

## **Chapter 2**

# **DIALYSIS IN MALAYSIA**

Dialysis Treatment Provision

Patient Demographics

Method and Location

Primary Renal Disease

Death on Dialysis

## 2. DIALYSIS IN MALAYSIA

### 2.1 DIALYSIS TREATMENT PROVISION

**Table 2.01** Stock and flow – Dialysis Patients 1992 – 1999

year	1992	1993	1994	1995	1996	1997	1998	1999
New Dalysis patients	328	331	507	670	907	1095	1157	1355
Died	93	102	142	171	217	291	359	455
Transplanted	47	36	44	37	56	59	60	65
Lost to F/U	6	5	8	16	25	20	21	16
Dialysing at 31st December	1153	1362	1694	2164	2806	3557	4300	5138

**Table 2.02** Dialysis Treatment Rate per million population 1992 – 1999

Year	1992	1993	1994	1995	1996	1997	1998	1999
Acceptance rate	18	17	26	32	43	51	52	61
Prevalence rate	62	71	86	105	133	164	194	232

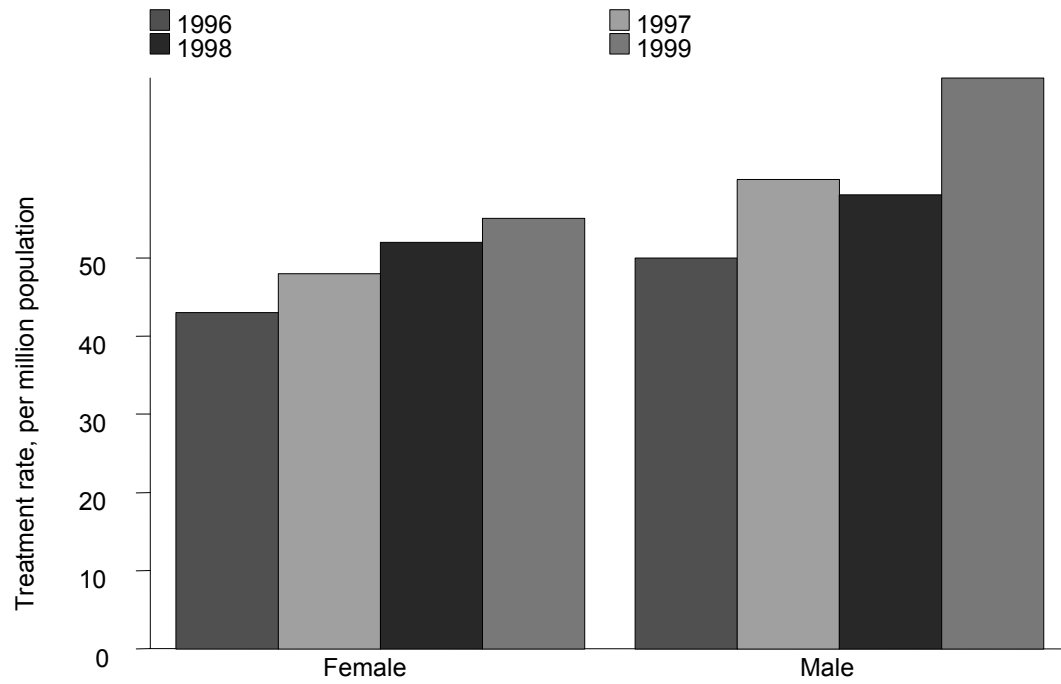
**Table 2.03** Dialysis Treatment Rate by State, per million state population 1999

STATE	ACCEPTANCE RATE
Pulau Pinang	108
Negeri Sembilan Darul Khusus	95
Johor Darul Takzim	90
Selangor & W.Persekutuan	85
Negeri Melaka	80
Perak Darul Redzuan	67
Kedah & Perlis	56
Pahang Darul Makmur	46
Sarawak	44
Trengganu Darul Iman	34
Sabah	33
Kelantan Darul Naim	26

**Table 2.04** Dialysis Treatment Rate by Gender, per million male or female population 1996– 1999

Gender	1996	1997	1998	1999
Male	50	60	58	73
Female	43	48	52	55

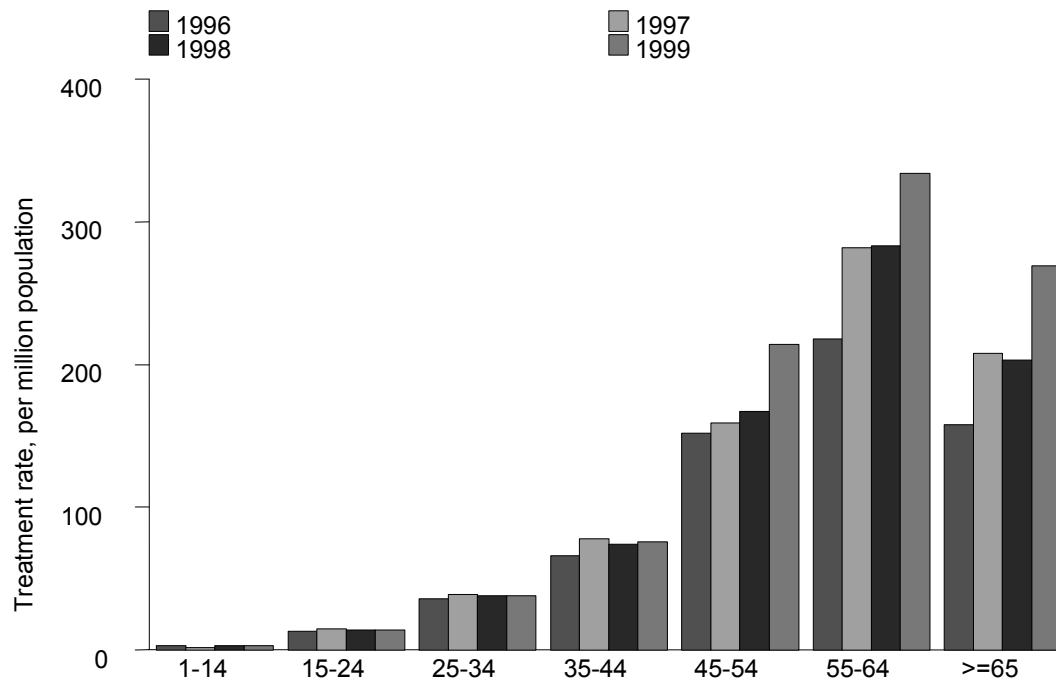
**Figure 2.04 Dialysis Treatment by Gender 1996 - 1999**



**Table 2.05**                      **Dialysis Treatment Rate by Age Group,  
per million age group population 1996 – 1999**

Age groups (years)	1996	1997	1998	1999
1-14	3	2	3	3
15-24	13	15	14	14
25-34	36	39	38	38
35-44	66	78	74	76
45-54	152	159	167	214
55-64	218	282	283	334
> 65	158	208	203	269

**Figure 2.05.:**                      **Dialysis Acceptance Rate by Age Group, 1996 - 1999**



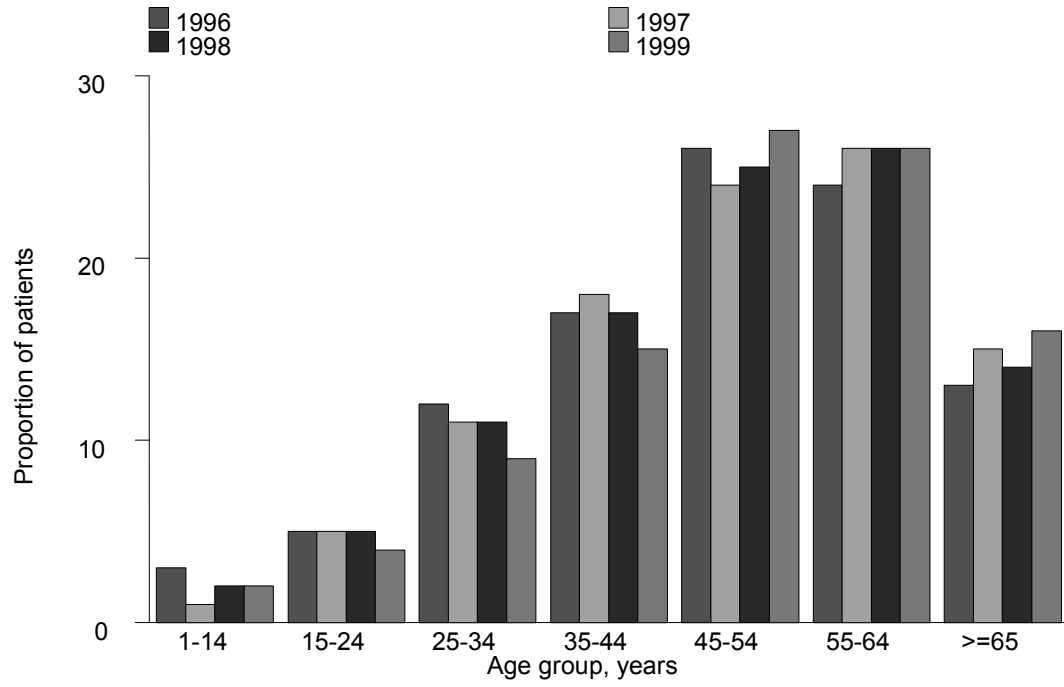
## 2.2 PATIENT DEMOGRAPHICS

**Table 2.06 Percentage Age Distribution of Dialysis Patients 1996 – 1999**

Year	1996	1997	1998	1999
New dialysis patients	907	1095	1157	1355
% 1-14 years	3	1	2	2
% 15-24 years	5	5	5	4
% 25-34 years	12	11	11	9
% 35-44 years	17	18	17	15
% 45-54 years	26	24	25	27
% 55-64 years	24	26	26	26
% > 65 years	13	15	14	16
Dialysing at 31 <sup>st</sup> December	2806	3557	4300	5138
% 1-14 years	2	2	2	2
% 15-24 years	6	5	5	5
% 25-34 years	18	17	16	15
% 35-44 years	24	23	22	21
% 45-54 years	24	24	24	25
% 55-64 years	18	20	21	21
% >=65 years	8	9	9	11

Figure 2.06

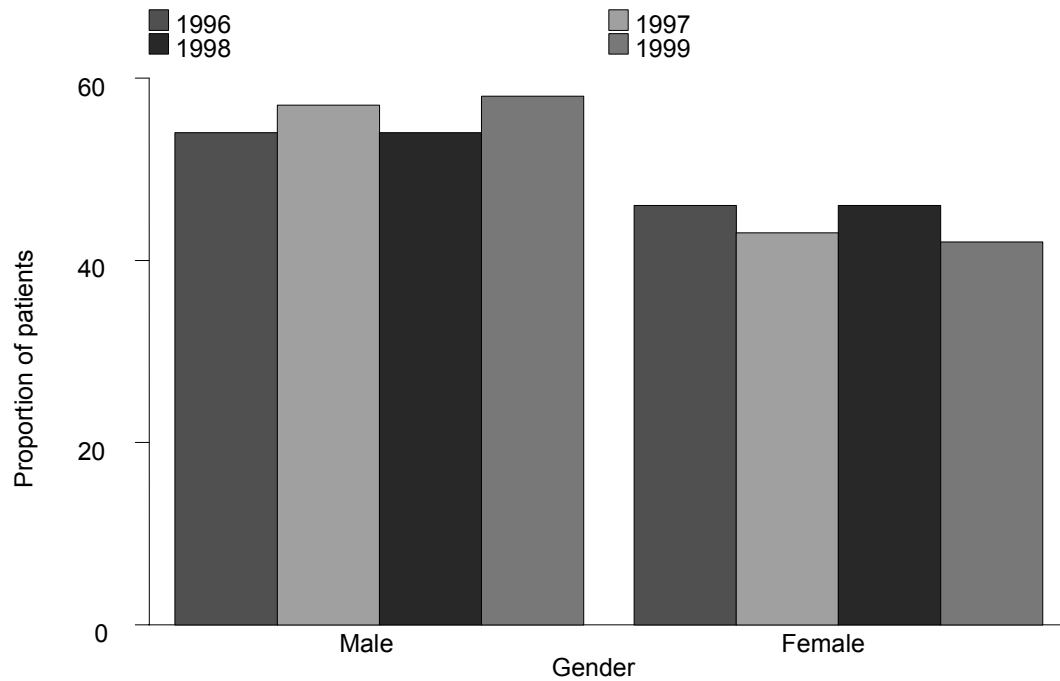
Age Distribution of New Dialysis patients, 1996 – 1999



**Table 2.07 Gender distribution of Dialysis Patients 1996 – 1999**

Year	1996	1997	1998	1999
New Dalysis patients	907	1095	1157	1355
% Male	54	57	54	58
% Female	46	43	46	42
Dialysing at 31st December	2806	3557	4300	5138
% Male	57	57	56	56
% Female	43	43	44	44

**Figure 2.07 Gender Distribution of New Dialysis patients, 1996 – 1999**

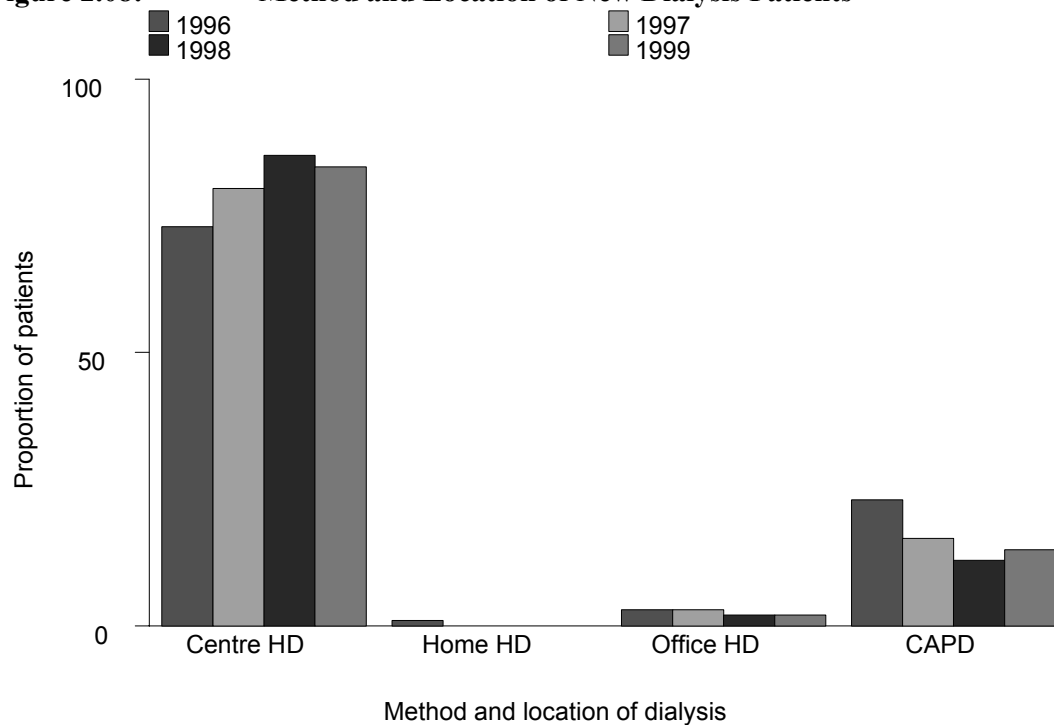


### 2.3 METHOD AND LOCATION

**Table 2.08: Method and Location of Dialysis**

Year	1996	1997	1998	1999
New Dialysis patients	907	1095	1157	1355
% Centre HD	73	80	86	84
% Home HD	1	0	0	0
% Office HD	3	3	2	2
% CAPD	23	16	12	14
Dialysing at 31st December	2806	3557	4300	5138
% Centre HD	72	76	80	82
% Home HD	5	3	2	2
% Office HD	7	6	5	5
% CAPD	16	14	12	11

**Figure 2.08: Method and Location of New Dialysis Patients**



### 2.4 PRIMARY RENAL DISEASE



**Table 2.09:****Primary Renal Disease, 1996 – 1999**

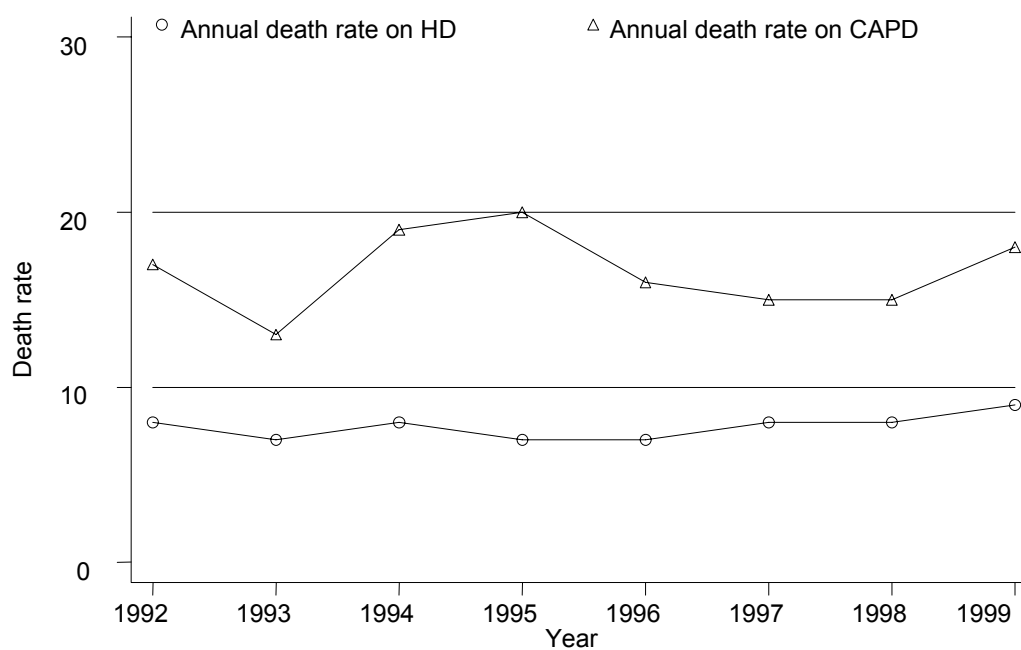
Year	1996	1997	1998	1999
New Dialysis patients	907	1095	1157	1355
% Unknown cause	37	34	33	30
% Diabetic Nephropathy	29	36	40	40
% Glomerulonephritis	14	14	12	11
% Polycystic kidney	2	2	1	1
% Obstructive Uropathy	6	4	4	4
% Gouty Nephropathy	0	1	1	1
% Toxic Nephropathy	1	0	0	1
% Miscellaneous	10	9	9	12

## 2.5. DEATH ON DIALYSIS

**Table 2.10: Deaths on Dialysis 1992 – 1999**

Year	1992	1993	1994	1995	1996	1997	1998	1999
No. of dialysis patients at risk	1053	1258	1528	1929	2485	3182	3929	4719
Dialysis deaths	93	102	142	171	217	291	359	455
Dialysis death rate %	9	8	9	9	9	9	9	10
No. of HD patients at risk	916	1081	1310	1643	2103	2715	3420	4172
HD deaths	70	79	100	113	157	220	285	357
HD death rate%	8	7	8	7	7	8	8	9
No. of CAPD patients at risk	137	177	218	286	382	467	509	547
CAPD deaths	23	23	42	58	60	71	74	98
CAPD death rate %	17	13	19	20	16	15	15	18

**Figure 2.10: Death Rates on Dialysis, 1991 – 1998**



**Table 2.11: Causes of Death on Dialysis 1996 - 1999**

Year	1996		1997		1998		1999	
	No.	%	No.	%	No.	%	No.	%
Cardiovascular	44	26	53	24	73	26	108	32
Died at home	23	14	39	18	52	18	56	17
Sepsis	33	19	42	19	49	17	59	17
CAPD peritonitis	0	0	1	0	4	1	1	0
GIT bleed	1	1	2	1	2	1	6	2
Cancer	2	1	2	1	5	2	6	2
Liver disease	1	1	1	0	4	1	2	1
Others	52	24	64	22	79	22	96	21
Unknown	24	11	30	10	25	7	18	4
Total	217	100	291	100	359	100	455	100