

**ORIGINAL****Relationship between Older persons with cancer' Coping Attitudes and Mental Adjustment**

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**Abstract :** Objective Purpose is to examine the relationship between older persons with cancer coping attitudes and patterns of mental adjustment during treatment. Methods : Coping attitudes and patterns of mental adjustment were measured using an original questionnaire and the Mental Adjustment Cancer Scale (MAC) in 193 patients with cancer aged 65 or over under treatment with surgical therapy, chemotherapy, or radiotherapy. Results : The mean scores for “Do my best to cope with cancer”, “Make my own decisions on treatment” in coping attitudes showed a significant positive correlation with [fighting spirit] scores in MAC, and “Cancer is just a part of my life”, “At my age, no complaint about cancer development”, “Face cancer in an easy-going manner”, “Do my best to cope with cancer” “Be anxious about my future” were significantly correlated with [fatalism] scores. Conclusions : In conclusion, [fighting spirit] [fatalism] were shown to form the basis for elderly's mental adjustment. [Fatalism] was shown to be a main component of mental adjustment for elderly to develop affirmative coping skills based on their life experiences. In addition, [fighting spirit] was also essential to fulfill their lives, and it may be necessary to support them to keep [fighting spirit] to the end of their lives. *J. Med. Invest.* 67:44-50, February, 2020

**Keywords :** *Older persons with cancer, Coping attitudes, Mental Adjustment Cancer Scale*

**INTRODUCTION**

Given that the number of older individuals with cancer who are receiving treatment is steadily increasing, it is necessary to consider appropriate nursing intervention for these patients. Therefore, on the basis of appropriate nursing support for older individuals with cancer who are receiving treatment, this study examined the relationship between their coping attitudes and mental adjustment patterns by focusing on age-specific characteristics.

In Japan's super-aging society (1), the increasing prevalence of cancer has significantly increased the number of older individuals who are receiving treatment for the disease (2). These patients have been reported to cope with cancer by using the skills and wisdom that they have acquired from their long life histories even while suffering from double distress due to disease and aging (3). This suggests that their coping attitudes and mental adjustment patterns are specific to their age.

Dirksen (4) noted that the affirmation of cancer-related experiences promotes appropriate adaptation to the disease and that attitudes toward the disease influence the pattern of ultimate mental adjustment. An examination of the relationship between older individuals with cancer coping attitudes and mental adjustment patterns may be useful in clarifying their adaptive states because this process visualizes their process of receiving care, through which they accept the disease and adapt to it, and provides important information for the establishment of care systems that promote mental adjustment. For older individuals who are at the last stage of their life cycle, this may also influence

their life integration (5).

Some previous studies examined the associations among mental adjustment patterns, somatic symptom recognition, physical conditions, and self-efficacy in older individuals with cancer and reported that physical conditions and somatic symptom recognition were closely associated with despair as a stage of mental adjustment to the disease, thus indicating that care for somatic symptoms may decrease the patient's sense of despair (6). However, these studies did not examine coping attitudes or mental adjustment patterns that are specific to older individuals. In fact, few studies have addressed these issues on the basis of the characteristics of older individuals.

**PATIENTS AND METHODS***Patients*

Patients aged  $\geq 65$  years with cancer who are under observation or are in the outpatient treatment at the time of the study, those who have been notified of the disease, and those who have received surgical therapy, chemotherapy, or radiotherapy were studied. The exclusion criteria were as follows : marked physical/psychological distress due to the treatment or progression of the pathological condition, hearing or cognitive impairment, communication difficulties due to depressive states, and end-stage cancer.

*Study items and procedures**Study items**Coping attitudes*

Coping attitudes refer to the affirmative acceptance of cancer. On the basis of the results of previous studies (3), 4 core categories, 10 categories, and 36 subcategories were established, and 1 statement was extracted from each category (i.e., a total of 10 statements) to develop a questionnaire that evenly covers all categories. The questionnaire was developed via the collaboration

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of three researchers, including the author, by using a four-point Likert scale from “strongly disagree : 1” to “strongly agree : 4” in response to each statement. Higher scores indicated more positive attitudes toward the statements.

#### *Mental adjustment patterns*

Mental adjustment patterns indicate the scale for measuring the adaptation status derived psychologically from cancer patients. The patient’s mental adjustment patterns to the disease were measured using a Japanese version of the Mental Adjustment Cancer (MAC) scale (7). The scale was developed by Watson *et al.* (8) to conveniently evaluate the psychological responses of cancer patients to the disease. The Japanese version created by Akechi *et al.* (7) has sufficient reliability and validity and has a Cronbach’s alpha of 0.66-0.78. In the present study, the value ranged from 0.64 to 0.82, thus confirming sufficient reliability. Considering that the number of questions is limited to 40, we regarded MAC as appropriate for older individuals to respond with reduced burden. It consists of five subscales : fighting spirit, which is represented by 16 statements (score range : 16-64) ; helplessness/hopelessness, which is represented by 6 (score range : 6-24) ; anxious preoccupation, which is represented by 9 (score range : 9-36) ; fatalism, which is represented by 8 (score range : 8-32) ; and avoidance, which is represented by 1 (score range : 1-4). There are four possible responses to each statement from “definitely does not apply to me : 1” to “definitely applies to me : 4.” The mean score for each subscale is calculated, and a higher mean subscale score indicates a more favorable status in terms of mental adjustment.

#### *Data collection*

Candidate patients were selected after confirming their conditions with their attending physicians and chief outpatient nurses. They were provided with written and oral explanations of the study contents by using an informed consent form, and those who consented to cooperate with the study underwent an anonymous self-administered questionnaire survey in a private room ; in cases of impaired vision or when there is difficulty in responding independently, the questionnaire was completed by one of the researchers (each respondent orally responded to each statement read aloud by the researcher).

#### *Analysis*

In the analysis, the descriptive statistics for variables were calculated using the statistical analysis software SPSS Statistics 20, correlation coefficient, Mann–Whitney U test, and chi-square test.

#### *Ethical considerations*

The study was approved by the Clinical Research Ethics Committee of a University Hospital (Ethical Application No. 425). Considering that the subjects were older individuals with cancer who are receiving treatment, the study was conducted while confirming their conditions with their attending physicians and chief outpatient nurses to avoid placing excessive physical and psychological burdens on them. To obtain their consent, the subjects were provided with written and oral explanations about the following items : study objective, appropriate measures to maintain anonymity, participants’ right to withdraw from the study at any time, absence of disadvantageous treatment for those who have withdrawn consent, limited use of questionnaire results to research purposes, appropriate data processing to protect personal information, possible disclosure of the results, and strict anonymity maintenance when disclosing the results.

## RESULTS

### *Description of participants*

Among the 230 patients who were asked to participate in the questionnaire survey, 193 patients (83.9%) responded. The main reasons for the refusal to cooperate were “an unfavorable physical condition” and “temporal restrictions.” The type of cancer was urological malignancies. The number of men was slightly higher than that of women : 109 men (56.5%) and 84 women (43.5%). The largest age group was those aged  $\geq 75$  years (117 [60.6%] members), and the mean age was 75.6 years. The time after diagnosis (notification) ranged from 1 to 13 years, with a mean of 3.9 years. The Performance Status Grade was “1” in all cases.

### *Coping attitudes*

The majority of older individuals with cancer who are receiving treatment ( $> 60\%$ ) responded “strongly agree” or “agree” to all statements, except the item “The symptoms of the disease and treatment are unbearable” (Figure 1).

### *Mental adjustment patterns*

The mean  $\pm$  standard deviation in the MAC score for each subscale was as follows : fighting spirit,  $43.6 \pm 8.55$  ; helplessness/hopelessness,  $7.1 \pm 2.13$  ; anxious preoccupation,  $19.3 \pm 5.44$  ; fatalism,  $23.5 \pm 3.84$  ; and avoidance,  $1.00 \pm 0.00$ . In examining the correlations among the subscales, there was a moderate negative correlation between fatalism and helplessness/hopelessness ( $r = -.448, p < .01$ ) (Table 1).

Table 1. Correlations among the MAC Subscales (N=193)

	Fighting Spirit	Helplessness / Hopelessness	Anxious Preoccupation	Fatalism
Fighting Spirit	1			
Helplessness / Hopelessness	-.207	1		
Anxious Preoccupation	.112	-.047	1	
Fatalism	.070	-.448*	.147	1

Note. This table shows correlations between 4 MAC Subscales on mental adjustment.

Star mark [\*] indicates there was a correlation with statistical significance.

Negative correlation is described by minus sign.

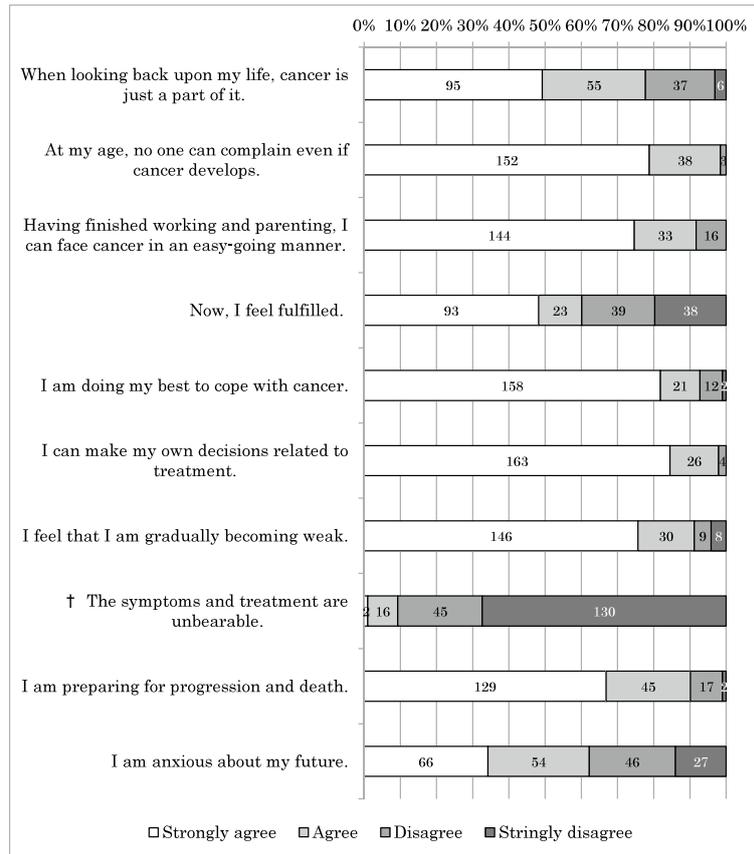
\* $p < .01$

### *Association between coping attitudes and mental adjustment patterns*

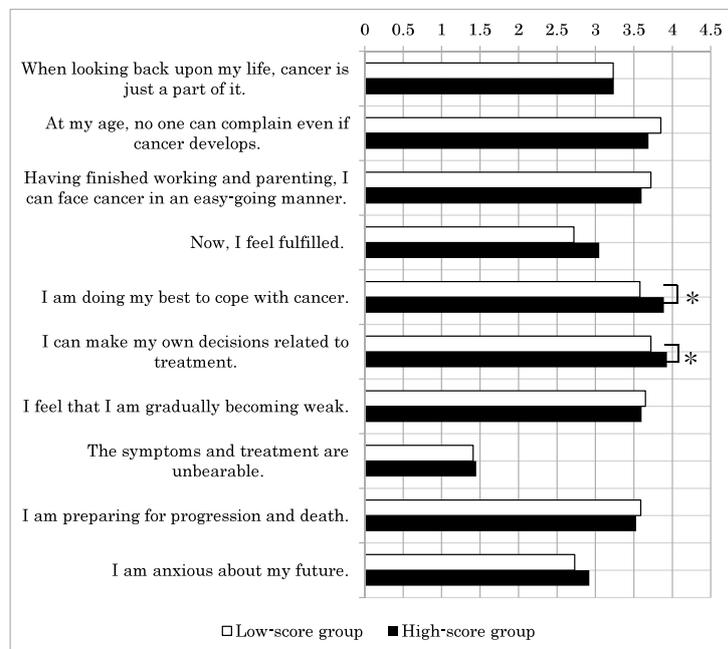
By using the median for each MAC subscale as a cutoff, the patients were divided into high and low MAC score groups to compare the scores related to their mean coping attitudes. Among the MAC subscales, avoidance was excluded because all subjects selected the same answers to the statements representing it.

#### *Fighting spirit*

The median for fighting spirit was 45. Figure 2 shows that there were 98 ( $\leq 45$ ) and 95 ( $\geq 46$ ) group members in the low and high MAC score groups, respectively. The mean scores for the items “I am doing my best to cope with cancer” and “I can make my own decisions related to treatment” in the low MAC score group is significantly higher than that in the high MAC score group ( $p < 0.01$ ).



**Figure 1.** Elderly Cancer Patient's Attitudes during Treatment (N=193)  
 This Figure shows the proportion of 193 patients' attitudes toward 10 statements. Each figures described in the bar indicate the number of them.  
 This mark (†) is a reversal item.



**Figure 2.** Comparison of Mean Coping Attitude-related Scores between High-and Low-[Fighting Spirit]-Score Groups (N=193)  
 This Figure shows the difference between low- and high-MAC-score groups  
 N=193 Low-score group n=98, High-score group n=95  
 \*: significantly difference  
 Mann-Whitney U test  
 \*p < .01

*Helplessness/hopelessness*

The median for helplessness/hopelessness was six. Figure 3 shows that there were 127 ( $\leq 6$ ) and 66 ( $\geq 7$ ) group members in the low and high MAC score groups, respectively. The mean scores for the items “When looking back upon my life, cancer is just a part of it,” “At my age, no one can complain even if cancer develops,” “Having finished working and parenting, I can face cancer in an easy-going manner,” “I am doing my best to cope with cancer,” and “I am anxious about my future” in the low

MAC score group were significantly higher than those in the high MAC score group ( $p < 0.01$ ) (Figure 4).

*Anxious preoccupation*

The median for anxious preoccupation was 18. Figure 5 shows that there were 98 ( $\leq 18$ ) and 95 high ( $\geq 19$ ) group members in the low and high MAC score groups, respectively. There were no significant differences in the mean coping attitude-related score among the groups.

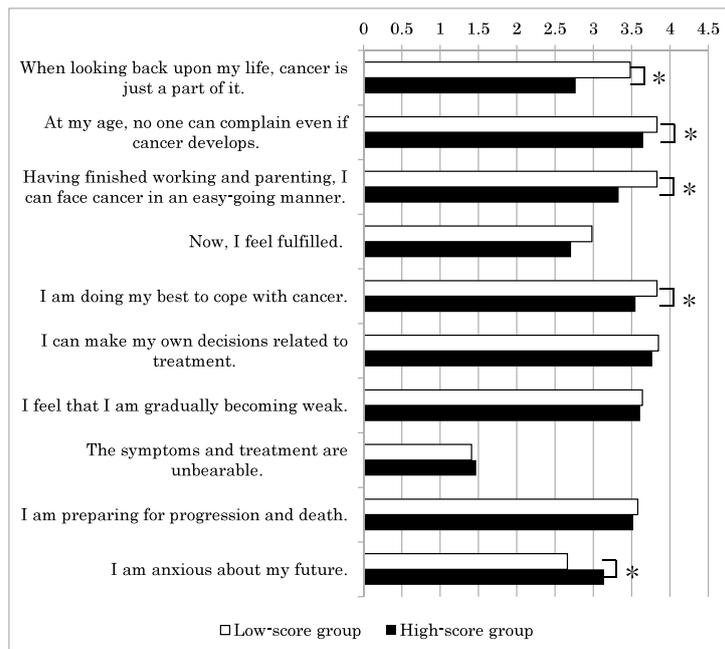


Figure 3. Comparison of Mean Coping Attitude-related Scores between High-and Low-[Helplessness / Hopelessness]-Score Groups (N=193)

This Figure shows the difference between low- and high-MAC-score groups  
 N=193 Low-score group n=127, High-score group n=66

\* : significantly difference

Mann-Whitney U test

\*p < .01

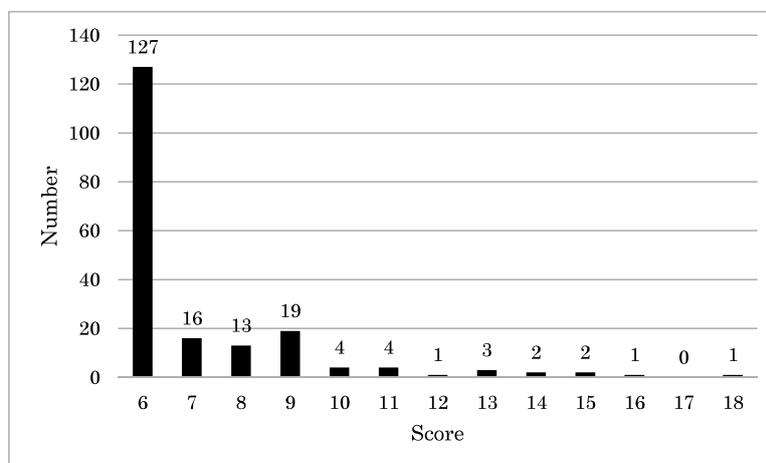


Figure 4. Distribution map (Person)

As the number of patients who selected 6 in [helplessness/hopelessness] was maximum, the case number of two groups resulted in being different.

N=193

\*p < .01

*Fatalism*

The median for fatalism was 25. Figure 6 shows that there were 114 ( $\leq 25$ ) and 79 ( $\geq 26$ ) group members in the low and high MAC score groups, respectively. The mean scores for the items “When looking back upon my life, cancer is just a part of it,” “At

my age, no one can complain even if cancer develops,” “Having finished working and parenting, I can face cancer in an easy-going manner,” “I am doing my best to cope with cancer,” and “I am anxious about my future” in the low MAC score group were significantly higher than those in the high MAC score group ( $p < 0.01$ ) (Figure 7).

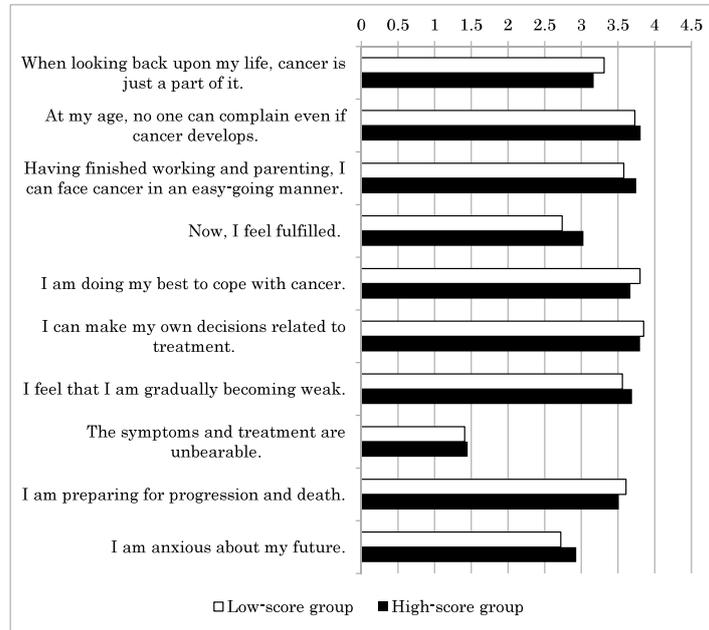


Figure 5. Comparison of Mean Coping Attitude-related Scores between High- and Low- [Anxious Preoccupation]-Score Groups (N=193)

This Figure shows the difference between low- and high-MAC-score groups  
 N=193 Low-score group n=98, High-score group n=95

\* : significantly difference

Mann-Whitney U test

\* $p < .01$

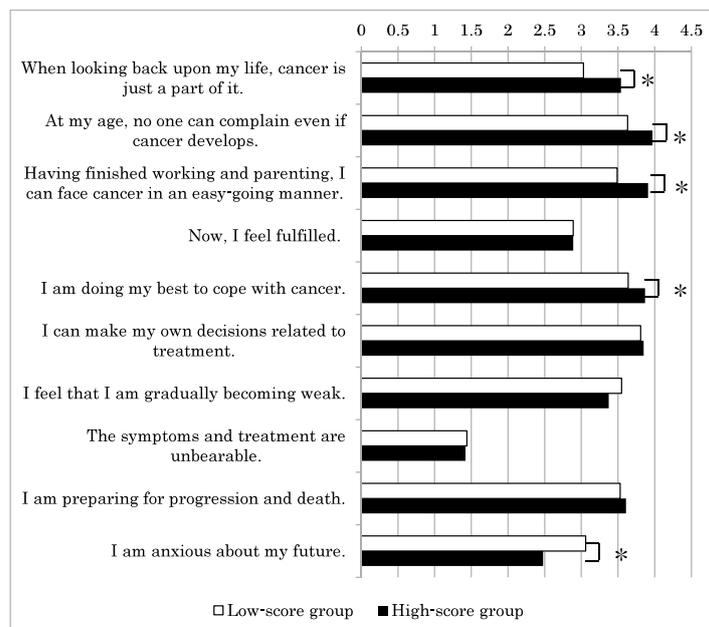


Figure 6. Comparison of Mean Coping Attitude-related Scores between High- and Low- [Fatalism]-Score Groups (N=193)

This Figure shows the difference between low- and high-MAC-score groups  
 N=193 Low-score group n=114, High-score group n=79

\* : significantly difference

Mann-Whitney U test

\* $p < .01$

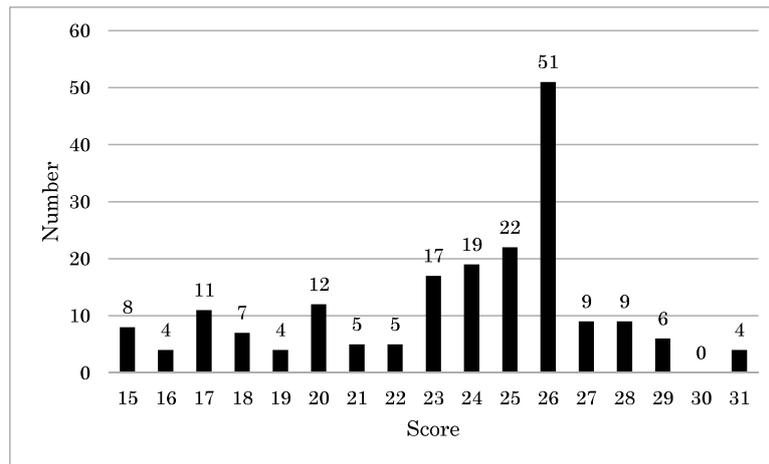


Figure 7. Distribution map (Person)  
 As the number of patients who selected 26 in [fatalism] was maximum, the case number of two groups resulted in being different.  
 N=193

*Mental adjustment pattern, age, and sex*

*Age*

Table 2 shows that the association between the mental adjustment pattern and age significantly varied between the low and high MAC score groups in helplessness/hopelessness and fatalism ( $p < 0.01$ ). Helplessness/hopelessness scores were lower among older individuals and higher among younger subjects. By contrast, fatalism scores were lower among younger individuals and higher among older subjects.

*Sex*

There were no significant differences in the association between mental adjustment pattern and sex among the MAC subscales.

Table 2. Association between the Pattern of Mental Adjustment and Age (N=193)

Mental Adjustment	group	n	Age		P
			Mean	SD	
Fighting Spirit	Low-score group	98	75.3	6.90	n.s.
Fighting Spirit	High-score group	95	75.9	6.62	
Helplessness / Hopelessness	Low-score group	127	77.3	5.83	.000*
Helplessness / Hopelessness	High-score group	66	72.4	7.30	
Anxious Preoccupation	Low-score group	98	74.7	6.81	n.s.
Anxious Preoccupation	High-score group	95	76.6	6.60	
Fatalism	Low-score group	114	72.7	5.62	.000*
Fatalism	High-score group	79	79.8	6.06	

Note. This table shows the difference between age and each pattern of mental adjustment.  
 P value is indicated when there is a significant difference, and [n.s.] shows not significant.  
 Mann-Whitney U test  
 N=193  
 \* $p < .01$

DISCUSSIONS

*Coping attitudes and mental adjustment patterns of older individuals with cancer*

1-1

The mental adjustment patterns of older individuals with cancer who are receiving treatment were measured, and negative correlations were found between fatalism and helplessness/hopelessness. This indicates that individuals who accept the development of cancer as their fate (i.e., high MAC score group in fatalism) tend to not easily give themselves up to despair. Additionally, there was a significant difference between fatalism and age: older individuals adjust to fatalism more easily than younger individuals. Takekuma (9) reported that older individuals tend to regard their unfortunate situations as their destiny and accept them as blessings. Furthermore, Watson (8) noted that fatalism tends to be promoted by aging, and this finding is similar to those of the present study. Studies show that fatalism may play an important role as a component of mental adjustment in elderly cancer patients who are receiving treatment in developing affirmative coping skills on the basis of their extensive life experiences. Therefore, when providing nursing care for such patients, it may be important to consider their life histories.

1-2

Regarding the coping attitudes in each mental adjustment pattern, there was a negative correlation between fatalism and helplessness/hopelessness. The scores for coping attitudes such as "When looking back upon my life, cancer is just a part of it," "At my age, no one can complain even if cancer develops," "Having finished working and parenting, I can face cancer in an easy-going manner," and "I am doing my best to cope with cancer" were significantly higher in both the lower MAC score group in helplessness/hopelessness and higher MAC score group in fatalism. Erikson (10) indicated that the acceptance of one's fate makes one distant from despair. Therefore, the idea of fatalism may also be useful in supporting the elderly individual with a sense of despair to accept their current situation as a natural process.

1-3

Fatalism seems to reduce the sense of despair, such as helplessness/hopelessness, and strengthen coping attitudes that promote the acceptance of cancer. At this time, we focused on cancer patients aged  $\geq 65$  years. The number of patients with cancer, such as lung, colon, and gastric cancers, is increasing in parallel with aging. By contrast, there is increasing incidence of breast cancer in patients in their 40s. Such young patients with breast cancer are supposed to have low fatalism but high helplessness/hopelessness; therefore, sufficient mental support for them may be required.

## CONCLUSION

In examining the relationship between coping attitudes and mental adjustment patterns in older individuals with cancer, fighting spirit and fatalism based on maturity, such as mental strength and wisdom acquired via extensive life experiences, were shown to be correlated with each other, and these characteristics seems to dominate the mental adjustment older individuals.

## STUDY LIMITATIONS

This study examined the relationship between coping attitudes and mental adjustment patterns during treatment in older individuals with cancer but did not clarify other factors. Therefore, it may be necessary to continue to examine the other factors that influence mental adjustment in older individuals with cancer. Furthermore, given that the type of disease and Performance Status Grade were limited, further studies should be conducted to examine patients with other types of disease and reexamine the differences related to the physical condition.

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Nothing

## REGISTRATION NUMBER IN CASE OF A CLINICAL TRIAL

The study was approved by the Clinical Research Ethics Committee of Tokushima University Hospital (ethical application number : 425)

## CONFLICTS OF INTEREST

All author : No potential conflicts of interest are disclosed.

## STATEMENT

This manuscript has been accepted from all authors.

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