksa, Ministry of Health, Mental Health and Irada Complex
10. Ksa, Ministry of Health, Mental Health and Irada Complex
11. Ksa, Ministry of Health, Mental Health and Irada Complex
12. Ksa, Ministry of Health, Mental Health and Irada Complex
13. Ksa, Ministry of Health, Mental Health and Irada Complex
14. Ksa, Ministry of Health, Mental Health and Irada Complex
15. Ksa, Ministry of Health, King Abdulaziz Hospital

Abstract

Background: Health disparities significantly affect access to genomics-informed healthcare, particularly among marginalized populations. This scoping review aims to identify strategies that nurses can employ to promote equitable genomic health care and mitigate these disparities.

Methods: A systematic search of primary research, reviews, and opinion pieces was conducted using databases such as MEDLINE and Cochrane. The search focused on interventions applicable to nursing practice in genomics-informed care. Studies were analyzed to extract methods for addressing health inequities related to genomics.

Results: The review identified two main categories of strategies: (1) interventions aimed at enhancing nurses' genomic literacy and (2) community engagement practices to improve access to genetic testing and increase participation in research. Key themes included the importance of education, advocacy, and culturally relevant patient engagement. Notably, gaps in the literature were highlighted, particularly the lack of empirical studies assessing the effectiveness of these strategies.

Conclusion: To achieve equitable health outcomes, it is imperative for nurses to be equipped with genomic knowledge and advocacy skills. This review underscores the need for targeted education and community-focused initiatives that address structural and socioeconomic determinants of health. Future research should aim to evaluate the impact of these interventions on health disparities in genomics.

Keywords: Health disparities, Genomics-informed care, Nursing interventions, Equity, Community engagement

Received: 05 october 2023 **Revised:** 19 November 2023 **Accepted:** 02 December 2023

1. Introduction

In several nations, genomics has improved health outcomes for persons afflicted with prevalent ailments, such as cancer and cardiovascular disease, as well as for those with uncommon diseases and individuals predisposed to genetic disorders. Healthcare experts are endeavoring to use genetic findings to enhance the health and well-being of all individuals, irrespective of their social or economic standing [1-4]. Notwithstanding these initiatives, genomics-informed healthcare is engendering a plethora of ethical, legal, and societal dilemmas. Access to genomics-informed treatments, including genetic testing, counseling, and screening programs, is inequitable both within and within nations and people, leading to an uneven distribution of the advantages of genomics within communities. These issues are prevalent in high-income nations and are much more prominent in comparison to low- and middle-income countries. Understanding the tactics that facilitate the safe and equitable integration of genomics is essential for reducing health inequalities [5-9].

Genomics encompasses the examination of an individual's whole set of genes (genome), including the interactions among these genes and their relationship with the environment, as well as their impact on bodily growth, development, and functions [10]. The proliferation of genetic testing has allowed individuals and families to assess their risks for specific conditions (predictive testing); verify or exclude disorders (diagnostic testing); evaluate their responses to medications (pharmacogenomic testing); and guide reproductive choices (reproductive testing). Genomic research is yielding evidence-based therapeutic applications, recommendations, and precision healthcare for several prevalent health disorders. Genomics-informed healthcare, including targeted and precision therapies, can reduce the treatment and symptom burden for individuals and the healthcare system, while optimizing the allocation of limited healthcare resources through earlier diagnosis, potentially necessitating fewer or less invasive interventions [11]. Moreover, the expansion of direct-to-consumer testing allows consumers to independently acquire knowledge about their ancestry, familial connections, illness susceptibility, and the influence of lifestyle on health outcomes, outside of the healthcare system [12-15]. Finally, genomic findings are advancing the domain of epigenetics, which examines the influence of environmental, social, lifestyle, and stress variables on processes like DNA methylation and their association with health consequences. Epigenetics offers insights into health inequities and approaches to promote universal health. [16]

Health disparities and other equality concerns are becoming concerning. Evidence indicates that some groups, such as those with lower socioeconomic positions, those affected by racial discrimination, and residents of rural and distant areas, have disadvantages in obtaining genetic technology and health disparities [7-9]. Concerns exist over the under-representation of racial and ethnic minorities in genome research, which impedes the relevance of findings for these populations [17-19]. Reluctance to participate in research studies and distrust in the medical profession is shaped by historical medical research misconduct that disproportionately impacted underprivileged populations. These conditions need attention from healthcare practitioners [1, 20-22].

To guarantee that genetic discoveries yield beneficial health outcomes for everyone, it is imperative to meticulously address health inequalities, socioeconomic inequities, and the exploitation of genomic narratives that sustain racism throughout the incorporation of genomics-informed care. A robust comprehension of core causes and methodologies that deconstruct overlapping structural and social processes contributing to disparities in genomic healthcare and research is essential for this endeavor. Consequently, equipping nurses and other allied health workers to address these concerns is a crucial measure for achieving fair and safe genomics-informed healthcare [21,23].

Globally, more than 27 million nurses serve as clinicians, researchers, administrators, educators, and policymakers within health systems. A fundamental principle of nursing is to promote social justice and

equity [24]. The International Council of Nurses' Code of Ethics mandates that nurses engage with others and fight for fairness and social justice in healthcare access and resource distribution to uphold human rights and the public welfare. Nurses may advocate for equitable genomic health care and enhance patient outcomes and sustainable health systems by addressing the fundamental causes of health inequalities within the framework of genomics-informed health care [25]. Consequently, it is essential to advocate for nursing practices that directly tackle equity and structural impediments to health for everyone, ensuring that the incorporation of genetics into healthcare does not exacerbate existing gaps. [8]

The World Health Organization is advocating for assistance in terms of finance, infrastructure, and skilled workers to provide fair access to genomics [12]. Providing nurses with genomics-informed ways to tackle health inequities and foster equitable genomic health care would facilitate the comprehensive advantages of genomic health care for everyone. Nurses must comprehend the nature, scope, and variety of current nursing interventions that tackle health inequities in the realm of genomics-informed care [26]. Nurses may identify concerns, gather information for monitoring and evaluation, collaborate with people and communities, establish relationships within and beyond the health system, and participate in advocacy. Identifying strategies enables nurses to implement practices and advocate for initiatives that promote patient experience, provider satisfaction, cost-effectiveness, population health outcomes, and health equality [27].

Despite the extensive research on the significance of nurses addressing equity concerns related to the implementation of genomic health care, there is yet to be a synthesis of essential techniques that nurses may use to mitigate health disparities. A preliminary search of PROSPERO, MEDLINE, the Cochrane Database of Systematic Studies, and JBI Evidence Synthesis revealed no existing or ongoing scoping studies or systematic reviews on the subject. The objectives of this scoping review were to delineate the existing global evidence on strategies that nurses can employ to promote genomics-informed health care to mitigate health disparities and to guide the development of an action and research agenda aimed at addressing health disparities related to genomics-informed nursing practices. We chose to do a scoping review since this process is particularly effective for investigating nascent evidence when its clarity is still uncertain [28].

2. Methods

The search method sought to identify both published and unpublished primary research, reviews, and opinion pieces. A preliminary restricted search using MEDLINE (Ovid) was conducted to locate literature on the subject. The terminology in the titles and abstracts of pertinent papers, together with index keywords, facilitated the formulation of a comprehensive search. The search method, including all indicated keywords and index terms, was tailored for each incorporated information source.

This review offers a thorough examination of the existing data and academic work about methods for preparing the nursing workforce and approaches that nurses might use to promote equitable genomics-informed healthcare. We examine the deficiencies in the literature, provide essential suggestions for enhancing genomics-informed nursing practice, and establish a research roadmap.

3. Deficiencies in the current literature

We identified many deficiencies in the existing studies. Initially, there was a significant deficiency of intervention and assessment research examining the feasibility and effects of policies on health and health disparity outcomes. The majority of the scholarship was expository and presented as debate papers. The tactics outlined in this assessment consisted of general assertions and suggestions. Only four included studies assessed particular tactics. One study examined the viability of in-person vs telehealth services, while three studies investigated the feasibility of an educational program for healthcare professionals. We were astonished by these findings, considering the normative appeals by nursing leaders to adopt evidence-informed solutions to tackle health inequalities [29-32].

Secondly, most of the studies failed to describe the inequalities or injustices being examined, resulting in ambiguity about the scientists' conceptualization of the term. Inequities were sometimes referenced in a cursory and general manner. In light of this circumstance, and to elucidate health disparities and equity

problems for our scoping review, we classified them according to our analysis of the criteria revealed in each study. The discrepancies and injustices mostly were due to variations in access to genomic services and involvement in research across communities defined by various ethnicities, races, socioeconomic positions, migratory status, and literacy levels. Comparable categories are present in other studies concerning disparities in genomics and precision medicine, which have documented inequities in testing, treatment, and outcomes among individuals with varying insurance coverage (e.g., private versus public); socioeconomic status; race and ethnicity; geographic location; gender; and age. Given that disparities may present variably across diverse intersections, academics must determine the context and interaction of the injustices they address to ensure that interventions are targeted and practical [1-9].

4. Formulating genomics-informed strategies

Our findings indicate that researchers have recognized many strategies to mitigate health inequities in the implementation of genomics-informed health care. We classified these techniques into two main groups. The first group included interventions aimed at equipping nurses with genomics-informed practices, including education. The second category included tactics that nurses may use while engaging with people and communities to enhance knowledge of and access to genetic testing, foster trust and participation in research, and provide culturally relevant patient education. We also classified these tactics into realms of practice: education, research, policy and advocacy, leadership, and clinical practice. These conceptualizations correspond with established taxonomies for interventions and strategies designed to mitigate racial and ethnic disparities; for instance, Clarke et al. [33] and Schuster et al. [34] classified interventions according to their focus on the patient, provider, microsystem (e.g., care team), organization, community, and policy levels. Formulating strategies and interventions by practice domains, populations, or levels within the health system (e.g., micro, macro) utilizing existing or novel frameworks can effectively inform researchers regarding the current status of interventions, identify existing gaps, and elucidate what is effective in specific contexts and how. A thorough examination of cooperation across practice areas is seen as a crucial method to expedite implementation efforts, which also aligns with our approach.

Establishing a research and action plan for fair genomics-informed nursing care. The scoping review offers valuable insights for equitable genomics-informed care; nevertheless, more research is necessary to comprehend the effects of policies on health outcomes across diverse groups and circumstances [35-40]. This study may identify effective approaches that can be disseminated and expanded throughout health systems. In the realm of disparity research, experts have recommended investigations that assess evidence-based solutions, positing that just delineating inequalities is inadequate for enhancing results. Researchers focused on the advancement of nursing and genomics have emphasized the critical need to develop and execute the most effective, evidence-based nursing techniques to enhance patient and community health outcomes and promote health equality [41,42]. Due to the issues of increasing health inequities, nurses must possess expertise that extends beyond biological sciences. It is essential to focus on the structural and socioeconomic determinants of health that lead to inequities, enabling nurses to advocate for and execute equitable public policies and healthcare practices.

Advocacy for nurse intervention to tackle health inequities in the realm of genetics started in 1962 [43]. In 2012, nurses in the United States established the Genomes Nursing State of the Science Advisory Panel and formulated a research strategy for genome nursing sciences. The National Institutes of Nursing Research's strategy plan for 2022–2026 designates health equality and socioeconomic determinants of health as fundamental research perspectives. This agenda encompasses various research topics concerning health disparities, including the examination of racial, ethnic, socioeconomic, and cultural factors influencing disease prevalence and treatment responses; genomic health equity; diseases that disproportionately impact certain populations; and the mitigation of misinformation and genomic misconceptions [44]. To further develop the knowledge base that informs nurse practice across all domains, we identified multiple implications for practice, educational research, policy, and advocacy.

5. Consequences for practice and education

Numerous practice strategies highlighted in our review aimed at augmenting knowledge, skills, competencies, and self-reflection to mitigate implicit bias in performing comprehensive assessments, identifying individuals at risk for genetic conditions or diseases, and providing culturally appropriate education. Education may provide nurses with genetic literacy, improving their capacity to address inquiries, aid patients in maneuvering through the healthcare system, and facilitate choices about testing and subsequent actions based on test results. There is a need for resources and pragmatic guidance that enhance decision-making and familial communication on genetic risk and test outcomes. Researchers are investigating these strategies, and these studies may provide design concepts for other intervention trials that particularly target health disparities [45,46].

Acquiring abilities to discuss and gather a family health history from a genetic perspective is an effective foundation. Family history is regarded as a primary, cost-efficient, and clinically relevant method for evaluating genetic risk for Mendelian and multifactorial genetic illnesses, including cancer predisposition syndromes. Nurses serve as the principal providers of care in several rural and distant regions, therefore acting as the entry point for genetic testing for many individuals. Nurses are integrated within communities and may collaborate with high-risk families to convey test findings and illness risks. Nurses can utilize relational practices to investigate the implications of disease and hereditary patterns, as well as the biological, social, and genomic foundations of treatment choices in collaboration with patients and families. They necessitate education and leadership backing to formulate strategies that actively address the intersections of equity, health disparities, and access to the social determinants of health with genomics. Empirical evidence-based instruments and methodologies to assist nurses in delineating clinical pathways would expedite nursing practice and education [47].

The research indicates that another concern is the creation and assessment of pedagogically effective genetic interventions. The Reporting Item Standards for Education and its Evaluation (RISE 2) in Genomics provides a significant framework to assist educators in establishing the evidence foundation required for genomics-informed nursing practice. The RISE 2 genetics tool establishes guidelines to facilitate the creation of evidence-based genetics education by promoting the identification of learning objectives and the assessment of interventions to enhance the replicability of educational tactics. Employing standardized instruments may facilitate the assessment of education's impact on nurses' knowledge, attitudes, abilities, and competencies about the mitigation of disparities in genomics-informed care [48].

Numerous solutions in our research emphasize the need to enhance nurses' basic knowledge, yet this alone is inadequate. An understanding of biases, cultural safety, and individual and familial preferences, together with the ethical and equitable concerns related to genetics, is essential for the secure and efficient provision of care. Educators must ensure that material is intentionally presented with an equality and anti-discriminatory perspective to prevent the exacerbation of disparities in genomic care and the perpetuation of detrimental misconceptions. Furthermore, delivering precise information and refraining from exaggerating the advantages of genomics are essential for fostering patient and community confidence in genomics. Establishing explicit expectations for educational and license prerequisites is a pragmatic approach to facilitate the incorporation of methods that promote equitable genomics-informed healthcare [30].

Genomics-informed practices lack neutrality, and significant detriments may result from an inadequately educated workforce. Educational institutions and companies must provide continuous education for undergraduate and graduate students, as well as ongoing professional development for working nurses. This will assist in mitigating the documented deficiencies in genetic literacy and trust in using genomic technology. An often-mentioned obstacle to the implementation of educational techniques is the insufficient fundamental knowledge among educators to teach genetics. Consequently, creating evidence-based educational materials and tools for educators may facilitate the dissemination of genetic information across the nursing field.

Health system financiers, such as government entities, schools, and employers, must enhance support for nurses to engage with genomics and assume new roles in genomic care delivery. Nurses can contribute to

diversifying the genomics workforce, enhancing access, and broadening coordinated genomics services. Nurses may establish trust and understanding of genomics services and precision medicine by collaborating with historically underrepresented and marginalized populations and assessing services to guarantee that the advantages and investments in genomics favorably influence health outcomes for everyone [9,13]. Nurses may meet the specific requirements of communities by facilitating decision-making for genetic testing and offering information on test findings, risk assessments, and risk management methods. Although some aspects of this care need collaboration with experts, such as genetic counselors, nurses may provide standard services to improve patient experience and accessibility. Another crucial factor in the diversity of the genomics workforce is to ensure that nurses from historically underrepresented populations persist in the profession [45]. The deficiency of ethnic minority nurse scientists in principal investigator positions, together with the need for diversity among nurse researchers, necessitates immediate focus. Strategies that tackle institutional racism and enhance working conditions to facilitate recruitment and retention in the genomics workforce are essential [2].

6. Consequences for research

Nurses have a longstanding tradition of involving underrepresented communities in research. Our findings documented nursing strategies that emphasized community engagement to enhance awareness of research opportunities, create culturally relevant methods for communicating and disseminating findings, appropriately utilize concepts such as race and ancestry, and acknowledge the diversity within and among patient populations affected by diseases. Moreover, it was evident that issues of equity and health inequalities must be included throughout the research cycle, including the design, execution, assessment, and publishing of research projects.

Barriers to fairness in genomics services arise from the processes of knowledge generation and research. Nurses' comprehensive approach to client care positions them to spearhead and contribute to genomics research aimed at mitigating health disparities. One significant area of contribution is the recruitment of participants through culturally safe and equitable methods. The diversity of participants in genomic research studies and databases is essential for achieving equity. The current under-representation of individuals of non-European ancestry substantially affects the generalizability of research findings, creating obstacles to the advancement of treatment options and precision healthcare. For instance, in hereditary genetic testing, variants of uncertain significance (VUS) are more prevalent among Asians and individuals of African ancestry compared to those of European descent. A Variant of Uncertain Significance (VUS) is concerning due to the lack of sufficient data to ascertain its clinical relevance or to establish its association with disease, and there are no corresponding treatments for a VUS. Research that examines the interplay of -omics, social determinants like racism, and structural factors contributing to inequities is essential to prevent the continuation of disparities. [34,40]

This scoping review found deficiencies in the literature and highlighted the need for research that investigates particular competencies and practices aimed at addressing health equity and inequalities among historically disadvantaged populations. Researchers have delineated avenues for nurses to participate in genomics research that might uncover techniques that enhance patient safety and health outcomes. Nursing research, including the investigation of DNA methylation patterns in disease-related genes among African Americans subjected to racism and studies assessing the effects of nursing treatments on outcomes, would enhance practice. Further research is necessary to examine the effects of various care models on patient outcomes. The scoping study revealed instances of creative models in which nurses in advanced practice positions advocated for and executed patient navigation or telehealth initiatives. Further study is required to evaluate the viability of disseminating and expanding these innovations and their effects on health outcomes.

Frameworks are established to facilitate research and implement practice modifications. A novel approach aimed at advancing diversity, inclusion, and equality in research may be used to design studies that improve participation and the therapeutic applicability of results. The Consolidated Framework for Implementation

Research is beneficial for the implementation and assessment of innovations and has the potential for mitigating health disparities. [5]

7. Consequences for policy, lobbying, and leadership

Nurses can employ individual strategies, but equitable access to genomic services necessitates governmental and health system support to guarantee that society's most vulnerable populations—such as those in poverty, individuals with disabilities or illnesses, and those lacking transportation or internet access—receive equal opportunities. [16] The scoping assessment revealed general tactics for advocating policy, best practices, and legislation; nevertheless, there is a need to pinpoint more specific strategies at local and national levels from the perspectives of policy, advocacy, and leadership. Nurses may champion policies that tackle health inequalities and social injustices.

In regions lacking publicly funded health care, access to fundamental genomic services poses a challenge for individuals with inadequate insurance coverage, exacerbating health disparities. Advocacy is essential to guarantee that political impetus and investment in genomic technology, healthcare provider training, and collective disease prevention and health promotion are accessible to all. Moreover, the rise of direct-to-consumer testing and the focus on early risk identification and mitigation may result in a transfer of responsibility to the individual, potentially overlooking critical factors like access to social determinants of health. Although direct-to-consumer testing enhances access to care, it is predominantly available to individuals with financial means. An increase in testing may result in a rise in superfluous medical services, thereby diminishing resources for the most vulnerable populations. Policy recommendations that recognize the societal and health advantages of genomics can assist nurses in policy roles to promote healthcare initiatives aimed at mitigating health disparities. [17]

The expansion of biobanks and the exchange of genetic data are crucial components of genomic research; yet they also pose dangers of abuse and possible prejudice. Nurses may execute and promote methods to maintain a balance between data privacy and control, ensuring its optimal use to enhance healthcare alternatives. The need for genetic research and biobanking that include various cultures and samples is essential to tackle the issues associated with VUS discoveries, which are more prevalent in non-European people.

It is essential to adopt policies within the profession to enable nurses to engage in policymaking, research, practice, teaching, and leadership. The establishment of a robust policy framework to direct practice and education via the scope of practice papers, standards of practice, educational frameworks, and position statements will underpin the role of nurses in genomics. In nations like Canada, where this essential infrastructure is deficient, nurses have difficulties in advancing strategic initiatives and connecting their endeavors to broader national activities. This is crucial to ensure that nurses integrate their distinct and intersecting duties within the genomics domain. Particular emphasis should be made on the roles and responsibilities of nurses in mitigating health inequities. Policy infrastructure directs nurses and provides substantial guidance for health service organizations to recognize models and strategies for care that tackle equity issues in the integration of genetics into healthcare. These concerns may serve as the foundation for a research and action agenda aimed at enhancing evidence-based practices that nurses can use, advocate for, and advance equitable genomics-informed healthcare.

Global nursing organizations, including G2NA, have created tools to expedite the incorporation of genomics, emphasizing the necessity of equitable approaches. For instance, Tonkin et al. [44] formulated a roadmap to facilitate the advancement of genomics in nursing, aiming to enhance health care universally. The pathway is informed by the Consolidated Framework for Implementation Research and prompts nurses to evaluate how implementation strategies promote fairness and inclusion. The roadmap utilizes the ConNECT framework, a methodology designed to promote health equality in behavioral sciences. The Assessment of Strategic Integration of Genomics Across Nursing Maturity Matrix tool delineates several essential success factors correlated with enablers and outcome indicators. A primary outcome indicator is the equity of genomic tests and services, signifying that strategies exist to guarantee uniform availability

and accessibility for all individuals. These instruments provide essential direction for nurses involved in the incorporation of genetics to guarantee health for everyone.

The diversity of studies and the absence of regional representation outside the United States impeded the generalizability of the results. The absence of explicit reporting of inequalities, tactics, and demographics necessitated a degree of interpretation by the authors, particularly in delineating the features of the publications. The absence of empirical investigations precluded the identification of promising or evidence-based methods. Notwithstanding these constraints, our examination of the existing data offers a valuable framework for comprehending the present condition of scholarship centered on nursing practices that might advance equitable, genomics-informed health care and the research deficiencies that persist.

8. Conclusions

Our scoping review has identified and synthesized the existing literature on nursing practices that mitigate health inequities resulting from the integration of genetics. Strategies were classified into two categories: those aimed at equipping the nursing workforce with genetic literacy and those applicable in nursing practice. Although we discovered several information gaps, our results provide a valuable basis for investigating and evaluating ways to address specific equity and health inequalities in the realm of genetics.

Education designed to improve genetic literacy must include fairness and explicitly tackle prejudice, racism, and the distinct requirements of communities. Nurses with genomic literacy and an understanding of equity may participate in clinical practices that elucidate patient, family, and community beliefs and priorities about genetic testing, gather family health histories to assess risk and improve community involvement and equitable participation in research. Nurses in policy and administration may execute measures that promote workforce diversity and facilitate nurses' transition into new positions and multidisciplinary practice. Nurses engaged in research may design and execute studies that improve recruitment and cultural safety while generating information collaboratively with historically underrepresented populations. Future research informed by implementation science and program assessment may demonstrate the effects of nursing practice and education on outcomes, including health inequities.

Equipping all nurses with fundamental knowledge in genomics and equity will empower them to leverage their distinct disciplinary insights and actively engage in health system transformation, interprofessional collaboration, care coordination, and the development and execution of innovative care pathways that tackle health disparities. Prioritizing equity issues associated with the incorporation of genetics in healthcare will be essential as scientific progress persists to guarantee that these findings advantage all populations. Formulating and executing plans will need cross-sectoral and interprofessional cooperation and leadership. The current literature offers a foundational perspective on potential actions for nurses; however, the absence of empirical evidence regarding effectiveness and nursing strategies constrains our capacity to ascertain which strategies are applicable in education, practice, and policy. Enhanced interventional and evaluative research is essential to substantiate assertions that nurses play a pivotal role in advancing equality in the integration of genomics.

References

1. Andsoy II, Tastan S, Iyigun E, Kopp LR. Knowledge and attitudes towards cardiovascular disease in a Population of northwestern Turkey: a cross-sectional survey. Int J Caring Sci. 2015;8(1):115-24.
2. Baars JE, van Dulmen AM, Velthuizen ME, van Riel E, Ausems MGEM. Breast cancer genetic counseling among Dutch patients of Turkish and Moroccan descent: participation determinants and perspectives of patients and healthcare professionals. J Community Genet. 2017;8(2):97-108.
3. Baumbusch J, Mayer S, Sloan-Yip I. Alone in a crowd? Parents of children with rare diseases' experiences of navigating the healthcare system. J Genet Couns. 2019;28(1):80-90.
4. Bayard S, Fasano G, Gillot T, Bratton B, Ibala R, Taylor Fortson K et al. Breast cancer disparities and the digital divide. Curr Breast Cancer Rep. 2022;14(4):205-12.

5. Benjamin CM, Thomas LH, Skirton H, Gustafson S, Coupe J, Patch C, et al. Interventions to improve patient access to and utilization of genetic and genomic counseling services. Cochrane Database Syst Rev. 2015;(11): CD011873.
6. Blee SM, Dixon MD, Master VA, Pentz RD. Dissemination of validated health literacy videos: a tailored approach. J Clin Oncol. 2021;39(15 SUPPL).
7. Blizinsky KD, Bonham VL. Leveraging the learning health care model to improve equity in the age of genomic medicine. Learn Health Syst. 2018;2(1):e10046.
8. Boothe E, Waldrop JM, Kirmse B. eP480: Project ECHO for pediatric genetics in Mississippi: expanding access to the clinical genetics workup for autism and intellectual disability. Genet Med. 2022;24(3):S306.
9. Calizzani G, Menichini I, Candura F, O'Mahoney B, Giangrande P, Makris M. A European certification system for hemophilia centers. J Thromb Haemost. 2013;11:797.
10. Calzone KA, Jenkins J, Culp S, Badzek L. Hospital nursing leadership-led interventions increased genomic awareness and educational intent in Magnet settings. Nurs Outlook. 2018;66(3):244-53.
11. Calzone KA, Kirk M, Tonkin E, Badzek L, Benjamin C, Middleton A. Increasing nursing capacity in genomics: an overview of existing global genomics resources. Nurs Educ Today. 2018;69:53-9.
12. Calzone KA, Kirk M, Tonkin E, Badzek L, Benjamin C, Middleton A. The global landscape of nursing and genomics: global genomic landscape. J Nurs Scholarsh. 2018;50(3):249-56.
13. Carlsson L, Limoges J. Canadian nursing and genomics: an engagement initiative. Can Oncol Nurs J. 2022;32(4):559-70.
14. Centre for Reviews and Dissemination. Genetic nurse counselors can be an acceptable and cost-effective alternative to clinical geneticists for breast cancer risk genetic counseling: evidence from two parallel randomized controlled equivalence trials (Structured abstract). NHS Economic Evaluation Database (NHSEED). 2006(2015 Issue 2).
15. Cheek DJ, Howington L. Patient care in the dawn of the genomic age. Am Nurse Today. 2017;12(3):16-22.
16. ClinicalTrials.gov. Bethesda (MD): National Library of Medicine (US). 2000 Feb 29. Identifier NCT05603663, High polygenic risk and health behavior. Genes and health behavior: the impact of awareness of high polygenic risk for cardiovascular disease on health behavior among young overweight adults [Internet]. ClinicalTrials.gov; 2022.
17. Cohn EG, Henderson GE, Appelbaum PS, for the Working Group on Representation and Inclusion in Precision Medicine Studies. Distributive justice, diversity, and inclusion in precision medicine: what will success look like? Genet Med. 2017;19(2):157-9.
18. Connor AE, Dibble KE. Disparities in perceived healthcare discrimination among BRCA1/2-positive women from disadvantaged health populations. Cancer Epidemiol Biomarkers Prev. 2022;31(1 SUPPL).
19. Connors L, Schorn M. Genetics and genomics content in nursing education: a national imperative. J Prof Nurs. 2018;34(4):235-7.
20. de Vries J, Landouré G, Wonkam A. Stigma in African genomics research: gendered blame, polygamy, ancestry, and disease causal beliefs impact on the risk of harm. Soc Sci Med. 2020;258:113091.
21. DeGuzman PB, Schminkey DL. Influencing genomic change and cancer disparities through neighborhood chronic toxic stress exposure: a research framework. Public Health Nurs. 2016;33(6):547-57.
22. Dodson C. Attitudes of oncology nurses concerning pharmacogenomics. Per Med. 2015;12(6):559-62.
23. Dorcy KS, Richard A. Ethical considerations of precision medicine for oncology nurses. Cancer Nurs. 2017;40(6):E16-E7.
24. Douma KFL, Smets EMA, Allain DC. Non-genetic health professionals' attitude towards, knowledge of, and skills in discussing and ordering genetic testing for hereditary cancer. Fam Cancer. 2016;15(2):341-50.
25. Edwards R, Townsend D, Gingell R, Haralambos K, Datta BN, McDowell IFW, et al. Implementation of a multidisciplinary approach to diagnosis and management of familial hypercholesterolemia (FH) in Wales: the role of the FH specialist nurse. Atherosclerosis. 2013;231(2):e7.
26. Fouad MN, Acemgil A, Bae S, Forero A, Lisovicz N, Martin MY, et al. Patient navigation as a model to increase participation of African Americans in cancer clinical trials. J Oncol Pract. 2016;12(6):556-63.
27. Genomic Nursing State of the Science Advisory Panel, Calzone KA, Jenkins J, Bakos AD, Cashion AK, Donaldson N, et al. A blueprint for genomic nursing science. J Nurs Scholarsh. 2013;45(1):96-104.

28. Gentry S. Oncology patient navigation overview. J Radiol Nurs. 2023;42(3):275-8.
29. Leduc D. Establishing a paradigm for high-quality lung cancer treatment. J Thorac Oncol. 2017;12(1):S210-S1.
30. Lillard JW Jr, Moses KA, Mahal BA, George DJ. Racial disparities in Black men with prostate cancer: a literature review. Cancer. 2022;128(21):3787-95.
31. Little LA. Prenatal care providers' experience with pre-test counseling for NIPT in Ontario: counseling challenges and support required [thesis]. The University of Western Ontario; 2023.
32. Mathew SS, Barwell J, Khan N, Lynch E, Parker M, Qureshi N. Inclusion of diverse populations in genomic research and health services: Genomix workshop report. J Community Genet. 2017;8(4):267-73.
33. Clarke AR, Goddu AP, Nocon RS, Stock NW, Chyr LC, Akuoko JA, Chin MH. Thirty years of disparities intervention research: what are we doing to close racial and ethnic gaps in health care?. Medical care. 2013 Nov 1;51(11):1020-6.
34. Schuster AL, Crossnohere NL, Paskett J, Thomas N, Hampel H, Ma Q, Tiner JC, Paskett ED, Bridges JF. Promoting patient engagement in cancer genomics research programs: an environmental scan. Frontiers in Genetics. 2023 Jan 18;14:1053613.
35. McAllister KA, Schmitt ML. Impact of a nurse navigator on genomic testing and timely treatment decision making in patients with breast cancer. Clin J Oncol Nurs. 2015;19(5):510-12.
36. McCormick KA, Calzone KA. The impact of genomics on health outcomes, quality, and safety. Nurs Manage. 2016;47(4):23-6.
37. McNicoll C, Ferguson B, Brown-Glaberman U, Gutjahr C, Maestas E, Eberhardt S, et al. Centralization of hepatopancreatobiliary clinical services improves cancer care delivery in a minority-underserved dominant state. HPB. 2021;23:S560.
38. Mukhopadhyay A. Implementation of novel, alternative and affordable options for ovarian cancer care throughout the entire journey: a KolGo Trg approach. Int J Gynecol Cancer. 2022;32(Suppl 3):A202.
39. Nye LE, Smith S, Knight CJ, Klemp JR. Project BRA: breast cancer risk assessment. J Clin Oncol. 2022;40(16).
40. Oluloro A, Dwyer E, Sage L, Dankwa D, Qualls N, Williams P, et al. Diminishing returns: beliefs and personal agency about racial disparities in endometrial cancer among front line women's health care providers in the U.S. (592). Gynecol Oncol. 2022;166:S287.
41. Simunek MV. Conceptions of medical genetics stipulating the role of medical genetics within Czechoslovak national health care and the role of the Czech Society of Medical Genetics in their implementation between 1970 and 1989. Eur J Hum Genet. 2019;26:1029.
42. Thaker PH, Smeltzer MP, Dawkins M, Senter-Jamieson L, Blank SV, Black D, et al. Improving the quality of care for persons with advanced epithelial ovarian cancer. Oncol Issues. 2021;36(2):36-48.
43. Thompson CA, Tiedt J, Beqiri M, Smith DW. A retrospective evaluation of a nurse practitioner-led cancer genetics program. J Nurse Pract. 2022;18(3):276-84.
44. Tonkin E, Calzone KA, Badzek L, Benjamin C, Middleton A, Patch C, Kirk M. A maturity matrix for nurse leaders to facilitate and benchmark progress in genomic healthcare policy, infrastructure, education, and delivery. J Nurs Scholarsh. 2020;52(5):583-92
45. Underhill ML, Blonquist TM, Habin K, Lundquist D, Shannon K, Robinson K, et al. A state-wide initiative to promote genetic testing in an underserved population. Cancer Med. 2017;6(7):1837-44.
46. Vecchio MM. Breast cancer screening in the high-risk population. Asia Pac J Oncol Nurs. 2018;5(1):46-50.
47. Williams JK, Cashion AK. Using clinical genomics in health care: strategies to create a prepared workforce. Nurs Outlook. 2015;63(5):607-9.
48. Williams JR, Yeh VM, Bruce MA, Szetela C, Ukoli F, Wilkins CH, et al. Precision medicine: familiarity, perceived health drivers, and genetic testing considerations across health literacy levels in a diverse sample. J Genet Couns. 2019;28(1):59-69.

معالجة التفاوتات الصحية من خلال تدخلات تمريضية مخصصة ثقافيًا

الملخص

الخلفية :تؤثر التفاوتات الصحية بشكل كبير على الوصول إلى الرعاية الصحية المستنيرة بالجينوم، خاصة بين الفئات المهمشة. تهدف هذه المراجعة الاستكشافية إلى تحديد الاستراتيجيات التي يمكن أن يعتمدها الممرضون لتعزيز رعاية الجينوم العادلة والتخفيف من هذه التفاوتات.

الطرق :تم إجراء بحث منهجي للأبحاث الأولية والمراجعات والمقالات الرأي باستخدام قواعد بيانات مثل MEDLINE و .Cochraneركز البحث على التدخلات القابلة للتطبيق في الممارسة التمريضية في مجال الرعاية المستنيرة بالجينوم. تم تحليل الدراسات لاستخراج الأساليب لمعالجة التفاوتات الصحية المتعلقة بالجينوم.

النتائج :حددت المراجعة فئتين رئيسيتين من الاستراتيجيات:

1. تدخلات تهدف إلى تعزيز معرفة الممرضين بالجينوم.
2. ممارسات إشراك المجتمع لتحسين الوصول إلى الاختبارات الجينية وزيادة المشاركة في الأبحاث.

شملت المواضيع الرئيسية أهمية التعليم، والمناصرة، والتواصل الثقافي مع المرضى. لوحظت فجوات في الأدبيات، خصوصًا نقص الدراسات التجريبية التي تقيم فعالية هذه الاستراتيجيات.

الاستنتاج :لتحقيق نتائج صحية عادلة، من الضروري أن يتمتع الممرضون بمعرفة في مجال الجينوم ومهارات المناصرة. تؤكد هذه المراجعة على الحاجة إلى تعليم موجه ومبادرات تركز على المجتمع لمعالجة العوامل الهيكلية والاجتماعية والاقتصادية التي تؤثر على الصحة. ينبغي أن تركز الأبحاث المستقبلية على تقييم تأثير هذه التدخلات على التفاوتات الصحية في مجال الجينوم.

الكلمات المفتاحية :التفاوتات الصحية، الرعاية المستنيرة بالجينوم، التدخلات التمريضية، العدالة، إشراك المجتمع.