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Editorial

Primordial prevention of atherosclerotic vascular disease: Preventing the "pre-event"

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Atherosclerotic vascular disease (ASVD) is an important public health and clinical challenge and has evolved as a major contributor to morbidity, disability, and death. While multiple advances in therapeutics have helped improve survival rates in ASVD, the need for prevention, rather than treatment, of patients with this condition, cannot be over emphasized.

The Conventional Doctrine in Prevention

Much has been discussed about the different levels of prevention of ASVD over the past 50 years or so! Conventionally, primary prevention implies treating the well-recognized risk factors to avoid the first macrovascular event, secondary prevention looks at evasion of recurrent cardiovascular (CV) events, and tertiary prevention focuses on disability limitation and rehabilitation. Various evidence-based guidelines address the approach to each of these levels of prevention.

Primordial Prevention

Ushering in a paradigm shift from focusing solely on the curtailment of the risks factors, another level of preventive strategy intends to prevent such risk factors from arising at all! Primordial prevention has been defined as actions to minimize future hazards to health and hence inhibit the establishment factors (environmental, economic, social, behavioral, cultural) known to increase the risk of disease.[1] How does it then differ from primary prevention? While primary prevention is aimed at preventing the exposure of an individual to risk factors, primordial prevention, on the other hand, addresses broad health determinants.[2] For example, banning smoking at all public places can be considered as primordial, while counseling smokers against the hazards of ASVD or cancer may be considered as primary prevention.

For a clinician or caregiver who has been taught risk-based approach all along, primordial prevention may seem a theoretical concept. However, it is pertinent to discuss and debate the logic behind such a strategy, and, of course, its applicability in one's own domain of clinical practice. In this editorial, we take up the case of pediatric dyslipidemia and discuss how the primordial prevention approach is evolving in this particular field.

Pragmatic Approach

Population-wide interventions can be hugely successful in changing the face of a dreaded disease. For example, universal salt iodization has brought down cretinism to an almost nonexistent level. However, we are all aware of the fact that this intervention involved mobilizing public sentiments, a strong political will, legislation, and community participation at multiple levels.[3] A similar approach can be suggested for the primordial prevention of ASVD [Table 1]. This will include extensive lifestyle modification, including change in dietary patterns, physical activity, and tobacco cessation. Some examples of appropriate interventions are promotion of breastfeeding, restriction of fat and trans-fats, avoidance of high-calorie foods, strict legislation against tobacco, encouragement of physical activity and games in schools, and provision of facilities for sports.[4] Universal steps to neutralize factors, which may be initiators of onset of dyslipoproteinimia in

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Table 1: Different attributes of prevention strategy for dyslipidemia in pediatric population (modified from Zachariah and Johnson 2014)[4]

Primordial prevention of dyslipidemia: Attributes	Primary prevention of dyslipidemia: Attributes
12 months breastfeeding, restricting milk fat and fruit juice, beyond 2 years of age, adherence to an integrated ASVD preventive diet plan	Universal screening with a single nonfasting test, where abnormal levels followed by a confirmatory fasting test
Tobacco abolition through childhood and adolescence	Targeted screening for high-risk patients
Structured recommendation for physical activity (what and how much)	Very high levels recommended to be referred to lipidologist

ASVD: Atherosclerotic vascular disease

early life, however, may not be acceptable to the public. This is to be expected, as individuals tend to choose popular trends over pragmatic ones! This can be handled only by sustained and concerted public health education.

Summary

It is quite apparent that most of the attributes in the primordial approach belong to the field of medical nutrition and public health. They are far remote from the domain of a cardiologist or endocrinologist or internist or lipidologist, the specialties, which are traditionally responsible for treating dyslipidemia. However, the importance of such simple measures cannot be overemphasized. Moreover, the cost benefits ratio of primordial prevention of dyslipidemia would probably far outweigh the cost of intervention-centric primary, and more particularly secondary and tertiary approaches. Responsibility for the promotion of primordial prevention should be shared by all stakeholders from society and polity, and not left only to healthcare and medical professionals.

It is time primordial prevention is given the respect it deserves, irrespective of the domain we are primarily involved with. This editorial is a step in this direction.

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