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IMPACT OF DAIRY ALCOHOL HABIT TO HEALTH FACTORS IN JAPANESE SENIORS

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Abstract

Objectives: Drunk frequency of senior vary greatly by generation and culture. The objective of the study is to clarify the rate of daily drinker and impact of daily drinking to their health and social characteristics.

Methods: A cross-sectional study of community dwelling older people in Japan.

Results: The average age of participants was 71.7 years old, ranged from 60 to 90 years old. According to the questionnaire answers, 23.3% of them were drinking as daily routine. People who drink alcohol everyday are reported to be healthy, live with spouse, having work or live actively, and also have a good sleep quality, from the previous studies. On the other hand, depression trend is common among the people who do not drink alcohol every day.

Conclusion: This study gave us an information of daily alcohol habit impacts to health factors (e.g. mental factors). In the future work, we should consider quantitatively impacts including harmful level of alcohol intake and frequency.

Keywords

Daily Drinker, Seniors, Health

1. Introduction

Drunk frequency of senior is thought to be varied greatly by generation and culture. Generally, daily routine of heavy alcohol intake increases a health risk such as cardiovascular disease, hypertension, cancer, or cataract (Grønbaek, 2009; Gong et al., 2015). Excessive alcohol may also be a risk factor of orthostatic hypotension, gait instability, and falls (Gaxatte et al., 2017). These relationships may have influenced by confounding factors possibly medication and functional status (Račić et al., 2014). Also, Chagas et al. (2017), Heuberger (2009) and Agahia et al. (2016) pointed out the risks of the drinking habit.

On the other hand, adequate alcohol drinking may have a positive health effect. The beneficial alcohol effects include prevention of thrombosis, dyslipidemia, and cardiovascular events (Grønbaek, 2009; Sasakabe et al., 2018; Kalla and Figueredo, 2017). Moreover, moderate alcohol drinking may lower the mortality of heart failure patients (Petroni et al., 2014). Konishi et al. (2009) and Tomoyama et al. (2003) reported that some alcohol improve their satisfaction of life.

According to the Japanese National Health and Nutrition Survey (MHLW, 2018), 30.4% of men and 5.2% of women over 60 years old are reported to have daily alcohol habit (drink as a daily routine) that is thought to be a large number in men. Advanced aging society is expected in the near future, health related intervention with regards of drinking might necessary to prevent premature long-term care and mortality with a little scientific evidence. The purpose of this study is to clarify the current daily drinker rate and its relation to health and social related characteristics.

* MHLW: Ministry of Health, Labor and Welfare

2. Methods

2.1 Terms and Definitions

In the study, we use terms as follows:

- Daily drinker; drink alcohol every day as a daily routine
- Non-daily drinker; occasionally drinker and no drinker
- Young-old; aged from 60 to 74 years old, MHLW defines elderly person is over than 65 years old, however, standard retirement age of Japanese is 60 years old. So that the study defined young-old is 60 to 74 years old.
- Old-old; over than 75years old, according to the MHLW's latter stage elderly

2.2 Information Collection and Participants

A cross-sectional study of community dwelling elder people was recruited in one city of Tochigi prefecture Japan in 2015. The study prepared 1921 questionnaires to deliver the object people through the community by using circular information board (Japanese traditional style information exchange system, that is, people in the community pass the circular notice to neighborhood). 1062 answers were posted with the volition of the objected people, and there are 995 valid responses which have self-reported demographic information, alcohol taking habit, health conditions, and psychosocial function. Chi-square test was used to see difference among age groups and daily drinker with health factors. The research was carried out from June to October, in 2015. All participants or their relatives agreed to participate the present study and provided written informed consents. The study protocol was approved by the Ethics Committee of the Dokkyo Medical University.

2.3 Method and Aspects of the Survey

The data of general characteristics of participants, self-reported demographic information, alcohol taking habit, health conditions, and psychosocial functioning were corrected. Demographic information included sex, age, households, income, lifestyle, habits and life satisfaction. We also asked health behavior and current health status such as history of coronary artery disease and diabetes. Depression symptoms were assessed using the 5-item Geriatric Depression Scale (GDS-5) and sleep quality were self-evaluated with Pittsburg Sleep Quality Index. This 5-item version GDS was validated in elderly population and Japanese version of GDS-5 is found as predictive as GDS-15 (Hoyle et al., 1999, Rinaldi et al. 2003, Wada et al. 2014).

Japanese version of Pittsburgh Sleep Quality Index (PSQI)^{14) 15)} was used to assess participants' average sleep quality within the last month. The PSQI is design to assess seven components with nineteen questions: sleep quality, sleep latency, sleep duration, habitual sleep efficiency, sleep disturbances, use of sleeping medication, and daytime dysfunction. Each

question is self-rated from zero to three and summed to yield global PSQI score, which has range of 0-21. Higher scores indicate worse sleep quality and more than 5 score indicate poor sleep quality. The participants were dichotomized based on their total PSQI score: poor sleeper with a score of more than 5 and good sleeper with a score of 5 or less (Buysse et al., 1988, Doi et al., 1998).

2.4 Statistical Analysis

Chi-square test or Fisher's direct test was used to see difference among age groups and daily alcohol consumption with health related factors. P-values were two tailed and $p < 0.05$ was considered significant. Data analyses were conducted using SPSS ver. 25.0.

3. Results

3.1 Demographic and Life Style Characteristics

The average age of participants was 71.7 years old, and the range was between 60 to 90 years old. As a component age group, 68.1% were under 75 years old. Women was 52.5% and the person with taking alcohol everyday was 23.3%. 60.5% of people were living with spouse, two person-household. With regard to the subjective health, 83.7% answered healthy and 73.2% answered stressful. 60% to 70% of the sample had active life style with exercise and the hobby. 95.7% of the sample had regular eating habits. With regard to the medical conditions and health, 76.3% were taking medication and 54.8% had hypertension. The residents used medication, but were relatively healthy. These demographic data according to alcohol consumption is shown in Table 1.

Table 1: Demographic and Life Style Characteristics according to taking Alcohol Groups

Variable	total		non-daily drinker n=763		daily drinker n=232		p-value
	n	%	n	%	n	%	
Age							0.883
60-75	678	68.1	519	68.0	159	68.5	
75-over	317	31.9	244	32.0	73	31.5	
Sex							< 0.001
male	473	47.5	281	36.8	192	82.8	
female	522	52.5	482	63.2	40	17.2	
Living alone							0.167
yes	96	9.7	79	10.4	17	7.3	
no	896	90.3	681	89.6	215	92.7	
Living w/wife or husband							0.024
yes	600	60.5	445	58.6	155	66.8	
no	392	39.5	315	41.4	77	33.2	
Living w/ child							0.031
yes	227	22.9	186	24.5	41	17.7	
no	765	77.1	574	75.5	191	82.3	
Family care giver (yes)							0.098
yes	72	7.3	61	8.0	11	4.8	
no	919	92.7	700	92.0	219	95.2	
Employed (yes)							0.005
yes	254	25.6	179	23.5	75	32.8	
no	737	74.4	583	76.5	154	67.2	
Subjective health (healthy)							0.017
yes	833	83.7	627	82.2	206	88.8	
no	162	16.3	136	17.8	26	11.2	
Sleep quality (good)							0.008
good	538	66.8	394	64.4	144	74.6	
poor	179	33.2	126	35.6	53	25.4	
Stressful (yes)							0.046
yes	726	73.2	568	74.7	158	68.1	
no	266	26.8	192	25.3	74	31.9	
Depressive mood (no)							0.020
yes	18	26.2	16	28.0	2	20.3	
no	734	73.8	549	72.0	185	79.7	
Active lifestyle (yes)							0.025
yes	637	65.1	473	63.2	164	71.3	
no	341	34.9	275	36.8	66	28.7	
Exercise habit (yes)							0.058
yes	601	61.1	447	59.4	154	66.4	
no	383	38.9	305	40.6	78	33.6	
Having hobby (yes)							0.214
yes	706	73.0	533	72.0	173	76.2	
no	261	27.0	207	28.0	54	23.8	
Having regular meal (yes)							0.769
yes	945	95.7	724	95.6	221	96.1	
no	261	4.3	207	4.4	54	3.9	
Taking caffeine (yes)							0.005
yes	469	52.9	379	55.5	90	44.3	
no	417	47.1	304	44.5	113	55.7	
Smoking (yes)							< 0.001
yes	61	6.1	32	4.2	29	12.6	
no	931	93.9	729	95.8	202	87.4	
Bathing daily (yes)							0.664
yes	789	79.5	607	79.8	182	78.4	
no	204	20.5	154	20.2	50	21.6	
Medication use (yes)							0.722
yes	756	76.3	577	76.0	179	77.2	
no	235	23.7	182	24.0	53	22.8	
Hypertension (yes)							0.014
yes	408	54.8	295	52.3	113	62.8	
no	336	45.2	269	47.7	67	37.2	
Cerebrovascular disease (yes)							0.187
yes	29	29.0	19	3.4	10	5.6	
no	715	71.0	545	96.6	170	94.4	
Coronary artery disease (yes)							0.255
yes	88	11.8	71	12.6	17	9.4	
no	656	88.2	493	87.4	163	90.6	
Diabetes mellitus (yes)							0.645
yes	128	17.2	95	16.8	33	18.3	
no	616	82.8	469	83.2	147	81.7	
Kidney disease (yes)							0.812
yes	24	3.2	19	3.4	5	2.8	
no	720	96.8	545	96.6	175	97.2	
Liver disease (yes)							0.137
yes	16	2.2	15	2.7	1	0.6	
no	728	97.8	549	97.3	179	99.4	
Bone or joint problem (yes)							0.017
yes	121	16.3	102	18.1	19	10.6	
no	623	83.7	462	81.9	161	89.4	
Pearson's chi-square test							
Fisher's exact test							

3.2 Demographic and Life Style Characteristics According to taking Alcohol Groups

Demographic and life style characteristics according to taking alcohol groups is shown in Table 1. People who drink alcohol everyday compare with non-daily drinker, being male gender was significant ($p < 0.000$) . Drinking group seemed to think that they are subjectively healthy ($p=0.017$), live in a couple ($p=0.024$), employed ($p=0.005$), active lifestyle ($p=0.025$), and have good sleep quality ($p=0.008$). The stressfulness was felt around 70% for both daily drinking and non-daily drinking people, but less people felt stressful in drinking group ($p=0.046$). Depressive mood is more common among people who did not drink ($p=0.020$). Non-daily drinkers were taking caffeine ($p=0.005$) and smoking was more common among drinkers ($p < 0.000$). Hypertension was more common among those who drank comparing to non-daily drinkers ($p=0.014$). In contrast, non-daily drinker group was reported significantly higher episodes of bone and joint disease ($p=0.017$) (Table 1).

3.3 Difference by the Age, Demographic and Life Style Characteristics according to taking Alcohol Groups

Table 2 shows the characteristics of drinking habits between the age groups, 60 to 74 and over 75. Both age groups, alcohol drinking people were dominantly male (young-old $p < 0.000$, old-old $p < 0.000$), employed (young-old $p=0.027$, old-old $p=0.038$), smoking (young-old $p=0.003$, old-old $p < 0.000$). When we compared subjective health and depressed mood, a significant difference was found among young-old drinkers. In contrast, non-daily drinkers among young-old group were taking caffeine ($p=0.004$). Instead of alcohol, it seemed to be taking caffeine-containing beverages such as coffee and green tea. Comparing to younger seniors, daily drinkers of people 75 and over were significantly showed good sleep quality ($p=0.029$) and having a hobby ($p=0.049$). A group of old-old people who did not drink tend to live with children ($p=0.021$) and have bone or joint disease ($p=0.037$) (Table 2).

Table 2: Difference by the Age, Demographic and Life Style Characteristics according to taking Alcohol Groups

Variable	60 y ≤ 74y (n=678)				p-value	≥ 75 y (n=317)				p-value
	non-daily drinker(76.5%)		daily drinker(23.5%)			non-daily drinker(76.5%)		daily drinker(23.5%)		
	n	%	n	%		n	%	n	%	
Sex (Man)	164	31.6	127	79.9	< 0.001	117	48.0	65	89.0	< 0.001
Employed (yes)	161	31.0	64	40.5	0.027	18	7.4	11	15.5	0.038
Smoking (yes)	27	5.2	19	11.9	0.003	5	2.1	10	13.9	< 0.001*
Subjective health (healthy)	441	85.0	147	92.5	0.015	186	76.2	59	80.8	0.411
Depressive mood (no)	137	26.4	29	18.2	0.036	76	31.3	18	24.7	0.278
Taking caffeine (yes)	273	57.0	62	43.4	0.004	106	52.0	28	46.7	0.471
Sleep quality (good)	276	64.8	99	72.8	0.085	118	63.4	45	78.9	0.029
Having hobby (yes)	362	71.4	112	72.3	0.836	171	73.4	61	84.7	0.049
Living w/ child	129	25.0	33	20.8	0.273	57	23.4	8	11.0	0.021*
Bone or joint problem (yes)	52	14.8	12	10.2	0.203	50	23.5	7	11.3	0.049*

Pearson's chi-square test

* Fisher's exact test

4. Discussion

The general features of the daily drinker are man, living with spouse, having a job, good subjective hearth, high healthy feeling, active life style, and high smoking ratio. We found daily drinker was dominantly man (82.8%), which support the finding of the research conducted by the MHLW (2016). This seems that a cultural background of old Japan "The lady drinks sake only for the tasting". However, number of woman drinker increases in recently (Japan Sake and Shochu Makers Association, 2017), and the tendency could possibly change in the near future. Moreover, the senior citizen who have an active life style and having a job is thought to continue a drinking because they were subjectively healthy. There were 6.1% smokers confirmed in this research, it seems to be impacted the recent non-smoking movement. However, the smokers are significantly high in the daily drinkers. It is a tendency of living with spouse in the daily drinkers, on the other hand, non-daily drinker likely to live with children. The elder people have a custom of drink in their own house that might be yield a modest to their family (children) in the research of Japan Sake and Shochu Makers Association (2017). Moreover, non-daily drinkers tend to take caffeine a lot instead of drinking alcohol. It is founded some differences that drinking habits by young-old and old-old. The young-old have a tendency of being good health subjectively, and old-old tend to sleep better and have a hobby for enjoying their life. On the other hand, it is important that young-old drinkers are healthy and no depression. As people age, they might modify amount of alcohol fewer due to declined confidence in their health.

MHLW (2018) says moderate alcohol is good to your health (Weiss et al., 1993, Hillbom et al., 1985). And the beverage manufacturer in Japan emphasizes the J-curve effect in a

body that is the proper quantity of drinking is not bad for the health in fact, drinking the proper quantity of alcohol promote better interaction with people and the increase endocrine action, etc. (Inoue and Tsugane, 2005). And it is assumed simultaneously, from the view point of psychology, it might be important increasing feelings of satisfaction in the daily communications while uplifted when drinking, and to put the distance with the person (children) etc. who differ in the generation and the culture and the concept (Tokukichi and Iwasaki, 2007).

5. Conclusions

The study was carried out to make clear the impact of daily drinking to the health factors. Daily drinking is thought to be a deep relation to the vitality. And more, it is interesting that the custom of taking caffeine is might to substitute of taking alcohol. The results of the study should be used to the care and treatment information of aged people. However, we felt the limit of the study, that is, the study could not make clear the quantity and frequency of intake. In the future work, we should consider quantitatively impacts including harmful revel of alcohol intake and frequency.

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