

Needs Analysis of a Health Information Service System for Dementia Care

Jinhui Min[†], Jeongye Bae^{*} and Yoonjung Kim[†]

^{*} Professor, Department of Nursing, Inje University, Korea

[†] Research Assistant, Department of Nursing, Inje University, Korea

Summary

The purpose of this study was to identify educational need of families with dementia patient for development of health information service system. This study focused on the families of 117 elderly dementia patients who were admitted to Hospital and to the Senile Ward. The collected data were analyzed by t-tests, ANOVA and Pearson's correlation using SPSS 17.0. Findings is that: 1) The score is higher in educational needs and burden who are old aged dementia patients' families and low grade in IADL; 2) There was a difference in the burden depending on whether the patients lived with them or not; 3) There was a difference in the educational needs according to the age of the families, education level, and monthly income. Since the families of dementia patients feel more burdened when they lack the knowledge and information needed to care for the patients. Dementia information service system is needed to provide a better understanding of dementia and how to respond to it. This study based on educational needs should be provided to dementia patients' families to reduce their burden.

Key words:

dementia, family, burden, educational needs

1. Introduction

As Korea becomes a society that is ageing with unprecedented speed, it will face a super aged society and increased health problems among the elderly. As the number of elderly members of the population rapidly increases, the prevalence of dementia is also increasing and is becoming a significant social issue from both medical and social perspectives [1].

Dementia is characterized as a chronic and degenerative disease, and elderly patients with dementia depend on their caregivers 24 hours a day. Therefore, the burden on caregivers accumulates; they experience various difficulties, feeling burdened both mentally and physically [2]. When the families of dementia patients do not have

access to systematic or in depth knowledge in dementia, the burden becomes more severe.

The Internet has quickly become one of the most consulted sources of information about diseases, medical treatment and health promotion. The availability of the health information through the Internet website is dramatically increasing.

The Internet survey for the general public was general public ranked disease(81.8%), self diagnosis(79.2%), general health(79.1%), emergency(78.7%), highly and most health professionals needed education(90.5%), academic(88.5%), disease(88.4%) [3].

An estimated 43% of Internet users go on-line to gather health care information and obtain answers to health problems from more than 34,000 health-related websites. The Internet has moved beyond distributing passive text-based facts and become a communication medium that allows users to interact with information [4].

Using the Internet, increasing numbers of health care providers and consumers gain free access to an expanding volume of information that previously was inaccessible. Tools such as Internet directories, indexes, and search engines assist health care providers and consumers in their search for health information [5].

The Internet can also be a worth source of information for consumers [6] [7] [8]. For patients and their family or close friends, particularly in cases of newly diagnosed life-threatening diseases, electronic mailing lists, online support groups, and Web sites devoted to their particular disease can provide worth information and emotional support [9] [10] [11]. Therefore we decide development of a user-centered web-based an information service system for dementia care. The user-centered system development included a needs assessment, analysis, design/ development/testing, and the application release. The principle of user-centered design ensures that the needs of the end users are best met and the resulting application is truly user-friendly [12] [13]. The first step in this process was to conduct a needs assessment. The purpose of this study was

to identify educational needs of families with dementia patient for development of health information service system.

2. Methods

This study focused on the families of 117 elderly dementia patients who were admitted to D Hospital in B City and to the Senile Ward of D Hospital in Y City between March 31, 2006 and April 30, 2006.

The collected data were analyzed using the SPSS statistics program, and general characteristics concerning the study's subjects were analyzed using frequency and percentage. The burden on and educational needs of the patients' families were analyzed using mean and standard deviation. The relationship between the burden on and educational needs of the subjects and all variables were compared using t-tests and ANOVA tests. Correlations between the burden and educational needs were analyzed using Pearson Correlation Coefficients.

3. Result

1. The general characteristics

A total of 117 usable questionnaires were collected. 86 patients (73.5%) in women, 31 (26.5%) in male and two times more common in females than males, and age distribution of 44-97 years the average age was 76.7 years. Bereavement and 62 patients (53.0%), married the 50 patients (42.7%), respectively. Other dementia diseases 64 (54.7%) have majority picks diabetes, hypertension, etc. had a physical illness. Dementia disease duration less than 13-36 months, 53 patients were surveyed, accounting for 45.3% of patients 48 (41.1%) were more than 36 months.

More than 50% of patients less than 5 points lower was with activities of daily living skills. Instrumental activities of daily living skills than the 1-5 score in 36 patients (30.8%) was the most common, accounting for 0 points in 31 patients was 26.5% <Table 1>.

Table 2 shows the characteristics of dementia patients and family members. Gender is a woman, 81 patients (69.2%), male 36 (30.8%) and two times more common in females than males. The mean age of 48.3 years of age and a high percentage of age was 40-50. Caregivers have a daughter of 36 (30.8%), son of 32 patients (27.4%), daughter-in law of 32 patients (27.4%) as well as descendants of the stimulus rate was the highest. Whether premorbid living with dementia in 49 patients (41.9%)

living with dementia by a substantial caregiving burden is expected to be had.

2. Burden and educational needs of families with dementia patients

The score for the burden on dementia patients' families ranged from 20 to 80, with a mean score of 52.3 (8.22). The score for educational needs ranged from 23 to 115, with a mean score of 86.1 (14.69) <Table 3>. There was a difference in the burden on the dementia patients' families according to the age of the patients ($F=4.24$, $p=.007$) and IADL ($F=4.07$, $p=.002$) <Table 1>. There was a difference in the burden on the dementia patients' families depending on whether the patients lived with them or not ($t=6.55$, $p=.012$) <Table 2>.

There was a difference in the educational needs of the dementia patients' families according to the age of the families ($F=3.70$, $p=.007$), their education level ($F=4.90$, $p=.003$), and their monthly income ($F=5.32$, $p=.002$) <Table 6>. Based on the characteristics of the patients' families, the need for information differed according to the families' total income ($F=6.31$, $p=.001$) and education level ($F=4.08$, $p=.009$), while the need for education about treatment differed according to educational needs ($F=3.93$, $p=.010$). The need for education about welfare differed according to age ($F=4.46$, $p=.002$), total income ($F=6.15$, $p=.001$), and education level ($F=6.34$, $p=.001$), while the need for emotional education differed according to age ($F=4.66$, $p=.002$) <Table 7>.

3. Correlations among burden and educational needs

The positive correlation between the educational needs and the burden on dementia patients' families ($r=.40$, $p=.000$) demonstrates that families with a heavier burden had a higher need for education. All four sub-categories showed positive correlation <Table 8>.

4. DISCUSSION

With recent aging progress, dementia is a growing health and social issue with the number of people affected, directly and indirectly. Dementia is a syndrome of progressive cognitive impairment that results in a decreased ability to perform activities of daily living [14] [15]. It is a clinical syndrome characterized by a widespread loss of mental function, memory loss,

language impairment, disorientation, change in personality, self-neglect and behavior which is out of character [16].

Many of those with severe dementia, especially those over 85, have a combination of mental and physical problems [17]. More than 10% of people age 65 and older and at least 20% of those older than 80 years have dementia severe enough to impair ability to live independently [18]. In addition to progressive cognitive impairment, up to 90% of persons with dementia will be affected by other neuropsychiatric symptoms, and up to 50% also experience depression [19]. Due to the severity and complexity of needs of people with dementia, it is likely that professional care in the community costs will be higher and more nursing home care will be required than for other groups [20].

In some overseas communities, it is reported to be around 2 to 10% at the age of 65 years, depending on the diagnostic criteria being used [21]. It is estimated that 40% of people with dementia reside in long-term care, meaning that some 300,000 are cared for in institutional settings [23].

Many of care givers of older people with dementia are themselves fairly old. Up to 60 per cent are husbands or wives [24]. It seems that caregivers of elderly parents usually lack training in care giving [25]. Many family caregivers choose to care for their demented relatives at home for as long as they can [26] [27]. But, they are unaware of their availability and have difficulty in identifying appropriate medical and community support and identified a perceived lack of education about dementia and ways of dealing with difficult situations [28].

They are often exhausted by challenges [29]. Moreover, family caregivers wish to manage their dementia patient behavioral and psychological symptoms, delusions, depression, wandering, screaming, physical or verbal aggression [30] [31] [32].

Scott, Lewis, Loughlin (2005) identified a perceived lack of education about dementia and ways of dealing with difficult situations [28]. It is important to meet the informational needs of caregivers to better enable them to care for their families. Information about how to manage stressors, emotional issues, as well as available instrumental support, is essential to the success of family care giving [33]. Braithwaite (1990) defined caregiving burden as "distress arising from dealing with the dependant's physical dependence and mental incapacity and over the effects of caregiving on one's life" [34].

Many consider relinquishment of caregiving when their dependants' care needs become unmanageable at home

and most experience significant grief, guilt and despair during this most psychologically painful care transition [35]. Good quality information should be available for people with dementia and their carers.

References

- [1] Kim, Youngchui. A study about the family function of senile dementia family. Unpublished master's thesis, dissertation, Dongguk University, 2002.
- [2] Yoo, Heejin. A study on the social support for major caregivers of the elderly with dementia and their care-giving burdens. Unpublished master's thesis, Hallym University, Kangwon, 2003.
- [3] Song, Taemin, Lim, Eunju. The survey of the demand for health information on the Internet. *J of Korean Soc of Med. Inform.* 8, Vol. 2, pp 17-24, 2002.
- [4] JW. Feightner. Preventive health information on the Internet. *Can. Fam. Physician.*, 47, Vol. 17, pp 59-65, 2001.
- [5] Alejandro R. Jadad, MD, DPhil; Anna Gagliardi, MSc, MLS. Rating Health Information on the Internet Navigating to Knowledge or to Babel? *JAMA.* 279, pp 611-614, 1998.
- [6] Bennett-Clark J. Where health information is byte-size: online advice can help you manage health costs. *Kiplinger's Personal Finance.* pp 96-97, 1996.
- [7] T. Ferguson. Consumer health informatics, *Health n.a J.* Vol. 39, pp 28-33, 1996.
- [8] L. Widman, D. Tong. Requests for medical advice from patients and families to health care providers who publish on the World Wide Web, *Arch. of Int. Med.*, Vol. 157, pp 209-212, 1997.
- [9] V. Vaitones. Protocol 'Sopping' on the Internet, *Cancer Pract.* Vol. 3, pp 274-278, 1995.
- [10] J. Fernsler. Commentary to the case study 'Protocol "Shopping" on the Internet', *Cancer Pract.*, Vol. 3, pp 277-278, 1995.
- [11] L. Degner. Commentary to the case study 'Protocol "Shopping" on the Internet', *Cancer Pract.*, Vol. 3, pp 275-276, 1995.
- [12] DJ. Mayhew. The Usability engineering lifecycle. Morgan Kaufmann, 1999.
- [13] MB. Kinzie, WF. Cohn, MF. Julian, WA. Knaus. A User-centered Model for Web Site Design: Needs Assessment, User Interface Design, and Rapid Prototyping. *JAMIA*, 9, pp 320-330, 2002.
- [14] GT. Buhr, HK. White. Difficult behaviors in long-term care patients with dementia. *J Am Med Dir Assoc.* 7:180-192, 2006.
- [15] L. Bright-Long. Alzheimer's treatment in nursing homes: room for improvement. *J Am Med Dir Assoc.* 7:90-95, 2006.
- [16] Department of Health. National Service Framework for Older People, 2001. Available at http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/documents/digitalasset/dh_4071283.pdf [Accessed 17 February 2010]
- [17] Audit Commission. Forget Me Not. Available at www.audit-commission.gov.uk/health/nationalstudies/socialcare/pages/forgetmenot_copy.aspx [Accessed 17 February 2010], 2002.

- [18] DA. Evans. Estimated prevalence of Alzheimer's disease in the United States. *Milbank Quarterly*, 68(2), 267-289. Evidence Level IV: Non-experimental Study, 1990.
- [19] CG. Lyketsos, CC. Colenda, C. Beck, K. Blank, MP. Doraiswamy, DA. Kalunian, D.Yaffe. Position statement of the American Association for Geriatric Psychiatry regarding principles of care for patients with dementia resulting from Alzheimer Disease. *Am J of Geriatr Psychiatry*, 14(7), 561-573. Evidence Level VI: Expert Opinion, 2006.
- [20] P. McNamee, J. Bond, D. Buck. Costs of dementia in England and Wales in the 21st century. *British J of Psychiatry*, Vol. 179, Ps 261-266, 2001.
- [21] Canadian study of health and aging: study methods and prevalence of dementia. *CMAJ*. 150:899-912, 1994.
- [22] LW. Gerson, SR. Counsell, PB. Fontanarosa, WD. Smucker. Case finding for cognitive impairment in elderly emergency department patients. *Ann Emerg Med*. 23:813-7, 1994.
- [23] DS. Gordon, P. Spicker, BR. Ballinger, B. Gillies, N. McWilliam, WJ. Mutch, P. Seed. A population needs assessment profile for dementia. *Int J of Geriatr Psychiatry*, Vol 12, No 6, Ps 642-647, 1997.
- [24] E. Levin, J. Moriarty, P. Gorbach. *Better for the Break* Cited in Audit Commission (2000) Forget Me Not. Available at www.audit-1994.
- [25] JS. Larson, R. Chernoff, TJ. Sweet - Holp. An evaluation of provider educational needs in geriatric care. *Eval Health Prof*. 27:95-103, 2004.
- [26] M. Armstrong. Factors affecting the decision to place a relative with dementia into residential care. *Nurs Stand*. 14:33-7, 2000.
- [27] FJ. Meiland, JA. Danse, JF. Wendte, NS. Klazinga, LJ. Gunning-Schepers. Caring for relatives with dementia-caregiver experiences of relatives of patients on the waiting list for admission to a psychogeriatric nursing home in The Netherlands. *Scand J Public Health*. 29:113-21, 2001.
- [28] A. Scott, D. Lewis, N. Loughlin. Dementia and challenging behaviour: the needs of family caregivers. *Nurs Older People*. 17:26-31, 2005.
- [29] R. Schulz, LM. Martire. Family caregiving of persons with dementia: prevalence, health effects, and support strategies. *Am J Geriatr Psychiatry*. 12:240-249, 2004.
- [30] SI. Finkel. Behavioral and psychologic symptoms of dementia. *Clin Geriatr Med*. 19:799-824, 2003.
- [31] LB. Taft, D. Cronin-Stubbs. Behavioral symptoms in dementia: an update. *Res Nurs Health*. 18:143-63, 1995.
- [32] G. Stokes. Challenging behaviour in dementia: a person-centred approach. Oxford: Winslow Press; 2000.
- [33] SH. Zarit, AB. Edwards. Family caregiving: research and clinical intervention. In: Woods RT, editor. *Handbook of the clinical psychology of ageing*. London: John Wiley. 333-68, 1996.
- [34] V. Braithwaite. Bound to care. Unwin Hyman, London, 1990.
- [35] J. Wuest, PK. Ericson, PN. Stern. Becoming strangers: The changing family, caregiving relationship in Alzheimer's disease. *J of Advanced Nurs*, Vol. 20, Ps 437-443, 1994.



Bae, Jeongyee received her B.E. and M.E. degrees from Seoul National Univ. in 1984 and 1987, respectively. She received her PhD in Ewha Univ. in 1996. She is now an associate professor in Inje Univ in Korea. Her research interests are in Mental Health Nursing and Medical Informatics. She is a member of KOSMI.



Min, Jinhui is a Research Assistance in the Department of Nursing, Inje University, Busan, Korea.



Kim, Yoonjung is a Research Assistance in the Department of Nursing, Inje University, Busan, Korea

<Table 1> Burden on of the dementia patients' families according to the characteristics of dementia patient

(N=117)

Variable	Characteristics	N (%)	Mean(SD)	t or F	p
Gender	Male	31(26.5)	51.6(6.62)	0.31	.577
	Female	86(73.5)	52.5(8.75)		
Age(years)	Below 60	9(7.7)	44.9(9.06)	4.24	.007*
	61-70	18(15.4)	49.6(7.61)		
	71-80	49(41.9)	53.2(7.49)		
	Above 81	41(35.0)	54.0(8.24)		
Marital status	Married	50(42.7)	50.6(7.83)	2.39	.096
	Divorced/Separation	5(4.3)	50.4(5.68)		
	Bereaved	62(53.0)	53.8(8.49)		
Educational level	Illiteracy	38(32.5)	53.4(9.29)	0.50	.739
	Elementary school	47(40.2)	52.3(8.04)		
	Middle school	21(17.9)	50.3(6.82)		
	High school	10(8.5)	52.4(8.20)		
	University	1(0.9)	50.0(8.22)		
Religion	Christian	21(17.9)	48.3(5.71)	2.37	.057
	Buddhist	55(47.0)	53.5(8.11)		
	Catholic	9(7.7)	49.4(8.64)		
	Absent	29(24.8)	53.1(9.31)		
	Other	3(2.6)	58.0(1.00)		
Occupation	Yes	1(0.9)	47.0(8.22)	0.42	.521
	No	116(99.1)	52.3(8.24)		
Disease other than dementia	Yes	64(54.7)	53.5(8.06)	3.36	.069
	No	53(45.3)	50.8(8.24)		
Duration of illness (month)	Below 12	16(13.7)	50.3(6.02)	1.22	.304
	13-24	28(23.9)	50.1(5.84)		
	25-36	25(21.4)	53.6(12.20)		
	37-48	12(10.3)	55.1(4.29)		
	49-60	12(10.3)	51.5(9.21)		
	Above 61	24(20.5)	53.9(7.41)		
ADL	Above 0-Below 1	26(22.2)	54.4(9.18)	3.09	.019
	1-5	34(29.1)	52.5(8.52)		
	6-10	22(18.8)	55.0(8.43)		
	11-15	21(17.9)	50.0(6.52)		
	Above 16-Below20	14(12.0)	47.0(4.11)		
IADL	Above 0-Below 1	31(26.5)	55.6(8.23)	4.07	.002**
	1-5	36(30.8)	54.4(7.91)		
	6-10	17(14.5)	49.2(6.53)		
	11-15	8(6.8)	48.8(5.54)		
	16-20	4(3.4)	49.0(4.32)		
	Above 21	5(4.4)	44.0(5.14)		

<Table 2> Burden on of according to the characteristics of dementia patient families

(N=117)

Variable	Characteristics	N (%)	Mean(SD)	t or F	p
Gender	Male	36(30.8)	52.0(7.98)	0.01	.782
	Female	81(69.2)	52.4(8.37)		
Age(years)	Below 30	9(7.7)	47.3(6.28)	1.81	.132
	31-40	22(18.8)	50.7(7.13)		
	41-50	38(32.5)	54.6(9.38)		
	51-60	35(29.9)	52.4(7.10)		
	Above 61	13(11.1)	51.5(9.20)		
Marital status	Unmarried	7(6.0)	50.0(4.32)	0.48	.624
	Married	103(88.0)	52.3(8.60)		
	Divorced/Separation	7(6.0)	54.3(4.53)		
Educational level	Illiteracy	0(0.0)		0.60	.614
	Elementary school	14(12.0)	52.6(9.49)		
	Middle school	16(13.7)	53.4(7.97)		
	High school	52(44.4)	52.9(8.25)		
	University	35(29.9)	50.7(7.90)		
Religion	Christian	25(21.4)	50.8(5.21)	1.20	.316
	Buddhist	55(47.0)	52.6(7.65)		
	Catholic	11(9.4)	49.1(9.32)		
	Absent	24(20.5)	54.3(11.10)		
	Other	2(1.7)	57.5(2.12)		
occupation	Yes	68(58.1)	51.1(7.35)	3.63	.059
	No	49(41.9)	54.0(9.10)		
Relationship	Spouse	8(6.8)		2.09	.060
	Son	32(27.4)	50.4(8.66)		
	Daughter-in-law	32(27.4)	51.8(6.30)		
	Daughter	36(30.8)	54.1(8.82)		
	Son-in-law	5(4.3)	51.7(8.11)		
	Grandson/Granddaughter	3(2.6)	49.6(4.92)		
	Brothers and Sisters	1(0.9)	46.7(15.37)		
Monthly Income (10,000 Won)	Below 100	13(11.1)	50.8(9.40)	1.20	.314
	101-300	71(60.7)	53.4(8.03)		
	301-500	26(22.2)	50.7(7.46)		
	Above 501	7(6.0)	49.4(10.32)		
Live together	Yes	49(41.9)	54.5(9.67)	6.55	.012*
	No	68(58.1)	50.7(6.61)		

<Table 3> Scores of burden on educational needs

(N=117)

	Range (minimum-maximum)	Mean(SD)	Mean grade (Range)
Burden	20.0-80.0	52.3(8.22)	2.6(1-4)
Education needs	23.0-115.0	86.1(14.69)	3.7(1-5)
- Information	7.0-35.0	26.1(4.89)	3.7(1-5)
- Treatment	5.0-25.0	18.6(3.68)	3.7(1-5)
- Welfare	5.0-25.0	18.8(3.56)	3.8(1-5)
- Emotion	6.0-30.0	22.6(4.07)	3.8(1-5)

<Table 4> Scores of education needs item

(N=117)

Items	Mean(SD)
Education needs about Information	26.1(4.89)
1 Toilet training	4.0(0.91)
2 Wander	3.8(1.04)
3 Repetitious activity	3.8(0.96)
4 Dependent behavior	3.7(0.84)
5 Inappropriate behavior	3.7(1.03)
5 Decrease of settle a problem	3.7(1.09)
7 Change of appetite, weight, habit	3.6(0.93)
Education needs about Treatment	18.6(3.68)
1 Memory impairment	4.0(0.93)
2 Sleep disturbance	3.9(0.90)
3 Indifference	3.6(0.96)
4 Delusion	3.6(1.03)
5 Hallucination	3.6(1.02)
Education needs about Welfare	18.8(3.56)
1 Family role about dementia patient	4.1(0.91)
2 Help a meal	3.9(0.79)
3 Bath	3.8(0.88)
4 Use of a means of transportation	3.5(1.16)
5 Use of an instrument	3.5(1.09)
Education needs about Emotion	22.6(4.07)
1 Conversation a way about Dementia patient	4.2(0.80)
2 Conflict settlement about family	4.1(0.90)
3 Personality change	3.8(0.94)
4 Anxiety	3.6(0.99)
5 Depressive mood	3.5(1.01)
6 Euphoric	3.3(0.89)

<Table 5> Educational needs of the dementia patients families according to the characteristics of dementia patient

(N=117)

Variable	Characteristics	Mean(SD)	t or F	p
Gender	Male	83.6(14.66)	1.25	.267
	Female	87.0(14.68)		
Age(years)	Below 60	88.4(17.83)	0.50	.687
	61-70	89.2(13.42)		
	71-80	85.9(15.48)		
	Above 81	84.5(13.78)		
Marital status	Married	83.8(14.17)	1.14	.324
	Divorced/Separation	86.4(25.83)		
	Bereaved	88.0(14.04)		
Educational level	Illiteracy	85.7(15.78)	0.40	.807
	Elementary school	85.8(14.34)		
	Middle school	89.1(12.22)		
	High school	83.5(18.30)		
	University	77.0(14.69)		
Religion	Christian	81.6(16.20)	0.77	.547
	Buddhist	87.2(14.88)		
	Catholic	83.4(17.31)		
	Absent	88.0(12.11)		
	Other	87.7(17.78)		
Occupation	Yes	92.0(14.69)	0.16	.689
	No	86.1(14.74)		
Disease other than dementia	Yes	85.2(14.05)	0.59	.446
	No	87.2(15.48)		
Duration of illness (month)	Below 12	83.8(11.53)	1.95	.092
	13-24	82.7(11.20)		
	25-36	86.0(20.75)		
	37-48	97.5(10.93)		
	49-60	87.8(9.07)		
	Above 61	85.1(14.86)		
ADL	Above 0-Below 1	86.1(17.41)	0.82	.516
	1-5	82.9(14.57)		
	6-10	89.7(15.69)		
	11-15	86.2(11.09)		
	16-20	88.2(12.71)		
IADL	Above 0-Below 1	88.5(12.69)	0.86	.514
	1-5	88.4(13.85)		
	6-10	85.6(10.30)		
	11-15	96.0(13.04)		
	16-20	91.8(4.50)		
	Above 21	84.6(18.21)		

<Table 6> Educational needs of according to the characteristics of dementia patient families

(N=117)

Variable	Characteristics	Mean(SD)	t or F	p
Gender	Male	87.1(15.06)	.22	.642
	Female	85.7(14.59)		
Age(years)	Below 30	86.6(9.97)	3.70	.007*
	31~40	90.6(12.17)		
	41~50	90.0(16.27)		
	51~60	83.1(14.39)		
	Above 61	75.0(10.65)		
Marital status	Unmarried	81.7(8.63)	1.21	.302
	Married	86.9(15.10)		
	Divorced/Separation	79.3(11.45)		
Educational level	Illiteracy		4.90	.003**
	Elementary school	75.0(15.23)		
	Middle school	84.6(12.85)		
	High school	90.6(13.95)		
	University	84.6(14.06)		
Religion	Christian	85.0(15.30)	0.26	.901
	Buddhist	85.4(14.55)		
	Catholic	86.2(18.20)		
	Absent	88.8(12.42)		
	Other	87.0(29.69)		
Occupation	Yes	86.8(13.22)	0.41	.526
	No	85.1(16.60)		
Relationship	Spouse		1.54	.172
	Son	77.6(13.56)		
	Daughter-in-law	86.9(15.15)		
	Daughter	88.8(14.77)		
	Son-in-law	85.7(13.27)		
	Grandson/Granddaughter	81.4(8.32)		
	Brothers and Sisters	75.0(27.22)		
Monthly Income (10,000 Won)	Below 100	76.2(14.69)	5.32	.002**
	101~300	88.2(14.13)		
	301~500	88.9(13.56)		
	Above 501	72.4(11.22)		
Live together	Yes	86.0(15.25)	0.01	.929
	No	86.2(14.38)		

<Table 7> Educational needs items of according to the characteristics of dementia patient families

(N=117)

Variable	Characteristics	Mean(SD)	t or F	p
Information	Monthly Income (10,000 Won)		6.31	.001**
	Below 100	22.2(5.67)		
	101~300	27.1(4.46)		
	301~500	26.7(4.49)		
	Above 501	21.9(3.76)		
	Educational level		4.08	.009*
	Elementary school	22.9(5.69)		
	Middle school	25.4(4.85)		
	High school	27.6(4.47)		
	University	25.7(4.54)		
Treatment	Educational level		3.93	.010*
	Elementary school	16.8(3.84)		
	Middle school	19.1(2.40)		
	High school	19.7(3.36)		
	University	17.6(4.07)		
Welfare	Age(years)		4.46	.002**
	Below 30	19.4(0.88)		
	31~40	20.1(2.67)		
	41~50	19.7(4.19)		
	51~60	17.7(3.42)		
	Above 61	16.2(2.27)		
	Monthly Income (10,000 Won)		6.15	.001**
	Below 100	16.2(3.62)		
	101~ 300	19.3(3.29)		
	301~500	19.4(3.33)		
	Above 501	15.3(3.35)		
	Educational level		6.34	.001**
	Elementary school	15.8(2.91)		
	Middle school	17.4(3.79)		
	High school	19.8(3.18)		
	University	19.0(3.50)		
Emotion	Age(years)		4.66	.002**
	below 30	23.0(4.15)		
	31~40	24.0(3.45)		
	41~50	23.7(3.94)		
	51~60	21.7(4.04)		
	above 61	19.1(3.27)		

<Table 8> Correlations among burden on and educational needs

(N=117)

	Education needs				
	Information	Treatment	Welfare	Emotion	Total
Burden	.39*** (.000)	.38*** (.000)	.34*** (.000)	.34*** (.000)	.40*** (.000)

* p <.01 ** p <.005 *** p <.001