

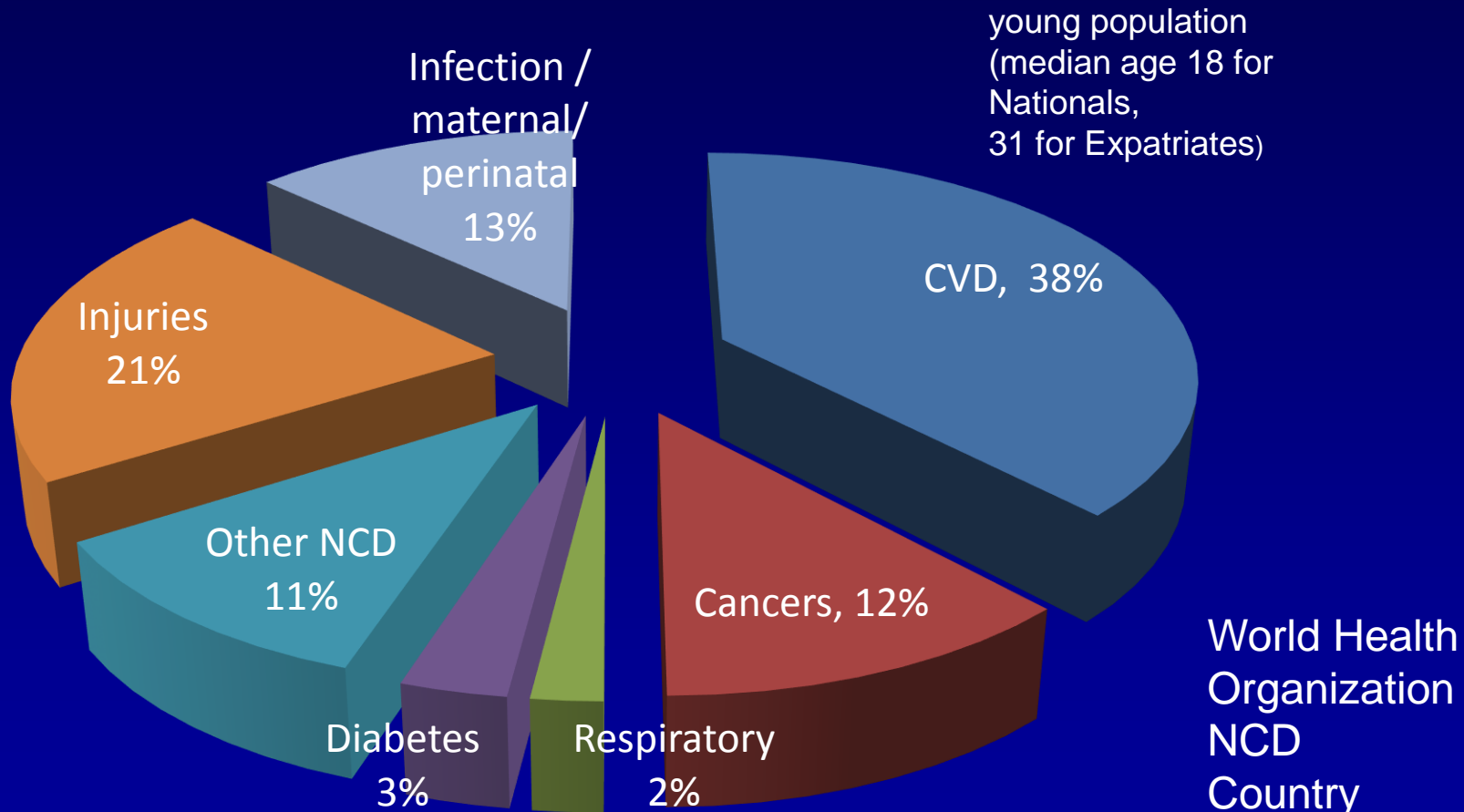
# Cardiovascular Disease in the Middle East

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# Agenda

- CVD & CVD Risk factors
- Primary prevention: Hypertension
- Secondary prevention.
- Challenges in prevention

# NCDs are estimated to account for 67% of all deaths in UAE.



NCD deaths <60 years = in men 59.7%

# **Age- Adjusted DALYs Rate per 100,000 population** **UAE-2004 WHOSIS Data**

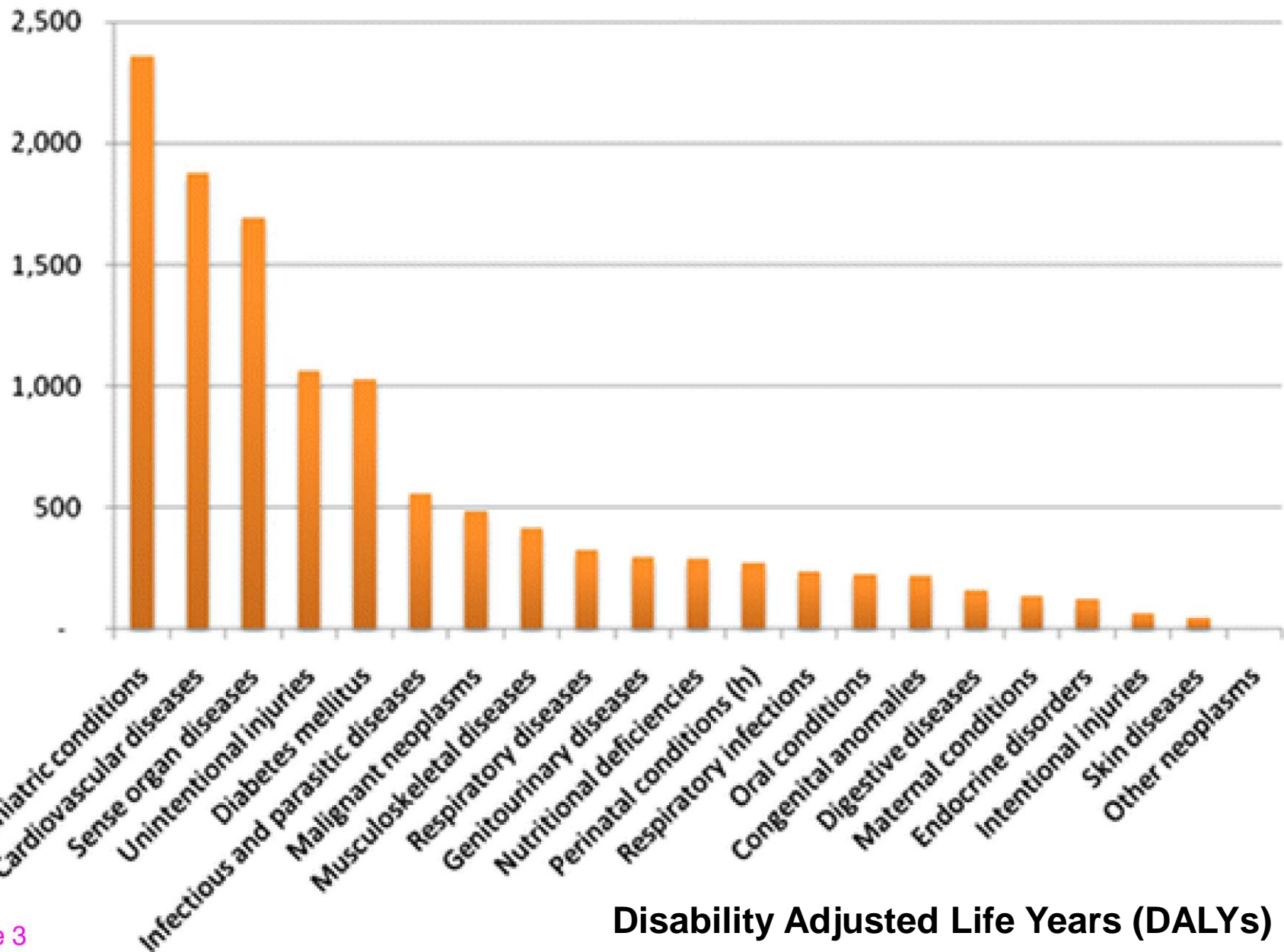


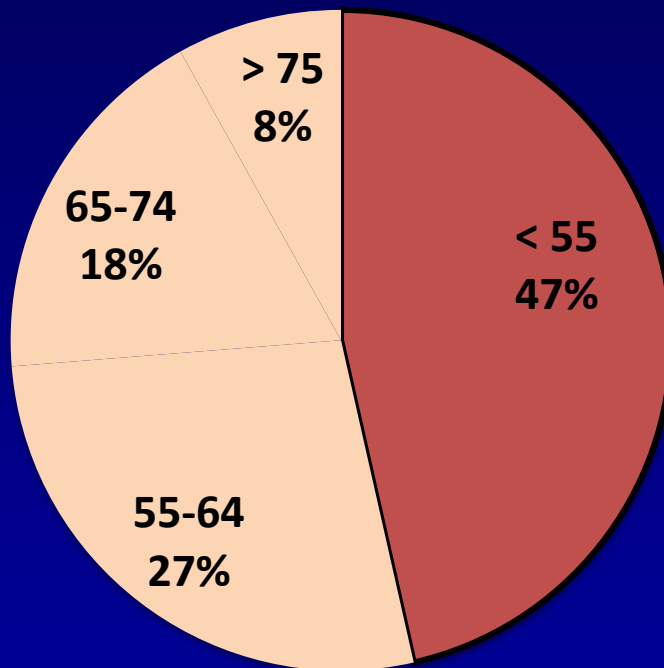
Figure 3

Disability Adjusted Life Years (DALYs)

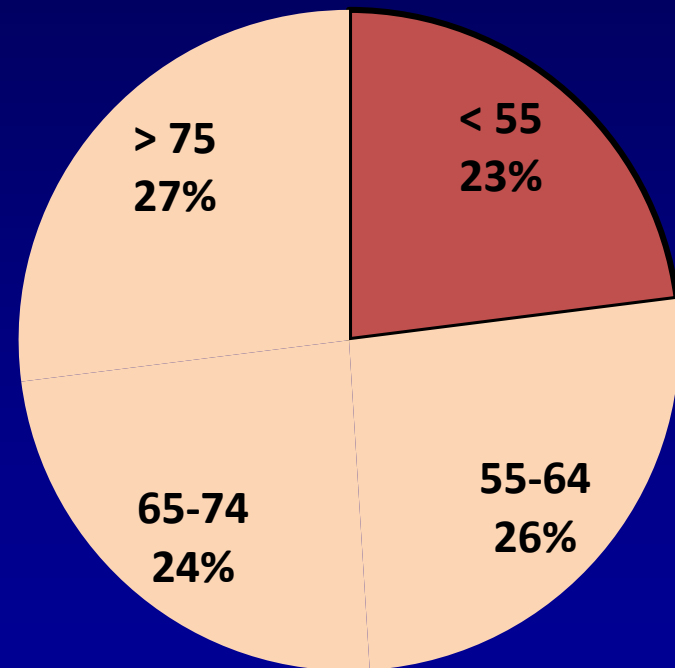
# A Heart Attack Strikes Early

*Typical ACS patient in the Gulf is ~ 10 years younger than her Western counterpart*

**Gulf RACE**

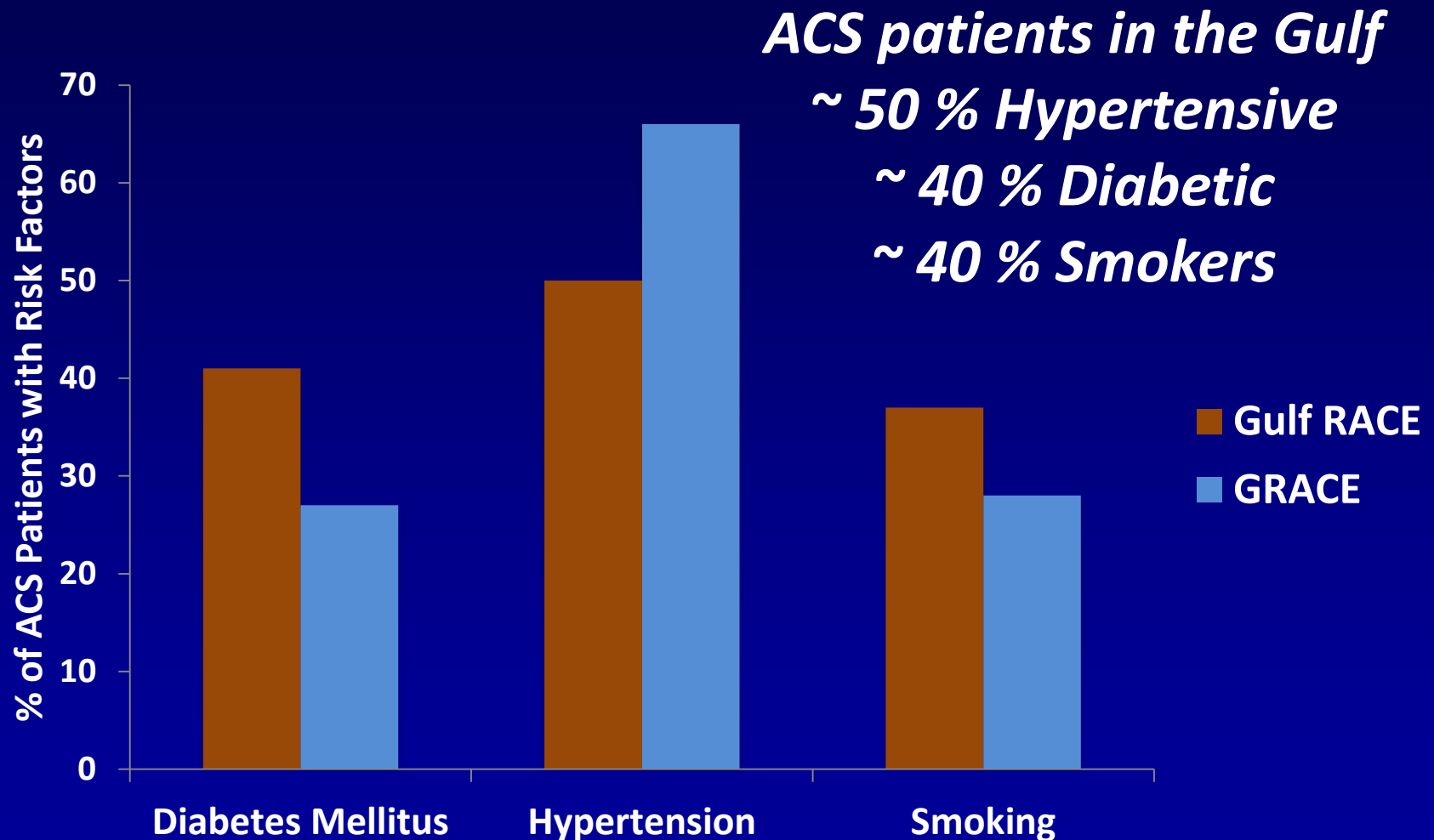


**GRACE**



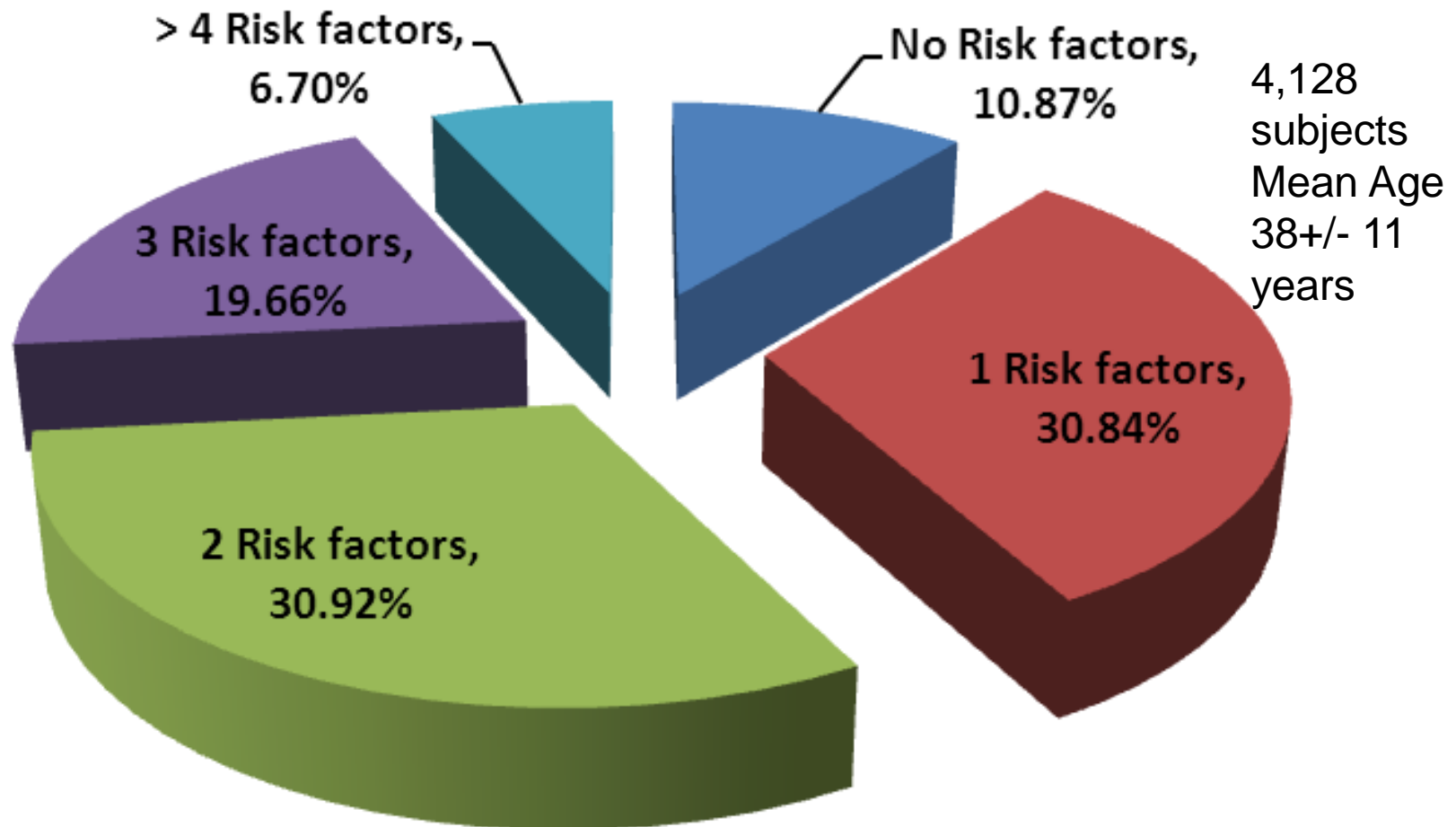
*~ half of ACS patients in the Gulf are < 55 years old compared to ~ one quarter of ACS patients in the West*

# A Large Burden of Risk



# Opportunistic screening for CVD RF

CVD RF: Smoking, Dyslipidemia, Hypertension, Diabetes, Obesity(by BMI or Abd.).



# Weqaya

## A Population-Wide Cardiovascular Screening Program in Abu Dhabi, United Arab Emirates

mean age was 36.82 years (SD=14.3)

50,138 above 18 years of age

Hajat C, Harrison O: The Abu Dhabi Cardiovascular Program: the continuation of Framingham. *Prog Cardiovasc Dis* 2010, **53**(1):28–38.

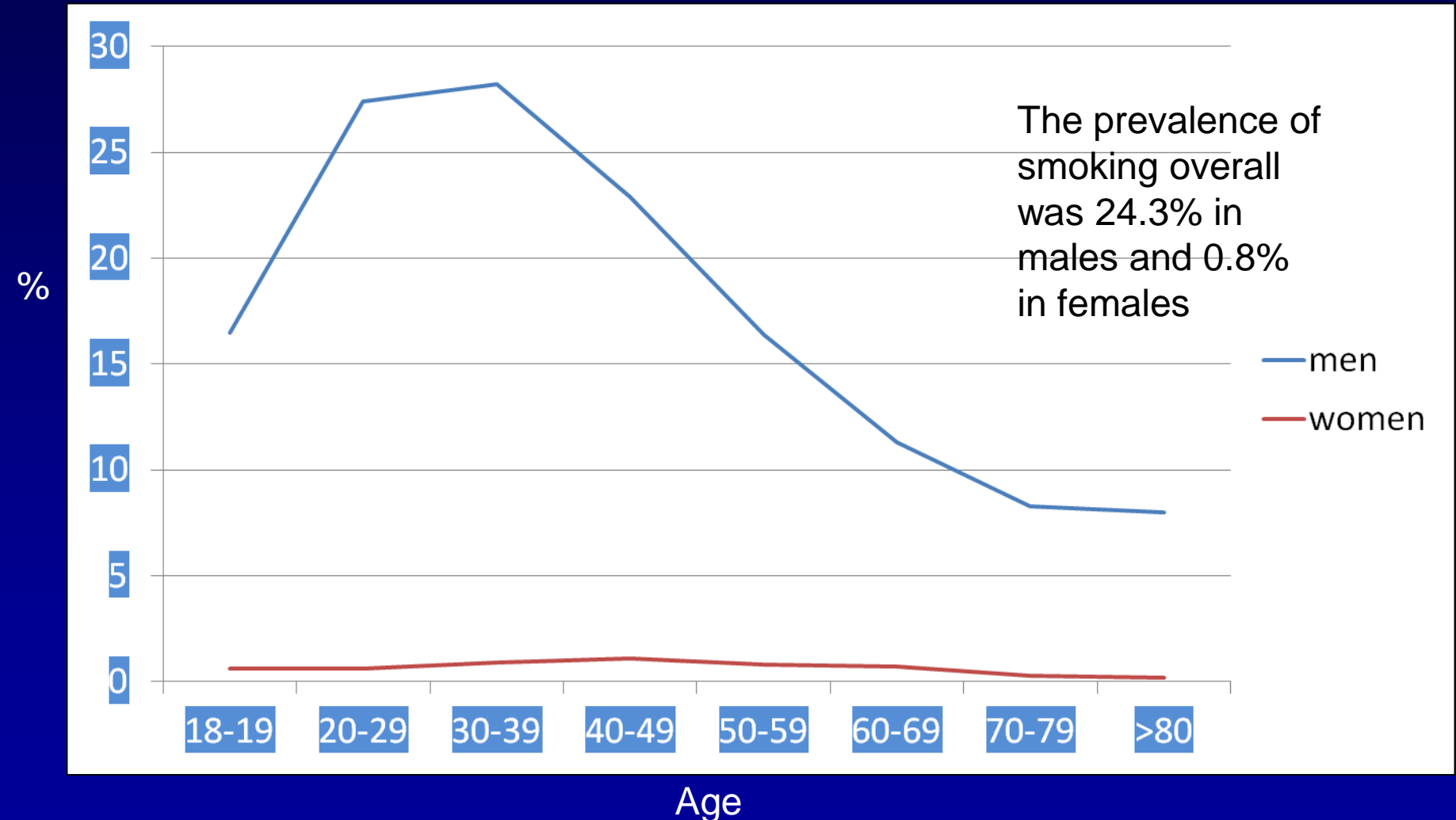


# Crude and Age-Standardized Cardiovascular Risk Factor Prevalence Rates in Wekaya

Risk Factor	Crude Prevalence Rate	Age-Standardized Rate
Obesity	35.4	41.1
Overweight	31.9	34.0
Central obesity	54.8	62.4
Dyslipidemia	44.2	50.7
Hypertension	23.1	29.2
Smoking	11.6	11.3
Prediabetes	27.1	29.5
Diabetes	17.6	24.6

Hajat C, Harrison O: **The Abu Dhabi Cardiovascular Program: the continuation of Framingham.** *Prog Cardiovasc Dis* 2010, **53**(1):28–38.

# Smoking is most common among younger UAE national men



# Characteristics of tobacco smokers by type of tobacco smoked

	Cigarettes	Midwakh	Shisha	Cigar
proportion of smokers (%)	77%	15%	7%	1%
mean age of onset	22	21	24	24
mean age of smokers	33	30	31	35

*Al-Houqani M, Ali R, Hajat C (2012) Tobacco Smoking Using Midwakh Is an Emerging Health Problem – Evidence from a Large Cross-Sectional Survey in the United Arab Emirates. PLoS ONE 7(6): e39189. doi:10.1371/journal.pone.0039189*

# WHO Global Schools Health Survey UAE 2005 and 2010

children aged 13–15 years of all nationalities

	2005	2010
<b>Obesity rate (&gt;95<sup>th</sup> Centile)</b>	12%	14%
<b>Overweight (&gt;85<sup>th</sup> Centile)</b>	33%	43%

# Prevalence of hypertension in UAE

	WEQAYA <sup>1</sup>	PURE ME <sup>2</sup>	South Asian male <sup>3</sup>	Hatta Hospital <sup>4</sup>
<b>Age standardized</b>	29.2%	33%	34.2%	34.3%
<b>Age specific</b>				
18-29	10.2%		22.1%	12.0%
30-49	18.1%	18%	37.5%	20.1%
50-69	57.7%	50%	55.5%	72.2%
>70	54.8%	-	-	98.3%

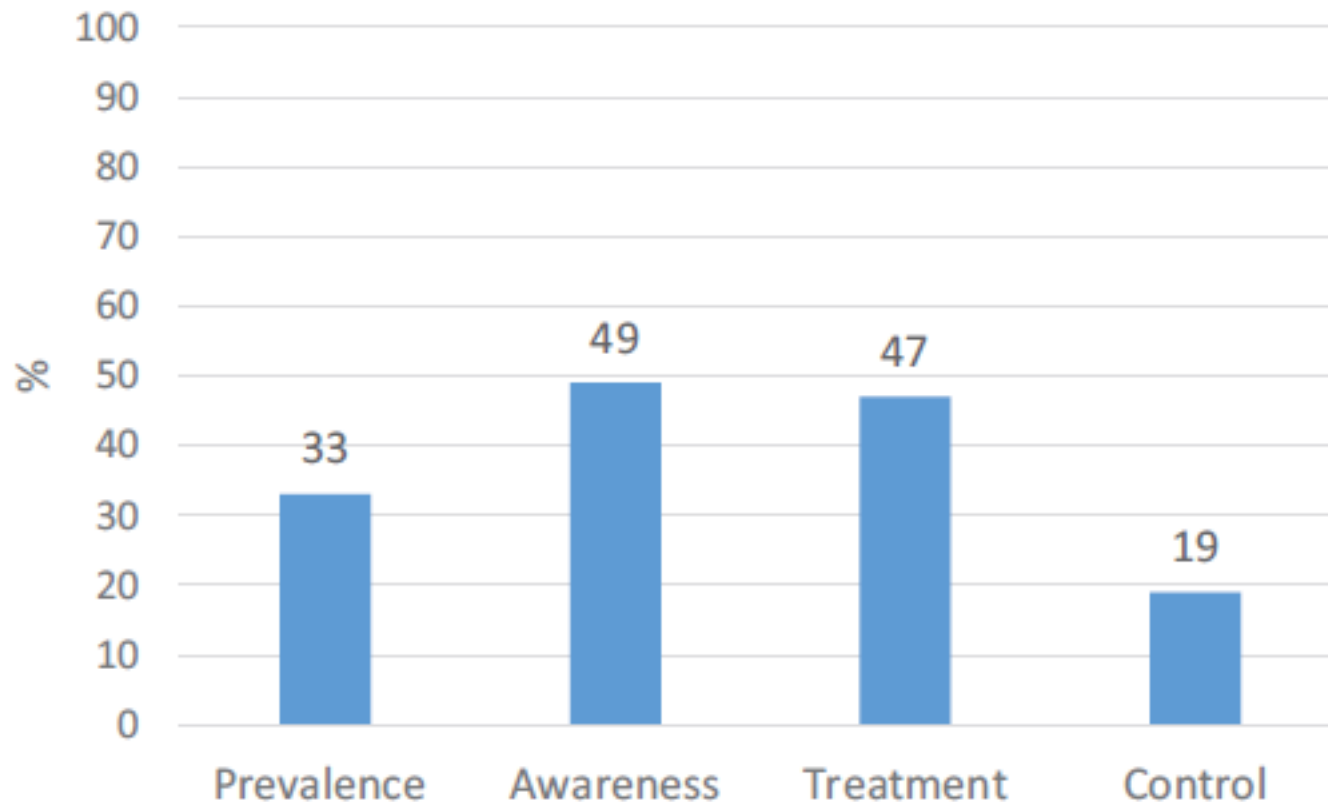
1.Cother Hajat, et al. Weqaya: A Population-Wide Cardiovascular Screening Program in Abu Dhabi, United Arab Emirates Am J Public Health. 012;102:909–914.

2. Yusufali et al. 2017 *J Hypertens* DOI:10.1097/HJH.0000000000001326

3. Shah et al, *BMC Cardiovascular Disorders* (2015)15:30.

4.Yusufali et al. *J Hypertens*. 2016;34 Suppl 1-ISH 2016 Abstract Book:e551

# Age-standardized Hypertension prevalence, awareness, treatment and control in four Middle Eastern countries.



Yusufali et al .Prevalence, awareness, treatment and control of hypertension in four Middle East countries 2017 J Hypertens DOI:10.1097/HJH.0000000000001326

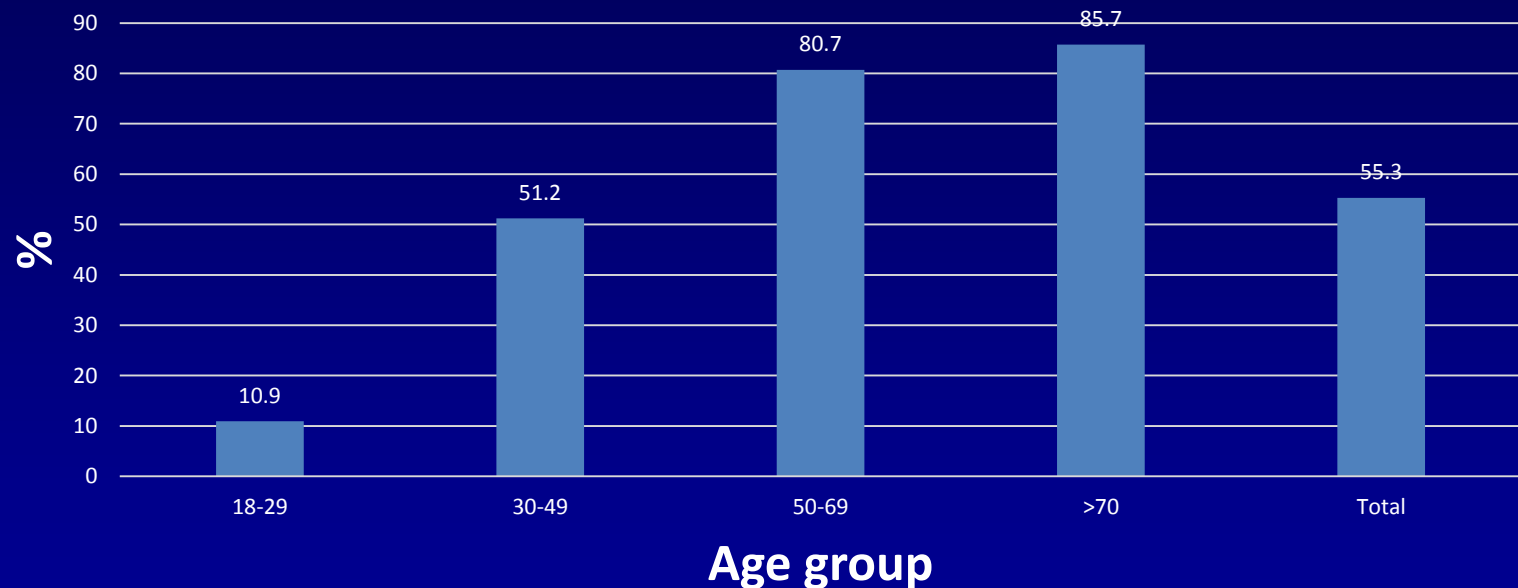
# Hypertension prevalence, awareness, treatment and control in national surveys from England, the USA and Canada compared to Middle East.

	Prevalence	Aware	Treated	Controlled amongst Rx
England	30.0	65.3	51.3	27.3
Canada	19.5	83.4	79.9	65.8
USA	29.1	81.1	74.0	52.8
Middle East*	33	49	47	19

BMJ Open 2013;**3**: doi:10.1136

\*Yusufali et al .Prevalence, awareness, treatment and control of hypertension in four Middle East countries 2017 J Hypertens DOI:10.1097/HJH.0000000000001326

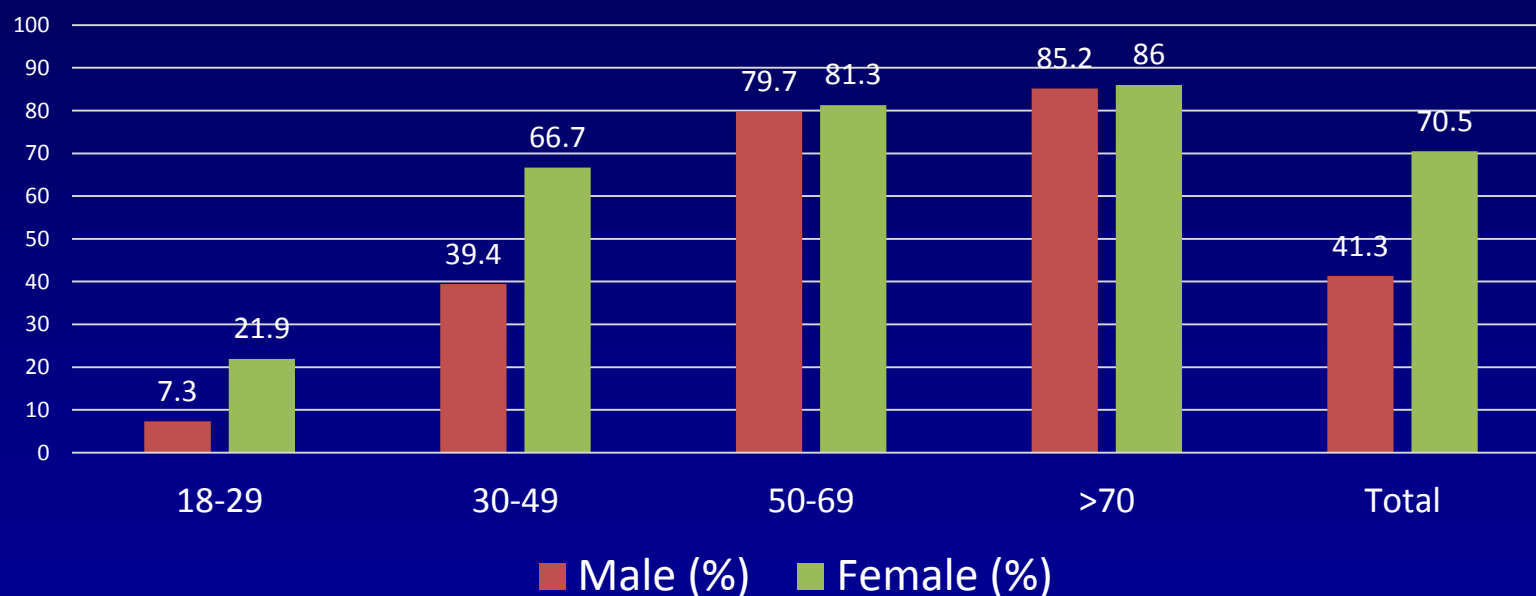
# % Hypertensive treated by age group



Yusufali et al. *J Hypertens.* 2016;34 Suppl 1-ISH 2016 Abstract  
Book:e551



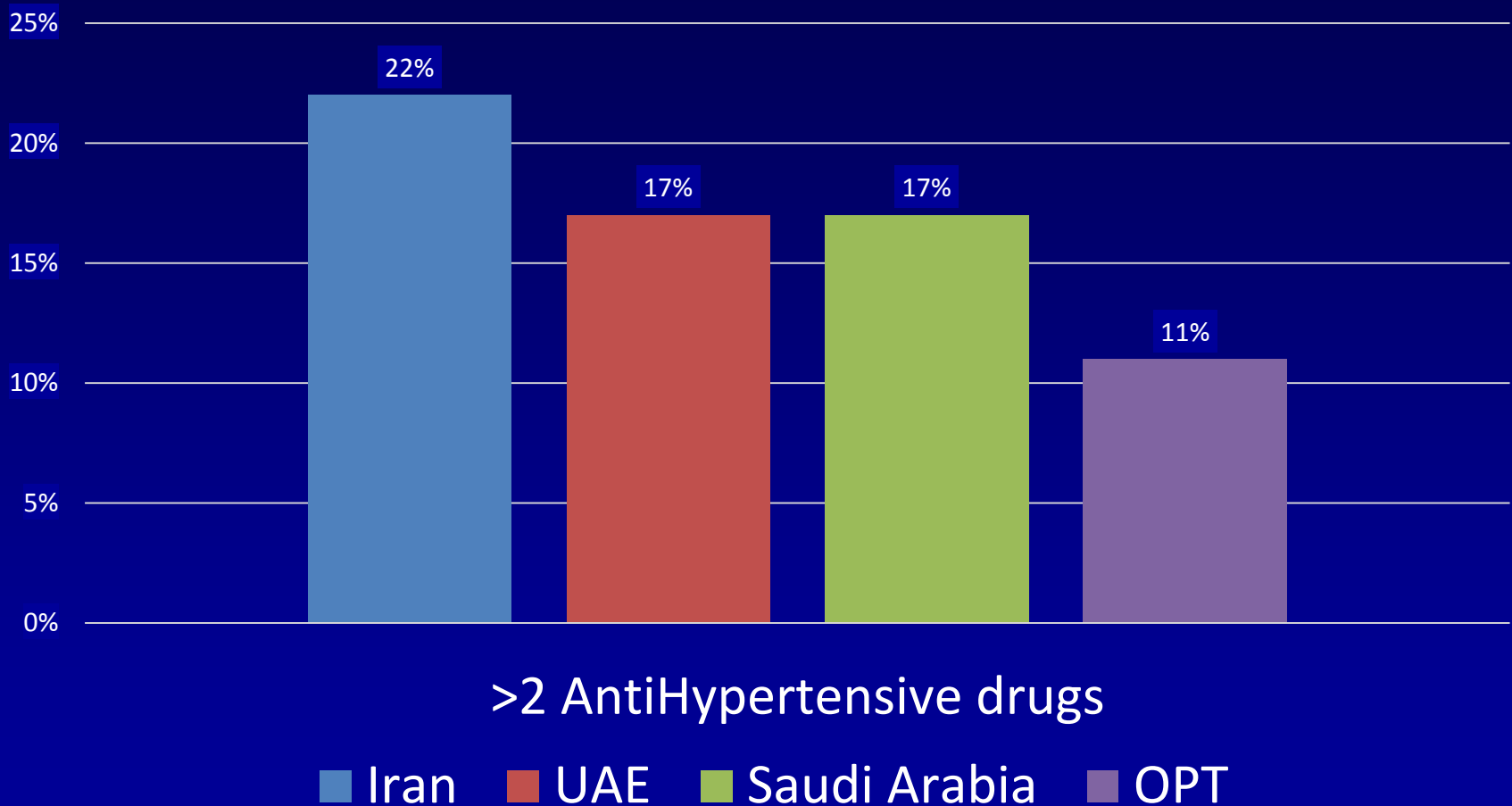
## % Hypertensive treated by gender and age group



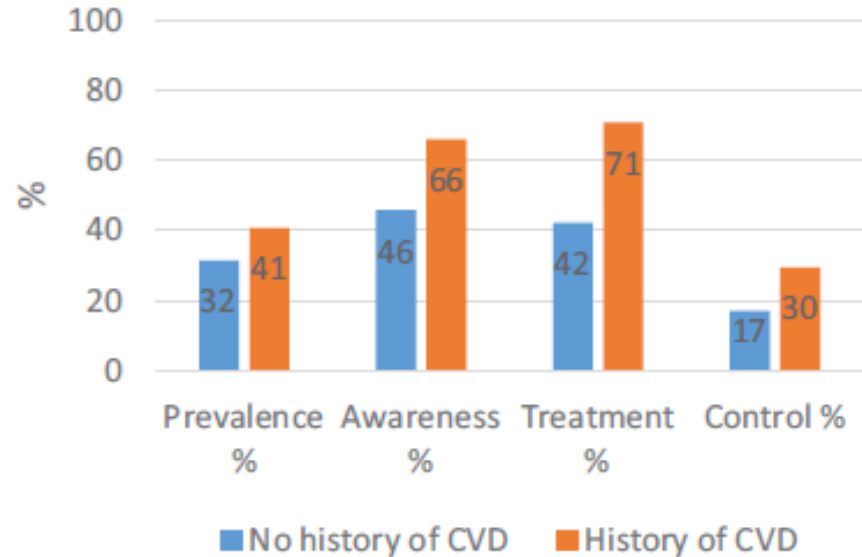
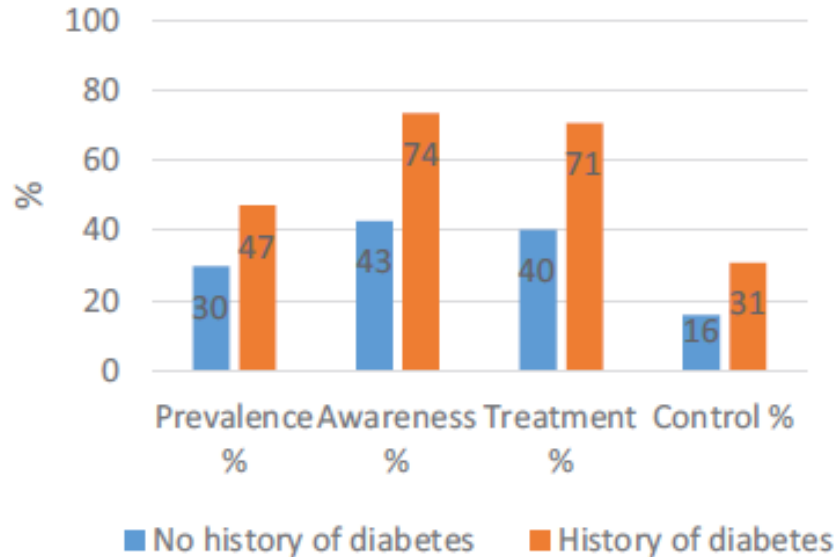
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Book:e551

# The use of two or more BP medications

Only 23% of those aware of hypertension were on statin



# Secondary prevention



Yusufali et al .Prevalence, awareness, treatment and control of hypertension in four Middle East countries 2017 J Hypertens DOI:10.1097/HJH.0000000000001326

# Cardiovascular drug use after AMI in Abu Dhabi and Sweden

	Abu Dhabi, crude N=1333		Abu Dhabi, standardized		Sweden, crude N=19312		Sweden, standardized	
	Month 0-3	Month 10-12	Month 0-3	Month 10-12	Month 0-4	Month 10-12	Month 0-4	Month 10-12
Antihypertensive %	75	38	75	36	87	74	90	78
ACE-I/ARB, %	56	28	56	28	64	51	68	55
Beta-blockers, %	65	29	64	28	78	60	83	65
Lipid-lowering, %	72	35	72	34	69	57	82	69
Platelet inhibitors, %	76	35	76	34	84	68	89	76

Harrison, O, Al Jaber, K A, Hassan, E S, Wettermark, B, Gjurovic, A M, Engström, G. (2013). Utilization of prophylactic drug therapy after acute myocardial infarction in Abu Dhabi and Sweden. *Journal of the Saudi Heart Association*, 25(2), 130.



# Challenges in prevention

- Young population with large amount of risk factors and premature mortality and morbidity.
- Monitoring the “risk factors, awareness, treatment and control rates” nationally.
- Screening and treatment especially in the young and men.
- Systems for screening and treatments need to incorporate innovation & best practices.
- We as cardiologist/scientific societies have an important role to play.

Thank you

# References

- World Health Organization NCD Country Profiles , 2014.
- *Awad H, Zubaid M, Alsheikh-Ali AA, et. al., American Journal of Cardiology 2011*
- Yusufali A et al. Opportunistic Screening for CVD Risk Factors The Dubai Shopping for Cardiovascular Risk Study (DISCOVERY) GLOBAL HEART, 2015 VOL. 10, NO. 4, : 265-272.
- Cother Hajat, et al. Weqaya: A Population-Wide Cardiovascular Screening Program in Abu Dhabi, United Arab Emirates Am J Public Health. 012;102:909–914
- Hajat C, Harrison O: The Abu Dhabi Cardiovascular Program: the continuation of Framingham. *Prog Cardiovasc Dis* 2010, **53**(1):28–38.
- WHO Global Schools Health Survey UAE 2005 and 2010.
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- Harrison, O, Al Jaber, K A, Hassan, E S, Wettermark, B, Gjurovic, A M, Engström, G. (2013). Utilization of prophylactic drug therapy after acute myocardial infarction in Abu Dhabi and Sweden. *Journal of the Saudi Heart Association*, 25(2), 130.