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2001 12

가 2 가 가

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2.	11
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1.	15
2.	17
3.	18
가.	18
.	19
.	20
.	21
.	22
.	23
4.	30	24
.	33
1.	33
2.	34
.	35
.	36
ABSTRACT	40

1.		12
2.		15
3.		16
4.		16
5.		.....	17
6.		.....	18
7.		.....	19
8.		.....	20
9.		.....	21
10.		.....	22
11.		.....	23
12.	30	.....	25
13.	30	.....	28
14.	30	.....	31

1.		.....	10
2.	360	.....	13
3.	1	.....	13
4.		.....	18
5.		.....	19
6.		.....	20
7.		.....	21
8.		.....	22
9.		.....	23

, 1999

1 (, 2000) 1999 3 1 2000 2 28

.

1999 3 1 2000 2 28

5,453 , 11,111 .

1 2.08 , 1 1,201,120

.

65 1

가 가 , 30

413,860 . , 30

31 - 60 2.9 가 , 2.3

가 .

가 가 .

30

, 가 , 가

.

가

가

가

가

가

,

가

(case mix)

가

.

: , ,

1,430 17.6%

가

2)

1980

1970

가

가

(Scitovsky, 1984; Lubitz, 1993;

Emanuel, 1996; Wei, 2000).

Scitovsky(1984)

(high-cost hospital patient)

가

(high-cost technology

care)

3).

Sutton(1965)⁴⁾

48%

63%

. 65

45%

가

, 61%가

. Timmer

Kovar(1971)

5)

1964 - 5

25

2) . 2001 10 4 .

3) Scitovsky. The high cost of dying: What do the data show?. Milbank Memorial Fund Quarterly/Health and Society, 1984; 62(4): 591-607

4) Sutton GF. Hospitalization in the last year of life, United states - 1961 Vital and Health Statistics, series 22, no.1, September. Hyattsville, Md.: U.S. Department of Health, Education, and Welfare, 1965

5) Timmer EJ, Kovar MG. Expenses for hospital and institutional care during the last yer of life for adult who died in 1964 or 1965 - Vital and Health Statistics, series 22, no.11, March. Hyattsville, Md.: US Department of Health, Education, and Welfare. 1971

12

가

1999 1 (, 2000)

2.

(, 2000) 1999 3 1 , 1999 1
2000 2 28

, 65

1

3.

가.

65 (0-14), 가 (15-64), (65) ,
 1889
 65 , 6)

· ()

· 가 가 ,

· 가

6) . . 1993

•
1999 3 1 2000 2 28
, 1 가 . 1
30 . 1 360 , 1 1 (30
) .

•
1.

가 가

(臟器)

가

가

가

, 가

가

, 가

가

가 ,

가 ,

가

가 가

(, 1987).

10

20

가

, 0-4

70

가

U

(Ohmura,

1978),

U

(, 1990).

가

가

가 , 가
 가 . , 1988 7)
 2.41% , 65 2.35% . , 1989
 , 1993 3.68%, 4.51%
 . 1993 1
 3,465 , 65 2,834 ,
 38,696 , 65 40,884 가 (, 1998).
 65 1995 5.6% 248 ,
 7.1% 337 . 4 675
 2 7452 1.5 .
 4 8271 (3 6,512)

2.

8) 24 . Tayler(2000) 9)

-
- 7) (99 (2000)).
 8) Scotto J, Chiaze L. Third national survey: hospitalization and payment to hospital. U.S Department of Health, Education, and Welfare. pub. no NIH- 76- 1094. 1976
 9) Medicare
 가 . 1-2 , 가

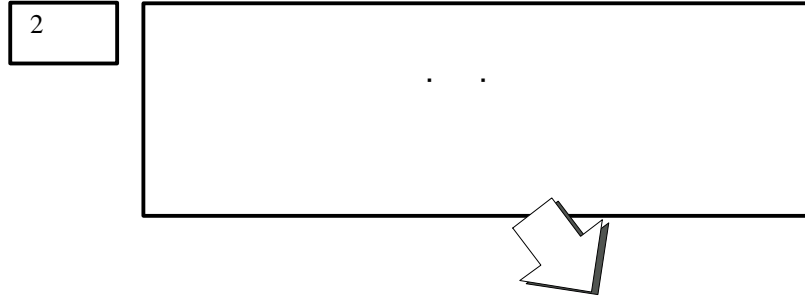
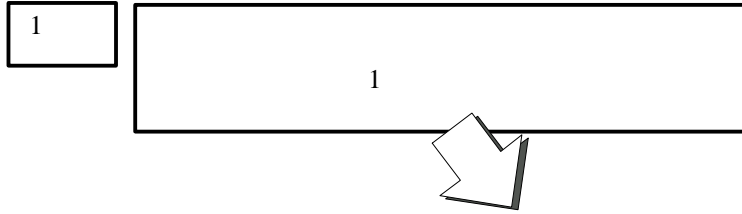
3 .
 . Riley(1987) ,
 1
 , 4 1 .
 가 (54.9%) ,
 43.4% .
 가 . 가
 가 . 가
 가 85 가
 , 가
 . Scitovsky(1989) ,
 가 . ,
 (hospital) (physician
 service)
 . , , 가
 .
 가 가
 10) 가
 11)
 (Coronary artery
 bypass surgery:CABG) (hip replacement surgery)

1.9 .
 Tayler DH, Sloan FA. How much do person with Alzheimer's disease cost Medicare?. J Am Geriatr Soc, 2000; 48(6): 639-46
 10) Rizzo JA, Friedkin R, Willianms CS. Health care utilization and cost in a medicare population by fall status. Med Care, 1998; 36(8): 1174-88
 11) Levinsky NG, Ash AS, Yu W. Patterns of use of common major procedures in medical care of older adults. JAGS, 1999; 47(5): 553-8

가 가
가 가
Lubitz (1993) 65 1
1976 1988 1976 1988
4 가 ,
가 Scitovsky(1988)가
, 1

1.

65 1 ,
, 3 .
1 65 1
, 2 65 .
, 3
(1).



1.

2.

가.

가

가 1999 3 1 2000 2 28

1

1999

72.9 가 , (, ,)
 , (, , , ,)
) , 60 (, , , ,)
 265.2), (131.1), (124.4) , , ,
 , , , . 70
 (1098.8), (501.2), (274.3) .

, 가

< 1 >

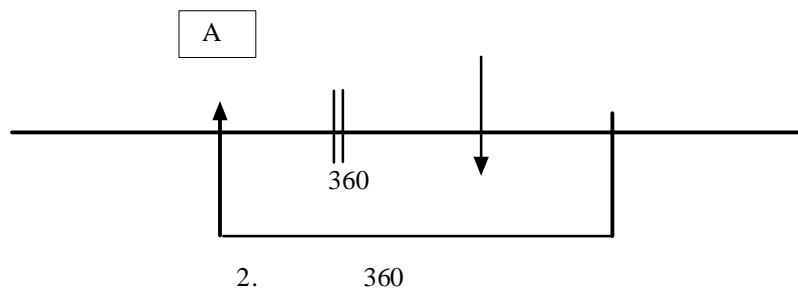
1.

() 65 - 74
75 - 84
85

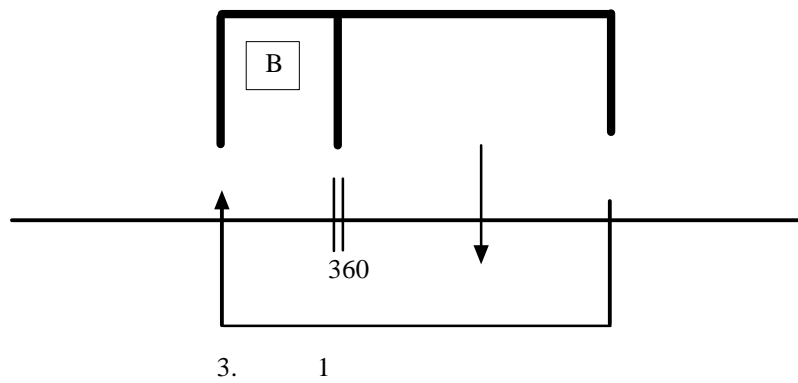
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1
 65
 12) 1
 2> <



360 (2 A), 360
 360
 360
 360



12)

, 390 35
 , 1 35 390
 360 30 < 3> [B] , 5 .
 1
 가 .

$$1 = \frac{360}{\quad} \times$$

360

.
 .
 , 30 , .

1.

1999 3 1 2000 2 28
 65 (2).
 5,453 , 1 11,111 1
 13) 2.08 . 가 (52.6%),
 가 (50.6%). 65-74 가
 (46.7%), 가 (51.5%). “ (I63)”
 51.2% 가 (3).

2.

		%		%	
		5,625	(50.6)	2,585	(47.4)
		5,486	(49.4)	2,868	(52.6)
()					
	65 - 74	5,725	(51.5)	2,544	(46.7)
	75 - 84	4,528	(40.8)	2,374	(43.5)
	85	858	(7.7)	535	(9.8)
		5,108	(46.0)	-	-
		4,032	(36.3)	-	-
	.	1,971	(17.7)	-	-
		5,857	(52.7)	-	-
		1,673	(15.1)	-	-
		3,442	(31.0)	-	-
	*	139	(1.2)	-	-
		11,111	(100.0)	5,453	(100.0)

* : , ,

13) . (.)

3. : (%)

*			
	(I60)		386 (3.5)
	(I61)		1,327 (11.9)
		(I62)	177 (1.6)
()	(I63)		5,693 (51.2)
()		(I64)	2,479 (22.3)
		(I65)	26 (0.2)
		(I66)	35 (0.3)
	(I67)		258 (2.3)
		(I68)	26 (0.2)
	(I69)		704 (6.3)
			11,111 (100.0)
*	(KCD)	(I60-I69)	

4. : (%)

	*	2,874	(25.9)
	*	8,195	(73.8)
	**	42	(0.4)
			11,111 (100.0)
*	,	,	
**	,	,	

2.

65	가	1
55	111	1,690 . 1999 20 1,220 0.03%
	.	1 1,201,120 ,
	495,110 .	

5. :

		1
	*	5,501,111,690 495,110 1,201,120
1999	**	
		5,345,166,109,000 43,466 -
		4,039,906,281,000 41,728 -
.		10,736,992,800,000 42,865 -
		20,122,065,190,000 42,721 -
		1
* 1999	.	. 2000

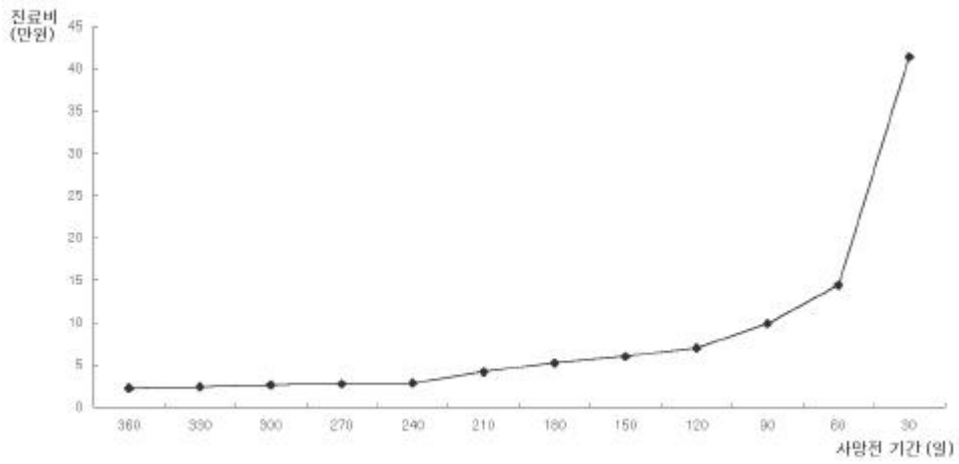
3.

가.

< 6> . 30 1 가 가
 , 가 가 .

6. :

()	1
30	413,860
60	144,190
90	98,510
120	69,950
150	59,890
180	51,990
210	41,440
240	28,520
270	27,230
300	26,120
330	23,830
360	22,270

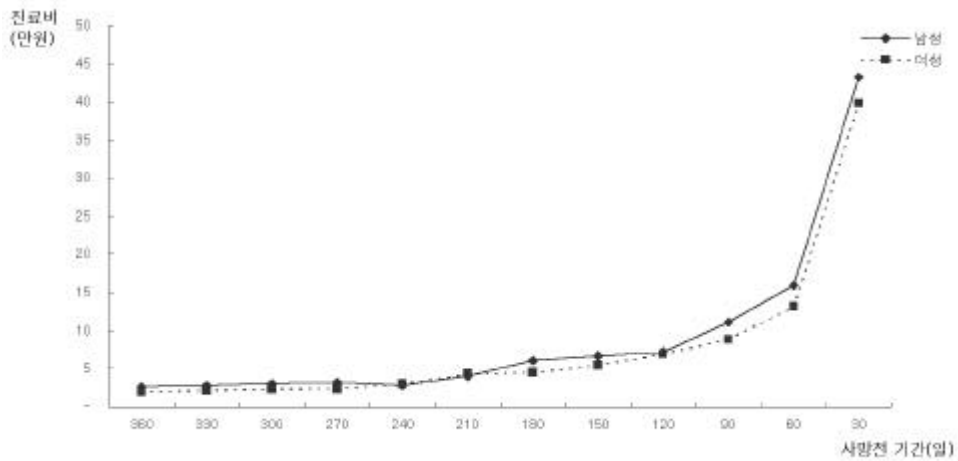


4.

240 가 , 181 가

7. :

()		
30	431,970	397,530
60	158,900	130,930
90	110,290	87,900
120	71,510	68,550
150	66,390	54,030
180	60,240	44,540
210	39,850	42,880
240	27,620	29,340
270	31,760	23,140
300	29,880	22,730
330	27,380	20,640
360	25,200	19,620



5.

.

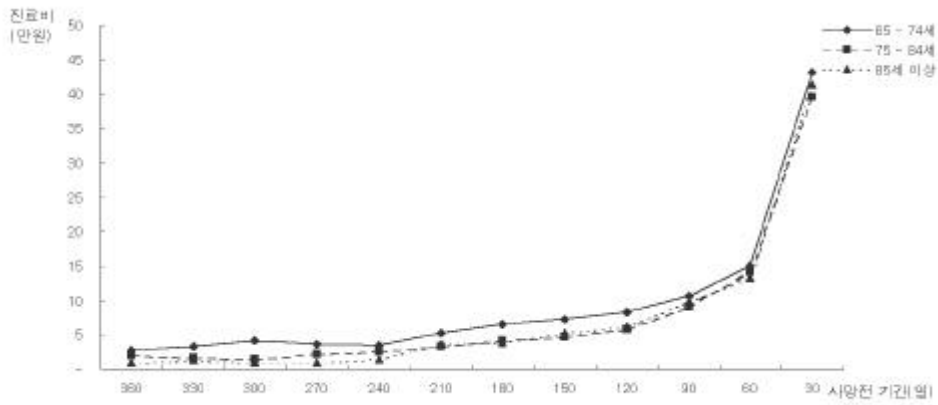
(8).

65 - 74 가 가 . 85 75 - 84
 , 30 85 75 - 84
 가 .

8.

:

()	65 - 74	75 - 84	85
30	431,950	394,690	412,890
60	150,620	140,010	132,160
90	106,660	89,850	98,200
120	83,210	57,850	60,600
150	72,720	47,770	52,660
180	65,660	40,670	37,190
210	51,450	31,830	36,520
240	34,720	24,920	15,050
270	35,500	22,280	9,800
300	41,040	14,170	8,220
330	32,970	16,550	12,710
360	27,300	19,860	9,010

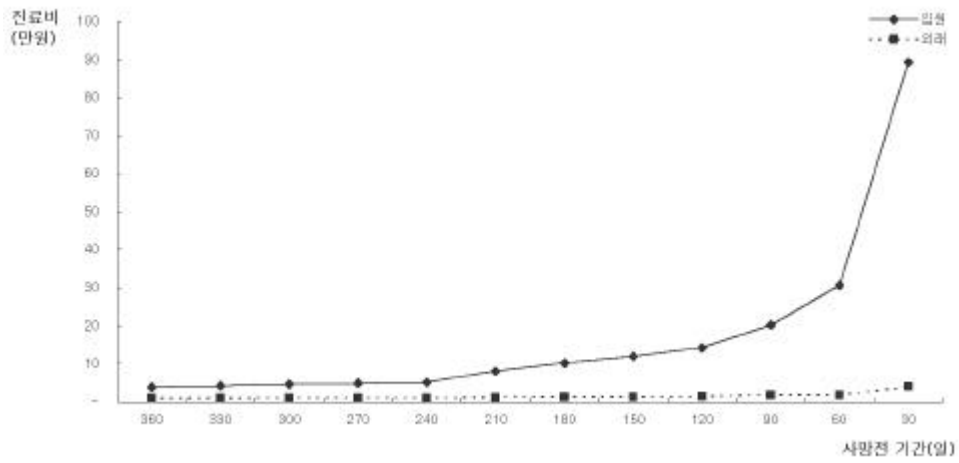


6.

9.

:

()		
30	891,930	39,560
60	305,640	17,160
90	201,510	16,590
120	141,040	13,140
150	119,060	12,350
180	101,380	12,020
210	80,040	10,120
240	50,830	9,810
270	48,820	9,160
300	46,190	9,220
330	41,820	8,620
360	38,610	8,370



7.

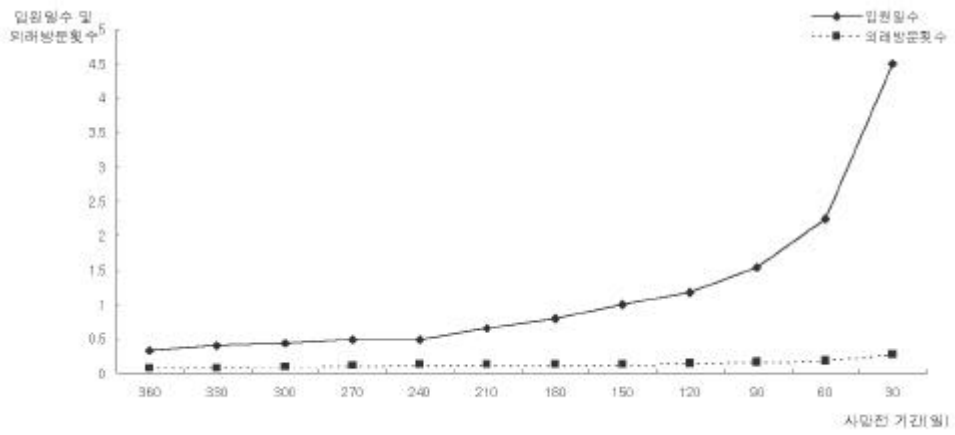
30 가

10.

:

()

30	4.49	0.27
60	2.23	0.18
90	1.54	0.17
120	1.17	0.15
150	1.00	0.12
180	0.80	0.13
210	0.65	0.12
240	0.48	0.12
270	0.48	0.10
300	0.43	0.09
330	0.39	0.08
360	0.32	0.08



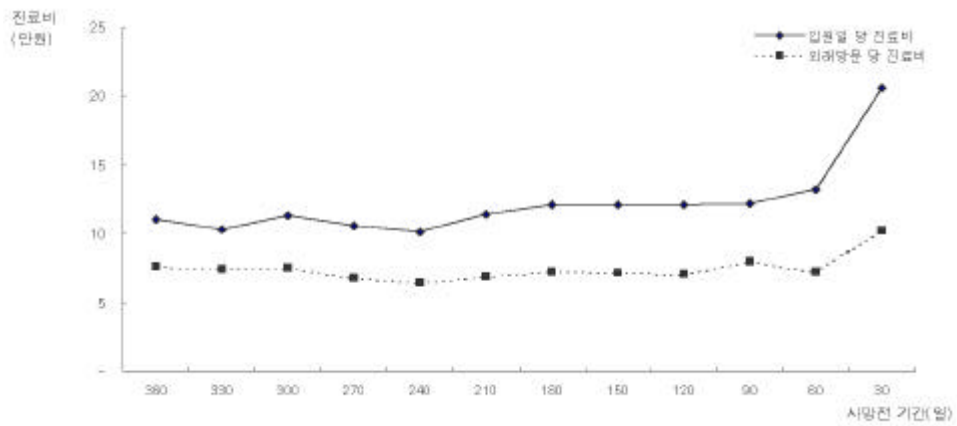
8.

가

11.

:

()		
30	205,970	101,540
60	132,110	72,330
90	121,680	79,350
120	120,590	70,040
150	120,810	70,950
180	120,870	72,140
210	113,840	68,180
240	101,420	64,810
270	105,320	67,900
300	113,150	75,040
330	102,770	73,890
360	110,470	75,460



9.

4. 30

30

(12).

. ,
 . 75 - 84 가 (44.3%),
 65 - 74 가 가 . 65 - 74
 (47.5%), 가 .
 가 가 , 가 가 .
 가 , 가
 가 .
 , “ ”
 가 가 , “ ”
 가 . 가 가 ,
 가 가 .
 “ ()” 가 가
 (44.6%), “ ” 가 .
 “ ()” 가 (37.4%),
 “ ”가 가 .

		(%)		(%)			
		604	(44.8)	1,750,130	564	(44.7)	105,590
		745	(55.2)	1,420,920	699	(55.3)	116,610
65 - 74		568	(42.1)	1,806,630	600	(47.5)	121,170
75 - 84		598	(44.3)	1,475,480	536	(42.4)	101,910
85		183	(13.6)	1,132,020	127	(10.1)	108,180
		640	(47.4)	1,685,640	660	(52.3)	113,030
		481	(35.7)	1,440,100	405	(32.1)	110,920
.	*	228	(16.9)	1,509,510	198	(15.7)	108,810
		933	(69.2)	1,824,910	623	(49.3)	141,960
		321	(23.8)	1,171,470	245	(19.4)	107,040
		89	(6.6)	378,610	383	(30.3)	68,170
	**	6	(0.4)	547,230	12	(1.0)	24,090
		232	(17.2)	1,719,570	228	(18.1)	108,270
		356	(26.4)	1,926,830	302	(23.9)	121,070
		63	(4.7)	1,327,490	66	(5.2)	122,720
		202	(15.0)	1,465,860	191	(15.1)	118,460
		218	(16.2)	1,129,790	151	(12.0)	126,760
		267	(20.0)	1,448,630	320	(25.3)	92,310
		11	(0.8)	1,632,690	5	(0.4)	82,670
		292	(21.7)	1,265,020	252	(20.0)	88,730
		131	(9.7)	1,833,190	86	(6.8)	128,390
		337	(25.0)	2,127,600	153	(12.1)	116,740
가		9	(0.7)	871,560	12	(1.0)	80,530
		29	(2.2)	893,410	141	(11.2)	190,290
	***	551	(40.9)	1,370,920	619	(49.0)	100,170
		1,349	(100.0)		1,263	(100.0)	

()

* .

** , ,

						()
		(%)		(%)		
	70	(5.2)	2,920,070	80	(6.3)	167,860
	255	(18.9)	1,792,180	236	(18.7)	152,650
()	10	(0.7)	2,901,220	15	(1.2)	112,380
()	601	(44.6)	1,568,450	472	(37.4)	111,140
()	372	(27.6)	1,150,650	376	(29.8)	82,690
	2	(0.2)	1,475,210	0	(0.0)	-
	4	(0.3)	1,081,280	2	(0.2)	184,820
	13	(1.0)	1,080,990	18	(1.4)	34,980
	0	(0.0)	-	8	(0.6)	218,840
	22	(1.6)	1,510,600	56	(4.4)	64,730
	1,349	(100.0)		1,263	(100.0)	

, 65 - 74 1,806,630 ,
75 - 84 1,475,480 , 85 1,132,020 ,
(p<0.05)(13).

가 ,
1,824,910 , 1,171,470 , 378,610
(p<0.05). 가 1,926,830 가
, 1,719,570 , 1,632,690 , 1,465,860 ,
1,448,630 , 1,327,490 , 1,129,790
(p<0.05).

가 2,217,600 가 ,
1,833,190 , 1,265,020 , 893,410 , 가 871,560
(p<0.05).

“ ” 2,920,070 가
, “ ” 2,901,220 , “ ” 1,792,180 , “
()” 1,568,450 , “ ” 1,510,600 , “ ()
” 1,475,210 , “ ()
” 1,150,650 , “
” 1,081,280 , “ ” 1,080,990 (p<0.05).

13. 30

				p-
	1,750,130	1,810,808.61		
	1,420,920	1,755,441.95	3.38 [†]	0.0008
()				
65 - 74	1,806,630	2,079,831.02		
75 - 84	1,475,480	1,564,571.96	11.48 [¶]	0.0001
85	1,132,020	1,325,557.35		
	1,685,640	1,974,438.36		
	1,440,100	1,533,281.61	2.75 [¶]	0.0645
. *	1,509,510	1,716,792.05		
	1,824,910	1,935,514.45		
	1,171,470	1,320,239.50		
	378,610	362,421.11	26.95 [¶]	0.0001
**	547,230	466,253.81		
	1,719,570	1,757,783.05		
	1,926,830	2,031,431.31		
	1,327,490	1,656,425.04		
	1,465,860	1,724,109.04	5.46 [¶]	0.0001
	1,129,790	1,289,179.95		
	1,448,630	1,824,828.08		
	1,632,690	1,035,116.02		
	1,265,020	1,470,474.97		
	1,833,190	1,724,844.09		
	2,127,600	2,209,243.33		
가	871,560	951,160.58	11.75 [¶]	0.0001
	893,410	1,003,163.75		
***	1,370,920	1,614,843.70		

()

* .
 ** , ,

 † t- , ¶ F-

				()	
				p-	
		2,920,070	3,072,632.46		
		1,792,180	1,858,508.03		
		2,901,220	4,766,017.77		
()		1,568,450	1,615,908.68		
	()				
	()	1,150,650	1,391,224.86	9.34 [¶]	0.0001
		1,475,210	926,592.73		
		1,081,280	877,567.38		
		1,080,990	1,020,802.92		
		1,510,600	1,463,624.06		

¶ F-

, 65 - 74

121,170 , 85 108,180 , 75 - 84 101,910
(p<0.05)(14).

가 ,

141,960 , 107,040 , 68,170
(p<0.05).

. 가 126,760 가

, 122,720 , 121,070 , . 118,460 , 108,270
, . 92,310 , 82,670 (p<0.05).

가 190,290 가 ,

128,390 , 116,740 , 88,730 , 가 80,530
(p<0.05).

“ ”

가 218,840 가 , “

” 184,820 , “ ” 167,860 , “ ” 152,650 , “

” 112,380 , “ ()” 111,140 , “ ()

” 82,690 , “ ” 64,730 , “

” 34,980 (p<0.05).

				p-
	105,590	105,547.73		
	116,610	121,549.37	1.72 [†]	0.0851
()				
65 - 74	121,170	120,706.73		
75 - 84	101,910	100,857.37	4.07 [¶]	0.0172
85	108,180	136,449.10		
	113,030	115,711.36		
	110,920	115,811.69	0.12 [¶]	0.8902
. *	108,810	109,851.04		
	141,960	124,624.10		
	107,040	103,574.62	38.41 [¶]	0.0001
	68,170	87,834.36		
**	24,090	18,264.89		
	108,270	116,088.30		
	121,070	117,301.37		
	122,720	112,926.46		
	118,460	109,702.28	2.61 [¶]	0.0162
	126,760	131,648.10		
	92,310	104,465.03		
	82,670	71,504.38		
	88,730	102,682.32		
	128,390	96,757.32		
	116,740	102,998.60		
가	80,530	88,192.71	18.26 [¶]	0.0001
	190,290	148,117.64		
***	100,170	108,572.85		

()

* .
 ** , ,

 † t- , ¶ F-

				()	
				p-	
		167,860	131932.67		
		152,650	120449.75		
		112,380	85948.59		
()		111,140	107980.04		
	()	82,690	98941.44	13.26 [¶]	0.0001
		184,820	34386.60		
		34,980	27295.06		
		218,840	355243.79		
		64,730	82886.19		

¶ F-

•
1.

2000 2 28

가 1999 3 1

(case mix)

가

가

2.

1999 65 2,859,575 ,
 1,100,411 (38.5%), 1,759,164 (61.5%) (99
 , 2000). 가 (52.6%),
 가 (50.6%). 65 - 74 가
 (46.7%), 가 (51.5%).

“ () (I63)” 51.2%

가 . 1
 가 가 가 , 65 - 74 가
 가 . 85 75 - 84 , 30 85
 75 - 84 가 .

가

가

.

•

(, 2000) 1999 3 1 2000 2 28 , 1999 1

1. 1
가 가 가 , 65 - 74 가 가
. 85 75 - 84 , 30 85
75 - 84 가 .

2. 30 1 413,860 가
. 31 - 60 144,190 2.9 .

3. 30
, 75 - 84 가 가 , 65 - 74 가
가 (p<0.05). ,
. 가 (p<0.05).

, ,
가 ,
, 가

가
1990; 23(2): 185-93

1989; 22(4): 542-54

- 1, 2
, 1998

1
, 2000

, 2000

, 1998

가 , 1989.12

1994; 27(1): 135-44

, 1992.12

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1986; 19(1): 137-45

, , .
1992; 25(3): 303-11

, .
- . 1990; 23(3):
345-57

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1987; 20(2): 287-300

, , . 가 .
1988; 21(2): 419-30

, , . -
. 1981; 14(1):
53-8

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ABSTRACT

A Study of Health Care Utilization and Medical care expenses of Dying in Older adults - of Cerebrovascular Disease -

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The objective is to identify the medical service utilization frequency in the aged before death. Medical expense of the aged who had passed away since March 1, 1999 till February 28, 2000 due to cerebrovascular disease was analyzed. Cerebrovascular disease was recorded as the number one cause of death in 1999 (Korea Statistical Office, 2000). Then we analyzed the trend of the medical service utilization level by one's life time. Following are the results of the analysis.

From March 1, 1999 till February 28, 2000 there were 5,453 elderly who had passed away after utilizing a medical institute due to cerebrovascular disease even with one time visit. The number of times of Medical care utilization was 11,111. Before death, they used medical services 2.08 times in average and spent 1,201,120 Won as medical expenses.

Looking into medical care utilization level by the population over 65 years for a year before death, they used medical services more frequently right before their death. Average medical expenses for 30 days before their death was 413,860 Won. Especially in case of hospitalization, the medical expenses for the duration of 30 days before death was increased about 2.9 times compared to 31 - 60 days before death. In case of visiting patients, it was increased by 2.3 times. Daily medical expenses of hospitalization and ambulatory care was also rapidly increased till death.

Looking into the medical services utilization level for the 30 days before death in detail, women used medical services more frequently both in hospitalization and ambulatory care. However the medical expenses was higher in male patients.

Medical expenses of hospitalization was rapidly increased right before death compared to the visiting patients. It is probably because more medical services were used during hospitalization than outpatient department.

Conclusively, medical services utilization was increased when death was near just as the shown by precedent studies. However it is needed to study further considering the difference of medical services utilization by case mix, as medical utilization level will be different according to the seriousness of the symptoms and whether there are associated with complications.

Key word : older adults, last year of life, utilization