

The role of laboratory medicine in addressing migrant health problems

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ARTICLE INFO

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Key words:

laboratory medicine, migrant,
health issues

ABSTRACT

Introduction

A migrant is a person who has relocated to another country for varying reasons. Laboratory medicine is a medical speciality in which body specimens are examined and results interpreted for the appropriate management of patients in healthy and diseased states.

Health challenges of migrants

Migrants have health problems like the general population but may be affected by factors such as their geographic origin, living conditions, and their physical and psychological conditions.

The role of laboratory medicine

Laboratory medicine will play a vital role in the provision of quality healthcare services to migrants. It will be actively involved in the screening, diagnosis, and monitoring of response to treatment. Effective public health surveillance among migrants will require laboratory services. The data gathered from research using laboratory resources will help in the improvement of the quality of migrant health.

INTRODUCTION

Laboratory medicine is a medical speciality involved in the selection, provision, analytical testing and interpretation of tests' results using specimens from patients (1). A medical laboratory is where tests are carried out on specimens in order to obtain information about the health of a patient with regards to the diagnosis, treatment, and prevention of disease.

A migrant can be defined as a person who moves from a place to another in order to find work or better living conditions. Migration may be voluntary (economically motivated) or forced. Each of these forms of migration presents with different health challenges. Some of these challenges are related to where people come from, where they go and how they move. Others are a function of national policies and social attitudes to migrants and their living conditions.

Over 200 million people migrate every year for economic reasons (2). The number of people who are forced to move for reasons of conflict is also growing (3). People flee across borders and become refugees, while at the same time millions of others are forced to flee from their homes but remain within their own borders; the internally displaced.

HEALTH CHALLENGES OF MIGRANTS

The health of displaced populations is mainly affected by infectious diseases, mental health issues and chronic diseases (3). It also depends on the migrant's geographic origin, conditions of migrant camps or urban settings where they live, and the physical and psychological state of the migrant, either pre-existing or acquired (4). Their health problems may be similar to those of the rest of the population, albeit with a higher prevalence. Each migrant should have full, uninterrupted access to high-quality health care, without discrimination on the basis of gender, age, religion, nationality or race. The World

Health Organization (WHO) supports policies to provide health care services irrespective of migrants' legal status. As rapid access to health care can result in cure and reduce the spread of diseases; it is in the interests of both migrants and the receiving country to ensure that the local population is not unnecessarily exposed to the importation of infectious agents (5).

THE ROLE OF LABORATORY MEDICINE

While the roles of clinical laboratories in the management of diseases in a stable population are clearly defined, the same cannot be said for a migrant population. Laboratory testing helps determine the presence, extent or absence of disease and monitor the effectiveness of treatment. An estimated 60 to 70% of all decisions regarding a patient's diagnosis, treatment, hospital admission and discharge are based on laboratory test results (6). A well trained and competent laboratory staff working harmoniously is needed to perform the following roles in addressing migrant health issues.

Screening for specific diseases

Screening is the systematic application of a test to identify subjects at sufficient risk of a specific disorder to benefit from further investigation or direct preventive action, among persons who have not sought medical attention on account of symptoms of that disorder (7). It can detect indicators of active or latent disease that may lead to a cure or diminish the impact medical conditions may have. Some infectious diseases screened for include tuberculosis (TB), hepatitis. Non-communicable diseases can also be screened for e.g., diabetes mellitus (DM), sickle cell disease, malnutrition, etc. Screening for premalignant lesions e.g. cervical cancer (Pap smear), colorectal cancer (faecal occult blood testing) has the potential to reduce mortality from cancer. The WHO does not recommend obligatory screening of migrant populations

because there is no clear evidence of benefits and it may cause anxiety among migrants and the local community (5).

Diagnosis

Laboratory medicine is crucial to the accurate determination of the cause of diseases. Infectious diseases can often be diagnosed using microbiological tests. The Chemical Pathology laboratory is useful in the diagnosis of diseases such as DM, kidney disease, etc. The Haematology and Histopathology laboratories also play crucial roles in the diagnosis of cancers.

Monitoring effectiveness of treatment

Laboratory investigations play a major role in monitoring and evaluating the efficacy of medical treatments. Microbiological tests play an essential part in effective infection control program, and management of antimicrobial resistance. Chemical Pathology and Haematological tests help in monitoring various non-communicable diseases.

Prognostication

Potential adverse outcomes due to disease or drug treatments can be evaluated by laboratory tests. These can minimize the severity of disease and its effect on mortality, morbidity and quality of life.

Quality of patient care

Healthcare delivery systems aim to provide quality care with the patient at the centrepiece via safety, effectiveness, timeliness, efficiency, equity and patient centeredness. Laboratories play crucial role in caring for the patient; over 50% of electronic medical records come from laboratory data (8). Laboratory information enables physicians and other healthcare professionals to make appropriate evidence-based diagnostic or therapeutic decisions for their patients. Clinical laboratory services are the most cost effective,

least invasive source of the objective information used in clinical decision-making.

Public health surveillance

Laboratory medicine plays an important role in the identification and management of public health threats. Accurate laboratory-based information is critical for disease surveillance and control programmes. Before an outbreak, laboratory-supported surveillance allows early detection of cases. During an outbreak a sample of cases should be laboratory confirmed to assess changes in the aetiological agent and to guide decisions about the allocation of resources. Support of varying nature is provided by laboratories of differing capabilities. Field laboratories are useful in providing laboratory services to a migrant population. More complete testing is usually done in nearby regional laboratories. Reference laboratories may identify rare or dangerous pathogens, identify newly described organisms, and provide uncommon diagnostic reagents.

Economic value

When the role laboratory medicine plays in the prevention and useful guidance of treatment is considered, its economic utility as determined by cost-effectiveness analysis is not in doubt. Clinical laboratory tests save time, costs, and lives by enabling early detection and prevention of disease.

Research

Laboratories also play a pivotal role in performing research, especially operational research that supports evidence-based decisions for guiding laboratory practice. Whenever possible, such research should be performed in migrant camps, where the conditions represent the real situation. This is because research performed in academic centres may differ from those in the field and may not always provide reproducible

results under different conditions. Research can also be carried out to improve diagnostic methods and techniques.

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