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Rapid urbanization as well as cultural habits explain Gulf states' rise in heart disease prevalence

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While the rapid improvement in socio-economic conditions is thought responsible for the high rates of cardiovascular disease in the Gulf states, deep-rooted cultural factors also play a part.

"We're sitting on a time bomb," says Professor Hani Najm, Vice-President of the Saudi Heart Association, whose annual conference begins Friday 27 January. "We will see a lot of heart disease over the next 15 to 20 years. Already, services are saturated. We now have to direct our resources to the primary prevention of risk factors throughout the entire Middle East."

World Health Organization figures show that up to 60% of males in Arab countries and up to 70% of females are overweight and obese. Prevalence rates of diabetes and hypertension are around 25%, while inactivity rates among the over-20s are even higher. But the explanation, says Professor Najm, is not just rapid urbanisation and ubiquitous travel by car. There are, in addition, many social and cultural barriers to exercise, especially among women, who find it difficult to find the opportunities and encouragement to take organised exercise.

Smoking - cigarettes and waterpipe

And now there is further evidence that the cultural heritage of the Middle East may present yet another growing risk factor in the region's

battle against heart disease. The waterpipe - also know as the hookah or shisha - is now said to be used by up to 34% of Middle Eastern adolescents. Despite a perception that the risk of the waterpipe may be less than those of cigarettes, a recent report suggests that its "harmful effects are similar to those of cigarettes", and that the waterpipe may offer "a bridge" to cigarette smoking.(1) The greatest prevalence of use - with up to 34% reported - is currently among adolescents and women.

A recent study from the Gulf Registry of Acute Coronary Events (GRACE), the region's largest, found that 38% of patients registered were cigarette smokers and 4.4% waterpipe smokers.(2) The study, which included 6,701 consecutive acute coronary patients in Bahrain, Kuwait, Qatar, Oman, United Arab Emirates, and Yemen, found that the waterpipe smokers were older than the cigarette smokers and more likely to be female.

However, despite the relatively low rate of waterpipe smoking among the patients in this registry study, other studies report more widespread use throughout the region, and especially among the younger age groups. A study from 2004 found that 22% of men in two villages of Egypt reported current or past use of waterpipes, and the habit is increasingly evident even among student communities in the USA, Canada and Germany. The GRACE investigators said: "Although the prevalence of waterpipe smoking in the current registry was low (4.4%), with the current trend of popularity it is expected that physicians and specifically cardiologists across the globe can expect increasing number of their patients with Acute Coronary Syndromes to be waterpipe tobacco smokers."

They attribute this rising popularity to the introduction of a sweet processed tobacco, the mistaken belief that any harmful effect is less than that of cigarettes, and a dearth of health warnings (as well as a dearth of data). Yet the investigators propose that waterpipe smoking

may be associated with greater toxin exposure (because of longer episodes of use as well as more and larger "puffs", with smoke inhalation as much as 100 times more than from a cigarette). They explain that a single waterpipe episode lasts between 30 and 60 minutes and may involve more than 100 inhalations, each approximately 500 ml in volume (with the smoke passing first through water). "Thus," they write, "while smoking a single cigarette might produce a total of approximately 500-600 ml of smoke, a single waterpipe use episode might produce about 50,000 ml of smoke."

The primary prevention of cardiovascular disease in the Middle East will occupy a full session of this year's Annual Conference of the Saudi Heart Association, which, for the second year, will also feature a one-day collaborative programme with the European Society of Cardiology. Professor Najm highlights the efforts of the Association (and many regional health ministries) to develop prevention programmes, and regrets that the smoking policies of many countries - including Saudi Arabia - are not fully enforced. "The basic messages still need to be delivered," he says. "With such a high prevalence of risk factors in our populations, especially among the young, I still expect rates of cardiovascular disease to increase even further over the next 20 years."

More information: (1) Maziak W. The global epidemic of waterpipe smoking. Addictive Behaviors 2011; 36: 1-5.

(2) Al Suwaidi J, Zubaid M, El-Menyar AA, et al. Prevalence and outcome of cigarette and waterpipe smoking among patients with acute coronary syndrome in six Middle-Eastern countries. Eur J Cardiovasc Prevent Rehab 2011; DOI: 10.1177/1741826710393992

(3). Maziak W, Ward KD, Soweid RAA, Eissenberg T. Tobacco smoking using a waterpipe: a re-emerging strain in a global epidemic. Tobacco Control 2004; 13: 327-333.

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