



CHAPTER 2: PATIENT CHARACTERISTICS

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Clinical data from 10602 patients who underwent percutaneous coronary intervention (PCI) between 2007 and 2009 were obtained and analysed from 11 SDPs across the country.

General

The mean age of patients undergoing PCI in Malaysia was 57 ± 10 years, and this was consistent across the 3 years. The majority of patients (64.0%) were aged between 50 and 70 years old, but it was notable that 24.4% of patients were aged less than 50 years old. A total of 81.5% of patients were male. For the male gender 22.3% and for the female gender 10.7% were under the age of 50 years. The ethnic distribution of patients who had undergone PCI generally reflected national demographics of the SDPs: Malay (47.5%), Chinese (23.9%), Indian (22.8%) and Iban (2%) (Table 2.1).

Cardiovascular risk factors and pre-morbid status

The most prevalent modifiable risk factors in descending order were as follows; hypertension (73.6%), dyslipidaemia (73.4%), diabetes (46.2%) and 46.0% were with smoking habit (18.6 % were current smokers and 28.5% were former smokers). Patients with positive family history of premature cardiovascular disease (CVD) were 19.1% (Table 2.1). The pattern of cardiovascular (CV) risk factors was similar across for the three years, and it was notable that 42.5% of patients had more than three CV risk factors at the time of the PCI procedure (Table 2.6).

About 41.5% of patients had a prior history of myocardial infarction, 56.5% had a prior history of coronary artery disease and, significantly, 24.5% had new onset angina. Only 4% had a history of congestive cardiac failure, 1.5% previous cerebrovascular disease and 1.0% with peripheral vascular disease. About 6.6% of patients had chronic renal impairment, 23.2% had had a previous PCI procedure, and 4.1% had a previous CABG operation. We noted that the mean body mass index (BMI) for patients undergoing PCI was 27 ± 4 kg/m². 37.8% of patients had a GFR 30-60 ml/min, while 6.9% had a GFR of <30 ml/min. Mean serum total cholesterol was 5.0 ± 1.0 mmol/l, with serum LDL 3.0 ± 1.0 mmol/l (Table 2.1)

The PCI

Between 2007 and 2009, 92.2% patients had a single PCI procedure. Repeat procedures ranged from 2 to 4 times per patient (Table 2.2).

Comment

In general, the majority of patients undergoing PCI in Malaysia were male and over the age of 50 years old, and had multiple CV risk factors at the time of the procedure. This reflects a similar population of those in the NCVD-ACS Registry¹, although it was notable that a significant number of patients undergoing PCI procedures in Malaysia were diabetic and had a previous history of myocardial infarction. The latter observation could be explained by an elective referral process from the various district hospitals and urban healthcare centres to the tertiary referral centres where the PCI procedures were undertaken.

While it was unsurprising that the mean serum total cholesterol and LDL levels were not significantly elevated, we do note that there were notable figures of 6.9% of patients with severe renal impairment undergoing PCI in Malaysia. This could be as a result of the number of patients with diabetic and/or hypertensive nephropathy, both risk factors being prevalent, both in the general population in Malaysia² and from the NCVD-ACS Registry Report¹.

In comparison, the large North American National Cardiovascular Disease Registry, PCI (NCDR-PCI), examined data from 181,755 procedures performed between January 2004 and March 2006, and subsequently, 285,440 procedures between March 2006 and March 2007. Malaysian patients were younger, had more of the male gender, and a greater prevalence of some established cardiovascular risk factors (US: mean age range 63.9-64.1 years, 66% male; 31.5-32.6% diabetes; 29.1-27.3% had a prior history of myocardial infarction).³ These findings were similar to Australian data from the Melbourne Interventional Group Registry, which examined data from April 2004 to June 2006, involving 4417 patients. (Australia: mean age 64.9 years, 73% male; 23.0% diabetes; 28.9% with a prior history of myocardial infarction >7 days prior to PCI).⁴

Therefore, with the rising prevalence of CV risk factors in Malaysia, it is expected that the numbers of PCI in Malaysia will rise accordingly. There is a need for better cardiovascular healthcare awareness, more access to healthcare providers and more PCI centres in the country.

Summary

1. Compared to the registries of developed countries, Malaysian patients undergoing PCI were much younger at presentation. The mean age of the patients undergoing PCI in Malaysia was 57 years, and 24.4% of the number of total patients were aged below 50 years.
2. More than 98% of our patients undergoing PCI had at least one cardiovascular risk factor and 72% had three or more risk factors.
3. A significant number of our patients had renal impairment at the time of procedure: 37.8% had stage 3 and 6.9% had stage 4 or 5 of chronic kidney disease (CKD).

References

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4. Yan BP, Clark DJ, Buxton B, et al. Clinical characteristics and early mortality of patients undergoing coronary artery bypass grafting compared to percutaneous coronary intervention: insights from the Australasian Society of Cardiac and Thoracic Surgeons (ASCTS) and the Melbourne Interventional Group (MIG) Registries. *Heart Lung Circ*. 2009 Jun;18(3):184-90

Table 2.1 Characteristics of patients who underwent PCI, NCVD-PCI Registry, 2007-2009

	2007		2008		2009		All	
	No.	%	No.	%	No.	%	No.	%
Demographics								
Age, Years								
N	3618		3374		3610		10602	
Mean(SD)	57 (10)		57 (10)		57 (10)		57 (10)	
Median (min,max)	57 (23,89)		57 (24,95)		57 (22,91)		57 (22,95)	
Age group, No. (%)								
20-<30	14	0.4	6	0.2	14	0.4	6	0.2
30-<40	140	3.9	133	3.9	140	3.9	133	3.9
40-<50	718	19.8	681	20.2	718	19.8	681	20.2
50-<60	1337	37.0	1240	36.8	1337	37.0	1240	36.8
60-<70	1009	27.9	914	27.1	1009	27.9	914	27.1
70-<80	374	10.3	376	11.1	374	10.3	376	11.1
≥80	26	0.7	24	0.7	26	0.7	24	0.7
Gender, No. (%)								
Male	2936	81.1	2768	82.0	2933	81.2	8637	81.5
Female	682	18.9	606	18.0	677	18.8	1965	18.5
Ethnic group, No. (%)								
Malay	1696	46.9	1595	47.3	1740	48.2	5031	47.5
Chinese	909	25.1	844	25.0	779	21.6	2532	23.9
Indian	858	23.7	722	21.4	838	23.2	2418	22.8
Orang Asli	0	0	0	0	0	0	0	0
Kadazan Dusun	1	0	24	0.7	18	0.5	43	0.4
Melanau	0	0	1	0	3	0.1	4	0
Murut	0	0	0	0	1	0	1	0
Bajau	0	0	16	0.5	24	0.7	40	0.4
Bidayuh	12	0.3	14	0.4	15	0.4	41	0.4
Iban	56	1.5	70	2.1	96	2.7	222	2.1
Punjabi	43	1.2	31	0.9	42	1.2	116	1.1
Other Malaysian	24	0.7	32	0.9	32	0.9	88	0.8
Foreigner	14	0.4	21	0.6	19	0.5	54	0.5
Not Available	1	0	4	0.1	3	0.1	8	0.1
Missing	4	0.1	0	0	0	0	0	0
Other coronary risk factors								
Smoking, No. (%)								
Never	1334	36.9	1214	36.0	1468	40.7	4016	37.9
Former (quit>30 days)	1040	28.7	864	25.6	1117	30.9	3021	28.5
Current (any tobacco use within last 30 days)	577	15.9	683	20.2	714	19.8	1974	18.6
Not Available	636	17.6	612	18.1	311	8.6	1559	14.7
Missing	31	0.9	1	0	0	0	32	0.3

Table 2.1 Characteristics of patients who underwent PCI, NCVD-PCI Registry, 2007-2009

	2007		2008		2009		All	
	No.	%	No.	%	No.	%	No.	%
Family history of premature cardiovascular disease, No. (%)								
Yes	592	16.4	511	15.1	917	25.4	2020	19.1
No	2579	71.3	2372	70.3	2482	68.8	7433	70.1
Not known	414	11.4	490	14.5	211	5.8	1115	10.5
Missing	33	0.9	1	0	0	0	34	0.3
Body Mass Index (BMI), kgm ⁻²								
N	2925		2805		3374		9104	
Mean(SD)	26 (4)		26 (4)		27 (4)		27 (4)	
Median (min,max)	26 (15,49)		26 (14,47)		26 (14,48)		26 (14,49)	
BMI, kg/m ⁻² , No. (%)								
<18.5	38	1	50	2	40	1	128	1
18.5-23	556	19	509	18	569	17	1634	18
>23-<25	574	20	568	20	642	19	1784	20
25-<30	1239	42	1153	41	1457	43	3849	42
30-<35	415	14	427	15	522	15	1364	15
35-<40	83	3	81	3	118	3	282	3
≥40	20	1	17	1	26	1	63	1
Co-morbidities								
Dyslipidaemia, No. (%)								
Yes	2772	76.6	2367	70.2	2641	73.2	7780	73.4
No	677	18.7	859	25.5	797	22.1	2333	22.0
Not known	132	3.6	147	4.4	172	4.8	451	4.3
Missing	37	1	1	0	0	0	38	0.4
Hypertension, No. (%)								
Yes	2691	74.4	2419	71.7	2691	74.5	7801	73.6
No	863	23.9	898	26.6	877	24.3	2638	24.9
Not known	48	1.3	56	1.7	42	1.2	146	1.4
Missing	16	0.4	1	0	0	0	17	0.2
Diabetes, No. (%)								
Yes	1654	45.7	1524	45.2	1716	47.5	4894	46.2
No	1891	52.3	1782	52.8	1814	50.2	5487	51.8
Not Known	54	1.5	67	2.0	80	2.2	201	1.9
Missing	19	0.5	1	0	0	0	20	0.2

Table 2.1 Characteristics of patients who underwent PCI, NCVD-PCI Registry, 2007-2009

	2007		2008		2009		All	
	No.	%	No.	%	No.	%	No.	%
Type of diabetes treatment, No. (%)								
OHA	1233	74.5	1162	76.2	1104	64.3	3499	71.5
Insulin	154	9.3	150	9.8	208	12.1	512	10.5
OHA + Insulin	30	1.8	75	4.9	99	5.8	204	4.2
Not Known	237	14.3	137	9.0	305	17.8	679	13.9
Myocardial infarction history, No. (%)								
Yes	1256	34.7	1313	38.9	1828	50.6	4397	41.5
No	2160	59.7	1926	57.1	1701	47.1	5787	54.6
Not known	174	4.8	134	4.0	81	2.2	389	3.7
Missing	28	0.8	1	0	0	0	29	0.3
Documented Coronary Artery Disease, No. (%)								
Yes	1981	54.8	1801	53.4	2209	61.2	5991	56.5
No	1557	43.0	1510	44.8	1371	38.0	4438	41.9
Not known	55	1.5	62	1.8	30	0.8	147	1.4
Missing	25	0.7	1	0	0	0	26	0.2
New onset angina (<2weeks), No. (%)								
Yes	829	22.9	726	21.5	1046	29	2601	24.5
No	2704	74.7	2573	76.3	2536	70.2	7813	73.7
Not known	63	1.7	74	2.2	28	0.8	165	1.6
Missing	22	0.6	1	0	0	0	23	0.2
Congestive Heart Failure (2weeks prior), No. (%)								
Yes	118	3.3	111	3.3	194	5.4	423	4.0
No	3407	94.2	3187	94.5	3380	93.6	9974	94.1
Not known	63	1.7	75	2.2	36	1	174	1.6
Missing	30	0.8	1	0	0	0	31	0.3
Cerebrovascular disease, No. (%)								
Yes	58	1.6	51	1.5	51	1.4	160	1.5
No	3506	96.9	3270	96.9	3530	97.8	10306	97.2
Not known	33	0.9	52	1.5	29	0.8	114	1.1
Missing	21	0.6	1	0	0	0	22	0.2

Table 2.1 Characteristics of patients who underwent PCI, NCVD-PCI Registry, 2007-2009

	2007		2008		2009		All	
	No.	%	No.	%	No.	%	No.	%
Peripheral vascular disease, No. (%)								
Yes	35	1.0	34	1.0	38	1.1	107	1.0
No	3525	97.4	3285	97.4	3544	98.2	10354	97.7
Not known	34	0.9	54	1.6	28	0.8	116	1.1
Missing	24	0.7	1	0	0	0	25	0.2
Chronic renal failure (>200micromol), No. (%)								
Yes	214	5.9	208	6.2	278	7.7	700	6.6
No	3345	92.5	3114	92.3	3306	91.6	9765	92.1
Not known	31	0.9	51	1.5	26	0.7	108	1.0
Missing	28	0.8	1	0	0	0	29	0.3
* Coronary artery disease, No. (%)								
Yes	2725	75.3	2660	78.8	3108	86.1	8493	80.1
No	813	22.5	639	18.9	475	13.2	1927	18.2
Not known	80	2.2	75	2.2	27	0.7	182	1.7
Missing	0	0	0	0	0	0	0	0
Baseline investigation								
Baseline creatinine, mmol/L								
N	3415		3224		3457		10096	
Mean(SD)	124 (123)		116 (103)		118 (114)		119 (114)	
Median, (min,max)	98 (46,1280)		95 (47,1225)		94 (44,1268)		96 (44,1280)	
Not Available	53	2	74	2	71	2	198	2
Missing	150	4	76	2	82	2	308	3
Baseline creatinine, mmol/L								
<100 mmol/L	1820	50	1851	55	2031	56	5702	54
100 – 199 mmol/L	1402	39	1226	36	1248	35	3876	37
> 200 mmol/L	193	5	147	4	178	5	518	5
Not Available	53	2	74	2	71	2	198	2
Missing	150	4	76	2	82	2	308	3
Glomerular filtration rate (GFR) [†] , mL/min								
N	2681		2575		3144		8400	
Mean(SD)	63 (25)		65 (24)		66 (26)		64 (25)	
Median, (min,max)	61 (4,198)		64 (4,165)		24 (3,202)		63 (3,202)	
Missing	937	26	798	24	466	13	2201	21

Table 2.1 Characteristics of patients who underwent PCI, NCVD-PCI Registry, 2007-2009

	2007		2008		2009		All	
	No.	%	No.	%	No.	%	No.	%
[†] Glomerular filtration rate (GFR), mL/min								
≥90	307	11.5	332	12.9	478	15.2	1117	13.3
60-<90	1103	41.1	1127	43.8	1301	41.4	3531	42.0
30-<60	1062	39.6	960	37.3	1154	36.7	3176	37.8
15-<30	119	4.4	95	3.7	118	3.8	332	4.0
<15	90	3.4	61	2.4	93	3.0	244	2.9
**Total cholesterol, mmol/L								
N	1149		1281		1719		4149	
Mean(SD)	5 (1)		5 (1)		5 (1)		5 (1)	
Median, (min,max)	4 (3,24)		4 (3,10)		4 (3,12)		4 (3,24)	
Not Available	770	40	438	26	380	18	1588	28
Missing	62	3	82	5	110	5	254	4
**LDL levels, mmol/L								
N	1128		1261		1726		4115	
Mean(SD)	3 (1)		3 (1)		3 (1)		3 (1)	
Median, (min,max)	2 (1,18)		2 (1,8)		2 (1,16)		2 (1,18)	
Not Available	793	41	450	26	419	20	1662	29
Missing	60	3	90	5	64	3	214	4
Previous Intervention								
Previous PCI, No. (%)								
Yes	824	22.8	742	22.0	892	24.7	2458	23.2
No	2783	76.9	2631	78.0	2718	75.3	8132	76.7
Missing	11	0.3	1	0	0	0	12	0.1
Previous CABG, No. (%)								
Yes	132	3.6	159	4.7	140	3.9	431	4.1
No	3472	96.0	3214	95.3	3470	96.1	10156	95.8
Missing	14	0.4	1	0	0	0	15	0.1

*Coronary artery disease is defined as "Yes" on any of the following co-morbidities: 1) History of myocardial infarction, 2) Documented CAD >50% stenosis, 3) Chronic angina (onset more than 2 weeks ago), 4) New onset angina (less than 2 weeks)

Note: 'Not known' includes patients who do not know their co-morbidities as well as missing data

** Mean (SD) of Total Cholesterol, mmol/L and LDL levels, mmol/L is of the patients who had documented coronary artery disease

[†]Glomerular filtration rate calculated based on Cockcroft-Gault formula

Table 2.2 Distribution of patients by number of procedures, NCVD-PCI Registry, 2007-2009

No. of Procedures	No. of patients in 2007	No. of patients in 2008	No. of patients in 2009	Total no. of patients
1	3618	3374	3610	10602
2	295	264	292	851
3	14	13	14	41
4	1	3	0	4

Table 2.3.1 Distribution of patients who underwent PCI, by SDP, NCVD-PCI Registry, 2007-2009

No.	Source Data Providers	2007		2008		2009		All	
		No.	%	No.	%	No.	%	No.	%
1	Pusat Perubatan Universiti Malaya	330	9.1	178	5.3	360	10.0	868	8.2
2	Institut Jantung Negara	2156	59.6	2058	61.0	2221	61.5	6435	60.7
3	Hospital Pulau Pinang	445	12.3	216	6.4	50	1.4	711	6.7
4	Hospital Umum Sarawak	336	9.3	355	10.5	378	10.5	1069	10.1
5	Hospital Sultanah Aminah	318	8.8	303	9.0	400	11.1	1021	9.6
6	Hospital Sultanah Bahiyah	0	0	112	3.3	36	1.0	148	1.4
7	Hospital Queen Elizabeth	0	0	120	3.6	122	3.4	242	2.3
8	Hospital Pakar KPJ Selangor	12	0.3	26	0.8	30	0.8	68	0.6
9	Hospital Serdang	5	0.1	2	0.1	1	0	8	0.1
10	Pusat Perubatan Universiti Kebangsaan Malaysia	16	0.4	4	0.1	0	0	20	0.2
11	Pusat Perubatan Mahkota	0	0	0	0	12	0.3	12	0.1
Total		3618	99.9	3374	100.1	3610	100	10602	100

* Each SDP started to contribute data at different time period

Table 2.3.2 Distribution of PCI procedures performed by Source Data Providers (SDPs), NCVD-PCI Registry, 2007-2009

No.	Source Data Providers	2007		2008		2009		All	
		No.	%	No.	%	No.	%	No.	%
1	Pusat Perubatan Universiti Malaya	376	10	188	5	400	10	964	8
2	Institut Jantung Negara	2311	59	2204	60	2404	61	6919	60
3	Hospital Pulau Pinang	502	13	243	7	53	1	798	7
4	Hospital Umum Sarawak	377	10	409	11	410	10	1196	10
5	Hospital Sultanah Aminah	325	8	333	9	447	11	1105	10
6	Hospital Sultanah Bahiyah	0	0	124	3	37	1	161	1
7	Hospital Queen Elizabeth	0	0	121	3	122	3	243	2
8	Hospital Pakar KPJ Selangor	15	0	26	1	30	1	71	1
9	Hospital Serdang	6	0	2	0	1	0	9	0
10	Pusat Perubatan Universiti Kebangsaan Malaysia	16	0	4	0	0	0	20	0
11	Pusat Perubatan Mahkota	0	0	0	0	12	0	12	0
Total		3928	100	3654	99	3916	98	11498	99

* Each SDP started to contribute data at different time period

Table 2.4.1 SDP-ethnicity distribution of patients who underwent PCI by year, NCVD-PCI Registry (row percent)

No.	Source Data Provider	2007						2008						2009					
		Ethnic group						Ethnic group						Ethnic group					
		Malay	Chinese	Indian	*Others	Not Available	Total	Malay	Chinese	Indian	*Others	Not Available	Total	Malay	Chinese	Indian	*Others	Not Available	Total
		No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)
1	PPUM	133 (40.3)	70 (21.2)	115 (34.8)	11 (3.3)	1 (0.3)	330 (100)	66 (37.1)	45 (25.3)	62 (34.8)	4 (2.2)	1 (0.6)	178 (100)	139 (38.6)	85 (23.6)	130 (36.1)	5 (1.4)	1 (0.3)	360 (100)
2	IUN	1165 (54.0)	374 (17.3)	562 (26.1)	55 (2.6)	0 (0)	2156 (100)	1140 (55.4)	347 (16.9)	511 (24.8)	58 (2.8)	2 (0.1)	2058 (100)	1244 (56.0)	333 (15.0)	581 (26.2)	63 (2.8)	0 (0)	2221 (100)
3	HPP	182 (40.9)	156 (35.1)	100 (22.5)	5 (1.1)	2 (0.4)	445 (100)	80 (37.0)	76 (35.2)	58 (26.9)	2 (0.9)	0 (0)	216 (100)	25 (50.0)	10 (20.0)	15 (30.0)	0 (0)	0 (0)	50 (100)
4	HUS	72 (21.4)	187 (55.7)	3 (0.9)	72 (21.4)	2 (0.6)	336 (100)	78 (22.0)	186 (52.4)	2 (0.6)	89 (25.1)	0 (0)	355 (100)	95 (25.1)	156 (41.3)	5 (1.3)	122 (32.3)	0 (0)	378 (100)
5	HSA	125 (39.3)	113 (35.5)	73 (23.0)	7 (2.2)	0 (0)	318 (100)	124 (40.9)	107 (35.3)	72 (23.8)	0 (0)	0 (0)	303 (100)	177 (44.3)	129 (32.3)	91 (22.8)	3 (0.8)	0 (0)	400 (100)
6	KPJ SSH	5 (50.0)	3 (25.0)	3 (25.0)	0 (0)	0 (0)	12 (100)	20 (76.9)	4 (15.4)	2 (7.7)	0 (0)	0 (0)	26 (100)	20 (66.7)	1 (3.3)	9 (30.0)	0 (0)	0 (0)	30 (100)
7	HS	3 (60.0)	1 (20.0)	1 (20.0)	0 (0)	0 (0)	5 (100)	1 (50.0)	0 (0)	1 (50.0)	0 (0)	0 (0)	2 (100)	1 (100)	0 (0)	0 (0)	0 (0)	0 (0)	1 (100)
8	PPUKM	10 (62.5)	5 (31.3)	1 (6.3)	0 (0)	0 (0)	16 (100)	2 (50.0)	2 (50.0)	0 (0)	0 (0)	0 (0)	4 (100)						
9	HQE							11 (9.2)	51 (42.5)	2 (1.7)	56 (46.7)	0 (0)	120 (100)	10 (8.2)	50 (41.0)	4 (3.3)	56 (45.9)	2 (1.6)	122 (100)
10	HSB							73 (65.2)	26 (23.2)	12 (10.7)	0 (0)	1 (0.9)	112 (100)	29 (80.6)	3 (8.3)	3 (8.3)	1 (2.8)	0 (0)	36 (100)
11	MMC													0 (0)	12 (100)	0 (0)	0 (0)	0 (0)	12 (100)

* 'Others' includes Orang asli, Kadazan, Melanau, Murut, Bajau, Bidayuh, Iban, other Malaysian and Foreigner

Note:

Abbreviation	Name of the Hospital
PPUM	Pusat Perubatan Universiti Malaya
IJN	Institut Jantung Negara
HPP	Hospital Pulau Pinang
HUS	Hospital Umum Sarawak
HSA	Hospital Sultanah Aminah
HSB	Hospital Sultanah Bahiyah
HQE	Hospital Queen Elizabeth
KPJ SSH	Hospital Pakar KPJ Selangor (<i>KPJ Selangor Specialist Hospital</i>)
HS	Hospital Serdang
PPUKM	Pusat Perubatan Universiti Kebangsaan Malaysia
MMC	Pusat Perubatan Mahkota (<i>Mahkota Medical Centre</i>)

Table 2.4.2 SDP-ethnicity distribution of patients who underwent PCI, NCVD-PCI Registry, 2007-2009 (row percent)

No.	Source Data Provider	Ethnic group					
		Malay	Chinese	Indian	*Others	Not Available	Total
		No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)
1	Pusat Perubatan Universiti Malaya	338 (38.9)	200 (23.0)	307 (35.4)	20 (2.3)	3 (0.3)	868 (100)
2	Institut Jantung Negara	3549 (55.2)	1054 (16.4)	1654 (25.7)	176 (2.7)	2 (0)	6435 (100)
3	Hospital Pulau Pinang	287 (40.4)	242 (34.0)	173 (24.3)	7 (1.0)	2 (0.3)	711 (100)
4	Hospital Umum Sarawak	245 (22.9)	529 (49.5)	10 (0.9)	283 (26.5)	2 (0.2)	1069 (100)
5	Hospital Sultanah Aminah	426 (41.7)	349 (34.2)	236 (23.1)	10 (1.0)	0 (0)	1021 (100)
6	Hospital Sultanah Bahiyah	102 (68.9)	29 (19.6)	15 (10.1)	1 (0.7)	1 (0.7)	148 (100)
7	Hospital Queen Elizabeth	21 (8.7)	101 (41.7)	6 (2.5)	112 (46.3)	2 (0.8)	242 (100)
8	Hospital Pakar KPJ Selangor	46 (67.6)	8 (11.8)	14 (20.5)	0 (0)	0 (0)	68 (100)
9	Hospital Serdang	5 (62.5)	1 (12.5)	2 (25.0)	0 (0)	0 (0)	8 (100)
10	Pusat Perubatan Universiti Kebangsaan Malaysia	12 (60.0)	7 (35.0)	1 (5.0)	0 (0)	0 (0)	20 (100)
11	Pusat Perubatan Mahkota	0 (0)	12 (100)	0 (0)	0 (0)	0 (0)	12 (100)

**'Others' includes Orang asli, Kadazan, Melanau, Murut, Bajau, Bidayuh, Iban, other Malaysian and Foreigner*

Table 2.4.3 SDP-gender distribution of patients who underwent PCI, NCVD-PCI Registry, 2007-2009 (row percent)

Year	No.	Source Data Provider	Gender					
			Male		Female		Total	
			No.	%	No.	%	No.	%
2007	1	Pusat Perubatan Universiti Malaya	237	71.8	93	28.2	330	100
	2	Institut Jantung Negara	1742	80.8	414	19.2	2156	100
	3	Hospital Pulau Pinang	347	78	98	22	445	100
	4	Hospital Umum Sarawak	304	90.5	32	9.5	336	100
	5	Hospital Sultanah Aminah	276	86.8	42	13.2	318	100
	6	Hospital Pakar KPJ Selangor	11	91.7	1	8.3	12	100
	7	Hospital Serdang	4	80	1	20	5	100
	8	Pusat Perubatan Universiti Kebangsaan Malaysia	15	93.8	1	6.3	16	100
2008	1	Pusat Perubatan Universiti Malaya	131	73.6	47	26.4	178	100
	2	Institut Jantung Negara	1702	82.7	356	17.3	2058	100
	3	Hospital Pulau Pinang	165	76.4	51	23.6	216	100
	4	Hospital Umum Sarawak	300	84.5	55	15.5	355	100
	5	Hospital Sultanah Aminah	239	78.9	64	21.1	303	100
	6	Hospital Sultanah Bahiyah	100	89.3	12	10.7	112	100
	7	Hospital Queen Elizabeth	103	85.8	17	14.2	120	100
	8	Hospital Pakar KPJ Selangor	23	88.5	3	11.5	26	100
	9	Hospital Serdang	2	100	0	0	2	100
	10	Pusat Perubatan Universiti Kebangsaan Malaysia	3	75	1	25	4	100
2009	1	Pusat Perubatan Universiti Malaya	3	75	1	25	4	100
	2	Institut Jantung Negara	272	75.6	88	24.4	360	100
	3	Hospital Pulau Pinang	1807	81.4	414	18.6	2221	100
	4	Hospital Umum Sarawak	40	80	10	20	50	100
	5	Hospital Sultanah Aminah	298	78.8	80	21.2	378	100
	6	Hospital Sultanah Bahiyah	338	84.5	62	15.5	400	100
	7	Hospital Queen Elizabeth	33	91.7	3	8.3	36	100
	8	Hospital Pakar KPJ Selangor	109	89.3	13	10.7	122	100
	9	Hospital Serdang	25	83.3	5	16.7	30	100
	10	Pusat Perubatan Mahkota	0	0	1	100	1	100
All	1	Pusat Perubatan Universiti Malaya	640	73.7	228	26.3	868	100
	2	Institut Jantung Negara	5251	81.6	1184	18.4	6435	100
	3	Hospital Pulau Pinang	552	77.6	159	22.4	711	100
	4	Hospital Umum Sarawak	902	84.4	167	15.6	1069	100
	5	Hospital Sultanah Aminah	853	83.5	168	16.5	1021	100
	6	Hospital Sultanah Bahiyah	133	89.9	15	10.1	148	100
	7	Hospital Queen Elizabeth	212	87.6	30	12.4	242	100
	8	Hospital Pakar KPJ Selangor	59	86.8	9	13.2	68	100
	9	Hospital Serdang	6	75	2	25	8	100
	10	Pusat Perubatan Universiti Kebangsaan Malaysia	18	90	2	10	20	100
	11	Pusat Perubatan Mahkota	11	91.7	1	8.3	12	100

Table 2.5 Age-gender distribution of patients who underwent PCI, NCVD-PCI Registry, 2007-2009

Year	Age Group	Gender			
		Male		Female	
		No.	%	No.	%
2007	20-<30	12	0.4	2	0.3
	30-<40	135	4.6	5	0.7
	40-<50	640	21.8	78	11.4
	50-<60	1132	38.6	205	30.1
	60-<70	750	25.5	259	38.0
	70-<80	247	8.4	127	18.6
	≥80	20	0.7	6	0.9
	Total	2936	100	682	100
2008	20-<30	5	0.2	1	0.2
	30-<40	122	4.4	11	1.8
	40-<50	624	22.5	57	9.4
	50-<60	1073	38.8	167	27.6
	60-<70	677	24.5	237	39.1
	70-<80	249	9	127	21
	≥80	18	0.7	6	1
	Total	2768	100	606	100
2009	20-<30	8	0.3	0	0
	30-<40	131	4.5	15	2.2
	40-<50	659	22.5	75	11.1
	50-<60	1025	34.9	212	31.3
	60-<70	808	27.5	236	34.9
	70-<80	285	9.7	129	19.1
	≥80	17	0.6	10	1.5
	Total	2933	100	677	100
All	20-<30	25	0.3	3	0.2
	30-<40	388	4.5	31	1.6
	40-<50	1923	22.3	210	10.7
	50-<60	3230	37.4	584	29.7
	60-<70	2235	25.9	732	37.3
	70-<80	781	9	383	19.5
	≥80	55	0.6	22	1.1
	Total	8637	100	1965	100

Table 2.5.1.1 Age-gender distribution of patients who underwent PCI, by ethnic group, NCVD-PCI Registry, 2007

Year	Gender	Age Group	Ethnic group									
			Malay		Chinese		Indian		Others*		Not Available	
			No.	(%)	No.	(%).	No.	(%)	No.	(%)	No.	(%)
2007	Male	20-<30	4	(0.1)	5	(0.2)	2	(0.1)	1	(0)	0	(0)
		30-<40	76	(2.6)	17	(0.6)	36	(1.2)	6	(0.2)	0	(0)
		40-<50	338	(11.5)	114	(3.9)	163	(5.6)	25	(0.9)	0	(0)
		50-<60	582	(19.8)	257	(8.8)	243	(8.3)	48	(1.6)	2	(0.1)
		60-<70	314	(10.7)	246	(8.4)	159	(5.4)	30	(1.0)	1	(0)
		70-<80	98	(3.3)	82	(2.8)	59	(2.0)	8	(0.3)	0	(0)
		≥80	8	(0.3)	6	(0.2)	4	(0.1)	2	(0.1)	0	(0)
		Total	1420	(48.4)	727	(24.8)	666	(22.7)	120	(4.1)	3	(0.1)
	Female	20-<30	2	(0.3)	0	(0)	0	(0)	0	(0)	0	(0)
		30-<40	2	(0.3)	0	(0)	3	(0.4)	0	(0)	0	(0)
		40-<50	36	(5.3)	8	(1.2)	28	(4.1)	5	(0.7)	1	(0.1)
		50-<60	96	(14.1)	45	(6.6)	55	(8.1)	9	(1.3)	0	(0)
		60-<70	102	(15)	73	(10.7)	72	(10.6)	11	(1.6)	1	(0.1)
		70-<80	36	(5.3)	53	(7.8)	34	(5.0)	4	(0.6)	0	(0)
		≥80	2	(0.3)	3	(0.4)	0	(0)	1	(0.1)	0	(0)
		Total	276	(40.5)	182	(26.7)	192	(28.2)	30	(4.4)	2	(0.3)

* 'Others' includes Orang asli, Kadazan, Melanau, Murut, Bajau, Bidayuh, Iban, other Malaysian and Foreigner

Table 2.5.1.2 Age-gender distribution of patients who underwent PCI, by ethnic group, NCVD-PCI Registry, 2008

Year	Gender	Age Group	Ethnic group									
			Malay		Chinese		Indian		Others*		Not Available	
			No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
2008	Male	20-<30	2	(0.1)	0	(0)	1	(0)	2	(0.1)	0	(0)
		30-<40	68	(2.5)	20	(0.7)	21	(0.8)	13	(0.5)	0	(0)
		40-<50	328	(11.8)	103	(3.7)	145	(5.2)	48	(1.7)	0	(0)
		50-<60	549	(19.8)	249	(9.0)	218	(7.9)	55	(2.0)	2	(0.1)
		60-<70	306	(11.1)	195	(7.1)	128	(4.6)	48	(1.7)	0	(0)
		70-<80	109	(3.9)	85	(3.1)	39	(1.4)	15	(0.5)	1	(0)
		≥80	6	(0.2)	7	(0.3)	3	(0.1)	2	(0.1)	0	(0)
		Total	1368	(49.4)	659	(23.8)	555	(20.1)	183	(6.6)	3	(0.1)
	Female	20-<30	1	(0.2)	0	(0)	0	(0)	0	(0)	0	(0)
		30-<40	4	(0.7)	2	(0.3)	5	(0.8)	0	(0)	0	(0)
		40-<50	26	(4.3)	6	(1.0)	23	(3.8)	2	(0.3)	0	(0)
		50-<60	76	(12.5)	31	(5.1)	50	(8.3)	10	(1.7)	0	(0)
		60-<70	81	(13.4)	86	(14.2)	60	(9.9)	10	(1.7)	0	(0)
		70-<80	38	(6.3)	57	(9.4)	27	(4.5)	4	(0.7)	1	(0.2)
		≥80	1	(0.2)	3	(0.5)	2	(0.3)	0	(0)	0	(0)
		Total	227	(37.5)	185	(30.5)	167	(27.6)	26	(4.3)	1	(0.2)

* 'Others' includes Orang asli, Kadazan, Melanau, Murut, Bajau, Bidayuh, Iban, other Malaysian and Foreigner

Table 2.5.1.3 Age-gender distribution of patients who underwent PCI, by ethnic group, NCVD-PCI Registry, 2009

Year	Gender	Age Group	Ethnic group									
			Malay		Chinese		Indian		Others*		Not Available	
			No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
2009	Male	20-<30	4	(0.1)	0	(0)	3	(0.1)	1	(0)	0	(0)
		30-<40	77	(2.6)	17	(0.6)	25	(0.9)	12	(0.4)	0	(0)
		40-<50	336	(11.5)	108	(3.7)	155	(5.3)	60	(2.0)	0	(0)
		50-<60	531	(18.1)	188	(6.4)	247	(8.4)	57	(1.9)	2	(0.1)
		60-<70	392	(13.4)	202	(6.9)	166	(5.7)	47	(1.6)	1	(0)
		70-<80	109	(3.7)	87	(3.0)	63	(2.1)	26	(0.9)	0	(0)
		≥80	4	(0.1)	10	(0.3)	0	(0)	3	(0.1)	0	(0)
		Total	1453	(49.5)	612	(20.9)	659	(22.5)	206	(7)	3	(0.1)
	Female	20-<30	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
		30-<40	11	(1.6)	1	(0.1)	3	(0.4)	0	(0)	0	(0)
		40-<50	38	(5.6)	11	(1.6)	23	(3.4)	3	(0.4)	0	(0)
		50-<60	96	(14.2)	44	(6.5)	55	(8.1)	17	(2.5)	0	(0)
		60-<70	107	(15.8)	56	(8.3)	57	(8.4)	16	(2.4)	0	(0)
		70-<80	35	(5.2)	49	(7.2)	38	(5.6)	7	(1.0)	0	(0)
		≥80	0	(0)	6	(0.9)	3	(0.4)	1	(0.1)	0	(0)
		Total	287	(42.4)	167	(24.7)	179	(26.4)	44	(6.5)	0	(0)

* 'Others' includes Orang asli, Kadazan, Melanau, Murut, Bajau, Bidayuh, Iban, other Malaysian and Foreigner

Table 2.5.1.4 Age-gender distribution of patients who underwent PCI, by ethnic group, NCVD-PCI Registry, 2007-2009

Year	Gender	Age Group	Ethnic group									
			Malay		Chinese		Indian		Others*		Not Available	
			No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
All	Male	20-<30	10	(0.1)	5	(0.1)	6	(0.1)	4	(0)	0	(0)
		30-<40	221	(2.6)	54	(0.6)	82	(0.9)	31	(0.4)	0	(0)
		40-<50	1002	(11.6)	325	(3.8)	463	(5.4)	133	(1.5)	0	(0)
		50-<60	1662	(19.2)	694	(8.0)	708	(8.2)	160	(1.9)	6	(0.1)
		60-<70	1012	(11.7)	643	(7.5)	453	(5.2)	125	(1.4)	2	(0)
		70-<80	316	(3.7)	254	(2.9)	161	(1.9)	49	(0.6)	1	(0)
		≥80	18	(0.2)	23	(0.3)	7	(0.1)	7	(0.1)	0	(0)
		Total	4241	(49.1)	1998	(23.1)	1880	(21.8)	509	(5.9)	9	(0.1)
	Female	20-<30	3	(0.2)	0	(0)	0	(0)	0	(0)	0	(0)
		30-<40	17	(0.9)	3	(0.2)	11	(0.6)	0	(0)	0	(0)
		40-<50	100	(5.1)	25	(1.3)	74	(3.8)	10	(0.5)	1	(0.1)
		50-<60	268	(13.6)	120	(6.1)	160	(8.1)	36	(1.8)	0	(0)
		60-<70	290	(14.8)	215	(10.9)	189	(9.6)	37	(1.9)	1	(0.1)
		70-<80	109	(5.5)	159	(8.1)	99	(5.0)	15	(0.8)	1	(0.1)
		≥80	3	(0.2)	12	(0.6)	5	(0.3)	2	(0.1)	0	(0)
		Total	790	(40.2)	534	(27.2)	538	(27.4)	100	(5.1)	3	(0.2)

* 'Others' includes Orang asli, Kadazan, Melanau, Murut, Bajau, Bidayuh, Iban, other Malaysian and Foreigner

Table 2.5.2 Age-gender distribution of patients who underwent PCI, by pre-morbid diabetes, NCVD-PCI Registry, 2007-2009

Year	Gender	Age Group	Pre-morbid diabetes					
			Diabetic		Non-Diabetic		Not Known	
			No.	%	No.	%	No.	%
2007	Male	20-<30	2	0.1	9	0.3	1	0
		30-<40	42	1.4	93	3.2	0	0
		40-<50	229	7.8	401	13.7	10	0.3
		50-<60	503	17.1	606	20.6	23	0.8
		60-<70	343	11.7	387	13.2	20	0.7
		70-<80	98	3.3	142	4.8	7	0.2
		≥80	5	0.2	15	0.5	0	0
		Total	1222	41.6	1653	56.3	61	2.1
	Female	20-<30	1	0.1	1	0.1	0	0
		30-<40	2	0.3	3	0.4	0	0
		40-<50	55	8.1	21	3.1	2	0.3
		50-<60	140	20.5	61	8.9	4	0.6
		60-<70	164	24	93	13.6	2	0.3
		70-<80	67	9.8	56	8.2	4	0.6
		≥80	3	0.4	3	0.4	0	0
		Total	432	63.3	238	34.9	12	1.8
2008	Male	20-<30	1	0	3	0.1	1	0
		30-<40	36	1.3	83	3	3	0.1
		40-<50	214	7.7	400	14.4	10	0.4
		50-<60	477	17.2	576	20.8	20	0.7
		60-<70	306	11.1	354	12.8	17	0.6
		70-<80	113	4.1	129	4.7	7	0.3
		≥80	8	0.3	10	0.4	0	0
		Total	1155	41.7	1555	56.2	58	2.1
	Female	20-<30	0	0	1	0.2	0	0
		30-<40	8	1.3	3	0.5	0	0
		40-<50	45	7.4	11	1.8	1	0.2
		50-<60	105	17.3	59	9.7	3	0.5
		60-<70	146	24.1	86	14.2	5	0.8
		70-<80	63	10.4	63	10.4	1	0.2
		≥80	2	0.3	4	0.7	0	0
		Total	369	60.9	227	37.5	10	1.7

Table 2.5.2 Age-gender distribution of patients who underwent PCI, by pre-morbid diabetes, NCVD-PCI Registry, 2007-2009

Year	Gender	Age Group	Pre-morbid diabetes					
			Diabetic		Non-Diabetic		Not Known	
			No.	%	No.	%	No.	%
2009	Male	20-<30	2	0.1	5	0.2	1	0
		30-<40	37	1.3	92	3.1	2	0.1
		40-<50	235	8	408	13.9	16	0.5
		50-<60	483	16.5	514	17.5	28	1
		60-<70	377	12.9	415	14.1	16	0.5
		70-<80	138	4.7	138	4.7	9	0.3
		≥80	7	0.2	8	0.3	2	0.1
		Total	1279	43.6	1580	53.9	74	2.5
	Female	20-<30	0	0	0	0	0	0
		30-<40	11	1.6	4	0.6	0	0
		40-<50	53	7.8	22	3.2	0	0
		50-<60	142	21	67	9.9	3	0.4
		60-<70	150	22.2	85	12.6	1	0.1
		70-<80	74	10.9	53	7.8	2	0.3
		≥80	7	1	3	0.4	0	0
		Total	437	64.5	234	34.6	6	0.9
All	Male	20-<30	5	0.1	17	0.2	3	0
		30-<40	115	1.3	268	3.1	5	0.1
		40-<50	678	7.8	1209	14	36	0.4
		50-<60	1463	16.9	1696	19.6	71	0.8
		60-<70	1026	11.9	1156	13.4	53	0.6
		70-<80	349	4	409	4.7	23	0.3
		≥80	20	0.2	33	0.4	2	0
		Total	3656	42.3	4788	55.4	193	2.2
	Female	20-<30	1	0.1	2	0.1	0	0
		30-<40	21	1.1	10	0.5	0	0
		40-<50	153	7.8	54	2.7	3	0.2
		50-<60	387	19.7	187	9.5	10	0.5
		60-<70	460	23.4	264	13.4	8	0.4
		70-<80	204	10.4	172	8.8	7	0.4
		≥80	12	0.6	10	0.5	0	0
		Total	1238	63	699	35.6	28	1.4

Table 2.5.3 Age-gender distribution of patients who underwent PCI, by pre-morbid hypertension, NCVD-PCI Registry, 2007-2009

Year	Gender	Age Group	Pre-morbid hypertension					
			Hypertensive		Non-Hypertensive		Not Known	
			No.	%	No.	%	No.	%
2007	Male	20-<30	3	0.1	7	0.2	2	0.1
		30-<40	74	2.5	59	2	2	0.1
		40-<50	398	13.6	233	7.9	9	0.3
		50-<60	823	28	290	9.9	19	0.6
		60-<70	580	19.8	156	5.3	14	0.5
		70-<80	208	7.1	34	1.2	5	0.2
		≥80	17	0.6	3	0.1	0	0
		Total	2103	71.6	782	26.6	51	1.7
	Female	20-<30	1	0.1	1	0.1	0	0
		30-<40	4	0.6	1	0.1	0	0
		40-<50	58	8.5	17	2.5	3	0.4
		50-<60	170	24.9	31	4.5	4	0.6
		60-<70	237	34.8	19	2.8	3	0.4
		70-<80	114	16.7	10	1.5	3	0.4
		≥80	4	0.6	2	0.3	0	0
		Total	588	86.2	81	11.9	13	1.9
2008	Male	20-<30	2	0.1	2	0.1	1	0
		30-<40	55	2	63	2.3	4	0.1
		40-<50	358	12.9	255	9.2	11	0.4
		50-<60	760	27.4	295	10.7	18	0.7
		60-<70	512	18.5	155	5.6	10	0.4
		70-<80	197	7.1	46	1.7	6	0.2
		≥80	16	0.6	2	0.1	0	0
		Total	1900	68.6	818	29.6	50	1.8
	Female	20-<30	0	0	1	0.2	0	0
		30-<40	7	1.2	4	0.7	0	0
		40-<50	50	8.3	7	1.2	0	0
		50-<60	137	22.6	28	4.6	2	0.3
		60-<70	209	34.5	25	4.1	3	0.5
		70-<80	112	18.5	13	2.1	2	0.3
		≥80	4	0.7	2	0.3	0	0
		Total	519	85.6	80	13.2	7	1.2

Table 2.5.3 Age-gender distribution of patients who underwent PCI, by pre-morbid hypertension, NCVD-PCI Registry, 2007-2009

Year	Gender	Age Group	Pre-morbid hypertension					
			Hypertensive		Non-Hypertensive		Not Known	
			No.	%	No.	%	No.	%
2009	Male	20-<30	2	0.1	6	0.2	0	0
		30-<40	62	2.1	66	2.3	3	0.1
		40-<50	426	14.5	224	7.6	9	0.3
		50-<60	748	25.5	260	8.9	17	0.6
		60-<70	626	21.3	179	6.1	3	0.1
		70-<80	234	8	47	1.6	4	0.1
		≥80	15	0.5	1	0	1	0
		Total	2113	72	783	26.7	37	1.3
	Female	20-<30	0	0	0	0	0	0
		30-<40	10	1.5	5	0.7	0	0
		40-<50	55	8.1	20	3	0	0
		50-<60	178	26.3	32	4.7	2	0.3
		60-<70	207	30.6	26	3.8	3	0.4
		70-<80	118	17.4	11	1.6	0	0
		≥80	10	1.5	0	0	0	0
		Total	578	85.4	94	13.9	5	0.7
All	Male	20-<30	7	0.1	15	0.2	3	0
		30-<40	191	2.2	188	2.2	9	0.1
		40-<50	1182	13.7	712	8.2	29	0.3
		50-<60	2331	27	845	9.8	54	0.6
		60-<70	1718	19.9	490	5.7	27	0.3
		70-<80	639	7.4	127	1.5	15	0.2
		≥80	48	0.6	6	0.1	1	0
		Total	6116	70.8	2383	27.6	138	1.6
	Female	20-<30	1	0.1	2	0.1	0	0
		30-<40	21	1.1	10	0.5	0	0
		40-<50	163	8.3	44	2.2	3	0.2
		50-<60	485	24.7	91	4.6	8	0.4
		60-<70	653	33.2	70	3.6	9	0.5
		70-<80	344	17.5	34	1.7	5	0.3
		≥80	18	0.9	4	0.2	0	0
		Total	1685	85.8	255	13	25	1.3

Table 2.5.4 Age-gender distribution of patients who underwent PCI, by pre-morbid dyslipidaemia, NCVD-PCI Registry, 2007-2009

Year	Gender	Age Group	Pre-morbid dyslipidaemia					
			Yes		No		Not Known	
			No.	%	No.	%	No.	%
2007	Male	20-<30	7	0.2	3	0.1	2	0.1
		30-<40	103	3.5	31	1.1	1	0
		40-<50	481	16.4	132	4.5	27	0.9
		50-<60	864	29.4	214	7.3	54	1.8
		60-<70	576	19.6	136	4.6	38	1.3
		70-<80	195	6.6	41	1.4	11	0.4
		≥80	14	0.5	6	0.2	0	0
		Total	2240	76.3	563	19.2	133	4.5
	Female	20-<30	2	0.3	0	0	0	0
		30-<40	4	0.6	0	0	1	0.1
		40-<50	62	9.1	10	1.5	6	0.9
		50-<60	164	24	32	4.7	9	1.3
		60-<70	202	29.6	46	6.7	11	1.6
		70-<80	94	13.8	24	3.5	9	1.3
		≥80	4	0.6	2	0.3	0	0
		Total	532	78	114	16.7	36	5.3
2008	Male	20-<30	2	0.1	2	0.1	1	0
		30-<40	79	2.9	35	1.3	8	0.3
		40-<50	426	15.4	177	6.4	21	0.8
		50-<60	760	27.4	268	9.7	45	1.6
		60-<70	472	17.1	171	6.2	34	1.2
		70-<80	180	6.5	58	2.1	11	0.4
		≥80	17	0.6	1	0	0	0
		Total	1936	69.9	712	25.7	120	4.3
	Female	20-<30	1	0.2	0	0	0	0
		30-<40	8	1.3	2	0.3	1	0.2
		40-<50	43	7.1	11	1.8	3	0.5
		50-<60	131	21.6	31	5.1	5	0.8
		60-<70	163	26.9	61	10.1	13	2.1
		70-<80	84	13.9	38	6.3	5	0.8
		≥80	1	0.2	4	0.7	1	0.2
		Total	431	71.1	147	24.3	28	4.6

Table 2.5.4 Age-gender distribution of patients who underwent PCI, by pre-morbid dyslipidaemia, NCVD-PCI Registry, 2007-2009

Year	Gender	Age Group	Pre-morbid dyslipidaemia					
			Yes		No		Not Known	
			No.	%	No.	%	No.	%
2009	Male	20-<30	4	0.1	4	0.1	0	0
		30-<40	95	3.2	29	1	7	0.2
		40-<50	472	16.1	153	5.2	34	1.2
		50-<60	754	25.7	224	7.6	47	1.6
		60-<70	600	20.5	169	5.8	39	1.3
		70-<80	206	7	64	2.2	15	0.5
		≥80	11	0.4	5	0.2	1	0
		Total	2142	73	648	22.1	143	4.9
	Female	20-<30	0	0	0	0	0	0
		30-<40	12	1.8	2	0.3	1	0.1
		40-<50	60	8.9	13	1.9	2	0.3
		50-<60	163	24.1	44	6.5	5	0.7
		60-<70	174	25.7	52	7.7	10	1.5
		70-<80	85	12.6	34	5	10	1.5
		≥80	5	0.7	4	0.6	1	0.1
		Total	499	73.7	149	22	29	4.3
All	Male	20-<30	13	0.2	9	0.1	3	0
		30-<40	277	3.2	95	1.1	16	0.2
		40-<50	1379	16	462	5.3	82	0.9
		50-<60	2378	27.5	706	8.2	146	1.7
		60-<70	1648	19.1	476	5.5	111	1.3
		70-<80	581	6.7	163	1.9	37	0.4
		≥80	42	0.5	12	0.1	1	0
		Total	6318	73.2	1923	22.3	396	4.6
	Female	20-<30	3	0.2	0	0	0	0
		30-<40	24	1.2	4	0.2	3	0.2
		40-<50	165	8.4	34	1.7	11	0.6
		50-<60	458	23.3	107	5.4	19	1
		60-<70	539	27.4	159	8.1	34	1.7
		70-<80	263	13.4	96	4.9	24	1.2
		≥80	10	0.5	10	0.5	2	0.1
		Total	1462	74.4	410	20.9	93	4.7

Table 2.5.5 Age-gender distribution of patients who underwent PCI, by family history of premature cardiovascular disease, NCVD-PCI Registry, 2007-2009

Year	Gender	Age Group	Family history of premature cardiovascular disease					
			Yes		No		Not Known	
			No.	%	No.	%	No.	%
2007	Male	20-<30	3	0.1	7	0.2	2	0.1
		30-<40	39	1.3	89	3	7	0.2
		40-<50	145	4.9	432	14.7	63	2.1
		50-<60	175	6	817	27.8	140	4.8
		60-<70	86	2.9	570	19.4	94	3.2
		70-<80	30	1	165	5.6	52	1.8
		≥80	0	0	17	0.6	3	0.1
		Total	478	16.3	2097	71.4	361	12.3
	Female	20-<30	0	0	2	0.3	0	0
		30-<40	4	0.6	1	0.1	0	0
		40-<50	19	2.8	46	6.7	13	1.9
		50-<60	38	5.6	148	21.7	19	2.8
		60-<70	41	6	185	27.1	33	4.8
		70-<80	12	1.8	94	13.8	21	3.1
		≥80	0	0	6	0.9	0	0
		Total	114	16.7	482	70.7	86	12.6
2008	Male	20-<30	1	0	3	0.1	1	0
		30-<40	31	1.1	76	2.7	15	0.5
		40-<50	118	4.3	440	15.9	66	2.3
		50-<60	170	6.1	750	27.1	153	5.5
		60-<70	76	2.7	485	17.6	116	4.2
		70-<80	26	0.9	184	6.6	39	1.4
		≥80	1	0	13	0.5	4	0.1
		Total	423	15.3	1951	70.5	394	14.2
	Female	20-<30	0	0	1	0.2	0	0
		30-<40	2	0.3	8	1.3	1	0.2
		40-<50	11	1.8	36	5.9	10	1.7
		50-<60	32	5.3	102	16.8	33	5.4
		60-<70	28	4.6	177	29.2	32	5.3
		70-<80	14	2.3	93	15.3	20	3.3
		≥80	1	0.2	4	0.7	1	0.2
		Total	88	14.5	421	69.5	97	16

Table 2.5.5 Age-gender distribution of patients who underwent PCI, by family history of premature cardiovascular disease, NCVD-PCI Registry, 2007-2009

Year	Gender	Age Group	Family history of premature cardiovascular disease					
			Yes		No		Not Known	
			No.	%	No.	%	No.	%
2009	Male	20-<30	3	0.1	5	0.2	0	0
		30-<40	38	1.3	89	3	4	0.1
		40-<50	181	6.2	445	15.2	33	1.1
		50-<60	281	9.6	674	23	70	2.4
		60-<70	196	6.7	571	19.5	41	1.4
		70-<80	67	2.3	199	6.8	19	0.6
		≥80	3	0.1	12	0.4	2	0.1
		Total	769	26.2	1995	68	169	5.8
	Female	20-<30	0	0	0	0	0	0
		30-<40	7	1	8	1.2	0	0
		40-<50	24	3.5	47	6.9	4	0.6
		50-<60	44	6.5	154	22.7	14	2.1
		60-<70	49	7.2	177	26.1	10	1.5
		70-<80	23	3.4	94	13.9	12	1.8
		≥80	1	0.1	7	1	2	0.3
		Total	148	21.9	487	71.9	42	6.2
All	Male	20-<30	7	0.1	15	0.2	3	0
		30-<40	108	1.3	254	2.9	26	0.3
		40-<50	444	5.1	1317	15.2	162	1.9
		50-<60	626	7.2	2241	25.9	363	4.2
		60-<70	358	4.1	1626	18.8	251	2.9
		70-<80	123	1.4	548	6.3	110	1.3
		≥80	4	0	42	0.5	9	0.1
		Total	1670	19.3	6043	70	924	10.7
	Female	20-<30	0	0	3	0.2	0	0
		30-<40	13	0.7	17	0.9	1	0.1
		40-<50	54	2.7	129	6.6	27	1.4
		50-<60	114	5.8	404	20.6	66	3.4
		60-<70	118	6	539	27.4	75	3.8
		70-<80	49	2.5	281	14.3	53	2.7
		≥80	2	0.1	17	0.9	3	0.2
		Total	350	17.8	1390	70.7	225	11.5

Table 2.5.6 Age-gender distribution of patients who underwent PCI, by smoking status, NCVD-PCI Registry, 2007-2009

Year	Gender	Age Group	Smoking status							
			Never		Former (quit more than 30 days)		Current (any tobacco use within last 30 days)		Unknown	
			No.	%	No.	%	No.	%	No.	%
2007	Male	20-<30	1	0	4	0.1	6	0.2	1	0
		30-<40	19	0.6	42	1.4	52	1.8	22	0.7
		40-<50	137	4.7	209	7.1	198	6.7	96	3.3
		50-<60	310	10.6	413	14.1	188	6.4	221	7.5
		60-<70	219	7.5	262	8.9	91	3.1	178	6.1
		70-<80	78	2.7	82	2.8	22	0.7	65	2.2
		≥80	5	0.2	10	0.3	2	0.1	3	0.1
		Total	769	26.2	1022	34.8	559	19	586	20
	Female	20-<30	2	0.3	0	0	0	0	0	0
		30-<40	4	0.6	0	0	1	0.1	0	0
		40-<50	60	8.8	3	0.4	3	0.4	12	1.8
		50-<60	170	24.9	3	0.4	4	0.6	28	4.1
		60-<70	218	32	8	1.2	8	1.2	25	3.7
		70-<80	106	15.5	4	0.6	2	0.3	15	2.2
		≥80	5	0.7	0	0	0	0	1	0.1
		Total	565	82.8	18	2.6	18	2.6	81	11.9
2008	Male	20-<30	0	0	2	0.1	3	0.1	0	0
		30-<40	13	0.5	34	1.2	65	2.3	10	0.4
		40-<50	138	5	178	6.4	225	8.1	83	3
		50-<60	284	10.3	346	12.5	243	8.8	200	7.2
		60-<70	199	7.2	208	7.5	100	3.6	170	6.1
		70-<80	74	2.7	76	2.7	32	1.2	67	2.4
		≥80	5	0.2	5	0.2	1	0	7	0.3
		Total	713	25.8	849	30.7	669	24.2	537	19.4
	Female	20-<30	1	0.2	0	0	0	0	0	0
		30-<40	9	1.5	0	0	2	0.3	0	0
		40-<50	46	7.6	2	0.3	1	0.2	8	1.3
		50-<60	140	23.1	2	0.3	1	0.2	24	4
		60-<70	199	32.8	5	0.8	8	1.3	25	4.1
		70-<80	100	16.5	6	1	2	0.3	19	3.1
		≥80	6	1	0	0	0	0	0	0
		Total	501	82.7	15	2.5	14	2.3	76	12.5

Table 2.5.6 Age-gender distribution of patients who underwent PCI, by smoking status, NCVD-PCI Registry, 2007-2009

Year	Gender	Age Group	Smoking status							
			Never		Former (quit more than 30 days)		Current (any tobacco use within last 30 days)		Unknown	
			No.	%	No.	%	No.	%	No.	%
2009	Male	20-<30	3	0.1	0	0	5	0.2	0	0
		30-<40	24	0.8	48	1.6	56	1.9	3	0.1
		40-<50	132	4.5	233	7.9	248	8.5	46	1.6
		50-<60	305	10.4	389	13.3	230	7.8	101	3.4
		60-<70	275	9.4	311	10.6	144	4.9	78	2.7
		70-<80	123	4.2	109	3.7	19	0.6	34	1.2
		≥80	7	0.2	8	0.3	0	0	2	0.1
		Total	869	29.6	1098	37.4	702	23.9	264	9
	Female	20-<30	0	0	0	0	0	0	0	0
		30-<40	13	1.9	0	0	1	0.1	1	0.1
		40-<50	65	9.6	6	0.9	1	0.1	3	0.4
		50-<60	194	28.7	2	0.3	1	0.1	15	2.2
		60-<70	208	30.7	8	1.2	5	0.7	15	2.2
		70-<80	111	16.4	3	0.4	3	0.4	12	1.8
		≥80	8	1.2	0	0	1	0.1	1	0.1
		Total	599	88.5	19	2.8	12	1.8	47	6.9
All	Male	20-<30	4	0	6	0.1	14	0.2	1	0
		30-<40	56	0.6	124	1.4	173	2	35	0.4
		40-<50	407	4.7	620	7.2	671	7.8	225	2.6
		50-<60	899	10.4	1148	13.3	661	7.7	522	6
		60-<70	693	8	781	9	335	3.9	426	4.9
		70-<80	275	3.2	267	3.1	73	0.8	166	1.9
		≥80	17	0.2	23	0.3	3	0	12	0.1
		Total	2351	27.2	2969	34.4	1930	22.3	1387	16.1
	Female	20-<30	3	0.2	0	0	0	0	0	0
		30-<40	26	1.3	0	0	4	0.2	1	0.1
		40-<50	171	8.7	11	0.6	5	0.3	23	1.2
		50-<60	504	25.6	7	0.4	6	0.3	67	3.4
		60-<70	625	31.8	21	1.1	21	1.1	65	3.3
		70-<80	317	16.1	13	0.7	7	0.4	46	2.3
		≥80	19	1	0	0	1	0.1	2	0.1
		Total	1665	84.7	52	2.6	44	2.2	204	10.4

Table 2.5.7 Age-gender distribution of patients who underwent PCI, by new onset of angina, NCVD-PCI Registry, 2007-2009

Year	Gender	Age Group	New onset of angina					
			Yes		No		Unknown	
			No.	%	No.	%	No.	%
2007	Male	20-<30	4	0.1	8	0.3	0	0
		30-<40	29	1	105	3.6	1	0
		40-<50	146	5	486	16.6	8	0.3
		50-<60	256	8.7	856	29.2	20	0.7
		60-<70	165	5.6	562	19.1	23	0.8
		70-<80	69	2.4	172	5.9	6	0.2
		≥80	4	0.1	14	0.5	2	0.1
		Total	673	22.9	2203	75	60	2
	Female	20-<30	0	0	2	0.3	0	0
		30-<40	1	0.1	3	0.4	1	0.1
		40-<50	15	2.2	59	8.7	4	0.6
		50-<60	45	6.6	156	22.9	4	0.6
		60-<70	60	8.8	187	27.4	12	1.8
		70-<80	33	4.8	90	13.2	4	0.6
		≥80	2	0.3	4	0.6	0	0
		Total	156	22.9	501	73.5	25	3.7
2008	Male	20-<30	2	0.1	2	0.1	1	0
		30-<40	30	1.1	89	3.2	3	0.1
		40-<50	131	4.7	482	17.4	11	0.4
		50-<60	200	7.2	851	30.7	22	0.8
		60-<70	136	4.9	527	19	14	0.5
		70-<80	62	2.2	180	6.5	7	0.3
		≥80	7	0.3	10	0.4	1	0
		Total	568	20.5	2141	77.3	59	2.1
	Female	20-<30	0	0	1	0.2	0	0
		30-<40	3	0.5	7	1.2	1	0.2
		40-<50	15	2.5	40	6.6	2	0.3
		50-<60	43	7.1	121	20	3	0.5
		60-<70	60	9.9	170	28.1	7	1.2
		70-<80	34	5.6	90	14.9	3	0.5
		≥80	3	0.5	3	0.5	0	0
		Total	158	26.1	432	71.3	16	2.6

Table 2.5.7 Age-gender distribution of patients who underwent PCI, by new onset of angina, NCVD-PCI Registry, 2007-2009

Year	Gender	Age Group	New onset of angina					
			Yes		No		Unknown	
			No.	%	No.	%	No.	%
2009	Male	20-<30	2	0.1	6	0.2	0	0
		30-<40	41	1.4	90	3.1	0	0
		40-<50	190	6.5	464	15.8	5	0.2
		50-<60	306	10.4	710	24.2	9	0.3
		60-<70	203	6.9	599	20.4	6	0.2
		70-<80	89	3	195	6.6	1	0
		≥80	10	0.3	7	0.2	0	0
		Total	841	28.7	2071	70.6	21	0.7
	Female	20-<30	0	0	0	0	0	0
		30-<40	5	0.7	10	1.5	0	0
		40-<50	16	2.4	59	8.7	0	0
		50-<60	62	9.2	150	22.2	0	0
		60-<70	70	10.3	164	24.2	2	0.3
		70-<80	48	7.1	76	11.2	5	0.7
		≥80	4	0.6	6	0.9	0	0
		Total	205	30.3	465	68.7	7	1
All	Male	20-<30	8	0.1	16	0.2	1	0
		30-<40	100	1.2	284	3.3	4	0
		40-<50	467	5.4	1432	16.6	24	0.3
		50-<60	762	8.8	2417	28	51	0.6
		60-<70	504	5.8	1688	19.5	43	0.5
		70-<80	220	2.5	547	6.3	14	0.2
		≥80	21	0.2	31	0.4	3	0
		Total	2082	24.1	6415	74.3	140	1.6
	Female	20-<30	0	0	3	0.2	0	0
		30-<40	9	0.5	20	1	2	0.1
		40-<50	46	2.3	158	8	6	0.3
		50-<60	150	7.6	427	21.7	7	0.4
		60-<70	190	9.7	521	26.5	21	1.1
		70-<80	115	5.9	256	13	12	0.6
		≥80	9	0.5	13	0.7	0	0
		Total	519	26.4	1398	71.1	48	2.4

Table 2.6.0 Presence of cumulative risk factors, NCVD-PCI Registry, 2007-2009

Presence of cumulative risk factors *	2007		2008		2009		ALL	
	No.	%	No.	%	No.	%	No.	%
None	51	1.4	54	1.6	44	1.2	149	1.4
1 risk factor	232	6.4	252	7.5	240	6.6	724	6.8
2 risk factors	697	19.3	721	21.4	603	16.7	2021	19.1
3 risk factors	1184	32.7	1076	31.9	942	26.1	3202	30.2
>3 risk factors	1454	40.2	1271	37.7	1781	49.3	4506	42.5

* Risk factors are defined as presence of dyslipidaemia, hypertension, diabetes, family history of premature cardiovascular disease, smoking and obesity

Table 2.6.1 Presence of cumulative risk factors by gender, NCVD-PCI Registry, 2007-2009

Gender	Presence of cumulative risk factors *	2007		2008		2009		ALL	
		No.	%	No.	%	No.	%	No.	%
Male	None	39	1.3	43	1.6	34	1.2	116	1.3
	1 risk factor	185	6.3	205	7.4	200	6.8	590	6.8
	2 risk factors	562	19.1	570	20.6	465	15.9	1597	18.5
	3 risk factors	948	32.3	877	31.7	729	24.9	2554	29.6
	>3 risk factors	1202	40.9	1073	38.8	1505	51.3	3780	43.8
Female	None	12	1.8	11	1.8	10	1.5	33	1.7
	1 risk factor	47	6.9	47	7.8	40	5.9	134	6.8
	2 risk factors	135	19.8	151	24.9	138	20.4	424	21.6
	3 risk factors	236	34.6	199	32.8	213	31.5	648	33
	>3 risk factors	252	37	198	32.7	276	40.8	726	36.9

* Risk factors are defined as presence of dyslipidaemia, hypertension, diabetes, family history of premature cardiovascular disease, smoking and obesity

