

employees and their families. Moreover, it aimed at assessing the possible effects of living in KSA on the heart health of expatriate employees and their families. A cross-sectional study was conducted on 4500 university employees and their families aged  $\geq 18$  years old, using the World Health Organization STEPwise approach to surveillance of CVRFs. CVR was then calculated for participants using the Framingham Coronary Heart Risk Score calculator. The mean age of participants was  $39.3 \pm 13.4$  years. The prevalence of CVRFs was as follows: low fruit/vegetable consumption of  $< 5$  portions/day (88%), physical inactivity (77%), overweight/obesity (BMI  $\geq 25$  kg/m<sup>2</sup> and  $\geq 30$  kg/m<sup>2</sup> respectively, 72%), obesity (36%), abdominal obesity measured by WHtR (59%), dyslipidaemia (22–37%), diabetes (22%), hypertension (22%) and current tobacco use (12%). One quarter of the participants were estimated to have  $> 10\%$  risk to develop CVD within the following 10-years. Furthermore, this study showed that expatriates had significant negative effects on behavioural risk factors after residing in KSA, namely: high rate of physical inactivity, high consumption of fast food, low consumption of fruit and vegetable. However, there was no effect on the pattern of tobacco use. The prevalence of CVRFs is substantially high among the study population. To combat the future expected burden of CVDs, a proposed prevention programme for employees' cardiovascular wellness is designed and recommended to be implemented and institutionalized within the university.

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#### 75. King Abdulla Medical City – Makkah (KAMC) echocardiography service experience & challenges during hajj season (pilgrimage)

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2–4 million Muslims attend Hajj each year over last 4–5 years. Umra visitors are seen all along most the year. This creates high demand on all services provided specially the medical. The majority of Hajjes are elderly with co morbidities. They are subject to intense emotional, spiritual & physical endurance during the short period of Hajj season. For the last 4 years King Abdulla Medical City (KAMC) is the centre of care for almost all cardiac services provided in Makkah. Echocardiography is a pivotal & integral part of any cardiology service, providing important information about morphology, function & possible etiology in many cases. There is an increasing demand on echo service in KAMC especially during Hajj season. Our service model is unique to meet this increas-

ing demand during Hajj season. To report: we report the service set up. The volume of cases done our experience & challenges met during last four years. The service is provided between first & 15th of Dhul Haja each year. The service is 24 h divided into 12 h shifts. The two shifts are adequately covered by well trained echocardiographers & experienced non-invasive consultant cardiologists. This staff is distributed within the various cardiology clinical areas, to insure rapid response. The studies are done Philips (i30, Epic7) machines. Data acquired is transmitted by special ports/WiFi to our echo lab (Xcelera system) where the data is stored & available for viewing & reporting. Reports are created by the responsible consultants using a number of dedicated stations. Viewing stations are well distributed over the whole hospital. The results of this abstract are analyzed using simple Microsoft office tools. Between years 2011 and 2015 there is exponential increase of echo studies done in KAMC, with similar increase in the number of studies done among Hajjes. There was an increase in the number of echo machines, echocardiographers & consultants (See Tables and Graphs attached). Between the years 2011–2012 and 2012–2013 there was a significant jump in the number of echo studies done in KAMC & during Hajj season. Between the years 2013–2014 and 2014–2015 the incremental rate slowed down. (See Table 2). Some of challenges noted during Hajj season: locum staff needed to cover the Hajj period High volume of echo studies needed done & reported within short time. Language barrier causing lack of important medical information & causing delay/failure to consent when special studies are needed eg TEE. The infrequent lack of clinical data in the request forms to guide the study & reporting. There is occasional complex cases. Hajj season is unique & challenging experience to most Hajjes & service providers. Our service set up is demanding but quite adequate to meet the expectations. The data gathered over last 4 years showed clear & exponential increase in the number of echo studies. Service providers need to plan & accommodate this expected increase.

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#### 76. Profile and spectrum of congenital heart defect in pediatric patient with down syndrome

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Down syndrome is one of the most common chromosomal abnormality worldwide. It occurs in 1 of every 800 live births. Almost one-half of patients with Down Syndrome have congenital heart defect. Our objective is to describe the frequency and spectrum of congenital heart defect (CHD) among children with Down Syndrome in