

Measures to Prevent Diseases and Health Problems

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Abstract

When the individuals formulate personal and professional goals and objectives, they need to put in diligence and inculcate the traits of conscientiousness and resourcefulness to achieve them. Apart from these, they need to ensure that they are healthy physically and psychologically. Health is regarded as wealth. When the individuals will possess good health, they will be able to carry out various tasks and activities. The occurrence of diseases and health problems are common among individuals, belonging to all age groups. It is vital for the individuals to possess the required information in terms of various measures that are necessary to take care of their health. With the advent of modernization and globalization, there have been initiation of modern and innovative methods in the medical and health care facilities within the country. The various concepts that have been taken into account in this research paper include, causes of diseases and health problems, measures for prevention of diseases and health problems and the prevention and control tasks of the diseases.

Keywords: Diseases; Health Care; Health Problems; Measures; Medical; Prevention

The communicable diseases are regarded as the major causes of distress, disability and death throughout the world. The World Health Organization's Programme on communicable diseases provides methodical guidance and support to national governments to organize and implement programmes directed at setting up or reinforcement of ongoing control of common diseases, reducing transmission, mortality, morbidity and human suffering, and eliminating these diseases so that they no longer be a public health problem. In some cases, the goal may also be to eradicate selected communicable diseases. WHO methodical programmes dealing with definite communicable diseases have issued a variety of guidelines on interventions and programme organization. WHO supports countries in adapting these guidelines to national conditions and resources. However, there is at the moment not any document summarizing the prevention and control strategies and interventions that could enable planning of co-ordinated activities at national, state and district level [1].

Developing and strengthening communicable disease control in endemic countries at national level requires a substantial and long-term commitment of human and material resources. This generally begins with an organized assessment of national priorities as regards disease as burden, and leads eventually to national strategies and plans for the prevention and control of communicable diseases. Endemic countries have instigated prevention and control strategies for pertinent communicable diseases with a high pressure and periodically elaborate responses to specific short-term needs to handle other diseases of lesser importance or perceptibility. The prevention and control of communicable diseases is essentially a national function and responsibility. It is carried out on a large scale by national authorities in concert with other key stakeholders in health [1]. Chronic diseases are stated to be the most prevalent and expensive [2]. In India, the individuals, normally belonging to deprived, marginalized and economically weaker sections of the society are the ones, who normally cannot afford treatment and thus experience unfavourable effects.

Causes of diseases and health problems

The causes of diseases and health problems have been stated as follows: [3].

- **Lack of Physical Activity:** Regular physical activity is one of the most important factors a person can do to stay healthy. Not only will physical activity increase one's chances of living longer, it can also help in maintaining one's body weight; reduce risks for cardiovascular disease, type 2 diabetes, metabolic syndrome, and some cancers; strengthen bones and muscles; improve mental health and mood; and improve ability to carry out daily activities and prevents falls among older adults. It is vital for individuals, belonging to all age groups to get engaged in some form of physical activity. Research has indicated that elderly individuals too prefer walks in the morning and evenings to stay healthy.
- **Inadequate Diet and Nutrition:** Good nutrition can help lower risk for many chronic diseases, including heart disease, stroke, some cancers, diabetes, and osteoporosis. Increase in the consumption of fruits and vegetables helps reduce the risk for heart disease and certain cancers as well. Managing weight is all about balance, i.e. balancing the number of calories consumed with the number of calories the body uses. Research has indicated that in some cases, individuals do not keep a check on their diet and prefer eating unhealthy food items. Especially, when the individuals are engaged in office jobs, they work on computers and eat and drink on an irregular basis. This leads to an increase in body weight and other health problems as well.
- **Use of Tobacco:** Since 1964, an ongoing series of Surgeon General's reports on smoking and health has concluded that tobacco use is the single most avoidable cause of disease, disability, and death in the United States. The tobacco use epidemic can be stopped. Evidence-based, state-wide tobacco control programs that are comprehensive, sustained, and accountable have been shown to reduce smoking rates, tobacco-related deaths, and disease caused by smoking. Research studies have indicated that in India, there is an increase in the use of tobacco among individuals, belonging to deprived, marginalised and economically weaker sections of the society. Use of tobacco helps in controlling hunger. As these individuals are residing in the conditions of poverty and are engaged in minority jobs, hence, they are unable to spend money on the purchase of healthy food items, therefore, they use tobacco to control hunger. The use of tobacco causes diseases and health problems.

- **Excessive Consumption of Alcohol:** Alcohol is publicly accepted. In the organization of parties or marriages, there is availability of various types of alcohol. Consumption of too much of alcohol is not good for one's brain and it tends to impede one's thinking and communication abilities. The individuals need to ensure that they consume alcohol in moderation and excess should be avoided. Excessive alcohol use is the nation's third leading lifestyle-related cause of death, and is associated with a wide range of health and social problems, including acute myocardial infarction, unintended pregnancy, and interpersonal violence. The current Dietary Guidelines for Americans recommends that people who choose to drink alcoholic beverages do so sensibly and in moderation, defined as up to one drink per day for women and up to two drinks per day for men. These guidelines also specify that some people should not drink alcoholic beverages at all, including underage youth.

Measures for prevention of diseases and health problems

The measures for the prevention of diseases and health problems have been stated as follows:

- **Quitting the Use of Tobacco:** The health benefits of quitting smoking are numerous, and many are experienced rapidly. Within two weeks to three months after quitting, heart attack risk begins to drop and lung function begins to improve. One year after quitting, excess risk for heart disease is reduced by half, and 10 years after quitting, the lung cancer death rate is about half that of a current smoker. Fifteen years after quitting, an ex-smoker's risk for heart disease is about the same as that of a lifelong non-smoker [3].
- **Nutritious Diet:** It is vital for the individuals, belonging to all age groups to consume a healthy and nutritious diet. The diet should comprise of green vegetables, cereals, fruits and bread. Whereas, the unhealthy food items, such as sweets or junk food should not be completely avoided, but need to be consumed in moderation. The individuals, belonging to all age groups need to keep a check on their diet. It is necessary to consume meals at regular intervals and one should avoid skipping meals.
- **Exercise and Physical Activities:** It is necessary to get engaged in exercise and physical activities. When the individuals are obese, the physicians advise them to keep control on their diet and get engaged in exercises and physical activities. On the other hand, the individuals, who are health conscious also need to get engaged in exercises and physical activities. These activities help the individuals to keep control on their body weight and stay

- active. The various types of exercises and physical activities that individuals would get engaged in include, morning walks, jogging, outdoor sports such as, tennis, badminton, football, cricket and so forth. In addition, yoga and meditation are also practiced by the individuals to stay healthy and calm.
- **Determination of Behaviours:** It is vital to determine the behaviours, which would lead to prevention of diseases and health problems. The individuals need to ensure that they generate awareness in terms of various methods and approaches, which would prevent illnesses and diseases, not only among themselves, but also in animals. The individuals, belonging to all age groups, categories and backgrounds need to maintain good terms and relationships with others and keep control on the feelings of anger and frustration. Various types of psychological problems, such as, anger, stress, depression, and trauma are the ones that cause health problems and illnesses among individuals. The psychological problems not only have an effect upon the psychological but also physical health conditions. Therefore, it is vital for the individuals to generate information in terms of various aspects that would facilitate the implementation of adequate behavioural traits and help them control any types of psychological problems from assuming a major form.
 - **Maintaining Cleanliness:** From the stage of early childhood, individuals are provided with information to maintain cleanliness within the environment as well as their personal appearance. Within the households, individuals ensure that they perform the tasks of cleaning. The individuals need to make sure, they bathe every day and wear clean clothes. Children should be prevented from playing in the mud, as it may cause infectious diseases. Research has indicated that young children tend to play on the floor. Therefore, the individuals need to ensure that the floor is clean, so dust does not have a major effect upon their health. Therefore, maintenance of clean environment and taking precautions are important aspects that would lead to prevention of diseases and health problems.
 - **Improve Surveillance for Infectious Diseases:** National infectious disease surveillance systems form the foundation of one's ability to know and give path to the routine. Certain infectious diseases, such as multidrug-resistant (MDR) TB, meningococcal meningitis, and botulism, warrant prompt detection of all cases, the reason being, they cause substantial morbidity and mortality, require specific public health interventions, or may signal a potential eruption. State and local public health authorities, other infectious disease experts, and CDC will reconsider reportable diseases, establish criteria for making a disease reportable, and explore ways to augment rapid reporting of cases from clinical laboratories and health care practitioners [4].
 - **Implementation of Special Projects:** Implementation of special projects, such as evaluation of new diagnostic tests for Lyme disease; evaluation of illnesses are often not unambiguously diagnosed but whose trends and etiologic information are important, e.g., diarrhoea, community-acquired pneumonia; and investigation of the relationships between infections and chronic diseases, e.g., hantavirus infections and hypertension, hepatitis C and chronic liver disease, and respiratory virus infections and asthma attacks [4].
 - **Investigation of Environmental Sources:** It is necessary to investigate environmental sources of infection and formulate measures for controlling. Many diseases, such as, coccidioidomycosis, histoplasmosis, botulism, legionellosis, intestinal helminthiasis, and primary amoebic encephalitis, are caused by organisms that reside primarily in the soil or water. The environmental and climatic phenomena that influence the emergence or re-emergence of such diseases have not been systematically evaluated. Expanded research is needed to better understand these events and augment one's ability to predict and control these infections [4]. When the individuals get affected by the environmental sources, they need to take proper medical treatment.
 - **Evaluate Technologic Aspects of Food Processing and Water Treatment:** Priority areas for increased epidemiologic evaluation and applied research will include, assessing the impact of technologic changes in food production, including pasteurizing eggs, treating chicken carcasses with disinfectants, and using automated cooking machinery in restaurants, on foodborne disease; determining the risk of meat contamination related to various slaughtering practices, such as using distressed animals, slaughtering animals on a horizontal surface instead of hanging vertically, or per fusing carcasses with cold saline to cause chill; evaluating the safety of drinking water, determining the etiologic agents and impact of waterborne gastroenteritis outbreaks, evaluating the effectiveness of measures, such as, reverse osmosis filters, to reduce waterborne illness; and developing new tools for the quick and consistent detection of microbial contamination in food and water [4].
 - **Monitor the Distribution of Animal Reservoirs and Vectors:** Investigation systems for important infectious disease vectors and animal infections that are risky to human health, including studies of the predominance of potential human pathogens in animal populations, are the major component of efforts to report the emerging vector borne and zoonotic diseases. The proper surveillance infrastructures need to be used for this purpose. Priorities for surveillance include, potential rodent reservoirs of hantavirus; rabies in raccoon populations; *Cryptosporidium* in cattle and wild ruminants such as deer; *Echinococcus multilocularis* in dogs and other canids;

the distribution of tick vectors of Lyme disease and Rocky Mountain spotted fever; the distribution of mosquito vectors of arboviral encephalitides, dengue, and yellow fever (YF) and the occurrence in humans, and potential animal reservoirs of emerging agents, such as Ehrlichia chaffeensis. The potential use of satellite imaginings or similar technology to anticipate changes in vectors, animals, and the environment that would directly affect the incidence of infectious diseases need to be assessed [4].

The prevention and control tasks of the diseases

Experiencing health problems and illnesses are common as the individuals grow older. When the individuals reach the age of 60 and above, they are likely to experience health problems and illnesses. When the individuals experience diseases and health problems, they are in need of medical treatment as well as care. Research studies have indicated that women are more likely to postpone medical treatment as compared to men. In India, elderly individuals, who are likely to experience diseases, often develop a pessimistic outlook. There are number of challenges that the individuals encounter within the course of obtaining medical and health care treatment. These include, lack of health care and medical facilities, language barriers, lack of literacy and difficulties in understanding the procedures that are needed to promote good health and well-being [5]. It is vital for the individuals to overcome the barriers and make sure, they take care of their health. The additional prevention and control tasks of the diseases have been stated as follows: [1].

Immunization

Organization of immunization sessions are vital, as they provide information in terms of general care. In this case, the important aspects that need to be taken into consideration are, setting up a timetable for special immunization sessions, if appropriate; identifying locations and times for outreach sessions; assessing the numbers to be immunized; identifying requirements in materials and vaccines; asking for materials and vaccines; ensuring adequate sterilization facilities; ensuring that the cold chain is functioning properly and undertaking immunization or assisting in special immunization activities. Infants and children, expecting women and adults and those aged 50 and above, in other words, individuals belonging to all age groups may require immunization.

The various types of immunization are, boosters, especially tetanus, immunization for high-risk groups, occupational high-risk groups, anthrax, plague, leptospirosis, others i.e. refugees and

internally displaced persons; hospital settings, and so forth, especially public health strategies for control or eradication. Outbreak response immunization, for instance, measles in refugee situations, i.e. refugee populations, cerebrospinal (meningococcal) meningitis outbreak, i.e. immunization of total population, on detection of confirmed poliomyelitis, i.e. immunize under-5s in appropriate geographic areas. In some cases, on detection of one case of clinical diphtheria, i.e. immunization of contacts. Therefore, it can be stated that immunization is one of the effectual ways of preventing diseases.

Mass chemoprophylaxis/chemotherapy

In this case, there is a need to set out procedures for mass drug administration. These include, assessing the need for outreach distribution, setting up locations and times for outreach sessions, assessing numbers of individuals to be provided with drugs, identifying requirements, i.e. drugs, and materials, requesting drugs and materials, as the case may be, ensuring storage, undertaking the administration of drugs and reporting on drug administration, i.e. amounts, estimated coverage, needed for action. Mass chemoprophylaxis or chemotherapy campaigns are not related to individual case management. They deal with the community, rather than the individual and are not necessarily dependent on the effective presence of signs or symptoms. Their purpose is to ensure the protection of a community against infection or to treat members of the community, where the disease is prevalent on a large scale, without submitting individuals to a preliminary clinical or parasitological investigation. The strategic aspects of mass drug distribution are usually decided at national level.

Safe water supply and sanitation

It is of utmost significance to make use of clean water, not only for drinking purposes, but for number of other purposes as well. It is vital for the individuals to identify the sources of potential and causes of contamination of water. The individuals residing in rural communities obtain water from the water bodies. Hence, they need to ensure that water bodies are clean and prevent water pollution. There should be appropriate selection of prevention measures, which are temporary or permanent to be undertaken by the community. These include, boiling, chlorination, identification of sources of potential and actual contamination by wastage and faecal matter. In addition, measures need to be initiated for the improvement of sanitation to be undertaken by the community, i.e.

trench pits, fly-proofing or other improvement to latrines, rubbish disposal, hand-washing, implementation of health education and training activities towards the selected prevention measures, identification of negative and positive elements towards implementation of the measures, identifying help to be requested from specialized services in the community or at the more central levels and undertaking tasks and obtain assistance and support from the community members.

Food safety

Research has indicated that most micro-organisms do not cause disease. Whereas, hazardous micro-organisms are found in soil, water, animals and people. These are carried on hands, wiping cloths and utensils, especially cutting boards. Contact can transfer them to food and cause foodborne diseases. The individuals need to take into account various aspects, such as, wash hands before handling food and often during food preparation, wash hands after going to the toilet, wash and sanitize all food contact surfaces and equipment and protect kitchen areas and food from insects, pests and other animals. It is vital to separate raw and cooked food. The reason being, raw food, especially meat, poultry and seafood, and their juices, can contain hazardous micro-organisms that may be transferred during food preparation and storage. Separation of raw meat, poultry and seafood from other foods. Use separate equipment and utensils, such as knives and cutting boards for handling raw foods. Store food in containers to avoid contact between raw food and prepared food. Furthermore, making use of proper cooking kills almost all hazardous micro-organisms. Research studies show that cooking food to a temperature of 70°C can help ensure the food is safe for consumption. Foods that require special attention include minced meats, rolled roasts, large joints of meat and whole poultry.

Injection safety and sterilization

On a comprehensive scale, unsafe injection practices and the overuse of injections combine to cause an estimated eight to 16 million hepatitis B infections, 2.3 to 4.7 million hepatitis C infections and 80 000 to 160 000 HIV infections each year. Sterilizable injection equipment has been used in many countries for many years, particularly in the framework of the Expanded Programme of Immunization (EPI). To ensure that injections administered with sterilizable equipment do not prove to be disadvantageous to the recipient or the provider, proper procedures must be followed

and quality assurance must be put into operation, including use of Time Steam Temperature (TST) spot indicators.

Assessment of the security of injections directed in settings, where sterilizable injection equipment is used has shown that system breaks make it impossible to guarantee the quality of sterilization procedures and that injections given with sterilizable equipment are on the whole unsafe. In 2000, WHO, UNICEF, UNPFA, and the International Federation of Red Cross and Red Crescent Societies issued a joint policy statement calling for the exclusive use of auto-disable injection equipment i.e. equipment that is not possible to reuse in EPI programmes by the year 2003. Evidence-based best injection practices recently formulated by WHO recommend against the use of sterilizable injection equipment. Therefore, unless the quality of sterilization can be formally ensured with TST spot indicators, sterilizable injection equipment should be phased out in favour of the exclusive use of disposable injection equipment, including auto-disable equipment for immunization services.

Blood safety

A well-ordered blood transfusion service (BTS) is a precondition for the secure and operative use of blood and blood products. The HIV/AIDS pandemic has put particular emphasis on the significance of preventing transfusion-transmitted infections (TTIs). Between 5% and 10% of HIV infections on a global scale are transmitted through the transfusion of contaminated blood and blood products. Many more recipients of blood products are infected by hepatitis B and hepatitis C viruses, syphilis and other infectious agents, e.g. *Trypanosoma cruzi*. Transfusion-transmitted infections can be eliminated or reduced through an approach for blood safety. It is the responsibility of the governments to ensure a safe and adequate supply of blood. This responsibility may be delegated to a non-profit non-governmental organization, but the blood transfusion service should be developed within the framework of the country's health care infrastructure. A blood transfusion service requires commitment and support of the government and must be recognized as a separate unit with appropriate budget, a management team and trained staff members. Important approaches in establishing a blood transfusion service include, collecting blood only from voluntary non-remunerated blood donors from low-risk populations; screening all donated blood for transfusion-transmissible infections, including HIV, hepatitis viruses, syphilis and other infectious agents and reducing unnecessary transfusions through

the operative clinical use of blood, including the use of simple alternatives to transfusion, wherever possible.

Vector control

The main current options for vector control include, larval control, control of adult vectors and limitation of contact between vectors and humans, i.e. personal protection measures. The ecology and behaviour of the target vectors determine on a large scale, the choice of control method or combination of methods. Methods of control may include, recourse to environmental modifications, e.g. drainage to mechanical control, i.e. mosquito-proofing, screening, to chemicals, i.e. insecticides or larvicides or to combinations, i.e. insecticide-treated bed-nets and traps. Nevertheless, biological control and environmental management have limited applications and chemical control is still considered to be an important element in the control of vectors and pests of public health importance. The following comments, while pertaining specifically to mosquito vectors, are also pertinent to the other main categories of vectors.

Conclusion

Health of the individuals is regarded to be of utmost significance. It is indispensable for the individuals to take care of their health. When one has to take care of their health, they need to ensure they prevent diseases and health problems. The causes of diseases and health problems are, lack of physical activity, inadequate diet and nutrition, use of tobacco and excessive consumption of alcohol. The measures for the prevention of diseases and health problems are, quitting the use of tobacco, nutritious diet, exercise and physical activities, determination of behaviours, maintaining cleanliness, improve surveillance for infectious diseases, implementation of special projects, investigation of environmental sources, evaluate technologic aspects of food processing and water treatment and monitor the distribution of animal reservoirs and vectors. The additional prevention and control tasks of the diseases are, immunization, mass chemoprophylaxis/chemotherapy, safe water supply and sanitation, food safety, injection safety and sterilization, blood safety and vector control.

As some of the most common, costly and preventable health problems, chronic diseases and conditions place a significant burden on the society. Not only do they affect the lives of millions of Americans, they result in lost productivity, leads to an increase in the rate of absenteeism in school and work, and high health care costs. Many states are developing policies, programs

and initiatives to restructure health care delivery and payment systems to improve health, reduce costs, and prevent and manage chronic diseases in a better way. States have adopted a wide range of approaches to improve women's health and causes a reduction in the costs and health care burden of chronic diseases.

The other aspects that one should take into account are, improving access to insurance coverage, preventing and reducing chronic health conditions and promoting wellness, significantly affecting the lives of particularly women of all age groups. The reason being, women represent the foundation of a family's overall health, ensuring they have access to quality care can lead to improved health for children and families. Some approaches target on the underlying causes of specific diseases, while other approaches focus on promoting health and reducing risk factors that contribute to multiple chronic diseases. In addition to preventing and managing diseases, states are implementing approaches to improve access to high-quality care, as well as transform health care delivery to focus upon prevention of diseases and promoting health and well-being.

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