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EDITORIAL

Community ophthalmology: an overview

Community ophthalmology, also known as public-health ophthalmology or preventive ophthalmology, has been attracting attention in the ophthalmological world. This delivery of eye care involves preventive, curative, promotive, and rehabilitative activities, making it a holistic approach (Figure 1).[1] With clinical ophthalmology at its core, it incorporates basic, clinical, and public-health sciences in its dimension. It highlights the realignment from individualized care to community-based eye-care services (Table 1).[1] Community ophthalmology is much more than ophthalmic practice in the hospital or clinic. It is foreseen as a health-management approach in preventing eye diseases, lowering eye morbidity rates, and promoting eye health through active community participation at the ground level. Comprehensive eye-care service must start where people live and work, and such is the thrust of community ophthalmology. Prevention and promotion should begin among the people. Thus, public eye health is evolving into one of the most challenging areas in eye care.

This branch of community medicine also seeks to address the problem of preventable or avoidable blindness, defined by the World Health Organization (WHO)[2] as blindness that could either be treated or prevented by known, cost-effective means. Such kind of blindness is not a problem without a solution. In fact, the vast majority of visually impaired people throughout the developing world are suffering without reason.

Eye diseases do not exist in isolation. Ocular health is the end product of the interactions of the multi-factorial determinants of disease that exist in the community. Diverse issues that include biological factors (i.e. genetic influences, aging, increasing lifespan), environmental factors (sanitation, clean water supply, and environmental degradation), behavioral patterns (attitudes, lifestyles, religious beliefs and dogmas), and health-care organizations play a role in and have a tremendous impact on the development, occurrence, and severity of eye disease. Such dynamism exceeds the curative aspect.

According to Dr. Konyama of the Juntendo University School of Medicine and a consultant to the WHO Collaborating Center for Prevention of Blindness, the service targets of community ophthalmology must be the whole population, regardless of the stage of visual status. These four stages of eye-health status are a healthy population, population with risks, population with ocular morbidity, and the blind and visually impaired.

Each stage has a corresponding level of prevention. In 1957, the United States Commission of Chronic Illness proposed the original classification system for prevention in the public-health field. It contained three types of prevention interventions,[3-5] stated in terms of primary goals related to the disorder or illness. These stages of prevention and control of a disease are also true for community eye health.

1. Primordial health promotion[3]

The new system includes a level of primordial prevention before the primary prevention. In community ophthalmology, this is achieved through health education, environmental hygiene, and healthy dietary practices. The promotive component (mainly health education and promotion) consists of provision of information, education, communication (IEC) materials on simple personal hygiene, detecting visual disturbances in children, eradication of myths and misconceptions on eye care, advice on proper diet such as adding dark-green, leafy vegetables high in beta-carotene to the diet of young children, and increasing awareness on the availability of surgery to restore sight of those blind because of cataract, as well as other existing health services. Though difficult to accomplish, health education must encourage change in attitudes and perceptions toward proper eye health.

Education upholds positive health promotion in a healthy population. Community ophthalmology can also be instrumental in contributing to policy advocacy, wherein it calls for ocular-needs assessment and prioritization by the population, stakeholder information for resource allocation, and formulation of preventive, promotive, curative, and rehabilitation programs.

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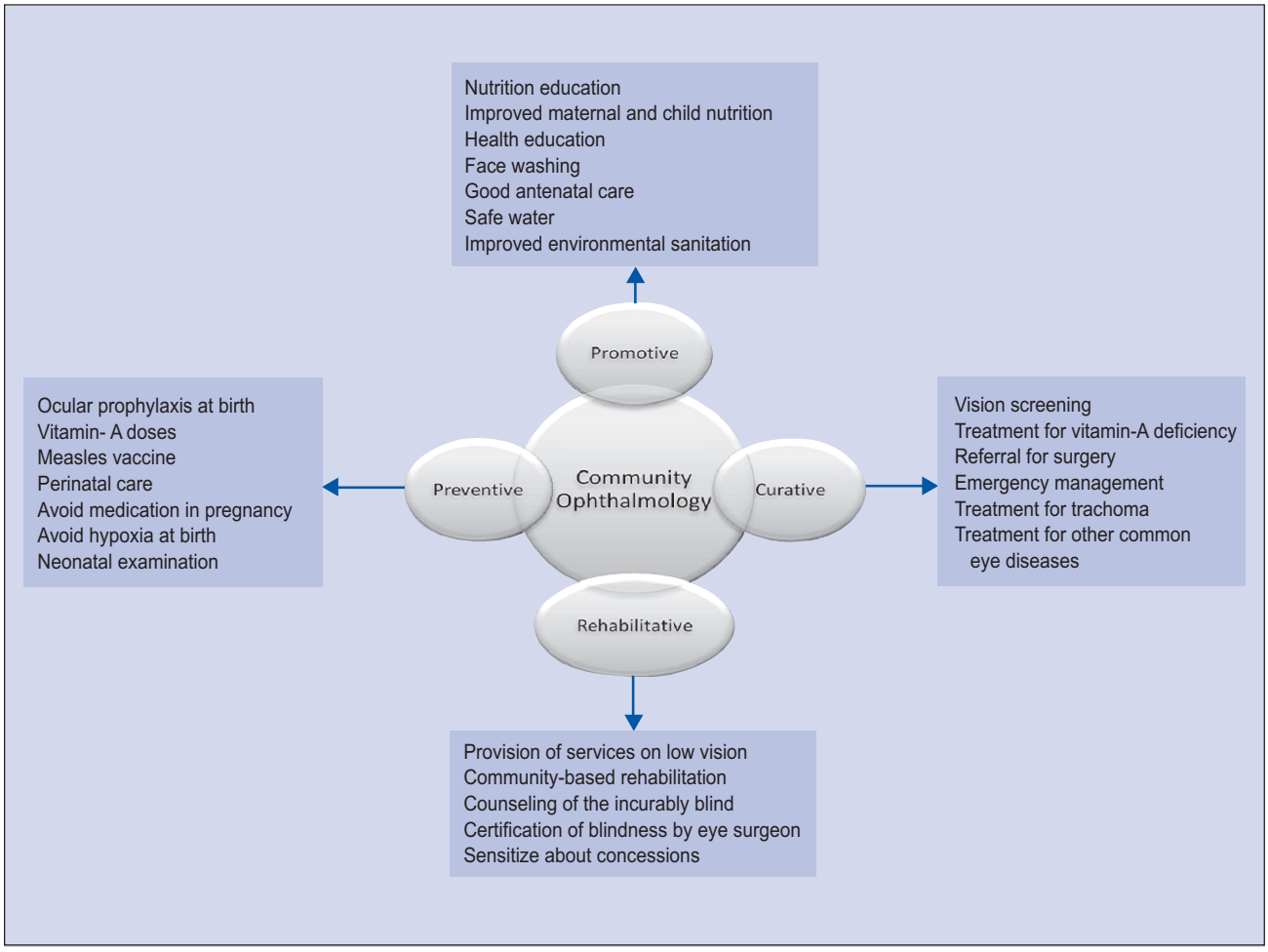

Figure 1. Flow of various components.[1]

[1]Bhusan Pradhan K, Banerjee P. Community cphthalmology: dimensions. *Community Ophthalmology* 2001; I: 17-21.

2. Primary prevention of diseases

Primary prevention, which seeks to decrease the number of new cases of a disorder or illness is directed toward the healthy population. In eye care, it can be through measles immunization in childhood, vitamin-A supplementation for pregnant women, and awareness campaigns for preventing unhealthy birth practices.

3. Secondary prevention: early diagnosis and treatment

Secondary prevention, which seeks to lower the rate of established cases of a disorder or illness in the population, is intended for those with existing disease. In eye care, it can be achieved through a screening system where cases like cataract can be diagnosed early and treated to prevent blindness at a later stage. Among all the types of glaucoma, only narrow-angle glaucoma is considered priority in community ophthalmology by virtue of its acuteness and familial tendency. The reason for this is that these patients are of higher risk for sudden blindness and hence takes precedence for detection and management.

4. Tertiary prevention

Tertiary prevention seeks to reduce the amount of disability associated with an existing disorder.

Disability control. In community eye care, this can be achieved through monitoring and continuous management of glaucoma and diabetic retinopathy, among other eye disorders. Though a complete cure may not be expected, the magnitude of disability may be controlled to a considerable extent. This can also be accomplished by instilling awareness through health

Table 1. **Distinction between clinical ophthalmology and community ophthalmology.**[1]

Distinguishing Factors	Clinical Ophthalmology	Community Ophthalmology
Goal	Treatment and care	Treatment and care Community participation Preventive approach Health education and promotion Community-based rehabilitation Epidemiological research
Target	Single patient	Population or community as a whole
Diagnosis	Physical examination, laboratory, investigations, tests	Health survey of population Screening camps
Therapy	Surgery/medicine	Surgery/medicine Health education Counselling
Base	Clinic	Clinic, Community
Relationship	Doctor and patient	Doctor Patient Community volunteers Social workers
Patient mobilization	Low	High
Accessibility and affordability	Not flexible	Patient-friendly
Research interest	Mostly clinical	Clinical Population surveys Community surveys
Drive	Provider driven	Consumer driven/ Community driven

[1]Bhusan Pradhan K, Banerjee P. Community cphthalmology: dimensions. *Community Ophthalmology* 2001; I: 17-21.

education and ensuring maximum utilization of the existing services. Under this type of prevention is assistance for low vision.

Rehabilitation. This is for patients with absolute and irreversible blindness (i.e. amblyopia, permanent corneal degeneration/opacity) who need social and economic support. The rehabilitation program can sustain the well-being of a blind person through individual capacity building in several aspects of life so that they can live independently.

Community ophthalmology examines the problem of blindness from the perspective of the population. This requires investigating the magnitude of the problem, the causes of blindness and eye diseases in the community, the availability of eye services, the attitudes of the people toward visual disability or eye diseases and toward services, and the many barriers that prevent people from using these services. Preventive activities rely heavily on epidemiological research and community-based surveys to identify populations at high-risk for specific diseases. It strives to instill community awareness on eye health through various strategies. When these issues are defined, then solutions can be sought, decisions can be made by stakeholders, and programs can be implemented. Dissemination of information to eye-care service providers and service users, social marketing, and improvement of the utilization of these services are within the realm of community ophthalmology. In addition, it entails provision of comprehensive eye-care services like vitamin-A supplementation, vision screening in schools, community-based rehabilitation, primary eye care (PEC), as well as training of PEC workers.[5]

Therefore, community ophthalmology complements clinical ophthalmology; the former includes knowledge and training in epidemiology, research, health-program development and administration, and techniques on communication and effective teaching. Legions of ophthalmologists trained merely on how to diagnose and treat eye diseases will not be able to prevent blindness in its entirety, especially in developing or poor countries. There has to be increased cooperation and collaboration among the national committees of each country, as well as active participation of government and nongovernment organizations to mobilize needed resources and enhance political will for a strong and effective blindness-prevention program within the overall national health-care program.

As a structured discipline, community ophthalmology remains emergent, borrowing identity from other specialties, even with clinical ophthalmology at the core of its services. This may be due to the lack of glamour in what is a highly technical and surgery-oriented profession. On the other hand, community ophthalmology is a rich and rewarding subspecialty awaiting recognition by ophthalmology's leaders.

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