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Health Promotion Strategies for Sustainable Improvement of Public Health Outcomes in Nigeria

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Abstract

This review paper aims to comprehensively explore the priority areas for promoting health within the country. Nigeria, the most populous country in Africa, faces numerous health challenges due to socio-economic, cultural, and infrastructural factors. This review identifies key priority areas that demand attention for effective health promotion strategies by analyzing existing literature. These include infectious diseases, maternal and child health, non-communicable diseases, health care infrastructure, and health education. Thus, promoting health within the Nigerian community requires a holistic approach that addresses the unique challenges and opportunities present in the country. Therefore, the paper recommends a multi-faceted approach involving government policies, community engagement, and international collaboration to achieve sustainable improvements in public health outcomes within Nigeria.

Keywords: Health promotion, Health challenges, Nigerian Community, Priority Areas, and Strategies.

INTRODUCTION

Health has been variously defined and described by both individuals and organizations. Without proliferating definitions here, the authors adopt the Medical dictionary (2016) meaning as appropriate and comprehensive enough for this paper. Here, health is described as a relative state in which one can function well physically, mentally, socially, and spiritually to express the full range of one's unique potential within the environment in which one is living.

Health is an individual's greatest asset and, of course, a nation. A healthy workforce is a productive workforce. To a great extent, the health status of an individual defines the soundness and quality of his life. A healthy person is sound in mind and body, hence the saying that a sound mind should reside in a sound body. When this state is achieved, an individual is optimally disposed for optimal productivity. Every society needs people who are sound both in mind and body to drive development. Undoubtedly, every country puts various machinery in place to ensure the optimal health of the citizenry. One of the actions adopted by

many countries (Nigeria inclusive) is engagement

is so essential that everyone is concerned with its delivery systems and processes. This concern for the health of individuals has brought an increased focus of the International Community on the importance of maintaining or improving one's health status through health-enhancing activities in society (Inyang and Ugwulor, 2015).

Health promotion

Health promotion is one of the evidence-based approaches to improving the health of individuals and society (Umeakuka, 2017). It enhances the quality of life of the people. Severally definitions of health promotion abound in literature. Few relevant ones are presented in this paper.

Health promotion is developing individual, group, institutional, community, and systemic strategies to improve health knowledge, attitudes, skills, and behaviors. In another development, Umeakuka (2018) tried to capture the meaning, scope, and essence of health promotion in the following descriptive statements:

Health promotion is a process - it involves a series of actions to achieve health targets.

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- Health promotion is aimed at helping people to have control over their health.
- Health promotion requires a combination of interventions.
- Health promotion is also concerned about the environment.
- Health promotion is interested in getting people to make rational choices about their health.
- Health promotion involves the provision of information and education to the people.
- Health promotion is concerned with promoting healthy ideas and concepts to improve health.
- Health promotion is affected by political, social, economic, and other sub-systems in a society and vice versa.

Principles of Health Promotion

The seven principles of health promotion described by Leininger (2001) are as follows:

- Many individuals, social and environmental factors interact to influence health. It searches for ways to explain how these factors interact to explain and act for the most significant health gain.
- Health promotion supports a holistic approach that recognizes and includes health's physical, mental, social, ecological, cultural and spiritual aspects.
- iii. Health promotion requires a long-term perspective. It takes time to create awareness and build an understanding of health determinants. This is true for organizations as well as for individuals.
- iv. Health promotion supports a balance between centralized and decentralized decisionmaking on policies that affect people where we live, work, and play.
- v. Health promotion is multisectorial. While program initiatives often originate in the health sector, little can be done to change unhealthy living conditions and improve lifestyles without the support of other people organizations and policy sectors.
- vi. Health promotion draws on knowledge from a variety of sources. It depends on formal knowledge from social, economic, political, medical,

E-ISSN: 2814 – 1822; P-ISSN: 2616 – 0668 and environmental sciences. It also depends on the experiential knowledge of people.

vii. Health promotion emphasizes public accountability. Those promotion providing health activities must be other individuals and expect the same commitment from other individuals and organizations.

Impact of health promotion on Nigerian Society

Health promotion is crucial in improving the health and well-being of individuals and communities, especially in developing countries like Nigeria. The impacts of health promotion on Nigerian society are multi-faceted, affecting public health outcomes, economic development, and social well-being. The key impacts include:

- Improved Public Health Outcomes
 Health promotion initiatives in Nigeria,
 such as campaigns on HIV/AIDS
 prevention, maternal and child health,
 and the promotion of vaccination, have
 led to reductions in morbidity and
 mortality rates. For example, public
 health campaigns emphasizing the
 importance of using insecticidal-treated
 nets have helped reduce malaria,
 Nigeria's leading cause of death.
 Similarly, health education on hand
 washing, sanitation, and hygiene has
 reduced the prevalence of waterborne
 diseases (Owoaje et al.2017).
- economic benefits. By improving the population's health, health promotion reduces health care costs, increases productivity, and enables individuals to participate more actively in the workforce. The economic burden of preventable diseases like malaria, cholera, and HIV/AIDS is high, and

Health promotion can lead to significant

2. Economic Impact

- workforce. The economic burden of like malaria. cholera, and HIV/AIDS is high, and promotion health strategies alleviate these burdens by preventing illness. For example, the roll-out of free programs, immunization like the National Immunization Program, has helped reduce the incidence of vaccinepreventable diseases, leading to lower healthcare expenditure (Oduwole et al. 2021).
- 3. Increased Health Awareness and Behavior Change
 Health promotion programs contribute to increased health literacy and awareness in Nigerian communities. Health education on issues such as the dangers of smoking, the importance of

- UJMR, Vol. 9 No. 2, December, 2024, pp. 187 193 physical activity, and the role of proper nutrition has led to some behavior changes, especially among younger populations. These efforts are crucial in tackling the rising burden of non-communicable diseases (NCDs), such as hypertension, diabetes, and cancer, which are increasingly prevalent in Nigeria (Adebayo et al. 2019).
 - 4. Empowerment of Local Communities Health promotion programs often emphasize community -based interventions, which empower local populations to take ownership of their health. In rural and underserved areas of Nigeria, health promotion efforts such as mobile clinics, community health worker programs, and peer education have strengthened community participation and self-reliance. These programs also promote gender equality, particularly in educating women about reproductive health (Akinyemi et al. 2021).
 - Reduction in Health Inequalities Health promotion can contribute to reducing health inequalities in Nigeria, particularly in relation to access to care, prevention, and health education, by targeting vulnerable groups such as children, women, and people living in poverty. Health promotion efforts aim to bridge the gap different social between groups. Programs that address issues like maternal mortality, child health, and family planning have had notable impacts in underserved regions of the country (Eze et al., 2020).
 - Enhanced Health Systems and Infrastructure Health promotion can indirectly improve the health system in Nigeria by increasing demand for better health care services. As people become more health-conscious, greater advocacy for improved healthcare infrastructure, government spending on increased health, and better access to healthcare services exist. This can strengthen both public and private healthcare sectors in the country (WHO, 2020).

Challenges of Health Promotion in Nigeria

One section of this paper highlights the significant challenges facing health promotion in Nigeria. They include corruption, poverty, conflicts, weak institutions, leadership, and global environmental threats.

Corruption

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Corruption has been implicated as one of the problems of health promotion in Nigeria. As identified in their study, Onwujekwe et al. (2018) stated that corruption in the health sector appears in the form of absenteeism, procurements-related corruption, under-theemployment-related counter payment, corruption, and financing-related corruption, among others. Recall that in the ranking of the 10 most corrupt countries in the world published in 2016 by Dicker and Boyer (2016), Nigeria came first among the 60 countries evaluated. It has been stated that in any country with corruption, the the health sector is usually one of the most vulnerable.

Poverty

One time secretary of the United Nations, Kofi Annan, was quoted to have observed that poverty is the biggest enemy of health in the developing world. According to Brookings Institute (2018), the number of Nigerians in extreme poverty increases by six people every minute. The institute further noted that at the end of May 2018, the trajectory suggests that Nigeria had about 87 million people in extreme poverty.

Conflict

Conflict is yet another big challenge facing health promotion in Nigeria today. The impact conflict could have on health promotion is Nigerian society today unimaginable. characterized by so many conflicts in the form of clashes between ethnic groups, clashes between civilians and the military and other law enforcement agents, clashes between political groups, clashes between one cult group and another, Boko haram insurgency in the northeast, and conflicts of views and ideologies. Conflicts in different parts of Nigeria have led to many deaths, many losing their means of livelihood, many displaced from their homes, abandonment of health programs, etc. Too much pressure would have been put on existing health facilities and programs as conflicts in Nigeria have become endemic and pervasive.

Weak institutions

Health promotion has been defined by Green (1997) as any combination of health education and related organizational, economic, and political interventions designed to facilitate behavioral and environmental changes conducive to health. This definition captures some of the social institutions. The five major social institutions are political, family, religious, educational, and economic. Health and health promotion programs and activities can reflect the strengths and weaknesses of the various institutions. One may now ask how strong are the

UJMR, *Vol. 9 No. 2, December, 2024, pp. 187 - 193* different social institutions in Nigeria today? The honest answer is that none of the institutions can be said to be strong. The weaknesses of these institutions, especially economic and political institutions result in the weaknesses of health promotion experiences and consequently little or non-significant impact of the program.

Leadership

Both experts and non-experts in Nigeria today agree that the country has serious problems with leadership at all levels. Leadership is supposed to define the direction of development of a country. The Nigerian government of today is clueless. The leadership of Nigeria today misplaces every priority. The key sectors of the economy, such as education and health etc.. have been neglected to the point that the political class, including the president, travel to other countries to receive healthcare. Right now there is no known serious attention paid to health and health promotion that even some of the diseases that had been eradicated are resurfacing. Today, there is an outbreak of one disease or the other here and there.

Global Environmental threats

Nigeria is part of the global village. Any global issue also affects Nigeria. WHO (2002) reported that global environmental threats to heath are climate change, depletion of the ozone layer, reduction in biodiversity, degradation of the ecosystem, and the spread of persistent organic pollutants. As in other parts of the world, global environmental threats also affect Nigeria's health and health promotion programs.

The impact of socioeconomic, Cultural, and Infrastructural Factors on Health Promotion in Nigeria

Social and economic factors affect how well and how long we live. Social and economic factors include income, education, employment, community safety and social support. Social and economic factors impact the choices that are available in a community. These choices include our ability to afford medical care, housing, and stress management. Social and economic opportunities help communities live longer and healthier lives. For example, a living wage shapes opportunities for housing, education, child care, food, and medical care. We do not always think about social and economic factors when considering health. However, strategies to improve these factors can impact health more than strategies that target individual behaviors.

Culture is a pattern of ideas, customs, and behaviors shared by a particular people or society. The influence of culture on health is vast. It affects perceptions of health, illness, and death, beliefs about the causes of diseases, approaches to health promotion, how illness and E-ISSN: 2814 - 1822: P-ISSN: 2616 - 0668

pain are experienced and expressed, where, when, and how patients seek help, and the types of treatment patients prefer. Culture can promote trust and better health care, lead to higher rates of acceptance of diagnosis, and improve treatment adherence.

Health infrastructure is an all-encompassing term for the services and facilities contributing to a population's health. It includes elements of the health care system, like hospitals, vaccination programs, clinics, and the personnel who run the system, such as (doctors, nurses, managers, pharmacist,s e.t.c). Infrastructure is a key pillar supporting the fundamental aim of promoting improved standards of care and wellbeing for all patients, together with a good health care system experience. In parallel, the health care system and staff must support effective health promotion, prevention, and self-care of the whole population.

The need for holistic approach towards health promotion in Nigeria

A holistic approach to health focuses on treating the whole person, considering mental and social aspects, not only the symptoms of the disease. This view emphasizes the importance of the entire body rather than pieces and sections that are treated individually. A holistic approach to health is essential to address the leading cause of the problem; it takes everything into account and encourages people to take charge of their health and well-being. It is also essential to prevent illness and find long-term solutions for existing illness. A holistic lifestyle such as meditation, adequate sleep, intuitive eating, positive relationships, and physical exercise helps a lot in promoting health and disease prevention.

Key areas of promoting health in Nigeria

Nigeria, a country with a diverse population of over 200 million people, faces numerous complex health challenges and socio-economic problems that claim thousands of lives every day (Joshua, 2022). Promoting health in Nigeria involves addressing various key areas to improve the population's overall well-being. Key priority areas identified in this paper that demand special attention to promote health within the Nigerian community are:

1. Infectious diseases

Infectious diseases remain a significant threat to public health in Nigeria. Malaria, tuberculosis, HIV/AIDS, and emerging infectious diseases pose substantial burdens on the healthcare system and the population at large (Nigeria Demographic and Health Survey, 2018). Effective control and prevention strategies, such improved vector control, expanded vaccination programs, and enhanced

UJMR, *Vol. 9 No. 2, December, 2024, pp. 187 - 193* surveillance systems, are essential to mitigate the impact of infectious diseases (WHO, 2020).

2. Maternal and child health

Nigeria has one of the highest maternal and child health mortality rates globally (World Bank, 2020). Improving access to skilled birth attendants, antenatal care, postnatal care, and family planning services is crucial. Community-based interventions, like training traditional birth attendants and community health workers, can enhance maternal and child health outcomes (UNICEF, 2016).

3. Non-communicable diseases (NCDs)

The prevalence of non-communicable diseases, including cardiovascular diseases, diabetes, and cancer, is rising in Nigeria due to changing lifestyles and urbanization. Prioritizing non-communicable disease prevention through tobacco control, promoting healthy diets, increasing physical activity, and early detection can help alleviate this burden (WHO, 2017).

4. Health care infrastructure

Inadequate healthcare infrastructure and workforce shortages hinder equitable access to quality care. Investments in healthcare facilities, medical equipment, and health worker training are imperative (Uzochukwu et al. 2020).

5. Health education

Health literacy and awareness among the Nigerian population are critical for adopting healthy behaviors and seeking timely health care. Using traditional and digital media, culturally tailored health education campaigns can empower individuals to make informed health decisions (Ajuwon, 2016).

6. Water, Sanitation and Hygiene (WASH)

Improving the Nigerian community's water, sanitation and hygiene practices is essential for promoting health, preventing waterborne diseases, and enhancing overall well-being. Access to clean and safe drinking water is fundamental to preventing waterborne diseases such as cholera, diarrhea, and typhoid fever. Inadequate access to safe water and sanitation contributes to a high burden of water-related diseases in Nigeria (WHO, 2019).

7. Community participation and empowerment

Community participation and empowerment are crucial in promoting health within the Nigerian community. Engaging community members in decision-making processes, giving them a sense of ownership over health initiatives, and empowering them to take control of their health can lead to sustainable improvement in well-being and disease prevention (Olorunfemi et al., 2019).

8. Nutrition and food security

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Promoting nutrition and food security within the Nigerian community is essential for improving overall health and well-being. Inadequate nutrition and access to a diverse range of nutritious foods are crucial in preventing malnutrition and chronic diseases and ensuring optimal physical and mental development. Malnutrition, including under and overnutrition, is a significant health concern in Nigeria. Adequate nutrition through a balanced diet prevents stunting. wasting. micronutrient deficiencies. According to a report by UNICEF, nearly 2.5 million Nigerian children under the age of 5 suffer from severe acute malnutrition (UNICEF, 2021).

9. Cultural competence

Nigeria's cultural diversity requires healthcare providers to be culturally competent to effectively address health needs. Traditional beliefs, practices, and languages can influence health care-seeking behaviors. Incorporating cultural competence training into medical education and health care delivery can improve patient-provider relationships and health outcomes (Uneke et al.2020).

Accidents and injury prevention Prevention of accidents and injuries improved the health and well-being of the society. Which in turn reduced the morbidity and mortality associated with accidents and injuries. The rate of accidents in Nigeria, especially by road, is a significant health concern. Thousands of people die every year, and some sustain serious injuries as a result of road accidents. Some of the significant causes of road accidents in Nigeria include bad roads, drunken driving, faulty vehicle parts, overspeeding, reckless driving, and driving under the influence of drugs, among others. Addressing the issue of accidents will increase the life expectancy of Nigerians and improve their health outcomes (Samuel et al., 2021).

CONCLUSION

Promoting health within the Nigerian community requires a holistic approach that addresses the unique challenges and opportunities present in the country. Infectious, non-communicable diseases, maternal and child health, health care infrastructure, and health education are among the key priority areas that demand focused attention. By developing and implementing comprehensive strategies that consider these priority areas, Nigeria can work towards achieving better health outcomes for its population.

Recommendation

Based on the findings of this review, the following are recommended to facilitate health promotion in Nigeria:

- UJMR, Vol. 9 No. 2, December, 2024, pp. 187 193
- Government should develop culturally sensitive and community-specific health education programs to raise awareness about common health issues, preventive measures, and healthy lifestyles.
- 2. The government should also collaborate with local leaders, schools, and religious institutions to disseminate accurate health information and debunk myths or misconceptions.
- 3. Government should improve healthcare infrastructure and services in underserved areas, ensuring access to basic healthcare facilities, medicines, and skilled healthcare professionals.
- Government should enhance maternal and child health care services, focusing on saving pregnancy, childbirth, and postnatal care.
- 5. Efforts should be made to Promote immunization programs to reduce infant and child mortality rates.

REFERENCES

- Adebayo, A. M., & Ojifinni, J. A. (2019). Impact of health education and promotion in the prevention of malaria in Nigeria. *African Journal of Health Sciences*, 30(2), 56-62. [Crossref]
- Ajuwon, G. A., Nancy, K., Alison, K., & Masimba, M. (2017). Consumer health information literacy promotion program in public and community libraries in Africa: Experience from Kenya, Nigeria, Uganda, and Zimbabwe. Journal of the Consumer Health on the Internet, 21(4), 350-368. [Crossref]
- Akinyemi, P. A. (2021). Determinants of willingness to take COVID-19 vaccine: A community-based study in Nigeria. International Journal of Community Medicine and Public Health, 8(4), 1551-1557. [Crossref]
- Brookings Institute. (2018, October 9). Nigeria overtakes India as world's poverty capital. Vanguard News. https://vanguardngr.com/2018/10/nige ria-overtakes-india-as-worlds-poverty-capital/
- Dicker, R., & Boyer, L. (2016, May 5). 10 most corrupt countries, ranked by perception. U.S. News & World Report. https://www.usnews.com/news/best-countries/articles/2016-02-11/10-most-corrupt-countries-ranked-by-perception
- Eze, C. I., & Adejumo, A. (2020). Health promotion strategies and their effectiveness in preventing non-communicable diseases in Nigeria.

 Journal of Public Health in Africa, 11(1), 23-31. [Crossref]

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- The government should address malnutrition by promoting balanced diets and educating communities on the importance of proper nutrition and should also implement community-based initiatives for sustainable agriculture and food production.
- Access to clean drinking water and sanitation facilities should be improved to prevent waterborne diseases and should conduct hygiene promotion campaigns to encourage regular hand washing and proper sanitation practices.
- 8. The government should collect and analyze health data to identify emerging health trends and tailor interventions accordingly and should also support research initiatives that focus on health challenges specific to the Nigerian population.
- Healthy public health policies should be developed to prevent accidents and other infectious and non-communicable diseases.
- Green, B.L. Richard, M., Min, Q.W., Marcia, F.B., Nonie, E. (1997). Participation in health education, health promotion, and health research. By Africans Americans: effects of the Tuskegee Syphilis Experiment. Journal of Health Education. 28(4), 196-201. [Crossref]
- Inyang, M. P., & Ugwulor, L. O. (2015). Selected health promotion strategies: Potentials and challenges. *International Research Journal of Public and Environmental Health*, 2(3), 37-42. [Crossref]
- Joshua, I. A. (2022). Phenotypic characterization of *Staphylococcus aureus* isolated from patients in healthcare institutions in Zaria metropolis, Kaduna State, Nigeria. *West African Journal of Medicine*, 39(11), 1148-1155. [Crossref]
- Leininger, M. M. (2001). Culture care diversity and universality: A theory of nursing.

 Jones & Bartlett Learning.
- Medical Dictionary. (2016). Health indices/Definition of health indices. *The Free Dictionary*. Retrieved October 6, 2018, from https://medical-dictionary.thefreedictionary.com/healt h-indices
- Nigeria Demographic and Health survey (2018).
 Report on the prevalence of malaria and other infectious diseases in Nigeria. A survey conducted by National Population Commission in collaboration with the National Malaria Elimination Programme of the Federal Ministry of Health.
- Oduwole, O. O., & Olamijuwon, E. (2021). The economic impact of health promotion in Nigeria. *Journal of Health Economics*,

- *UJMR*, *Vol. 9 No. 2*, *December*, *2024*, *pp. 187 193*10(3), 213-220.
 https://doi.org/10.2139/ssrn.3817819
- Olorunfemi, G., & Sulaimon, A. (2019).

 Community health promotion and the empowerment of women in rural Nigeria. *International Journal of Public Health*, 8(4), 99-106. [Crossref]
- Onwujekwe, O., Agwu, P., Orjiakor, C. T., McKee, M., Hutchinson, E., Mbachu, C., & Balabanova, D. (2018). Corruption in the health sector in Anglophone West Africa: Common forms of corruption and mitigation strategies. Anti-Corruption and Mitigation Strategies. Anti-Corruption Evidence (ACE) Research Consortium Working Paper Series, SOAS University London. [Crossref]
- Onyekwe, O., Odii, A., Mbachu, C., Hutchinson, E., Ichoku, H., Ogbozor, P. A., Agwu, P., & Obi, U. S. (2018, July 9). Corruption in the Nigerian health sector has many faces: How to fix it. *The Conversation*. https://theconversation.com/corruption-in-the-nigerian-health-sector-hasmany-faces-how-to-fix-it-100261
- Owoaje, E. T., Osemeikhen, J. E., Chukwuocha, U. M., Ajayi, O. I., Cadmus, E. O., & Kayode, O. O. (2017). Impact of health promotion interventions on health behaviors in Nigerian communities: Evidence from a systematic review. *Journal of Public Health in Africa*, 8(1), 55-63. [Crossref]
- Samuel, W. O., Emmanuel, T. T., Olowolayemo, O. E., Popoola, M. O., & Awosusi, A. R. (2021). Developing an effective strategy for mitigating accidents in building construction sites. *International Journal of Multidisciplinary Research and Publication*, 3(5), 15-22. ISSN 2581-6187
- Umeakuka, O. A. (2018). Harnessing information and communication potentials for effective healthcare delivery and promotion in 21st century Nigeria.

- **E-ISSN:** 2814 1822; **P-ISSN:** 2616 0668 Nigerian Journal of Health Promotion, 11, 6-16.
- Uneke, C. J., Issiaka, S., Ermel, J., & Bilkis, I. U. (2020). Lessons learned from strategies for promotion of evidence-to-policy process in health interventions in the ECOWAS region: A rapid review. Nigerian Medical Journal: Journal of the Nigeria Medical Association, 61(5), 227-234. [Crossref]
- United Nations Children's Fund. (2016).

 Maternal and perinatal death review
 (MPDR) manual: Implementing
 confidential inquiries into maternal
 deaths in Nigeria. UNICEF.
- United Nations Children's Fund. (2021). The state of food security and nutrition in the world 2021: Transforming food systems for food security, improved nutrition, and affordable healthy diets for all. https://www.unicef.org/documents/st ate-food-security-and-nutrition-world-2021
- Uzochukwu, B. S. C. (2020). Health system and human resources for health challenges of public health care delivery in Nigeria: A quantitative study of stakeholder perspectives. *BMC Health Services Research*, 20(1), 1-15. [Crossref]
- World Bank. (2020). Improving maternal and child outcomes through strengthened primary health care. World Bank. worldbank.org
- World Health Organization (2002). Climate Change and Health. who.int.
- World Health Organization. (2017). Noncommunicable diseases progress monitor 2017. who.int
- World Health Organization. (2019). Progress on household drinking water, sanitation and hygiene 2000-2017: Special focus on inequalities. who.int
- World Health Organization. (2020). *Infectious diseases*. who.int