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EDITORIAL

The importance and deficiencies of medical treatment guidelines for genetic disorders in the Middle East Region

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There are many difficulties in managing genetic illnesses in the Middle East because of its complex genetic makeup and particular environmental conditions. Middle Eastern populations are characterized by high levels of inbreeding, large family sizes, and high mother and paternal ages. In the Middle East, genetic abnormalities are prevalent and contribute significantly to both physical and mental disabilities.

In general, there are deficiencies in public health initiatives aimed at preventing genetic and congenital illnesses, which are further limited by legal and cultural constraints.

Some nations have implemented affordable preventative initiatives for prevalent genetic diseases, like screening for hemoglobinopathies among premarital carriers. These nations' economies differ greatly; some are wealthy, while others are impoverished which makes the availability and affordability of newly FDA-approved medication differ significantly.

To prevent genetic illnesses in this area, community genetics should be incorporated into the main healthcare system, education should be provided, and the current specialized genetic service should be strengthened. Given the growing recognition of the significance of genetic health, regionally specific medical treatment guidelines are crucial (1,2).

Importance of Medical Treatment Guidelines

1. Standardization of care: The diagnosis and treatment of genetic disorders are made more uniform by the framework provided by medical treatment guidelines for physicians. Guidelines can guarantee that patients receive consistent, evidence-based care throughout the Middle East, where healthcare systems differ greatly among nations, regardless of where they seek treatment. In an area where consanguineous marriages have led to a high prevalence of genetic diseases like sickle cell disease and thalassemia, this standardization is particularly important.
2. Better patient outcomes: Patient outcomes can be enhanced by following guidelines tailored to the genetic abnormalities that are common in the Middle East. Healthcare professionals can make well-informed judgments that improve the efficacy of interventions by having clear protocols for screening, diagnosis, and treatment. For example, newborn screening programs can dramatically lower rates of morbidity and mortality by detecting abnormalities early.
3. Education and awareness: Creating thorough treatment recommendations helps the public and medical professionals become more knowledgeable about genetic illnesses. In an area where stigma and discrimination can result from misunderstandings regarding hereditary disorders, this education is essential. Guidelines can help improve patient advocacy and support by increasing knowledge.
4. Research and development: Clear rules can encourage studies to better understand the genetic composition of Middle Eastern populations. Researchers can create focused treatments and interventions by finding particular genetic markers and patterns, ultimately adding to the corpus of information about genetic illnesses worldwide.

Deficiencies in the Current Treatment Guidelines

1. Lack of regional adaptation: The existing medical treatment guidelines for genetic illnesses in the Middle East are lacking in adaptation to the region's distinct genetic landscape, which is one of their main shortcomings. The particular genetic variances and environmental factors seen in Middle Eastern societies

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are not taken into account by many of the current guidelines, which are based on Western populations. Inappropriate treatment recommendations and less-than-ideal patient care may result from this divergence (3).

2. Need for Collaboration: Policymakers, researchers, and healthcare professionals must work together to produce effective treatment guidelines. Regrettably, these Middle Eastern parties frequently lack cooperation and communication. The development of unified guidelines that take into account the demands and difficulties of the area is hampered by this fragmentation.
3. Limitations on resources: Many Middle Eastern nations' healthcare systems struggle with a lack of resources, such as qualified staff, facilities for diagnosis, and available treatments. Even the strongest standards may become ineffective due to these restrictions if the infrastructure required to facilitate their implementation is lacking (3).

Conclusion

It is impossible to overestimate the significance of medical treatment guidelines for genetic illnesses in the Middle East. They are essential for promoting research, standardizing care, and enhancing patient outcomes. To guarantee their efficacy, these recommendations' shortcomings - such as their lack of regional adaptation, inadequate cooperation, restricted accessibility, and resource limitations - must be fixed. The creation of thorough, regionally relevant rules that take into account the population's healthcare requirements and genetic variety must be given top priority by Middle Eastern stakeholders going forward. They can improve health outcomes throughout the region and raise the standard of care for people with genetic abnormalities by doing this. Overcoming these obstacles is the first step toward providing genetic illnesses in the Middle East with fair and efficient healthcare.

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References

1. Alshamlani LK, Alsulaim DS, Alabbad RS, Alhoshan AA, Alkhoder JF, Alsaleh NS, et al. Consanguinity and occurrence of monogenic diseases in a single tertiary centre in Riyadh, Saudi Arabia: a 2 years cross-sectional study. Appl Clin Genet. 2024;17:151–8. https://doi.org/10.2147/TACG.S476350
2. Al-Gazali L, Hamamy H, Al-Arrayad S. Genetic disorders in the Arab world. BMJ. 2006;333(7573):831–4. https://doi.org/10.1136/bmj.38982.704931.AE
3. Kruger M. The importance of standard treatment guidelines in paediatric practice in Africa. Public Health Action. 2013;3(2):94. https://doi.org/10.5588/pha.13.0042