

Factors Affecting Suicidal Ideation of Depressed Adults by Age

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우울감있는 성인의 나이에 따른 자살생각 영향요인

권명진

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Abstract The purpose of the study was to provide basic data for planning and offering nursing intervention to prevent suicide attempts by identifying the factors influencing the suicidal thoughts of depressed adults. The subjects of this study were 1,202 individuals who answered clearly in 2013 - 2015 National Health and Nutrition Survey. A composite sample plan file was generated using the IBM SPSS 23.0 program, and then the data were weighted and analyzed. Suicidal ideation was influenced by income (50 - 60s), number of family members (50 - 60s), marital status (40 - 50s), subjective health (30 - 50s, over 70s), stress (30s, over 50s), economic activity status (50s), diabetes (60s or older), alcohol consumption (60s), and Body Mass Index (BMI) (40s). These results suggest that tailor-made interventions for the prevention of suicide need to take into account the general and health-related factors of the subjects.

Key Words : Suicidal ideation, Depression, Age, Adult, Factors

요 약 본 연구는 우울감있는 성인의 나이에 따른 자살생각에 영향을 주는 요인을 파악하여 자살시도를 사전에 예방하기 위한 간호중재 시 기초자료를 제공하고자 시도되었다. 본 연구대상자는 보건복지부와 질병관리본부에서 시행한 2013-2015년도 국민건강영양조사 대상자 총 15,568명 중 '2주 이상 연속 우울감 여부' 문항에 '있음'으로 명확하게 응답한 30세 이상 1,202명을 대상으로 하였다. IBM SPSS 23.0 프로그램을 이용하여 복합표본계획파일을 생성한 후 가중치를 부여하여 분석하였으며, 유의수준은 .05로 하였다. 본 연구결과는 다음과 같다. 자살생각에 유의한 영향을 준 요인으로는 소득(50-60대), 가구원수(50-60대), 결혼상태(40-50대), 주관적 건강(30-50대, 70대 이상), 스트레스(30대, 50대 이상), 경제활동상태(50대), 당뇨(60대 이상), 음주량(60대), BMI(40대)로 나타났다. 따라서, 자살예방 계획 및 중재 시 대상자의 일반적·건강관련 요인들을 고려한 맞춤형 중재가 필요하다.

주제어 : 자살생각, 우울감, 나이, 성인, 요인

1. Introduction

In the last decade, 138,505 people committed suicide in Korea, and among them, 13,513 individuals committed suicide in 2015, indicating that an average of 37 individuals took their own lives each day [1,2]. According to the statistics released by the Organization

for Economic Cooperation and Development (OECD), Korea's suicide rate per population of 100,000 was 26.5 individuals in 2015, which is the highest among the member countries. Further, this rate increased by 1.8 individuals (7.5%) per 100,000 population as compared to that from a decade ago. This figure is substantially different from that of Japan, which ranked the second

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highest, with 18.7 individuals [2,3]. As Korea has consistently had the highest suicide rate among the OECD member countries since 2003, there is an urgent need to generate nationwide attention to this issue and to develop measures to prevent suicide [3].

Suicide rate varies depending on age. In 2015, suicide was one of the leading causes of death for adults, with 1,926 suicide-related deaths. Further, it was the second most common cause of death among those in their 40-50s, with 4,126 and 2,795 deaths, respectively, while it ranked the fourth for those in their 60s, with 1,778 suicide-related deaths [3]. The change in the suicide rate also varies depending on age. In 2015, the suicide rate for males in their 70s and females in their 60s increased from that in the previous year as compared to the other age groups [3]. Therefore, it is important to consider the differences in suicide rates by age and to identify the influencing factors in order to implement tailor-made interventions for suicide prevention.

Suicidal ideation occurs prior to suicidal attempts, and the higher the frequency of suicidal ideation is, the higher is the risk of suicide attempts. Therefore, it is necessary to understand the factors leading to suicidal ideation in order to prevent the act of suicide [4,5]. Factors affecting suicidal ideation are very diverse, including personal characteristics, physical and mental health, social supporting system, et cetera, and among them, depression can be considered as the most influential factor [4-6]. Depression is a disease that makes life difficult by affecting not only our body and mind, but also our home, society, and occupational capacity. Depression, which is the cause of 60% of the suicides, is the most general psychological problem observed in those who have suicidal intention, and it is also the most powerful predictor that triggers the impulse to commit suicide. It has been reported that 37.9% of those who have attempted suicide experience depression, and in particular, the suicidal ideation in the elderly with major depression is 42 times stronger than that in those without depression. Further, the suicidal

ideation in the elderly with depression symptoms is 12 times stronger than that in those without depression symptoms [7-9]. However, despite the increasing incidence of depression, the level of using medical services in Korea is very low, at 11.4%. This is because many consider depression as a simple mood swing, rather than a disease [10]. Moreover, it is likely that the suicide rate in Korea will continue to rise steadily because people are reluctant to express their mental problems like depression and to ask for help from others. Therefore, in order to lower the suicide rate, it is necessary to consistently check the suicidal ideation of the subjects who experience depressive symptoms, and to provide appropriate intervention for them.

Other factors influencing the suicidal ideation depending on age include subjective health, economic status, stress [11], et cetera for older adults, and economic status, marital status, obesity, level of daily life activities [12], stress, gender [13], et cetera for middle-aged adults. Further, gender, educational level, economic status, marital status, smoking [14], et cetera are important influencing factors for the elderly. Therefore, it is necessary to develop an efficient suicide prevention program by identifying the factors influencing suicidal ideation by age.

As suicidal ideation is affected by the environment, there can be limitations in generalizing some studies on this topic because they were limited to certain regions [15,16]. However, it is relatively easy to generalize the results of the present study because it utilized a nationwide sample.

The purpose of this study was to provide basic data for planning and offering nursing interventions to prevent suicide attempts by identifying the factors influencing the suicidal thoughts of depressed subjects across the country.

2. Study Method

2.1 Study Design

This study is a secondary analysis of 2013 - 2015 National Health and Nutrition Survey. This descriptive study focused on identifying factors influencing the suicidal ideation of the subjects who had depression and were aged 30 years old or older, with special focus on age-based differences.

2.2 Subject of the Study

This study used the raw data from the “The sixth Korea National Health and Nutrition Examination Survey Year 1 - 3.” The National Health and Nutrition Survey is a nationwide health and nutrition survey that aims to produce representative and reliable statistics at the national and city/provincial level, regarding health status, health behaviors, and food and nutrition intake status. The intention is to utilize such statistics as the basic data for public health policies, such as establishing the objectives of the national plan for public health promotion and assessment thereof, developing public health promotion program, et cetera. The 2013 - 2015 National Health and Nutrition Survey was conducted by the Ministry of Public Health and Welfare and the Disease Control Center, on 15,568 individuals. The present study utilized data related to the 1,202 adults who clearly responded “yes” to the question on “whether there is a consistent feeling of depression since 2 weeks or longer.”

2.3 Data Analysis Method

This study extracted adult respondents who confirmed having experienced depression for 2 consecutive weeks from the raw data of the Year 1 - 3 of the 6th National Health and Nutrition Survey, which were collected using stratified cluster systematic sampling. These data were used to identify the factors influencing suicidal ideation. A composite sample plan file was created by using the IBM SPSS 23.0 program, and the data were then weighted and analyzed. The significance level was set at .05.

General characteristics and level of physical/psychological factors of the subjects with depression

were analyzed using frequency and percentage. Frequency was computed using actual measurements, while percentage was computed using the weighted values.

As for the factors influencing suicidal ideation of the subjects with depression, the composite sample logistic analysis was used.

3. Study Results

3.1 Comparison of General Characteristics

Table 1 shows females comprised the larger proportion of participants in every age group, at 62.2 - 74.1%. As for economic status, the “middle-high” group was the largest, with 55 individuals (39.1%), in those in their 30s, while the “low” group was the largest, with 177 individuals (65.5%), in those who were in their 70s or older. As for educational level, “university graduate or higher” was the largest group, with 85 individuals (51.6%) among those in their 30s, “high school graduate” was the largest group in those in their 40s - 60s, and “elementary school graduate or under” was the largest group, with 208 individuals (82.3%), in those in their 70s or older. As for the number of family members, 4 or more individuals was the largest group in those in their 30s - 40s, while 2 - 3 individuals was the largest group in those in their 50s or older. Regarding marital status, “living with spouse” made up the largest portion of the participants in their 30s - 60s, while “others” was the largest group in those in their 70s or older, with 148 individuals (57.2%). For subjective health status, “normal” was the largest group in those in their 30s - 60s, while “poor” was the largest group in those in their 70s or older, with 138 individuals (52.4%). Those engaged in economic activities comprised the largest proportion of participants in their 30s - 50s, while those who were not engaged in economic activities comprised the largest proportion in those in their 60s. As for the subjective perception of body shape, “normal” is the most common response across all age groups. Stress

Table 1. Comparison of General Characteristics

Characteristics		30-39(162) n(weight %)	40-49(178) n(weight %)	50-59(296) n(weight %)	60-69(294) n(weight %)	≥70(272) n(weight %)	t/F(p)
Gender	Male	38(28.5)	55(37.8)	79(34.5)	99(34.1)	75(25.9)	9.31 ($<.001$)
	Female	124(71.5)	123(62.2)	217(65.5)	195(68.6)	197(74.1)	
Economic level	Low	27(13.2)	38(23.7)	71(27.9)	112(35.4)	177(65.5)	42.08 ($<.001$)
	Middle-low	42(25.5)	48(25.6)	81(27.3)	92(31.3)	59(20.9)	
	Middle-high	55(39.1)	45(25.2)	69(21.0)	61(21.1)	21(8.9)	
	High	37(22.3)	46(25.5)	74(23.8)	28(12.2)	11(4.7)	
Education	≤Elementary school	1(0.5)	15(9.8)	94(31.9)	151(55.0)	208(82.3)	448.03 ($<.001$)
	Middle school	5(2.4)	24(14.6)	60(23.3)	48(17.0)	19(7.6)	
	High school	59(42.1)	89(51.9)	90(31.1)	58(21.0)	23(7.6)	
	≥College	85(55.0)	45(23.6)	38(13.7)	21(7.0)	4(2.6)	
Number of family members	1	9(5.5)	10(6.4)	45(13.8)	67(18.6)	100(34.7)	43.72 ($<.001$)
	2-3	73(42.9)	80(46.7)	174(58.6)	183(63.3)	143(53.4)	
	≥4	80(51.6)	88(46.9)	77(27.6)	44(18.0)	29(11.9)	
Marital status	With spouse	107(66.5)	135(73.1)	218(73.6)	195(66.8)	124(42.8)	13.71 ($<.001$)
	Others	55(33.5)	43(26.9)	78(26.4)	99(33.2)	148(57.2)	
Subjective health status	Good	29(19.5)	27(14.5)	45(12.5)	33(11.9)	23(8.3)	9.68 ($<.001$)
	Moderate	76(51.9)	101(57.2)	136(52.0)	123(45.4)	93(39.4)	
	Bad	46(28.6)	45(28.3)	102(35.4)	126(42.6)	138(52.4)	
Economic activity status	Yes	86(57.3)	115(66.4)	162(57.4)	114(40.7)	48(18.8)	23.96 ($<.001$)
	No	64(42.7)	58(33.6)	120(42.6)	166(59.3)	206(81.2)	
Subjective perception of body shape	Thin	6(4.8)	5(2.6)	9(2.5)	15(6.4)	7(3.4)	1.93 (.107)
	Normal	99(63.2)	107(60.7)	172(60.5)	159(55.4)	129(51.1)	
	Obese	45(32.1)	60(36.7)	101(37.0)	106(38.1)	106(45.5)	
Stress	High	104(65.5)	108(59.1)	167(57.8)	155(53.4)	146(56.8)	1.67 (.158)
	Low	58(34.5)	70(40.9)	129(42.2)	139(46.6)	126(43.2)	
Suicidal attempt	Yes	10(5.0)	6(3.8)	10(3.4)	17(5.9)	8(3.4)	0.50 (.733)
	No	152(95.0)	172(96.2)	286(96.6)	277(94.1)	263(96.6)	
Frequency of consumption of breakfast/week	5-7	52(33.1)	89(55.7)	184(69.5)	226(83.6)	225(88.2)	35.95 ($<.001$)
	3-4	28(19.8)	26(18.3)	20(6.9)	17(6.5)	13(4.5)	
	≤2	64(47.1)	50(25.9)	50(23.6)	259(10.0)	16(7.4)	

was recognized as high in all age groups, and suicidal ideation was the highest in those in their 60s, with 17 individuals (5.9%), while it was the lowest in those in their 50s and 70s or older. With regard to the frequency of having breakfast per week, doing so “5 - 7 times” increased with age, making up the largest portion in those in their 70s or older, with 225 individuals (88.2%).

As for the differences in general characteristics depending on age, a significant difference was indicated in gender, economic status, educational status, number of family members, marital status, subjective health status, economic activities, and frequency of having breakfast per week ($p < .05$).

3.2 Comparison of Health-related Characteristics

Table 2 shows regarding high blood pressure, more

individuals in their 70s or older answered “yes,” with 152 individuals (59.8%), while more individuals answered “no” for diabetes in all the age groups. However, in both diseases, the incidence of “yes” responses increased with age. With regard to the intention to control weight, “efforts to lose weight” was chosen by more respondents in their 30s - 60s, but “no efforts made” was the most common answer in those in their 70s or older, with 149 individuals (57.2%). As for the experience of drinking, “yes” was the most common answer in all the age groups, and the frequency of “4 or more times/month” made up the majority.

Regarding the alcohol consumption amount per occasion, 3 - 6 glasses comprised the largest group in those in their 30s - 50s, while 2 or less glasses was the most frequent answer in those in their 60s or older.

Table 2. Comparison of Health-related Characteristics

Characteristics		30-39(162) n(weight %)	40-49(178) n(weight %)	50-59(296) n(weight %)	60-69(294) n(weight %)	≥70(272) n(weight %)	t/F(p)
Hypertension	Yes	4(2.7)	55(12.7)	60(21.2)	134(47.2)	152(59.8)	54.17 ($<.001$)
	No	148(97.3)	151(87.3)	224(78.8)	150(52.8)	103(40.2)	
Diabetes Mellitus	Yes	4(2.7)	10(5.8)	23(8.1)	61(21.7)	67(26.4)	15.26 ($<.001$)
	No	148(97.3)	163(94.2)	261(91.9)	222(78.0)	188(73.6)	
Weight control	Loss	88(53.7)	91(47.7)	149(49.8)	115(38.9)	62(22.4)	16.70 ($<.001$)
	Maintenance	20(9.8)	29(19.0)	59(19.8)	58(20.0)	42(13.9)	
	Gain	15(8.8)	11(6.10)	17(5.8)	29(8.7)	19(6.5)	
	None	39(27.7)	47(27.3)	71(24.5)	92(32.4)	149(57.2)	
Experience of alcohol drinking	Yes	155(95.8)	164(91.8)	256(88.6)	227(76.8)	179(63.3)	28.42 ($<.001$)
	No	7(4.2)	14(8.2)	40(11.4)	67(23.2)	93(36.7)	
Frequency of alcohol drinking	≤4/month	96(74.2)	116(77.0)	190(79.1)	188(75.0)	166(77.7)	0.49 (.743)
	2-3/week	12(8.9)	21(16.6)	32(13.7)	44(17.8)	29(14.2)	
	≥4/week	19(16.9)	10(6.5)	20(7.2)	21(7.2)	17(8.1)	
Alcohol consumption amount/glass	≤2	37(25.2)	46(31.0)	81(35.8)	86(55.0)	56(61.4)	17.45 ($<.001$)
	3-6	58(46.9)	52(37.8)	78(40.7)	52(30.8)	31(37.2)	
	≥7	36(27.9)	41(31.2)	44(23.6)	19(14.2)	2(1.4)	
Sleeping time	≤6	69(42.4)	82(47.9)	161(54.2)	167(53.6)	158(61.4)	1.77 (.137)
	7-8	73(46.2)	85(44.4)	115(39.5)	103(37.2)	81(26.9)	
	≥9	20(11.4)	11(7.8)	20(6.3)	24(9.1)	33(11.7)	
Smoking	Yes	36(59.1)	53(75.7)	53(56.4)	46(46.6)	24(23.5)	16.86 ($<.001$)
	No	24(40.9)	24(24.3)	42(43.6)	58(53.4)	64(76.5)	
Number of walking day/week	0	29(21.3)	34(21.7)	63(24.2)	63(22.2)	74(27.1)	1.95 (.104)
	1-4	65(39.3)	71(40.5)	131(48.4)	115(37.6)	89(37.9)	
	≥5	56(39.5)	68(37.7)	88(27.4)	102(40.1)	90(35.0)	
Walking duration/min	≤30	113(68.1)	125(69.6)	201(64.9)	188(64.2)	160(61.2)	0.83 (.506)
	≥31	49(31.9)	53(30.4)	95(35.1)	106(35.8)	112(38.8)	
Body Mass Index(BMI)	<18.5	16(9.7)	6(3.0)	4(0.9)	6(1.6)	12(4.6)	4.34 (.002)
	18.5-24.9	99(63.1)	103(58.4)	174(59.2)	160(55.5)	146(53.6)	
	≥25	47(27.2)	69(38.5)	118(39.9)	126(42.9)	114(41.8)	

Majority of the respondents in their 30s reported that they slept for 7 - 8 hours, with 73 individuals (46.2%), while those in the other age groups reported sleeping for 6 hours or less. More individuals in their 30s - 50s reported that they smoked, while more respondents in their 60s or older reported that they did not do so. For the frequency of walking per week, 5 or more days was the most common response in those in their 30s and 60s, while 1 - 4 days was the most common response in their 70s or older. Further, majority of the respondents across all age groups walked for 30 minutes or less on each occasion. As for BMI, the "18.5 - 24.9 kg/m²" comprised the largest group across all ages, but the proportion of those with BMI 25kg/m² or more increased with age.

Among the health-related characteristics, high blood pressure, diabetes, intention to control weight, drinking, alcohol consumption amount, smoking, and BMI

exhibited significant age-based differences ($p < .05$).

3.3 Factors Influencing Suicidal Ideation

As Table 3 shows among general characteristics, income in the 50s - 60s group was revealed as a significant factor influencing suicidal ideation. With reference to the "high" income level group, suicidal ideation increased by 2.599 times in the "middle-high" group, while it increased by 2.543 times in the "middle-low" group in those in their 50s. In the respondents in their 60s, suicidal ideation increased by 2.164 times in the "low" income level group, while it increased by 1.299 times in the "middle-high" group.

The number of family members was also indicated as a significant influential factor of suicidal ideation in participants in their 50s - 60s. Based on the standard of 4 or more individuals, in those in their 50s, suicidal ideation increased by 1.793 when they lived alone, while

Table 3. Factors Influencing Suicidal Ideation

Characteristics		30-39(162)			40-49(178)			50-59(296)			60-69(294)			≥70(272)		
		OR	95% CI	p	OR	95% CI	p	OR	95% CI	p	OR	95% CI	p	OR	95% CI	p
Economic level	Low	1.249	0.37-4.16	.705	3.009	0.76-11.77	.120	2.268	1.94-20.19	.006	2.164	0.85-5.49	<.001	1.291	0.41-3.98	.605
	Middle-low	0.676	0.24-1.90		2.480	0.68-9.02		2.543	0.72-8.96		0.534	0.21-1.32		1.589	0.55-4.58	
	Middle-high	1.168	0.32-4.14		1.256	0.23-6.80		2.599	0.73-9.21		1.299	0.53-3.16		1.774	0.64-4.86	
	High	1.0			1.0			1.0			1.0			1.0		
Number of family members	1	0.982	0.15-6.14	.593	1.010	0.29-3.51	.194	1.793	0.77-4.13	.016	3.83	1.34-10.94	.001	0.594	0.19-1.77	.363
	2-3	1.490	0.68-3.24		2.196	0.92-5.26		0.649	0.28-1.46		0.96	0.45-2.05		0.542	0.22-1.29	
	≥4	1.0			1.0			1.0			1.0			1.0		
Marital status	With spouse	0.927	0.46-1.86	.832	0.374	0.18-0.77	.008	0.377	0.18-0.78	.009	0.641	0.33-1.21	.172	1.028	0.58-1.81	.922
	Others	1.0			1.0			1.0			1.0			1.0		
Subjective health status	Good	0.227	0.06-0.83	.006	0.262	0.07-0.86	.031	0.304	0.13-0.68	.002	0.402	0.14-1.12	.108	1.657	0.61-4.05	.004
	Moderate	0.295	0.13-0.66		0.372	0.16-0.83		0.412	0.23-0.72		0.571	0.32-1.05		0.322	0.15-0.67	
	Bad	1.0			1.0			1.0			1.0			1.0		
Stress	High	5.251	1.82-15.13	.002	2.136	0.88-5.13	.089	2.719	1.39-5.30	.004	2.746	1.52-4.95	.001	3.073	1.69-5.56	<.001
	Low	1.0			1.0			1.0			1.0			1.0		
Economic activity status	Yes	0.864	0.35-2.11	.748	1.097	0.48-2.47	.822	0.543	0.32-0.91	.021	0.509	0.25-1.01	.053	0.926	0.44-1.09	.834
	No	1.0			1.0			1.0			1.0			1.0		
Diabetes Mellitus	Yes	0.231	0.02-2.37	.213	0.537	0.14-2.04	.356	0.933	0.35-2.42	.885	0.165	0.07-0.35	<.001	0.469	0.27-0.79	.005
	No	1.0			1.0			1.0			1.0			1.0		
Alcohol consumption amount/glass	≤2	1.524	0.49-4.69	.445	0.640	0.27-1.48	.491	1.106	0.50-2.44	.935	2.003	0.60-6.59	.047	0.503	0.02-9.51	.723
	3-6	0.830	0.27-2.50		0.640	0.25-1.59		0.956	0.46-1.96		3.553	1.09-11.48		0.407	0.02-6.92	
	≥7	1.0			1.0			1.0			1.0			1.0		
BMI	<18.5	1.003	0.27-3.65	.849	0.530	0.05-5.31	.039	1.860	0.23-14.82	.597	.320	0.06-1.58	.368	0.421	0.07-2.27	.271
	18.5-24.9	0.778	0.31-1.92		0.471	0.26-0.83		0.842	0.50-1.41		.896	0.47-1.68		0.618	0.33-1.14	
	≥25	1.0			1.0			1.0			1.0			1.0		

it decreased by 0.649 times when 2 - 3 individuals lived together. In participants in their 60s, it increased by 3.832 times when they lived alone, while it decreased by 0.961 times when 2 - 3 individuals lived together.

Marital status was revealed as a significant influential factor of suicidal ideation in those in their 40s - 50s. In participants who lived with his/her spouse, suicidal ideation decreased by 0.374 times in those in their 40s, and by 0.377 times in those in their 50s, compared to those who do not live with their spouse.

Subjective health status had a significant influence on suicidal ideation in all age groups, except for those in their 60s. With reference to those with "poor" health status, suicidal ideation mostly decreased in those with "good" and "mediocre" health status.

Stress was also revealed as a significant influencing factor in suicidal ideation in all age groups, except for those in their 40s. Suicidal ideation increased in all cases when the subject felt very stressed as compared to those who experienced little stress. In particular, it increased by 5.251 times in those in their 30s and by

3.073 times in those in their 70s or older.

Being engaged in economic activities also influenced suicidal ideation in participants in their 50s. In this group, suicidal ideation decreased by 0.543 times when participants engaged in economic activities as compared to those who were not.

Among health-related characteristics, diabetes had a significant influence on suicidal ideation in participants in their 60s or older. As compared to those with diabetes, suicidal ideation decreased by 0.615 times in those in their 60s and by 0.469 times in those in their 70s when they did not have diabetes.

As for alcohol consumption amount, compared to those who consumed 7 or more glasses among the participants in their 60s, suicidal ideation increased by 2.003 times in those who consumed 2 or less glasses and by 3.553 times in those who consumed 3 - 6 glasses.

For participants in their 40s, it was observed that, compared to those with BMI 25 kg/m² or higher, suicidal ideation decreased by 0.530 times in the less

than 18.5kg/m² group ,and by 0.842 times in the 18.5 - 25kg/m².

4. Discussion

This study was conducted to provide basic data for nursing interventions to prevent suicide attempts by identifying factors influencing suicidal ideation in subjects who have consistent feeling of depression since 2 weeks or longer based on age.

According to the results of this study, suicidal ideation was significantly influenced by income in those in their 50s - 60s, and it was 1.299 - 2.599 times higher in the "middle-high" - "low" income group as compared to those in the "high" income group. However, it was 0.534 times lower in the "middle-low" income group in participants in their 60s. According to the findings of a study by Lee and Heo, [12], which was conducted on middle-aged people, suicidal ideation was 1.972 times higher in those with a low income as compared to those with a mediocre income. This is in line with the present findings. Economic difficulty has the strongest influence on suicide, and the problems in relationships with others can ultimately lead to suicidal ideation [17,18]. In the present study, it is believed that those in their 50s - 60s, who are about to retire from work, showed more significant negative responses to income as compared to other age groups. However, it is needed to verify the fact again by further research that it was shown as low in "middle low" group of those in 60s.

The present study also revealed that the number of family members had a significant influence on participants in their 50s - 60s. Compared to 4 or more family members, suicidal ideation was 1.793 - 3.832 times higher in those living alone, and it was 0.649 - 0.963 times lower in those living with 2 - 3 family members. The risk of suicide is higher for the elderly living alone than it is for those living with family, and this trend is stronger for the elderly who are geographically, socially, and emotionally isolated [19].

According to the results of a study by Kim [20] on suicidal ideation in the elderly living alone, the risk of suicidal ideation was 4.27 times higher in the elderly living alone than it was in those living with their family [20]. In the elderly living alone, it is believed that, unlike the younger and middle-aged group, their low income level, poor health habits such as diet and sleeping, and poor environment [20] increased suicidal ideation. It is also believed that suicidal ideation is low when the family structure centered on the married couple in their 50s - 60s, whose children left the family, as they value family life and thereby feel emotionally stable as compared to families with 4 or more family members who may experience conflicts with their children.

According to the present findings, in participants in their 50s who lived with their spouse, suicidal ideation decreased by 0.377 times as compared to those who did not live with their spouse. Generally, married couples in their 50s set their life goals and values for the latter part of their life together and reestablish the companionship and mutually protective relationship. Thus, their suicidal ideation is low as they are satisfied with their marriage. But if they are not satisfied with the same, suicidal ideation can increase due to the sense of crisis [21]. Without a spouse, it is difficult to maintain emotional stability as they have nobody to emotionally depend on. Thus, such individuals require social support.

The present findings revealed that in those in their 30s - 50s, suicidal ideation was 0.227 - 0.412 times lower in the participants with good and mediocre perceived health as compared to those in the poor subjective perception of health category. Park and Kim [11] conducted a study on the younger and middle-aged age groups, and revealed that the

good and mediocre health groups exhibited a low possibility of committing suicide, at .297 and .982, respectively, as compared to the participants with good subjective perception of health. This result is consistent with those of the present study with reference to the

good and mediocre health groups, but it is contrary to the finding on the relationship between the good and poor health groups. However, according to the results reported by Han [22], subjective health is the most influential factor in suicidal ideation, and suicidal ideation increased with decrease in perceived subjective health. Such findings can be attributed to the possible increase in self-esteem and decreasing depression with an increase in perceived subjective health, which in turn would lower suicidal ideation.

Suicidal ideation was found to increase by 2.136 - 5.251 times when people feel highly stressed as compared to when they feel little stressed in most age groups in the present study. Similarly, Lee's study [23] on suicidal ideation in a sample comprising the youth to the elderly revealed that stress had a significant influence on suicidal ideation across all ages, and suicidal ideation increased by 2.21 - 4.71 times when high stress was experienced, as compared to when little stress was experienced by the participants. The youth and the younger age group tend to experience stress owing to their work and economic problems, while middle-aged people may experience stress related to their work and relationships with others. Further, the elderly may be stressed owing to issues related to their deteriorating health condition. Therefore, it seems that intervention for suicide prevention needs to consider a variety of influential factors as per the age of the target group.

This study showed that in the participants in their 50s, suicidal ideation decreased by 0.543 times when they had a job as compared to those without a job. According to the results of a study by Park and Lee [13] on suicidal ideation in the middle-aged, job security and employment status are the significant influential factors of suicidal ideation, and it was revealed that the higher the job security is, the lower is the suicidal ideation. In their 50s, people not only expect their retirement from a job, but they also continue to shoulder the responsibility of supporting their elderly parents and children. Therefore, it is

believed that when they have a job they experience emotional and economic stability, which in turn may lower their suicidal ideation.

In the present study, the suicidal ideation of those without diabetes decreased by 0.165 - 0.469 times as compared to those with diabetes in their 60s - 70s. Diabetes is one of the common geriatric diseases, and its incidence increases with age. Further, the disease makes everyday life difficult owing to diverse complications and deteriorating body functions, thereby causing stress, and consequently, increasing suicidal ideation [24].

According to the results of Nam, Choi, and Lee[25], 17.0% of the diabetes patients reported having experienced suicidal ideation or suicide attempts in the last one year, which higher than the 4.5% observed in cancer patients and 8.4% observed in stroke patients. Additionally, depression acted as an intermediary. Therefore, emotional support should be provided along with the efforts to prevent complications by controlling the blood sugar of diabetes patients.

According to the results of the present study, in participants in their 60s, suicidal ideation was 2 times higher for those who consumed 2 or less glasses of alcohol on each occasion, and 3.553 times higher for those who consumed 3 - 6 glasses, as compared to those who consumed 7 or more glasses per occasion. On the contrary, Kim's study [26] on suicidal ideation and alcohol drinking in the elderly revealed that suicidal ideation increased with an increase in alcohol consumption. Drinking for a long period can trigger negative emotions, and the depression caused by drinking leads to the cognitive distortion that alcohol drinking relieves suicidal ideation in the elderly who are depressed. However, in fact, this can act as a more dangerous factor to suicidal ideation [26,27]. Moreover, although it was not a significant result for the other age groups, the possibility of suicidal ideation being affected by the alcohol consumption amount shows a different trend as compared to the findings revealed in the present study. Therefore, this aspect needs to be

studied further in future research. Additionally, intervention on drinking control seems to be necessary for lowering lower suicidal ideation in people in their 60s.

In this study, the suicidal ideation of those in their 40s was lower when their BMI was less than 25 kg/m² as compared to those with a BMI of 25kg/m² or more. Hong [28] reported that people are more likely to perceive themselves as obese if their BMI is high, and therefore, they showed a higher tendency to attempt to lose weight, which in turn led to higher suicidal ideation and higher suicide risk. Indeed, self-control issues are often observed among those who are obese [28].

5. Conclusion

Nursing research and practice exists for the “wellness” of those who are cared for. The collapse of wellness to the extent of the quality of life deteriorates continuously and the sense of crisis leads to suicidal ideation, which may be one of the biggest sufferings in one’s life. In this study, factors influencing suicidal ideation differed across the age groups. It can therefore be concluded that the different personal and physical characteristics of each generation affected their mental health and suicidal ideation. Nursing includes the artistic element of respecting individual characteristics and responding thereto. It is impossible to apply a uniform intervention to all subjects with suicidal ideation. Nursing for suicide prevention should therefore be provided by considering the general and health-related characteristics of the subjects. In other words, provision of tailored mediation according to age will be more effective in preventing suicide. Therefore, this study was conducted to contribute to such nursing intervention, and it is believed that the result of this study will be helpful to nursing intervention.

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