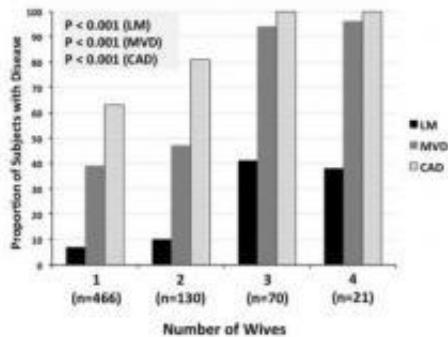


Polygamy increases risk of heart disease by more than four-fold

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LM: left main; MVD: multivessel disease; CAD: coronary artery disease. Credit: Author

APSC 2015 is being held in Abu Dhabi from 29 April to 2 May in conjunction with the XX World Congress of Echocardiography and Allied Techniques 2015 and the 6th Annual Emirates Cardiac Society Congress 2015. Experts from the European Society of Cardiology (ESC) will present a special programme.

Dr Daoulah said: "There is evidence that [married people](#) have better overall health and longevity but until now no study has assessed the effect of polygamy on [cardiovascular health](#). Men who practice polygamy have up to four concurrent [wives](#) who can reside in the same or different regions but do not normally reside in the same house. Polygamy is practiced mainly in North and West Africa, the Middle

East, Central Asia and Southeast Asia."

The prospective multicentre observational study examined the relationship between the presence and severity of [coronary artery disease](#) (CAD) and number of wives. It included consecutive patients referred for [coronary angiography](#) at 5 hospitals in Saudi Arabia and the United Arab Emirates. CAD was defined as more than 70% narrowing in a major epicardial blood vessel or more than 50% in the left main artery (called left main disease, LMD). Multivessel disease (MVD) was defined as more than one diseased vessel.

The 687 married men in the study had an average age of 59 years and 56% had diabetes, 57% had hypertension and 45% had a past history of CAD. Around two-thirds of the men had one wife (68%) while 19% had 2 wives, 10% had 3 wives and 3% had 4 wives. There were significant baseline differences according to the number of wives. Men with more than 1 wife were more likely to be older, live in a rural area, have a higher income and have a history of coronary artery bypass grafting (CABG).

Dr Daoulah said: "Polygamy may be more frequent in rural areas because it is more culturally acceptable and getting married at a young age is more common. Also, in the regions that we studied, there was a higher percentage of national citizens residing in rural areas compared to urban areas. Men with multiple wives have to be well supported financially, and although Saudis and Emirati people are supported by their governments, polygamists may need more than one income. They may therefore take on extra employment or have the added pressure of travelling daily to urban areas for higher paid work."

The researchers found a significant association between number of wives and the presence of CAD, LMD and MVD. Risk increased with the number of wives (see figure). After adjusting for baseline differences,

the researchers showed that men who practiced polygamy had a 4.6-fold increased risk of CAD, a 3.5-fold increased risk of LMD and a 2.6-fold elevated risk of MVD.

Dr Daoulah said: "We found an association between an increasing number of wives and the severity and number of coronary blockages. This could be because the need to provide and maintain separate households multiplies the financial burden and emotional expense. Each household must be treated fairly and equally, and it seems likely that the stress of doing that for several spouses and possibly several families of children is considerable."

He added: "However, unmeasured confounding variables such as physical activity, level of intimacy, dietary habits and genetic effects from interbreeding with close relatives needs to be analysed in greater depth as they may influence the outcome. In conclusion, the problem is coronary heart disease and polygamy is only an association and not necessarily a root cause therefore further studies are required to verify the link."

Professor Michel Komajda, a past president of the ESC and course director of the ESC programme in Abu Dhabi, said: "We know that long-term stress in family life increases the risk of coronary heart disease (CHD)² and it would be interesting to see what effect polygamy had on wives' CHD risk. People with psychosocial risk factors are less likely to take cardiac medications, which could be relevant in the group with prior CABG. Extra support may be needed to adhere to prescribed drugs and change lifestyle."

Dr Wael Almahmeed, chairperson of the APSC 2015 local organising committee, said: "This is the first time the APSC has been held in the Middle East in its 20 year history. This is an interesting study, that I am sure will stimulate discussions and controversy."

More information: European Guidelines on cardiovascular disease prevention in clinical practice (version 2012). European Heart Journal. 2012;33:1635-1701. [DOI: 10.1093/eurheartj/ehs092](https://doi.org/10.1093/eurheartj/ehs092)

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