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## **Editorial**

# **Fight against chronic diseases (High blood pressure, Stroke, Diabetes and Cancer) in Pakistan; cost-effective interventions**

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The burden of chronic diseases including High Blood Pressure, Stroke, Diabetes and cancer was re emphasized by World Health Organization in 2005 as neglected global health issues.<sup>1</sup> These diseases were responsible for more than 60% deaths (35 Million) worldwide and 80% of these deaths occurred in developing countries including Pakistan.<sup>2</sup>

Age adjusted death rate related to Chronic diseases was estimated to be 750 per 100,000 population translating into 0.15 Billion US Dollar GDP loss.<sup>2</sup>

Pakistan has the world's sixth largest population (165 million in 2007) which is continuously growing at about 1.83% every year. We know from our national health surveys that 33% of Pakistani population above the age of 45 has hypertension.<sup>3</sup> Further analysis of this data revealed that the prevalence is 19% (95% CI; 18.9-19.1) in people of age 15 or above.<sup>4</sup> Moreover, Pakistan ranks at number six in terms of number of people with diabetes worldwide. It was estimated that in 2000 there were 5.2 million diabetic patients and this will rise to 13.9 million by 2020, leading Pakistan to 4th most populous country for patients with diabetes mellitus.<sup>5</sup> According to the National Health Survey of Pakistan, 25% of patients over the age of 45 years suffer Diabetes Mellitus. Further analysis of this data revealed that prevalence of DM among population aged 15 years and above was 5.4% (95% CI; 4.9-5.9) with significant ethnic differences.<sup>6</sup> Prevalence of smoking has been reported to be 14-21% in adolescents and adults, being more common in men.<sup>7-9</sup> The estimated annual incidence of stroke in Pakistan is 250/100,000, translating to 350,000 new cases every year.<sup>10</sup>

Authorities have suggested four major, cost effective interventions to fight against epidemic of these diseases in developing countries. It is estimated that scaling up of these interventions will avert more than 10 Million deaths in next 8-10 years.<sup>11</sup> These four interventions include Low salt intake, smoking cessation, physical activity or exercise and cost effective pharmacological therapy.

The reduction of salt intake has a robust effect on blood pressure based on current evidence. The human body requires about 50 mg of Sodium daily. WHO recommended daily salt requirement to be 5 grams per day (one tea spoon).<sup>12</sup>

WHO also recommended a five pronged approach for

tobacco control; 1) increase in taxation, 2) comprehensive ban on smoking at work place, 3) warnings about tobacco, 4) ban on tobacco advertising and 5) media campaign against smoking. It is estimated that over 3 years these interventions may lead to 24% reduction in smoking.<sup>13,14</sup>

The beneficial effect of physical activity has been demonstrated by many trials. Data from more than 40 observational studies showed clear evidence of an inverse relation ship between physical activity and all cause mortality.<sup>15</sup> Regular physical activity of about forty five minutes daily is associated with a significant 20-30% reduction in risk of all cause mortality.<sup>16</sup>

These cost effective interventions are not easy to implement. Although cost more than one dollar per person per year yet it translates into about 150 Million USD initially to implement these interventions in Pakistan.<sup>17</sup> They require substantial life style modifications and involvement of all stake holders most importantly Government, physicians, professional organizations, Non Governmental organizations (NGO) and Media. Strong advocacy efforts are needed to gather all these stake holders at one platform to start productive, coordinated activities.<sup>18</sup> Recently, representatives of governments of various Asian and African countries gathered at Kampala, Uganda for first Asian and African Chronic Disease Summit. The summit was attended by WHO officials, public health specialists, researchers, members of various NGOs and academicians from 23 Asian and African countries. The participants agreed to "Implement WHO Non communicable disease action plan, create the basis for a multisectorial NCD alliance in Asia-Africa, and to accelerate progress by sharing resources, expertise and experiences to promote an integrated and evidence based approach to reduce the health and economic burdens of chronic diseases" (Kampala Statement).

We believe that a sense of urgency is needed for such a multisectorial alliance at the national level in Pakistan. Chronic diseases are controllable and preventable. Hundreds and thousands of lives could be saved by moderate, coordinated efforts.

## **References**

1. WHO. Preventing chronic diseases: A vital investment: WHO global report, Geneva: World Health Organization, 2005.

2. Abegunde DO, Mathers CD, Adam T, Ortegón M, Strong K. The burden and costs of chronic diseases in low-income and middle-income countries. *Lancet* 2007; 370:1929-38.
  3. Chronic diseases. National Health Survey of Pakistan; 1990-94. Health profile of peoples of Pakistan. Pakistan Medical Research Council 1998; 49-69.
  4. Jafar TH, Rahbar MH, Khan AQ, Hattersley A, Schmid CH, Chaturvedi N. Ethnic subgroup differences in hypertension in Pakistan. *J Hypert* 2003; 21:905-12.
  5. Wild S, Roglic G, Green A, Sicree R, King H. Global prevalence of Diabetes: estimates for year 2000 and projections for 2030. *Diabetes Care* 2004; 27: 1047-53.
  6. Jafar TH, Levey AS, White FM, Gul A, Jessani S, Khan AQ, Jafary FH, Schmidt CH, Chaturvedi N. Ethnic differences and determinants of diabetes and central obesity among South Asians of Pakistan. *Diabet Med* 2004; 21:716-23.
  7. Alam SE. Prevalence and pattern of smoking in Pakistan *J Pak Med Assoc* 1998; 48:64-6.
  8. Rozi S, Akhtar S, Ali S, Khan J. Prevalence and factors associated with current smoking among high school adolescents in Karachi, Pakistan. *Southeast Asian J Trop Med Public Health* 2005; 36:498-504.
  9. Ahmad K, Jafary F, Jehan I, Hatcher J, Khan AQ, Chaturvedi N, Jafar TH. Prevalence and predictors of smoking in Pakistan: results of the National Health Survey of Pakistan. *Eur J Cardiovasc Prev Rehabil* 2005; 12:203-8.
  10. Khealani BA, Wasay M. Burden of stroke in Pakistan. *Int J Stroke* 2008; 3:293-6.
  11. Gaziano TA, Galea G, Reddy KS. Scaling up interventions for chronic disease prevention: the evidence. *Lancet*. 2007; 370:1939-46.
  12. WHO. Diet, nutrition and the prevention of chronic diseases; report of a joint WHO/FAO expert consultation. WHO Technical report series, No 916. Geneva, Switzerland: World Health Organization, 2003.
  13. Shibuya K, Ciecierski C, Guindon E, Bettcher DW, Evans DB, Murray CJ; WHO Framework Convention on Tobacco Control: development of an evidence based global public health treaty. *BMJ* 2003; 327:154-7.
  14. Asaria P, Chisholm D, Mathers C, Ezzati M, Beaglehole R. Chronic disease prevention: health effects and financial costs of strategies to reduce salt intake and control tobacco use. *Lancet*. 2007; 370:2044-53.
  15. Kahn EB, Ramsey LT, Brownson RC, Heath GW, Howze EH, Powell KE, Stone EJ, Rajab MW, Corso P. The effectiveness of interventions to increase physical activity. A systematic review. *Am J Prev Med* 2002; 22(4 Suppl):73-107.
  16. Lee IM, Skerrett PJ. Physical activity and all-cause mortality: what is the dose-response relation? *Med Sci Sports Exerc* 2001; 33(6 Suppl):S459-71.
  17. Lim SS, Gaziano TA, Gakidou E, Reddy KS, Farzadfar F, Lozano R, Rodgers A. Prevention of cardiovascular disease in high-risk individuals in low-income and middle-income countries: health effects and costs. *Lancet* 2007; 370:2054-62.
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