

Epidemiological Study for Taste of Salt and Habitual Salt Intake

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Summary

Recent report that the correlation between seasoning behavior of salt and real salt intake was limited and the status among pregnant women and middle age was still scant.

The aim of the study in this first year was to exam the association between behavior of using saltiness seasoning, taste of miso soup and mental distress in pregnancy. In the second year, we have examed the same association in men and non-pregnant women. We used the data of almost ten thousand pregnant women and almost eight thousand other parsons participated in Tohoku Medical Megabank Project Birth and Three-Generation Cohort Study. Three items of question about seasoning behavior of salt; adding table salt on meal, pouring table soy sauce on meal, taste of miso soup. The category of response for using of saltiness seasoning was five; not use, rarely, sometimes, usually, always. The category of response for taste of miso soup was five; very strong, strong, standard, light, very light. Mental distress was estimated by a Kessler 6 scale score. Data analyses was used by SAS software.

In pregnant women, the average of salt intake was 9.6g/day, and the gape of daily salt intake between subjects who usually use table soy source and/or table salt on meal and who not use the seasoning was 0.1g/day in minimum and 0.4g/day in maximum. The subjects who had high mental distress (diagnosed cut-off score was 5 or higher in K6) more consumed salt than subjects who had normal mental condition, the multivariate odds ratio was 1.2. The tendency of behavior of seasoning of salt was high in subjects who had high mental distress, always pouring soy sauce on meal was 1.3 times, for the always add table salt on meal was 1.2 times, strong taste of miso soup was 1.5 times.

In men and non-pregnant women, the average of salt intake was 10.8 g/day, and the gape of daily salt intake between subjects who usually use table soy source and/or table salt on meal and who not use the seasoning was 0.3 g/day in minimum and 2.2 g/day in maximum. The subjects who had high mental distress (diagnosed cut-off score was 5 or higher in K6) more consumed salt than subjects who had normal mental condition, the multivariate odds ratio was 1.1. The tendency of behavior of seasoning of salt was high in subjects who had high mental distress, always pouring soy sauce on meal was 1.35 times, for the always add table salt on meal was 1.8 times, strong taste of miso soup was 1.4 times. Our result by using large-scaled cohort data suggested person with high level of mental distress may behave high frequent of using saltiness seasoning.

We have also examined salt intake, environmental factors and the seven type of emotion (anger, confusing, depression, fatigue, anxiety, friendliness) in detailed survey. Fifty-eight men and women participated the detailed survey and we followed them during one year. The survey contented a questionnaire which used same items of

large-scale cohort study which included assessment of salt intake and three items of question about seasoning behavior of salt, and added some new items to assess personal emotion, and contented to measure of liquid every day, to measure of temperature and humidity in room. In this detailed survey, the correlation between salt intake and seven type of emotion was low in each and no statically association. We also tried Stepwise analyses to estimate strong factor and the rank it that related to seasoning behavior of salt.

For taste of miso soup was determined by sex, age, BMI, sleep condition, room temperature, room humidity and working type and related most emotional factors was depression.

For using frequency of table salt on meal was determined by sex, age, room temperature, room humidity and working type and related most emotional factors was friendliness. For frequent of use table soy source on meal was determined sex, age, working type and related most emotional factors was confusing. The result has suggested that seasoning behavior of salt was different by emotional type.

Overall, our study suggested that mental distress and emotional condition would relate to behave frequent of using saltiness seasoning.