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Study on the Health-related Behaviors in Residents from Rural Areas

Dalho Won, Hyun-Sul Lim*, Mi-Ran Bang

Department of Preventive Medicine, College of Medicine, Dongguk University

= ABSTRACT =

Objectives: This study evaluated the status of Health-related Behavior in residents from rural areas. A self-administered questionnaire was given to 1,754 people (men; 633 persons, women; 1,121 persons) in rural areas aged over 30 years and under 80 years in Buk-myeon, Uljin-gun and Gogye-myeon, Pohang-si, Gyeongsangbuk-do in 2001 and 2002.

Methods: The collected data was analyzed using a chi-square test after an age-adjusted and a chi-square trend test. The data was analyzed using a SPSS/win ver. 10.0

Results: The age-adjusted prevalence of the individual unhealthy behavior according to sex was 56.1% in men and 6.8% in women with regard to smoking; 65.4% and 21.6% with regard to drinking; 72.6% and 76.6% with regard to non-exercise on a regular basis; 23.3% and 28.2 with regard to an obese body mass index; 61.5% and 71.1% with regard to non-scaling in the dental service. The rate of alcohol and tobacco consumption increased with increasing age in both men and women ($p < 0.01$). The age-adjusted proportion in the non-screening examination for stomach cancer according to sex was 49.3% in men and 51.4% in women; 64.0% and 70.7% in liver cancer; 88.9% and 87.5% in colon cancer; 58.3% and 59.1% in undergoing a medical health screening.

Conclusions: It is essential for health educators to promote Health-related Behavior in residents in rural areas. In addition, it is expected that the health status of residents in rural areas will improve through efforts to encourage them to take more interest in a healthier lifestyle.

KEY WORDS: Health-related behavior, Lifestyle, Health promotion, Rural population

* : 707 , : 054-770-2401,
: 054-770-2447, E-mail: wisewine@dongguk.ac.kr

가 . (Health behavior) “ 가 . ” [1].

가 [2].

1. 가 2001 2 26 2 28 601 , 2001 8 16 18 504 , 2002 8 12 14 454

가 2002 8 16 8 17 360 1,919 . 1,919

[4]. 가 30 80 , 가 165 1,754 (Fig. 1).

2. 가

(Lifestyle) ‘ 가 , B , [5].

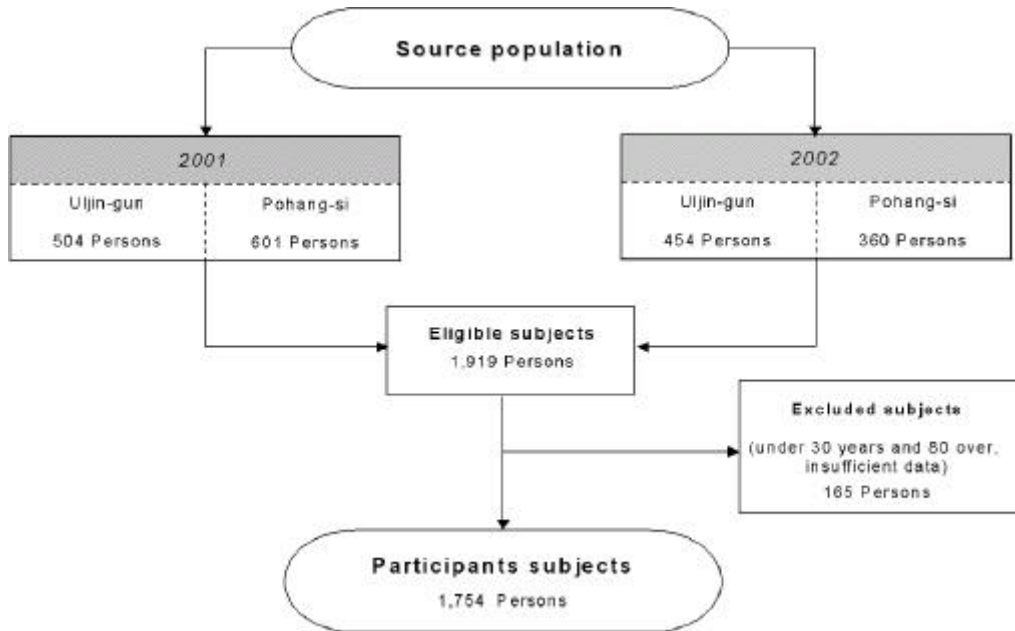


Fig. 1. Flow chart of study subjects

SPSS 10.0 for windows

25 kg m² , 25 kg m² 1. 51.4%, 48.6%, 63.9%, 36.1%, 60 42.2%, 50 22.0%, 70 17.1%, 40 10.9%, 30 7.9%, 60 34.7%, 50 20.2%, 70 17.7%, 40 14.8%, 30 12.7% . 45.3%, 19.1%, 16.6%, 12.2%

Table 1. General characteristics of the subjects according to sex

Contents	Male		Female	
	No.	%	No.	%
Age (years)				
30-39	50	7.9	142	12.7
40-49	69	10.9	166	14.8
50-59	139	22.0	226	20.2
60-69	267	42.2	389	34.7
70-79	108	17.1	198	17.7
Education				
None	77	12.2	373	33.3
Elementary school	287	45.3	468	41.7
Middle school	121	19.1	81	7.2
High school	105	16.6	142	12.7
College and over	43	6.8	57	5.1
Marital status				
Single	18	2.8	2	0.2
Married	570	90.0	790	70.5
Separation	6	0.9	7	0.6
Divorced	2	0.3	2	0.2
Bereavement	37	5.8	320	28.5
Total	633	100.0	1,121	100.0

6.8% , 3.6%, 50 5.8%, 60 8.5%, 70 10.1%
 41.7%, 33.3%, 12.7%, 가 가
 7.2%, 5.1% . (p<0.01)(Table 2).
 90.0%, 5.8%, 64.3%,
 2.8%, 0.9%, 0.3% , 21.6% . 65.4%,
 70.5%, 28.5%, 0.6%, 0.2%, 21.6%
 0.2% (Table 1). (p<0.01). 30
 84.0%, 40 78.3%, 50 61.9%, 60 61.8%, 70
 2. 55.6% 가
 (p<0.01). 30 23.9%, 40
 6.7% . 56.1%, 19.3%, 50 17.7%, 60 23.7%, 70 22.2%
 6.8% 가
 (p<0.01). 30 (Table 3).
 64.0%, 40 66.7%, 50 59.0%, 60 52.4%, 70
 47.2% 가 73.8%, 76.2% .
 (p<0.01), 30 2.1%, 40 72.6%, 76.6%

Table 2. Distribution of the subjects for their smoking status according to sex and age

Age (years)	Male*			Female		
	No.	No. of smoking	%†	No.	No. of smoking	%†
30-39	50	32	64.0	142	3	2.1
40-49	69	46	66.7	166	6	3.6
50-59	139	82	59.0	226	13	5.8
60-69	267	140	52.4	389	33	8.5
70-79	108	51	47.2	198	20	10.1
Total	633	351	55.5	1,121	75	6.7
Age-adjusted			56.1			6.8

*p < 0.01 by Chi-square between male and female by age-adjusted proportion.

† p < 0.01 by Chi-square for trend, comparison among age groups.

Table 3. Distribution of the subjects for their drinking status according to sex and age

Age (years)	Male*			Female		
	No.	No. of drinking	%†	No.	No. of drinking	%
30-39	50	42	84.0	142	34	23.9
40-49	69	54	78.3	166	32	19.3
50-59	139	86	61.9	226	40	17.7
60-69	267	165	61.8	389	92	23.7
70-79	108	60	55.6	198	44	22.2
Total	633	407	64.3	1,121	242	21.6
Age-adjusted			65.4			21.6

*p < 0.01 by Chi-square between male and female by age-adjusted proportion.

† p < 0.01 by Chi-square for trend, comparison among age groups.

(p < 0.01). (p < 0.01). 30

30 54.0%, 34.0%, 40 20.3%, 50 30.2%, 60 21.7%, 70

40 60.9%, 50 78.4%, 60 78.7%, 70 73.1% 13.9% 가

가 (p < 0.01). 30 12.7%, 40

(p < 0.01). 30 62.0%, 40 34.9%, 50 38.3%, 60 26.2%, 70 24.7%

72.3%, 50 77.0%, 60 79.4%, 70 82.3% 가

가 (Table 5).

(p < 0.01)(Table 4). B

23.1%, 45.5%, 52.5% B

28.0% 23.3%, 45.1%, 53.4%

28.2% (p < 0.01).

Table 4. Distribution of the subjects taking insufficient exercise according to sex and age

Age (years)	Male*			Female		
	No.	No. of non-exercise	%†	No.	No. of non-exercise	%†
30-39	50	27	54.0	142	88	62.0
40-49	69	42	60.9	166	120	72.3
50-59	139	109	78.4	226	174	77.0
60-69	267	210	78.7	389	309	79.4
70-79	108	79	73.1	198	163	82.3
Total	633	467	73.8	1,121	854	76.2
Age-adjusted			72.6			76.6

*p < 0.01 by Chi-square between male and female by age-adjusted proportion.

† p < 0.01 by Chi-square for trend, comparison among age groups.

Table 5. Distribution of the subjects for obesity according to sex and age

Age (years)	Male*			Female		
	No.	No. of obese	%†	No.	No. of obese	%
30-39	50	17	34.0	142	18	12.7
40-49	69	14	20.3	166	58	34.9
50-59	139	42	30.2	226	87	38.3
60-69	267	58	21.7	389	102	26.2
70-79	108	15	13.9	198	49	24.7
Total	633	146	23.1	1,121	314	28.0
Age-adjusted			23.3			28.2

*p < 0.01 by Chi-square between male and female by age-adjusted proportion.

† p < 0.01 by Chi-square for trend, comparison among age groups.

Defined obesity as body mass index $\geq 25 \text{ kg/m}^2$

B 30 54.0%, 40 44.9%, 50 46.8%,
 30 42.0%, 40 30.4%, 50 42.4%, 60 46.1%, 70 60 50.2%, 70 43.5% 가
 59.3% 가 B 30 41.5%,
 가 (p < 0.01). 30 40 35.5%, 50 25.7%, 60 26.7%, 70 30.8%
 24.6%, 40 36.7%, 50 48.7%, 60 63.8%, 70 가
 67.7% 가 B (p < 0.01)(Table 7).
 가 (p < 0.01)(Table 6). 40.8%,
 48.0%, 28.2% .
 30.4% . 40.8%, 28.3%
 48.0%, 30.0% (p < 0.01).
 (p < 0.01). 30 44.0%, 40 36.2%, 50

Table 6. Distribution of the subjects who were not vaccinated against hepatitis B according to sex and age

Age (years)	Male*			Female		
	No.	No. of non-vaccination	%†	No.	No. of non-vaccination	%†
30-39	50	21	42.0	142	35	24.6
40-49	69	21	30.4	166	61	36.7
50-59	139	59	42.4	226	110	48.7
60-69	267	123	46.1	389	248	63.8
70-79	108	64	59.3	198	134	67.7
Total	633	288	45.5	1,121	588	52.5
Age-adjusted			45.1			53.4

*p < 0.01 by Chi-square between male and female by age-adjusted proportion.

† p < 0.01 by Chi-square for trend, comparison among age groups.

Table 7. Distribution of the subjects' likelihood to eat meat according to sex and age

Age (years)	Male*			Female		
	No.	No. of cases	%	No.	No. of cases	%†
30-39	50	27	54.0	142	59	41.5
40-49	69	31	44.9	166	59	35.5
50-59	139	65	46.8	226	58	25.7
60-69	267	134	50.2	389	104	26.7
70-79	108	47	43.5	198	61	30.8
Total	633	304	48.0	1,121	341	30.4
Age-adjusted			48.0			30.0

*p < 0.01 by Chi-square between male and female by age-adjusted proportion.

† p < 0.01 by Chi-square for trend, comparison among age groups.

43.2%, 60 39.3%, 70 42.6% 가 가
 30 (p < 0.05). 30 19.0%, 40 26.5%, 50
 20.4%, 40 31.9%, 50 36.3%, 60 28.3%, 70 31.4%, 60 22.6%, 70 19.7% 가
 21.2% 가 (Table 9).
 (Table 8). 15.3%, 23.6% .
 19.1%, 24.0% . 15.7%,
 19.2%, 24.1% 23.6% (p < 0.01).
 (p < 0.01). 30 22.0%, 30 20.0%, 40 23.2%, 50 20.1%, 60
 40 23.2%, 50 23.7%, 60 18.7%, 70 10.2% 12.0%, 70 10.2% 가

Table 8. Distribution of the subjects' likelihood to eat salty foods according to sex and age

Age (years)	Male*			Female		
	No.	No. of cases	%	No.	No. of cases	%
30-39	50	22	44.0	142	29	20.4
40-49	69	25	36.2	166	53	31.9
50-59	139	60	43.2	226	82	36.3
60-69	267	105	39.3	389	110	28.3
70-79	108	46	42.6	198	42	21.2
Total	633	258	40.8	1,121	316	28.2
Age-adjusted			40.8			28.3

*p < 0.01 by Chi-square between male and female by age-adjusted proportion.

Table 9. Distribution of the subjects who have insufficient physical rest according to sex and age

Age (years)	Male*			Female		
	No.	No. of cases	%†	No.	No. of cases	%
30-39	50	11	22.0	142	27	19.0
40-49	69	16	23.2	166	44	26.5
50-59	139	33	23.7	226	71	31.4
60-69	267	50	18.7	389	88	22.6
70-79	108	11	10.2	198	39	19.7
Total	633	121	19.1	1,121	269	24.0
Age-adjusted			19.2			24.1

*p < 0.01 by Chi-square between male and female by age-adjusted proportion.

† p < 0.05 by Chi-square for trend, comparison among age groups.

Table 10. Distribution of the subjects who have insufficient mental rest according to sex and age

Age (years)	Male*			Female		
	No.	No. of cases	%†	No.	No. of cases	%
30-39	50	10	20.0	142	27	19.0
40-49	69	16	23.2	166	44	26.5
50-59	139	28	20.1	226	70	31.0
60-69	267	32	12.0	389	88	22.6
70-79	108	11	10.2	198	35	17.7
Total	633	97	15.3	1,121	264	23.6
Age-adjusted			15.7			23.6

*p < 0.01 by Chi-square between male and female by age-adjusted proportion.

† p < 0.01 by Chi-square for trend, comparison among age groups.

(p < 0.01). 30 19.0%, 40 26.5%, 50 31.0%, 60 22.6%, 70 17.7% (Table 10). 가

3. 가 66.8%, 60 81.0%, 70 84.3% 가 (p<0.01)(Table 12).
 '가 63.0%, '1 '가 20.7%, '2
 '2 '가 16.3% , ' '가 38.7%, '1 '가 38.1%, '3
 '가 70.2%, '1 '가 16.5%, '2 '가 19.4%, ' '가 3.8%
 '가 13.3% (Table 11). '2 '가 45.2%, '3
 '가 33.0%, '1 '가 20.3%, '
 63.0%, 70.2% '가 14% (Table 13).
 61.5%, 71.1% 3.8%,
 (p<0.01). 1.4% .
 30 40.0%, 3.7%, 15%
 40 33.3%, 50 59.7%, 60 67.8%, 70 85.2% (p<0.01).
 가 가 30 2.0%, 40 0.0%, 50
 (p<0.01). 30 40.8%, 40 57.8%, 50 14%, 60 3.0%, 70 12.0% 가

Table 11. Distribution of the subjects for the frequency of scaling according to sex

Frequency of scaling	Male		Female	
	No.	%	No.	%
None	399	63.0	787	70.2
Once	131	20.7	185	16.5
Twice and over	103	16.3	149	13.3
Total	633	100.0	1,121	100.0

Table 12. Distribution of the subjects for the frequency of non-scaling according to sex and age

Age (years)	Male*			Female		
	No.	No. of cases	%†	No.	No. of cases	%†
30-39	50	20	40.0	142	58	40.8
40-49	69	23	33.3	166	96	57.8
50-59	139	83	59.7	226	151	66.8
60-69	267	181	67.8	389	315	81.0
70-79	108	92	85.2	198	167	84.3
Total	633	399	63.0	1,121	787	70.2
Age-adjusted			61.5			71.1

*p<0.01 by Chi-square between male and female by age-adjusted proportion.

† p<0.01 by Chi-square for trend, comparison among age groups.

가	(p < 0.01).	48.1%	가
30 0.7%, 40 0.0%, 50 0.4%, 60 1.8%, 70			30 64.1%, 40 48.8%, 50
3.5%	가	42.9%, 60	50.6%, 70 57.1%
(p < 0.01)(Table 14).			(Table 15).
4.		63.8%,	70.7%
			64.0%, 70.7%
48.7%,	51.7%		(p < 0.01).
	49.3%,	51.4%	30
			68.0%, 40 63.8%, 50 61.2%, 60 63.3%, 70
		30 66.7%	가
62.0%, 40 55.1%, 50 43.2%, 60 47.6%, 70			30 78.2%, 40 65.7%, 50

Table 13. Distribution of the subjects according to the frequency of brushing each day by sex

Frequency of brushing	Male		Female	
	No.	%	No.	%
None	24	3.8	16	1.4
Once	241	38.1	228	20.3
Twice	245	38.7	507	45.2
Three times and over	123	19.4	370	33.0
Total	633	100.0	1,121	100.0

Table 14. Distribution of the subjects who do non-brushing their teeth each day according to sex and age

Age (years)	Male*			Female		
	No.	No. of cases	%†	No.	No. of cases	%†
30-39	50	1	2.0	142	1	0.7
40-49	69	0	0.0	166	0	0.0
50-59	139	2	1.4	226	1	0.4
60-69	267	8	3.0	389	7	1.8
70-79	108	13	12.0	198	7	3.5
Total	633	24	3.8	1,121	16	1.4
Age-adjusted			3.7			1.5

*p < 0.01 by Chi-square between male and female by age-adjusted proportion.

† p < 0.01 by Chi-square for trend, comparison among age groups.

Table 15. Distribution of the subjects who have never been screened for stomach cancer according to sex and age

Age (years)	Male			Female		
	No.	No. of cases	%	No.	No. of cases	%
30-39	50	31	62.0	142	91	64.1
40-49	69	38	55.1	166	81	48.8
50-59	139	60	43.2	226	97	42.9
60-69	267	127	47.6	389	197	50.6
70-79	108	52	48.1	198	113	57.1
Total	633	308	48.7	1,121	579	51.7
Age-adjusted			49.3			51.4

65.5%, 60 71.5%, 70 74.2% 가 5.
 (Table 16).
 31.4%, 37.9%
 88.5%, 87.7% 30.2%,
 88.9%, 87.5% 38.7% (p <0.01).
 30 30 6.0%, 40 20.3%, 50 30.9%, 60
 94.0%, 40 92.8%, 50 89.9%, 60 84.6%, 70 36.7%, 70 38.0% 가
 90.7% 가 (p <0.01). 30
 30 93.0%, 40 89.8%, 50 12.0%, 40 29.5%, 50 44.2%, 60 44.0%, 70
 82.7%, 60 86.6%, 70 89.9% 가 44.4% 가 가
 (Table 17). (p <0.01)(Table 19).
 69.0%,
 58.1%, 59.4% 74.8%
 58.3%, 59.1% 69.6%, 74.6%
 (p <0.01).
 30 30 86.0%, 40 68.1%, 50
 58.0%, 40 62.3%, 50 59.0%, 60 57.3%, 70 72.7%, 60 65.9%, 70 64.8% 가
 56.5% 가 (p <0.01).
 30 64.1%, 40 63.3%, 50 30 84.5%, 40 72.9%, 50 77.4%, 60
 59.7%, 60 53.2%, 70 64.6% 가 72.2%, 70 71.2% 가
 (Table 18). (p <0.01)(Table 20).

Table 16. Distribution of the subjects who have never been screened for liver cancer according to sex and age

Age (years)	Male *			Female		
	No.	No. of cases	%	No.	No. of cases	%
30-39	50	34	68.0	142	111	78.2
40-49	69	44	63.8	166	109	65.7
50-59	139	85	61.2	226	148	65.5
60-69	267	169	63.3	389	278	71.5
70-79	108	72	66.7	198	147	74.2
Total	633	404	63.8	1,121	793	70.7
Age-adjusted			64.0			70.7

*p < 0.01 by Chi-square between male and female by age-adjusted proportion.

Table 17. Distribution of the subjects who have never been screened for colon cancer according to sex and age

Age (years)	Male			Female		
	No.	No. of cases	%	No.	No. of cases	%
30-39	50	47	94.0	142	132	93.0
40-49	69	64	92.8	166	149	89.8
50-59	139	125	89.9	226	187	82.7
60-69	267	226	84.6	389	337	86.6
70-79	108	98	90.7	198	178	89.9
Total	633	560	88.5	1,121	983	87.7
Age-adjusted			88.9			87.5

Table 18. Distribution of the subjects who have never been had a medical examination according to sex and age

Age (years)	Male			Female		
	No.	No. of cases	%	No.	No. of cases	%
30-39	50	29	58.0	142	91	64.1
40-49	69	43	62.3	166	105	63.3
50-59	139	82	59.0	226	135	59.7
60-69	267	153	57.3	389	207	53.2
70-79	108	61	56.5	198	128	64.6
Total	633	368	58.1	1,121	666	59.4
Age-adjusted			58.3			59.1

Table 19. Distribution of the subjects recognizing that they had bad health themselves according to sex and age

Age (years)	Male*			Female		
	No.	No. of cases	%†	No.	No. of cases	%†
30-39	50	3	6.0	142	17	12.0
40-49	69	14	20.3	166	49	29.5
50-59	139	43	30.9	226	100	44.2
60-69	267	98	36.7	389	171	44.0
70-79	108	41	38.0	198	88	44.4
Total	633	199	31.4	1,121	425	37.9
Age-adjusted			30.2			38.7

*p < 0.01 by Chi-square between male and female by age-adjusted proportion.

† p < 0.01 by Chi-square for trend, comparison among age groups.

Table 20. Distribution of the subjects not concerned for their health according to sex and age

Age (years)	Male*			Female		
	No.	No. of cases	%†	No.	No. of cases	%†
30-39	50	43	86.0	142	120	84.5
40-49	69	47	68.1	166	121	72.9
50-59	139	101	72.7	226	175	77.4
60-69	267	176	65.9	389	281	72.2
70-79	108	70	64.8	198	141	71.2
Total	633	437	69.0	1,121	838	74.8
Age-adjusted			69.6			74.6

*p < 0.01 by Chi-square between male and female by age-adjusted proportion.

† p < 0.01 by Chi-square for trend, comparison among age groups.

가

[6].

가

가

가

가

가

가

가 [7].

[8].

[14].

[15]. 1995

Berrigan [9]

가

73.0%,

6.0%

[14].

56.1%,

6.8%

가

Schoenborn[10]

가

가

가

가

($p < 0.01$).

가

가

가

가

[11].

가

60

1980

10.5%

1990

17.8%

가

[6].

가

60

54.8%

가

가

가

[15].

[12].

가 68.7%

가

[16].

[13].

[17].

가

65.4%, 21.6% , 15.7%, 23.6% .
 가 ,
 (p < 0.01). 1999 ,
 20 64.6% , 82.9%,
 47.6% [17]. 2
 가
 88% [21]. 2000
 1
 65-74 9.33 , 75
 72.6%, 76.6% , 12.47 .
 가 가 [22].
 가 (p < 0.01).
 가 ,
 가 ,
 가 61.5%, 71.1%
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 가 (p < 0.01).
 [18]. 가 25 3.7%, 15% ,
 kg m² 가 가
 23.3%, 28.2% , (p < 0.01). 가
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 19.2%, 24.1% . , ,
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가 [23].

[26].

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64.0%, 88.9%, 58.3% , 49.3%,
70.7%, 87.5%, 59.1% . 51.4%,

가

30

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가

30

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50

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70

30.2%, 38.7% ,
가

가

(p < 0.01).

69.6%,

74.6%

가

(p < 0.01).

가

30

, 80

1,754

가

가

SPSS 10.0 for windows

6.8%

56.1%,

(p < 0.01).

65.4%,

21.6% (p <0.01).
 72.6%,
 76.6% (p <0.01).
 23.3%,
 28.2% (p <0.01).
 B 45.1%,
 53.4% (p <0.01).
 48.0%,
 30.0% (p <0.01).
 40.8%, 28.3% (p <0.01).
 19.2%, 24.1% (p <0.01).
 15.7%, 23.6% (p <0.01).
 61.5%,
 71.1% (p <0.01).
 3.7%, 15% (p <0.01).
 49.3%,
 51.4%
 64.0%, 70.7% (p <0.01).
 88.9%, 87.5%
 58.3%,
 59.1%

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