Implementation of cost-effective and community-based strategies for prevention and control of rheumatic heart disease

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Abstract

Rheumatic heart disease (RHD) is one of the most important sequela of acute rheumatic fever (RF) associated with disabilities that result in substantial reductions of life expectancy and produce economic burdens for society. Although the disease has been almost eradicated from developed nations, it remains a major public health concern in developing nations, where it causes most of the cardiovascular morbidity and mortality in young people. Different challenges (viz. improvement in the uptake of proven RHD control strategies around the world; availability of cost-effective screening methods to identify people with RHD earlier; improvement in the treatment modalities of RHD; and promoting an effective primary prevention strategy) have been identified for the prevention and control of the disease. Considering the limitations associated with bringing about socioeconomic improvements and the poor cost-effectiveness of systematic screening and treatment of sore throats, secondary prophylaxis remains the mainstay of RF/RHD management. Different strategies have been recommended for health professionals, administrators and policy makers towards reducing the prevalence of RF/RHD. Primary prevention of rheumatic fever and screening for rheumatic heart disease with echocardiography has the immense potential to reduce the prevalence of severe rheumatic heart disease. Establishing strong linkages between clinicians and public health infrastructure with adequate international funding, RF and RHD can be easily controlled.

Key Words: Rheumatic fever, Rheumatic heart disease, Developing countries; Streptococci

Romatizmal kalp hastalığının kontrol ve önlenmesi için maliyet-etkin ve toplum temelli stratejilerinin uygulanması

Özet

Romatizmal kalp hastalığı (RKH), yaşam beklentisinde belirgin azalmaya ve toplumsal ekonomik maliyetlere neden olan yeti kayıpları ile ilişkili akut romatizmal ateşin (ARA) en önemli sekellerinden birisidir. Bu hastalık, gelişmiş ülkelerde neredeyse eradike edilmesine karşın, gelişmekte olan ülkelerde genç bireylerde çoğunlukla kardiyovasküler hastalık ve ölümün bir nedeni olarak önemli bir halk sağlığı sorunu olmaya devam etmektedir.

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Hastalıktan korunmada ve hastalığın kontrol altına alınmasında farklı güçlükler (dünya çapında kanıtlanmış RKH kontrol stratejilerinin artırılmasındaki gelişmeler; RKH'li hastaların erken tanısı için maliyet etkin tarama yöntemlerinin kullanımı; RKH'de tedavi seçeneklerindeki gelişmeler ve etkili primer koruma stratejileri) tanımlanmıştır. Sosyoekonomik iyileştirmeler, maliyet etkinliği düşük sistematik taramalar ve boğaz ağrılarının tedavisi gibi sınırlılıklar dikkate alındığında, ikincil koruma ARA/RKH kontrolünde başlıca seçenek olmaya devam etmektedir. ARA/RKH prevalansının azaltılması amacıyla sağlık profesyonelleri, sağlık yöneticileri ve politika yapıcıları için çeşitli stratejiler önerilmektedir. Romatizmal ateşte birincil koruma ve ekokardiyografi ile romatizmal kalp hastalığı taraması, şiddetli seyreden romatizmal kalp hastalığı prevalansının azaltılmasında oldukça önemlidir. Yeterli uluslararası fonlarla klinisyenler ve halk sağlığı uygulayıcıları arasında güçlü ilişkilerin kurulmasıyla, ARA ve RKH kolaylıkla kontrol edilebilir.

Anahtar Kelimeler: Romatizmal ateş, romatizmal kalp hastalığı, gelişmekte olan ülkeler, streptokoklar

Introduction

Rheumatic heart disease (RHD) is one of the most important sequelae of acute rheumatic fever (RF) resulting in substantial potential shortening of life and economic burdens for the society.[1] Rheumatic fever results because of infection of the pharynx with some strains of group-A streptococcus, with children aged 5-14 years being most commonly affected.[1] Though the disease has almost been eradicated from developed nations by improvement in living standards and effective implementation of preventative strategies, it remains a major public health concern in developing nations, where it causes most of the cardiovascular morbidity and mortality in young people[2] and is often neglected by policy makers Different challenges (viz. implementation of proven RHD control strategies; availability of cost-effective screening methods for early identification of RHD; improvement in the treatment modalities of RHD; and promoting an effective primary prevention strategy such as the development of an effective vaccine) have been identified for the prevention and control of the disease.[3]

The increase in the prevalence of RF in developing nations has been attributed to multiple factors such as the low standard of living, changes in sensitivity of streptococci to antibiotics, the difficulty of reaching an early diagnosis, people not seeking care for sore throats, non-availability of benzathine penicillin-G, fear of allergic reactions to penicillin among practitioners; and sustainability of effective coordinated preventative programs, including limited funding and competing health priorities.[4,5]

The World Health Organization has advocated that prevention of RF/RHD can be undertaken at multiple levels.[6] Primary prevention refers to the improvement in housing, environmental, social and economic conditions including hygiene and access to healthcare services of the populations at risk. Secondary prevention refers to treatment of acute streptococcal pharyngitis with appropriate antibiotics to reduce the incidence of RF. It also includes administration of specific antibiotics to patients with a previous attack of RF and, therefore, limits disease progression and allows disease resolution. Finally, tertiary prevention refers to offering medical/surgical treatment options for prevention of RF/RHD associated disabilities.[6] Considering the limitations associated with bringing about socioeconomic improvement and the poor cost-effectiveness of systematic screening and treatment of sore throats, secondary prophylaxis remains the mainstay of RF/RHD management.[6,7]

Different strategies have been recommended for health professionals, administrators and policy makers for reducing the prevalence of RF/RHD. These include education of the public, of teachers

and physicians about the aetiology, the symptoms,-prevention and treatment of rheumatic fever;[6,8] and the early identification of RHD through cost-effective screening measures with low-cost portable echocardiography machines.[9] Further, the, maintenance of registers by health centres for patients with RF/RHD to ensure their compliance with treatment and for keeping a record of surgical interventions[7,10], the surveillance through notification of RF cases[8] and maintaining a high index of suspicion among the clinicians for the diagnosis of RF are important measures.[8]

To conclude: primary prevention of rheumatic fever and rheumatic heart disease screening with echocardiography has immense potential in reducing the prevalence of severe rheumatic heart disease. Active involvement of all stakeholders along with the establishment of strong linkages between clinicians and public health systems with adequate funding support can definitely control RF/RHD in the future.

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