Prevalence of atherosclerosis risk factors in Egyptian patients with acute coronary syndromes; final data of the nationwide cross-sectional CardioRisk project

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Background: Little are known about the prevalence of atherosclerosis risk factors in Egyptian patients with acute coronary syndromes (ACS). Objective: To describe the prevalence of these risk factors with focus on gender-specific data and patients with premature presentation.

Methods: From November 2015 to August 2018, data were collected from 3224 patients with ACS in 30 coronary care centers covering 11 governorates across Egypt, with focus premature ACS.

Results: The vast majority were males (74%) and the most prevalent age group was (56–65 years) representing 37% of whole study population. Among female patients, 92% were post-menopausal. The prevalence of premature ACS was 51%. Forty five percent of total males and 69.6% of total females with ACS had premature presentation (P<0.001). Abdominal obesity was the most prevalent risk factor (66%). Nearly half of the entire study patients were current smokers (48%). We showed a high prevalence of documented dyslipidemia (48%) as well. Early invasive management strategy was employed in 65% of patients with no significant gender disparity noticed. Vascular access for coronary angiography was most commonly femoral (80% of time). Emergent percutaneous coronary intervention (PCI) was attempted in 53% of patients. Thrombolytic therapy (using Streptokinase) was used in 24% of included participants.

Conclusion: Among Egyptian patients with ACS, premature presentation is common with greater male preponderance. Abdominal obesity is the most prevalent risk factor followed by hypertension. Most traditional risk factors (apart from smoking) were more prevalent in women than men.

	Total		Premature atherosclerosis				
			Yes		No		
	N	%	N	%	N	%	P value
Males	2397	74.3	1073	65.10	1324	84.10	<0.001
Females	827	25.7	576	34.90	251	15.90	
Urban	1560	48.4	807	48.90	753	47.80	0.814
Rural	990	30.7	501	30.40	489	31.00	
Urban - Rural	674	20.9	341	20.70	333	21.10	
Primary	576	17.9	259	15.70	317	20.10	<0.001
Secondary	1009	31.3	547	33.20	462	29.30	
High school/college	1309	40.6	710	43.10	599	38.00	
None	330	10.2	133	8.10	197	12.50	
UA	735	22.9	372	22.70	363	23.20	0.035
NSTEMI	940	29.3	451	27.50	489	31.20	
STEMI	1529	47.7	815	49.80	714	45.60	
Yes	539	17.0	251	15.40	288	18.60	0.018
Chest pain	3078	96.1	1570	96.10	1508	96.10	0.963
Dyspnea	1787	55.7	891	54.30	896	57.30	0.092
Cardiac arrest	94	2.9	49	3.00	45	2.90	0.824
Palpitation	433	13.5	227	13.90	206	13.20	0.552
HTN	1811	56.2	803	48.70	1008	64.00	<0.001
Dyslipidemia	1166	48.2	607	49.00	559	47.40	0.449
T1DM	156	4.8	97	5.90	59	3.70	0.005
T2DM	1238	38.4	581	35.20	657	41.70	<0.001
Current smoking	1552	48.1	818	49.60	734	46.60	<0.001
Abdominal obesity	1626	66.3	810	63.30	816	69.40	0.001
BMI	29	5	30	5	29	5	<0.001
Waist	95.7	13.7	96	13.8	95.4	13.5	0.268
Waist-hip ratio	1.14	0.48	1.14	0.48	1.14	0.48	0.997
LDL-C	131	46.9	131.7	48.5	130.2	45.2	0.4
HDL-C	42.2	18.7	42.3	20.2	42.1	17	0.79
TC	194.6	55.1	197.2	57.9	191.9	51.9	0.007
TGs (Median & range)	150	(0 - 1330)	152 (0 - 1330)		145 (0 - 729)		<0.001
HbA1C	6.69	1.78	6.72	1.93	6.65	1.62	0.304
Coronary angiography (Yes)	2066	64.8	1075	66.20	991	63.40	0.109

Table 1. Premature Atherosclerosis subgroup

		Urban		Rural		Urban - Rural		
		N	%	N	%	N	%	P value
HTN	Yes	870	55.80	493	49.80	448	66.50	<0.001
Dyslipidemia	Yes	564	48.20	231	33.40	371	66.40	<0.001
T1DM	Yes	74	4.70	61	6.20	21	3.10	0.017
T2DM	Yes	622	39.90	380	38.40	236	35.00	0.096
Smoking	Yes	759	48.70	484	48.90	309	45.80	0.716
	Ex-Smoker	186	11.90	111	11.20	82	12.20	
BMI	Normal	170	12.10	162	17.10	46	9.70	<0.001
	Overweight	730	51.90	427	45.20	223	46.80	
	Obesity	507	36.00	356	37.70	207	43.50	
Abdominal obesity	Yes	859	70.30	605	75.80	162	37.30	<0.001

Table 2. Geographic distribution of risk factors