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Comparison of Subjective Feeling of Dizziness and Simple Taste/Olfactory Test Results in Elderly People (Over 60 Years Old)

Naomi Katayama¹ and Shoko Kondo²

¹ Nagoya Womens University

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Abstract

For a long time, the author has been involved in taste and smell with Yakumo Town (rural) residents in Hokkaido and Nagoya-City (urban) in Aichi Prefecture. Participants answered a self-administered questionnaire, and then took a simple salty taste test and a simple olfactory test. However, until now, the author has not been able to compare the results of a questionnaire survey of Yakumo Town, Hokkaido, and residents of Nagoya City, Aichi Prefecture. Therefore, this time, we will report the results. 201 residents of Yakumo Town (95 men, 106 women: 2019 data) and 55 residents of Nagoya City (24 males and 31 females: 2022 data) participated in the examination. A self-reported questionnaire was given to the participants to determine the presence or absence of dizziness (1, no dizziness, 2. dizziness, and 3. dizziness all the time).

Index terms— dizziness, taste, olfactory, questionnaire survey.

Abstract—For a long time, the author has been involved in taste and smell with Yakumo Town (rural) residents in Hokkaido and Nagoya-City (urban) in Aichi Prefecture. Participants answered a self-administered questionnaire, and then took a simple salty taste test and a simple olfactory test. However, until now, the author has not been able to compare the results of a questionnaire survey of Yakumo Town, Hokkaido, and residents of Nagoya City, Aichi Prefecture. Therefore, this time, we will report the results.

A self-reported questionnaire was given to the participants to determine the presence or absence of dizziness (1, no dizziness, 2. dizziness, and 3. dizziness all the time).

In addition, the participants were given a simple salty taste test (Solceive: manufactured by Advantech), and an olfactory test (smell test: Daiichi Yakuhin Kogyo Co., Ltd.) was performed.

In addition, participants filled in a self-administered questionnaire about their physical conditions (age, sex, height, weight, systolic blood pressure, and diastolic blood pressure).

As a result, the subjective feeling of dizziness was statistically significantly higher in Nagoya City residents than in Yakumo Town residents ($P=0.044^*$).

In addition, the subjective sense of salty taste and smell was statistically significantly worse in Yakumo Town residents than in Nagoya-shi residents (Salt taste $P=0.027^*$ Olfactory $P=0.017^*$).

However, when the results of salty taste and olfactory tests were conducted on the residents of Nagoya City and Yakumo Town, there was no statistically significant difference (salty taste test results $P = 0.614$, Olfactory test result $P=0.052$).

Regarding the subjective feeling of dizziness, in the future, we will conduct actual measurements of the sway of the center of gravity using Stabilometer for both residents.

We believe that it is necessary to obtain definite results.

1 Introduction

Since 2005, I have conducted a simple taste/olfactory test and a self-administered questionnaire at the health checkup for residents of Yakumo Town, Hokkaido [1] [2] [3] [4] [5] [6] [7] [8] [9] [10] [11].

44 Similarly, a simple taste/olfactory test and a self-administered questionnaire survey were conducted at a health
45 class for residents of Nagoya City [12][13][14][15][16][17][18][19][20] .

46 However, until now, no comparison has been made between the two regions. Therefore, we compared the
47 results of these two regions this time.

48 Residents of Yakumo Town (FY2019) and Nagoya City (FY2022) were asked to feel dizziness, taste, and
49 olfaction by using a self-administered questionnaire.

50 And participants also took simple salty taste test and a simple olfactory test.

51 At the same time, primary data such as age, sex, height, weight, systolic blood pressure, and diastolic blood
52 pressure were obtained.

53 A questionnaire survey was also conducted on subjective dizziness.

54 Feeling dizzy (light-headedness, fluffiness) due to changes in the amount and contents of food associated with
55 the decline in taste and smell 21) related to Yakumo Town which is located in the south part of Hokkaido island
56 in the northern part of Japan.

57 There is a little population movement, and the population is settled.

58 On the other hand, Nagoya City is located almost in the center of Japan, between Tokyo and Osaka.

59 Because it is a large city, there are various occupations, and the population movement is rapid.

60 This study has so far been a self-reported survey of taste, smell, and different living conditions in health
61 checkups for residents of Yakumo Town, Hokkaido.

62 I've been researching it with a questionnaire, but I haven't made a comparison with other places.

63 Therefore, in this study, we decided to compare the data obtained from urban and rural participants.

64 2 II.

65 3 Materials and Methods

66 Two hundred one people in Yakumo Town, Hokkaido (106 women, 95 men: 2019 data) and 55 people in Nagoya
67 City, Aichi Prefecture (31 women, 24 men, 2022 data) were compared.

68 Dizziness was also included in the self-administered questionnaire survey of the participants. We asked the
69 following questions. 1. not dizzy, 2. sometimes, 3. always. Participants circle the items that apply.

70 In addition, a simple taste test (salty taste: Soluseive: manufactured by Advantech) and a simple olfactory
71 test (smell test) were performed.

72 Ick: manufactured by Daiichi Yakuhin Sangyo Co., Ltd.) was used to obtain the test results.

73 In addition, primary data such as age, sex, height, weight, systolic blood pressure, and diastolic blood pressure
74 were obtained.

75 Other self-administered questionnaire items included the subjective sense of taste, smell, salivary flow, and
76 use of eating out. We also investigated the frequency and usual seasoning. (See Table ??):

77 The method of the simple taste test 22) and the method of the simple olfactory test 23) followed the
78 specifications.

79 4 a) Ethical review board

80 This study conducted with the approval of the Ethical Review Board (Nagoya women's University Ethics
81 Committee: "hitowomochitakennkyuunikann suruiinnkai"). The approval number is 2019-26.

82 5 III.

83 6 Results

84 There were no regional differences in sex (see Table ??) and height (see Table ??) in the participants' physical
85 data. Weight (see Table ??), systolic blood pressure (see Table ??), and diastolic blood pressure (see Table ??)
86 were eight higher in Nagoya. It was statistically significantly lower than Kumochi.

87 Yakumo town has 201 people (see Table ??) average \pm SD value of 68.7 ± 6.0 years old Nagoya city has 55
88 people 74.9 ± 7.1 . The average \pm SD value for subjective dizziness (see Table ??) was 1.379 ± 0.592 in Yakumo
89 Town, and 1.379 ± 0.592 in Nagoya City was 1.211 ± 0.546 . This result was $P = 0.044^*$ in the Mann-Whitney
90 test, and was statistically superior to the elderly in Nagoya City.

91 The results showed that the subjects had dizziness subjectively.

92 The subjective taste (see Table ??) has a mean \pm SD value of $0.1.607 \pm 0.538$ in Yakumo and 1.426 ± 0.49 in
93 Nagoya.

94 This result was $P = 0.027^*$ in the Unpaired Student-t test, showing a statistically significant.

95 From this result, it was found that the participants in rural areas subjectively felt that the taste was difficult
96 to understand compared to those in the urban areas.

97 The subjective sense of smell (see Table ??) was 0.701 ± 0.539 in Yakumo Town, and 0.150 ± 0.575 in Nagoya.
98 From this result, $P = 0.017^*$ in the Unpaired Student t-test, which is statistically significant for Yakumo Town.
99 The results showed that older adults subjectively feel that smell is difficult to understand.

7 N City n=55 Y Town n=201

Average The subjective saliva output (see Table ??1) has a mean \pm SD value of 0.781 ± 0.000 in Yakumo Town, and 1.773 ± 0.000 in Nagoya City. This result was $P = 0.139$ in the Unpaired Student's t-test, and there was no statistically significant difference.

The average \pm SD value for the frequency of eating out (see Table 12) is 5.095 ± 1.037 in Yakumo Town and 4.455 ± 1.424 in Nagoya City. This result was $P=0.004^{**}$ in the Mann-Whitney test, indicating a statistically significant.

The results showed that those with the high frequency of eating out had a high frequency of eating out.

The seasoning of ordinary meals (see Table ??3) has an average \pm SD value of 2.542 ± 0.734 in Yakumo Town and 2.704 ± 0.924 in Nagoya City. This result was $P = 0.155$ by the Mann-Whitney test, and there was no statistically significant difference.

8 N City n=55 Y Town n=201

Average The results of the simple salty taste (see The results of the olfactory test (see Table 15) are average \pm SD values of 7.348 ± 3.007 in Yakumo and 6.455 ± 3.310 in Nagoya. This result was $P = 0.0052$ in the Unpaired Student's t-test, and there was no statistically significant difference.

IV.

9 Discussion

For primary data (gender, age, height, weight, systolic blood pressure, diastolic blood pressure), participants were statistically significantly older and underweight than rural participants.

The average value of blood pressure was within the normal range for both Nagoya data and Yakumo data. However, the Nagoya data was statistically significantly lower than the Yakkumo data.

In addition, there were regional differences in subjective dizziness in this survey.

Urban participants said they were statistically significantly dizzy than country participants.

However, there were no regional differences in the salty taste test results.

And also, there was no regional difference in the olfactory test results in the present data.

However, the P-value after statistical processing was $P=0.052$, so if we increased the data for urban residents, there was a possibility that there would be a statistically significant difference in the olfactory test results.

The frequency of eating out was statistically significantly higher among participants in urban areas. Still, there was no significant difference between the two regions regarding the seasoning of things. Research results on the relationship between salty test results [24][25][26][27] and blood pressure [28] have also been reported, so that future studies, we will investigate the association between dietary habits and blood pressure. It is necessary to investigate this in more detail.

Changes due to age [29] and association with Alzheimer's dementia [30] results such as application to patients [31] have been presented. We think it will be important to investigate regional differences in Japan in the future.

We will continue to do research and collect more data in the future, and not only subjective feelings of dizziness but also stabilization tests by using Stabilometer.

We also believe that a detailed questionnaire survey on dietary habits is necessary.

V.

10 Conclusion

Urban participants said they were statistically significantly dizzy than country participants. However, there were no regional differences in the results of the salty taste test results. And also, there was no regional difference in the olfactory test results in the present data. However, the P-value after statistical processing was $P=0.052$, so if we increased the data for urban residents, there was a possibility that there would be a statistically significant difference in the olfactory test results. We look forward to future results.

Figure 1:

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Table 11. Comparison of participant aware saliva data

value	1.673	1.781
Standard deviation	0.511	0.471
F-test	P=0.209	
Unpaired Student-t test	P=0.139	
Mann-Whitney test		

Average value	Standard deviation	F-test	N City n=55	Y Town n=201	4.455	5.095	1424	1.037	P=0.004**	P=
Unpaired Student-t test	Mann-Whitney test									

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Figure 2: Table 12 .

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) are mean \pm SD values of 0.89 ± 0.387 in Yakumo Town

Figure 3: Table 14

14

	N City n=55	Y Town n=201
Average value	0.86	0.89
Standard deviation	0.389	0.387
F-test	P=0.491	
Unpaired Student-t test	P=0.614	
Mann-Whitney test		
	N City n=55	Y Town n=201
Average value	6.455	7.368
Standard deviation	3.31	3.007
F-test		
Unpaired Student-t test	P=0.052	
Mann-Whitney test		

Figure 4: Table 14 .

Figure 5: Table 15 .

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10 CONCLUSION

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