

## Characteristics of Depressive Symptoms in Contemporary Japanese Youth: A Comparison with 15 Years Ago

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### Abstract

**Context:** In Japan, the media has termed youth depression “modern type depression,” which has recently become an important topic. After entering the workforce, some youth become depressed, which in turn has contributed to the increase in leaves of absence from work. It is important to ascertain medical backgrounds and clinical features and to provide appropriate treatment for these individuals.

**Objective:** To clarify the recent tendency in youth depression by comparing symptoms experienced by current university students with those experienced 15 years ago, and to examine future depression and suicide prevention measures.

**Design:** Retrospective case control study involving review of interview and medical records.

**Results:** There were significantly more students with major depression 15 years ago compared with the present. Currently, however, there are significantly more students with comorbidities such as autism spectrum disorder. Moreover, there were significantly more students with comorbidities among those who experienced prolonged depression.

**Conclusion:** This study found that current students had significant comorbidities, particularly autism spectrum disorder. It is important that youths with autism spectrum disorder are understood and not isolated.

**Keywords:** Depression; Youth; University students; Comorbidity; Autism spectrum disorder

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### Introduction

According to White paper on Suicide Prevention of Cabinet Office, Japan has witnessed more than 30,000 suicides annually since 1998. And Cabinet Office established Basic Act on Suicide Prevention to counter the increasing trend of suicide in 2006. Nevertheless, White Paper reported that the number of youth suicides remains high [1]. Suicide and depression are believed to be among the most important mental health issues currently facing the youth of Japan [2]. Because suicide usually involves significant depression, early intervention for depressive symptoms is an urgent need [3].

The typical features of depression in adults include strong consideration for other individuals, a strong affinity with normative

society, and tendencies toward self-punishment. According to DSM-5, Major Depressive Disorder have five (or more) following symptoms during 2 weeks period: 1) Depressed mood, 2) Loss of interest or pleasure, 3) Significant weight loss, 4) Insomnia or hypersomnia, 5) Psychomotor agitation or retardation, 6) Fatigue or loss of energy, 7) Feelings of worthlessness of excessive or inappropriate guilt, 8) Diminished ability to think concentrate, and 9) Recurrent thoughts of death. However, depression in youth exhibits various tendencies toward maladaptive feelings concerning normative society, strong extrapunitive tendencies, and vulnerability to stress. Youths experiencing depression after entering the work force and the number taking leaves of absence from work has increased. In Japan, the media have termed youth depression “new type of depression” which has recently become

an important topic. Japanese psychiatrists do not accept “new type depression” as a diagnosis. They regard it as a modern change of the depression and called “modern type depression” [4,5] or “immature type of depression” [6].

We hypothesized that recently the youth depression changed as the opinion of many researchers, and atypical depression increased while major depression decreased. The aim of this study was to clarify the modern change of depression in youth by comparing the symptoms of current university students with those of 15 years ago, and to examine future depression and suicide prevention measures.

## Methods

### Ethical considerations

All protocols in this study complied with the ethics standards of the relevant national and institutional committees on human experimentation, and with the Declaration Helsinki of 1975, as revised in 2008. This study was approved by the Ethics Committee of Hiroshima University, Hiroshima, Japan.

### Design

This case control study involved a retrospective review of medical and interview records. Depressive symptoms and the backgrounds of current university students were compared with students from 15 years ago. Comparisons were performed using the chi-squared test;  $P < 0.05$  was considered statistically significant. SPSS (IBM Corporation, Armonk, NY) was used for statistical analyses.

### Participants

Participants included 96 students (51 male and 44 female; mean age,  $20.5 \pm 2.3$  years) who reported with depression at the psychiatric outpatient clinic of Health Service Center of Hiroshima University between 2000 and 2001, and 100 students (54 male and 46 female; mean age  $20.9 \pm 2.1$  years) who reported with depression at the clinic between 2015 and 2016.

## Results

### Comparison of clinical features: present versus 15 years ago

**Table 1** summarizes the clinical features of depression in the students. There were significantly more students with major depression 15 years ago than the present ( $P < 0.01$ ,  $\chi^2 = 13.849$ ,  $df = 1$ ,  $CramerV = 0.279$ ). Similarly, there were significantly more students who refused to attend school ( $P < 0.01$ ,  $\chi^2 = 16.166$ ,  $df = 1$ ,  $CramerV = 0.297$ ) and could not engage in social activities 15 years ago ( $P < 0.01$ ,  $\chi^2 = 9.946$ ,  $df = 1$ ,  $CramerV = 0.235$ ). Compared with 15 years ago, current students tended with many students who received social supports such as friends, teachers, tutors, and school staffs ( $P < 0.05$ ,  $\chi^2 = 6.533$ ,  $df = 1$ ,  $CramerV = 0.193$ ). However, there was no difference in the number of students with prolonged depression ( $\geq 6$  months).

Current students had significantly more students with comorbidities ( $P < 0.01$ ,  $\chi^2 = 11.063$ ,  $df = 1$ ,  $CramerV = 0.338$ ) than

students of 15 years ago. Autism spectrum disorders (ASD) appear most prevalent (**Table 2**).

### Comparison of backgrounds with current prolonged cases and recovered cases

**Table 3** compares the backgrounds of students 15 years ago whose depression was prolonged  $> 6$  months and those who recovered. The prolonged depression group had significantly more students with comorbidities ( $P < 0.01$ ,  $\chi^2 = 10.431$ ,  $df = 1$ ,  $CramerV = 0.363$ ); the recovered group tended to have significantly more students who were in stressful situations ( $P < 0.05$ ,  $\chi^2 = 5.577$ ,  $df = 1$ ,  $CramerV = 0.267$ ) and had access to social support ( $P < 0.01$ ,  $\chi^2 = 16.657$ ,  $df = 1$ ,  $CramerV = 0.440$ ).

**Table 4** compares the backgrounds of current students whose depression was prolonged  $\geq 6$  months and those who recovered. There was no significant difference in the number of students with major depression. However, the prolonged depression group had significantly more students who refused to attend school ( $P < 0.01$ ,  $\chi^2 = 9.299$ ,  $df = 1$ ,  $CramerV = 0.327$ ) and those with comorbidities ( $P < 0.01$ ,  $\chi^2 = 38.688$ ,  $df = 1$ ,  $CramerV = 0.644$ ). The recovered group had more significantly more students who were in stressful situations ( $P < 0.01$ ,  $\chi^2 = 8.313$ ,  $df = 1$ ,  $CramerV = 0.311$ ), and have many students who engaged in social activities ( $P < 0.05$ ,  $\chi^2 = 5.294$ ,  $df = 1$ ,  $CramerV = 0.252$ ) and received social support ( $P < 0.01$ ,  $\chi^2 = 12.565$ ,  $df = 1$ ,  $CramerV = 0.377$ ).

**Table 1:** Comparison of clinical feature with present and 15 years ago.

	Present (N=100)	15 years ago (N=96)
Major depression (cases)	9	30**
School refusal (cases)	38	65**
Social activity (cases)	60**	35
Comorbidity (cases)	35**	13
Prolonged (cases)	33	38
Social support (cases)	65**	44

**Note:** \*\* $P < 0.01$ , \* $P < 0.05$

**Table 2:** Comparison of comorbidity with present and 15 years ago.

	Present (N=35)	15 years ago (N=13)
Attention deficit (hyperactivity) disorder (cases)	2	0
Autism spectrum disorder (cases)	24	4
Borderline personality disorder (cases)	3	8
Others (cases)	4	1

**Table 3:** Background of prolonged cases of 15 years ago.

	Prolonged (N=38)	Recovered (N=57)
Major depression (cases)	11	19
School refusal (cases)	23	42
Social activity (cases)	14	21
Comorbidity (cases)	11**	2
Stressful situation (cases)	23	48**
Social support (cases)	7	37**

**Note:** \*\* $P < 0.01$ , \* $P < 0.05$

**Table 4:** Comparison of background with current prolonged cases and recovered cases.

	Prolonged (N=33)	Recovered (N=67)
Major depression (cases)	3	6
School refusal (cases)	20**	18
Social activity (cases)	14	46
Comorbidity (cases)	26**	9
Stressful situation (cases)	16	53**
Social support (cases)	13	52**

**Note:** \*\*P<0.01, \*P<0.05

## Discussion

The present study aimed to assess the recent tendency in youth depression and suicide in Japan by comparing symptoms experienced by contemporary university students with those of 15 years ago. We found that there were fewer students with the major depression than those 15 years ago. At that time, there were many youths who became “burned out” under stressful situations and became depressed. Consequently, most of them refused to attend school and could not engage in social activities. Many Japanese people have a methodical personality and tend to be perfectionists. Moreover, it was once considered virtuous for an individual to not complain and to endure unfavorable environments or circumstances. Given their methodical and serious personality, they endured stressful situations to the limit.

Recent students exhibited little major depression but had most atypical depression, with comorbidities such as ASD. Depression has been reported to change with cultural environment, norms, and mores. Youth depression, especially, reflects various aspects of this [7]. Many researchers have reported the spectrum theory of depressive disorders [8-11]. Sansone et al. [12] reported that university students with dysthymia were significantly more likely to be diagnosed with a personality disorder than those with major depression were. In contrast, another study found essentially no temperamental differences between adolescents with major depression and those with dysthymia [13,14].

The present study found that contemporary students had significant comorbidity, particularly ASD. Mood disorders are reported to be the most frequent comorbidity in ASD. Youth with ASD often have a feeling of something being out of place and as self-consciousness increases, a sense of isolation and maladaptive feelings is reinforced. And they are easy to cause maladjustment for environment and such a characteristic is common with modern type depression. Youth with ASD are highly impulsive and are at an increased risk for suicide. It is important that we understand youth with ASD and that they not be isolated.

Recently in Japan, youth depression (atypical depression, modern type depression) has become an important topic. One serious problem is that such types of depression in youth are often misunderstood as laziness or malingering by the general population. However, psychotropic medication for atypical depression is not as effective as it is for major depression. It is important, therefore, that we ascertain backgrounds and clinical features, and provide appropriate treatment.

Students who experienced prolonged depression tended to have comorbidities and not to have social support 15 years ago and present. Few Japanese tend to seek help and, instead, endure alone; some Japanese are ashamed to even ask for help. These youth should be made aware that seeking help is an important part of the solution to their problem. In Japan, the Ministry of Health, Labour and Welfare advocates training of the “gatekeeper” as a comprehensive measure to prevent suicide. Several articles have reported the effectiveness of suicide prevention gatekeeper-training for university staff [3,12]. If such measures are more widely implemented, it may lead to the prevention of more suicides.

## Conclusion

The depression of recent youth changed for 15 years, and atypical depression increased while major depression decreased. And significant number of those had ASD. When we examine youth with depression, it is necessary to make sure of whether there is ASD in the background.

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