

THE CLEVELAND CLINIC ABU DHABI STROKE REGISTRY (CCADSR): SIGNIFICANT DIFFERENCE IN THE AGE OF ONSET BETWEEN UNITED ARAB EMIRATES NATIONALS (UAEN) AND EXPATS

B. Piechowski Jozwiak¹, V. Mifsud¹, S.I. Hussain¹, S. John¹, M. Hammer¹, A. O'Sullivan¹, R. Navarro¹, K. Zahra¹, A. Ceccarelli¹, S. Samples¹.
¹Cleveland Clinic Abu Dhabi, Neurological Institute, Abu Dhabi, UAE



United Arab Emirates (UAE) is a federation of seven Emirates and it was established on the 2nd December 1971. At time the population size was 235,499 according to United Nations population statistics (1). Since that time the country experienced significant population increase and World Health Organization estimated the total population of UAE for 2015 at the level of 9,157,000 (2). The population forecast for UAE suggests further growth to 13,163,548 in the year 2050 which is consistent with more that 55-fold increase since 1971 (2) (Figure 1).

The UAE population is mainly composed of expatriates including 36% Indians and 14% Pakistanis. The remaining expatriates originate from Sri Lanka, Bangladesh, Philippines, North America, Europe, Islamic Republic of Iran. Of note is the fact that Nationals comprise only 18% of the Abu Dhabi population (3), Figure 2. The cardiovascular risk factors are highly prevalent in UAE population as 60% of population is overweight, 20% has diabetes and 18% more is at risk of developing this condition (4).

Methods: Cleveland Clinic Abu Dhabi is a regional stroke center. CCADSR covers all stroke admissions: ischemic stroke (IS), intracerebral hemorrhage (ICH) and subarachnoid hemorrhage (SAH) from May 2015 till May 2018. We compared the age of onset of strokes between Expats and UAE Nationals (UAEN).

Results: All strokes 1013 - 7 without confirmed nationality; 1004 included in analysis (mean age 55.9 y; min 17, max 98y; 68.4% men; 36.7% UAEN) (Fig. 3). Expats were significantly younger than UAEN (52.83y vs. 61.04y; p<.0001) both in men (51.92 vs. 60.55; p<.0001) and women (55.33y vs. 61.75; p<.0006). There were 590 IS (58.73y; 17-98y; 68.5% men; 40% UAEN) Expats were significantly younger than UAEN (54.97y vs. 62.76y; p<.0001) in men (54.97y vs. 62.76y; p<.0001) but not in women (61.09y vs. 61.41y; p=ns).

There were 123 TIA (56.1y; 21-95; 66.7% men; 39.8% UAEN); Expats were significantly younger than UAEN (53.69y vs. 59.734y; p=.0246) but neither in men (52.55y vs. 55.63; p=ns) nor in women (57y vs. 64.77y; p<.0001) only. There were 176 ICH (52.8y; 20-97y; 71.6% men; 46.8% UAEN); Expats were overall significantly younger than UAEN (47.6y vs. 62.3y; p<.0001) both in men (51.92 vs. 60.55; p<.0001) and women (55.33y vs. 61.75; p<.0006).

There were 117 SAH (46.74y; 18-77y; 61.53% men; 21.36% UAEN). There was no age difference between Expats and UAEN (45.7y vs. 50.6y; p=ns) neither in men (43.77 vs. 49.5y; p=ns) nor in women (48.97 vs. 52y; p=ns).

Summary: Expats were significantly younger at the onset of stroke than UAEN for all strokes, IS, ICH but not for TIAs. There was no difference in age in women with IS though. All types of stroke were more frequent in men which is likely related to influx of mainly male Expats to UAE.

Fig. 1 Total population of UAE from 1950-2050

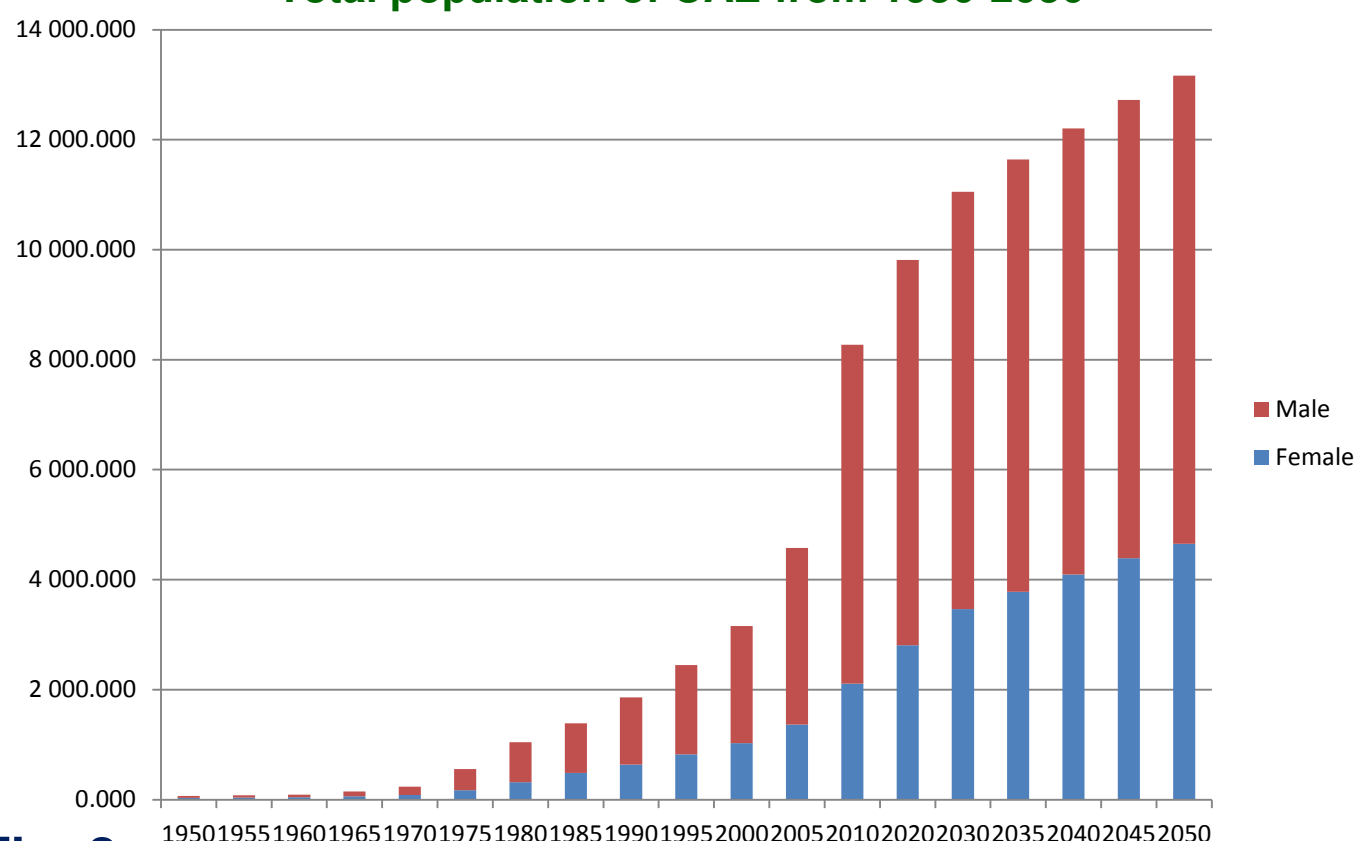
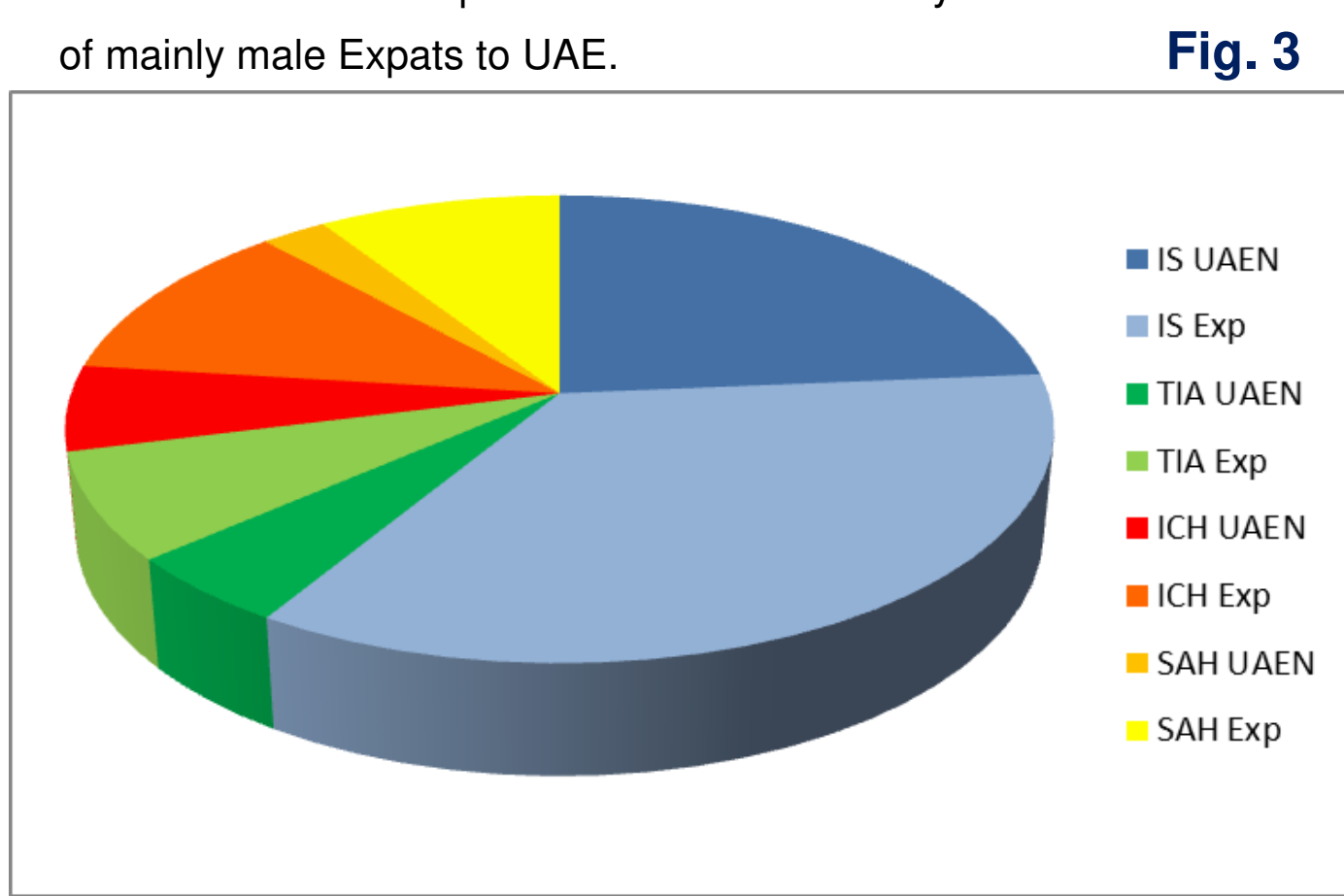


Fig. 2 Population by age, gender and nationality

Age band	Female	Male	Total
85+			2'767
80-84			2'859
75-79			5'441
70-74			8'820
65-69			16'114
60-64			38'305
55-59			78'918
50-54			120'480
45-49			193'114
40-44			270'555
35-39			382'308
30-34			513'235
25-29			494'948
20-24			292'629
15-19			114'243
10-14			132'051
05-09			170'416
0-4			200'736
Total			3'037'937



1. United Nations, Department of Economic and Social Affairs, Population Division (2017). World Population Prospects: The 2017 Revision
 2. <http://www.who.int/countries/are/en/>
 3. www.haad.ae/statistics2016-xl
 4. World Health Organization. Regional Office for the Eastern Mediterranean Country cooperation strategy for WHO and the United Arab Emirates 2012 - 2017 / World Health Organization. 2012
 Copyright © 2017 Bartłomiej Piechowski-Jozwiak piechob@clevelandclinicabudhabi.ae