

Original Paper

Factors on life-style-related disorders found in day-care schizophrenics

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Abstract

We found that body weight, BMI, blood pressure, the amounts of triglycerides, total cholesterol, and blood sugar of day-care schizophrenics were higher than those of in-patients.

Male day-care patients showed significantly higher physical and biochemical results than the female patients.

The day-care schizophrenics consumed large amounts of beverages and food.

We conclude that day-care schizophrenic patients should be educated to control their food and beverage consumption by medical and co-medical staffs in order to improve and prevent life-style-related disorders.

Key words : life-style-related disorders, day-care schizophrenics

Introduction

Chronic schizophrenics have difficulty living normal lives by themselves, especially controlling excessive food and beverage consumption which can cause obesity. As one of the side-effects of anti-psychotics, obesity is often found in chronic schizophrenics. It is more obvious in day-care schizophrenics than in-patients. In the present study, we examined the factors influencing life-style-related disorders found in these two groups of schizophrenic patients.

Subjects & Methods

Fifty-four out-patients of the day-care center of Shin-Abuyama Hospital (Group A) and 59 in-patients

of chronic schizophrenic wards in the same hospital (Group B) were the subjects in our investigation.

For the age distribution of patients in the two groups, the largest number was in the 50s, followed by the 60s with the smallest number in the 70s. More than half were male patients.

Physical examination of the height, body weight, body mass index (BMI), blood pressure and biochemical examination on the amounts of triglycerides, total cholesterol and blood sugar were carried out.

According to the standards of the Ministry of Health and Welfare, the amount of physical exercise is classified into four grades, 1) low level, 2) medium level, 3) slightly-high level and 4) high level.

The amount of beverage and food intake was also classified into four grades, as shown in Table 1.

We then classified the living conditions of the patients into four groups : 1) group-home, 2) living with parents, 3) living alone, and 4) other conditions.

Table 1 Amount of eating and drinking

		1	2	3	4
Beverages	Soft drinks Juice Coffee with cream & sugar	More than 5 bottles/day	More than 3 bottles/day	More than 1 bottles/day	Seldom
	Snacks Sweet rolls Cakes etc.	Almost every day	More than 3 times/week	More than once/week	Seldom
Light meals	Fast food Hamburgers Doughnuts Fried chicken etc.	Almost every day	More than 3 times/week	More than once/week	Seldom
	Processed food Instant noodles etc.	Almost every day	More than 3 times/week	More than once/week	Seldom

Statistical analysis was done using the t-test to find the significant difference between the two groups for the seven items, namely, height, weight, BMI, blood pressure, the amounts of triglycerides, total cholesterol and blood sugar.

Results

A. Comparison of physical results

While no differences in age and height were found between the two groups, a significant difference was found in the body weight and BMI. (Fig. 1 & 2) The BMI of group B was within the range of the average weight, while that of group A was at obesity level 1. Both systolic and diastolic blood pressures for group A were significantly higher ($P < 0.05$) than those of group B. (Fig. 3 & 4)

B. Comparison of biochemical results

The amounts of triglycerides, total cholesterol and blood sugar, which are thought to be correlated with life-style-related disorders, were compared between the two groups. The amounts of triglycerides for group B was within the normal range, while that for group A was significantly higher ($P < 0.01$) than group B. (Fig. 5) The amount of total cholesterol was higher ($P < 0.01$) for group A than group B. (Fig. 6) The amount of blood sugar (Fig. 7) for group A was significantly higher ($P < 0.01$) than group B which showed values in the normal range. The number of patients who showed one or more abnormal values among three biochemical items were 45 out of 54 (83.3%) in group A, but only 15 out of 59 (25.4%) in group B. (Fig. 8)

We next compared the physical and biochemical data for the male and female patients. The total amounts of cholesterol and blood sugar for group A

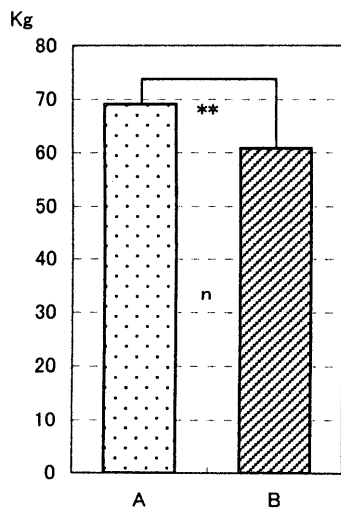


Fig. 1 Weight

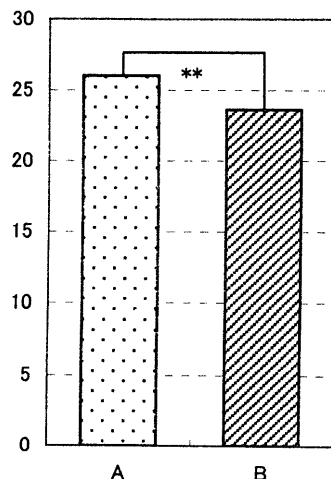


Fig. 2 BMI

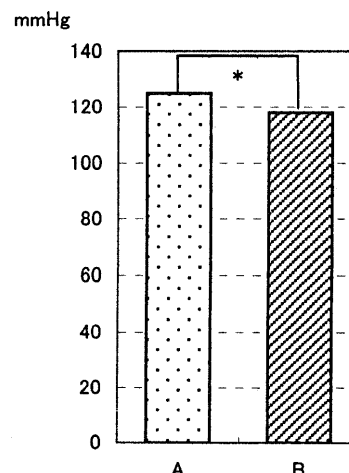


Fig. 3 Systolic blood pressure

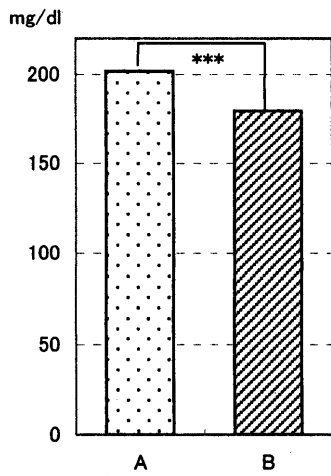


Fig. 4 Diastolic blood pressure

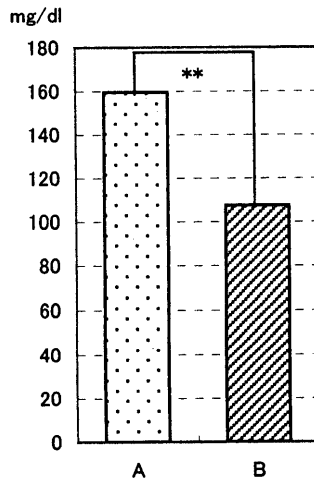


Fig. 5 Triglyceride

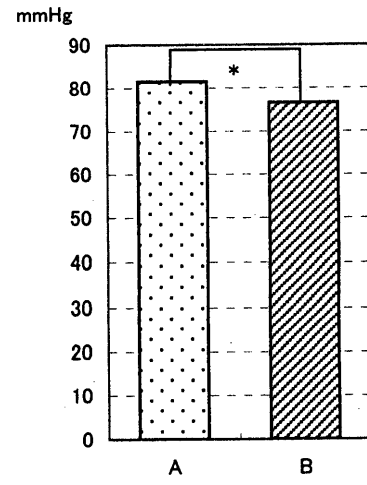


Fig. 6 Total cholesterol

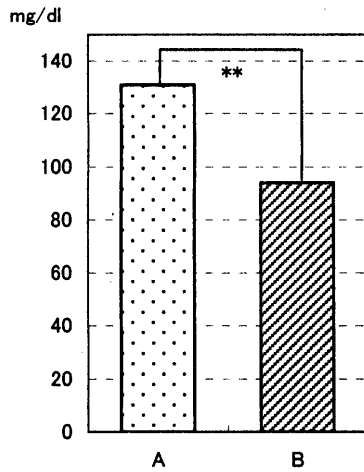


Fig. 7 Blood sugar

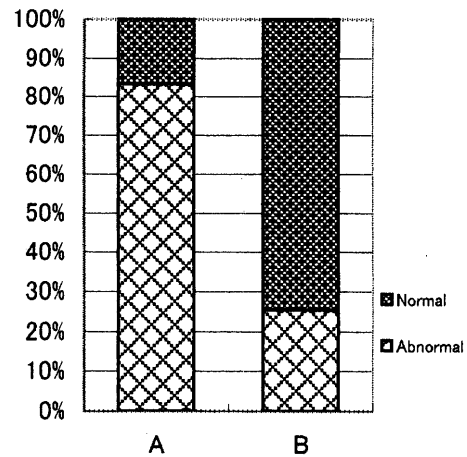


Fig. 8 Ratio showing abnormal readings in biochemical findings between the 2 groups

were significantly higher than group B for female patients. However, no difference between those other data was found for females. On the contrary, for male patients, the body weight, BMI, the amounts of triglycerides, total cholesterol and blood sugar for group A were significantly higher ($P < 0.01$) than those for group B. (Tab. 2)

C. Comparison of life-styles

The life-styles of patients, i.e., the amount of physical exercise, amount of beverage and food intake, and living conditions, were compared between the two groups. All the patients in group B were classified at a low level of physical exercise. However, although 82.5% of group A were classified at a low level, 13.0% were classified at a medium level, and 1.9% at a slightly-high level. Physical and biochemical data of

the group A were abnormal in spite of a rather high level of physical exercise in comparison with group B.

Among group A patients, 79.6% consumed soft drink beverages every day and 31.5% over three bottles every day. Sixty-three percent consumed fast-food once a week and 31.5% 3 times a week, respectively. (Fig. 9)

Twenty-five group A patients live alone, 13 with parents, 5 in group-homes and 11 under other conditions. Examining the relationship between living conditions and biochemical data for group A revealed abnormal values for 100% of the patients who lived in group-homes, 80% of those who lived alone and 69% of those who lived with their parents.

Table 2 : Comparison of the findings on males and females

	Males		Females	
	Group A (33) mean ± SD	Group B (33) mean ± SD	Group A (21) mean ± SD	Group B (26) mean ± SD
Age	48.9 ± 12.4	52.5 ± 13.7	51.6 ± 12.9	52.1 ± 13.5
Height	169.0 ± 7.1	166.1 ± 5.4	153.1 ± 5.6	153.1 ± 6.0
Weight	73.5 ± 14.3**	64.4 ± 11.5	62.3 ± 13.4	56.3 ± 9.1
BMI	25.7 ± 4.7*	23.3 ± 3.7	26.5 ± 5.0	24.1 ± 4.1
Systolic blood pressure	127.5 ± 15.6	120.0 ± 18.5	121.3 ± 14.6	115.2 ± 14.6
Diastolic blood pressure	82.6 ± 10.9	77.3 ± 15.2	79.7 ± 10.7	75.5 ± 11.8
Triglyceride	182.6 ± 102.2***	101.8 ± 44.0	123.3 ± 88.9	116.0 ± 69.8
Total Cholesterol	193.6 ± 37.3*	171.7 ± 32.6	214.4 ± 30.7**	126.9 ± 51.1
Blood Sugar	133.5 ± 65.1**	92.5 ± 48.3	126.9 ± 51.1*	95.7 ± 30.8

*p<0.05 **p<0.01 ***p<0.001

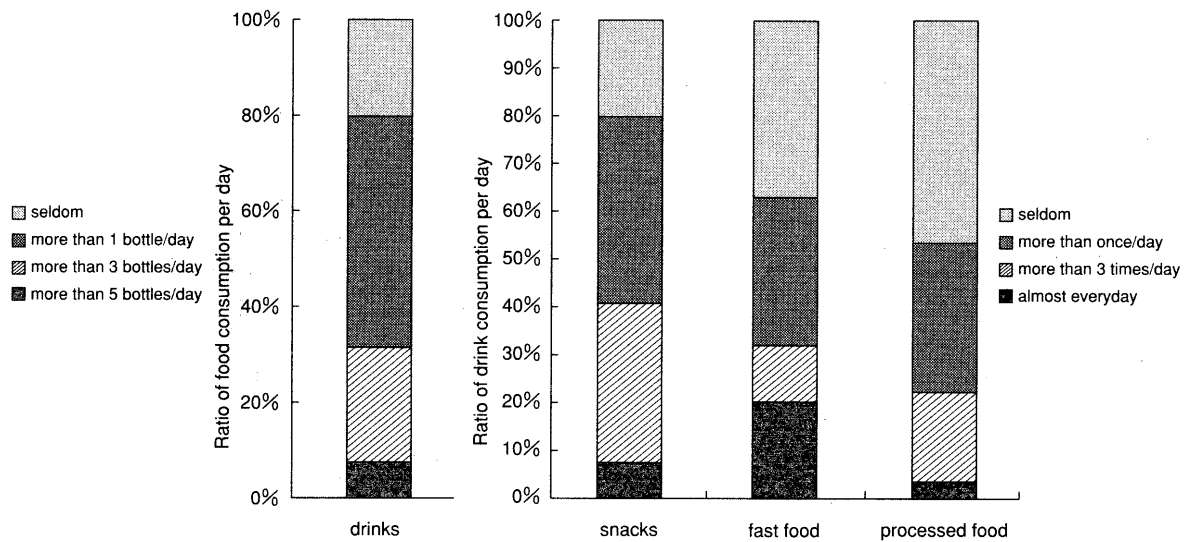


Fig. 9 Dietary habits of Group A

Discussion

Many anti-psychotics are known to cause the obesity as a side effects but there have been no reports of obesity in day-care schizophrenics. Day-care schizophrenics showed a higher amount of physical exercise than in-patient schizophrenics. Nevertheless, day-care schizophrenics showed abnormal values for body weight, BMI, blood pressure, amounts of triglycerides, total cholesterol and blood sugar. The abnormal results were higher for the male than the female patients and also for patients living alone and in group-homes than for those living with their parents. In-patient schizophrenics had a balanced hospital diet three times a day and were under control when they consumed refreshments between meals. However, most day-care schizophrenics consumed a more or less unbalanced

diet including fast-food, snacks and refreshment frequently without control. Such abnormal dietary habits can cause life-style-related disorders.

The present results suggest that not only the lack of knowledge of good dietary habits but also of the practice of a health-promoting life-style, such as eating balanced meals, taking meals regularly and doing moderate exercise, is related to an abnormal life-style, and all are possible causes of the death quartet, i. e. hypertension, hypercholesteremia, obesity and high blood sugar.

To prevent life-style-related disorders, the day-care schizophrenic patients need to be educated to change their dietary habits and to learn the importance of physical exercise. The findings show the importance of offering balanced hospital meals to day-care schizophrenics and make them understand the importance of

health-promoting dietary habits, by consulting other co-medical staff.

Acknowledgements

We are grateful to Professor Judy Noguchi for her kind editing English.

Reference

Hideno, T., Asai, K., Ookubo, Y.: The management for obesity in hospitalized chronic schizophrenic patients, *Jpn. J. of Psychiat. Treat.* 12: 1423-1429, 1997