

# Let's keep your mouth clean!!

Kazutaka Kashiwagi, Aika Nasu, Tomoe Sawaguchi and Norika Matsuda

\*We belong to Morioka-dai-ichi high school.

## Abstract

We heard the lecture of Kobayashi Takuya, and the lecture was about the relationship between chewing and Dementia(認知症). At that time, we were aware of the importance of oral care.

Our goals of this study were to know the effect of oral condition to the whole body, and to suggest the idea of keeping oral condition good. We made hypothesis. First, there may be some relations between oral condition and our health. Second, gum disease may have something to do with Diabetes(糖尿病).

We carried out an experiment in order to search the condition of mouth of Morioka-dai-ichi high school students and to research effectiveness of "Dokudashi-Ugai". In brushing, tooth spaces are dirtier than the other part. And we discovered that "Dokudashi-Ugai" is an effective way to keep our mouth clean.

## 1. Introduction

We had studied how to keep our oral condition clean. We heard the lecture of Kobayashi Takuya, who is a dentist of Iwate Medical University and the lecture was about the relationship between chewing and Dementia(認知症). At that time, we were aware of the importance of oral care.

Our goals of this study were to know the effect of oral condition to the whole body, and to suggest the idea of keeping oral condition good. We made hypothesis. First, there may be some relations between oral condition and our health. Second, gum disease may have something to do with Diabetes.(糖尿病)

## 2. Research thing

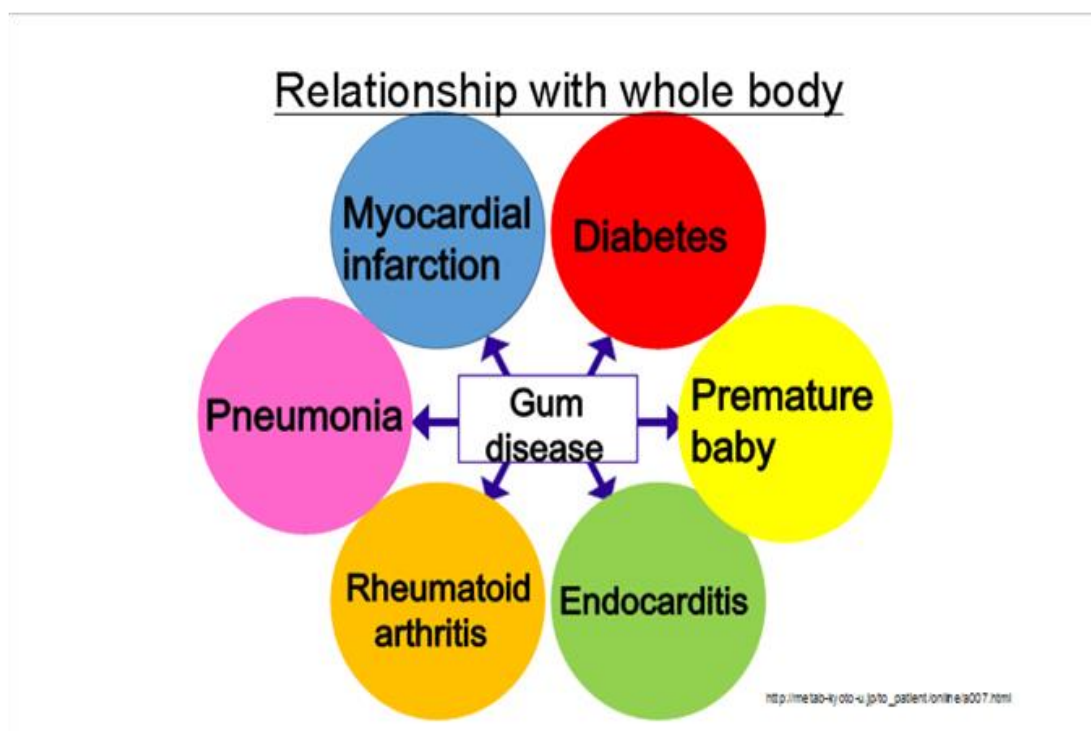
### (1) Cause and processes

We researched cause and processes about gum disease. No brushing your teeth makes

them this disease. So you have dirt on your teeth and they become dental plaque and tartar as time goes by. It is said that there are about one hundred million bacteria in one milligram of plaque. And tartar grows obstinate dirt like a light stone if you leave your teeth stick to your saliva. Thereafter we cause an inflammation and periodontal pockets are made because your gums are damaged by toxin from bacteria. It is said that bacteria as cause of periodontal disease is over eight hundred types for example *Prophyromonas gingivalis*. These bacteria hate oxygen and like blood. So they go deep into periodontal pockets and the condition of the disease becomes serious without pains. In other words, we lost bone supported your teeth and feel unsettled. Finally, your teeth fell out.

## ( 2 ) Relationship with whole body disease

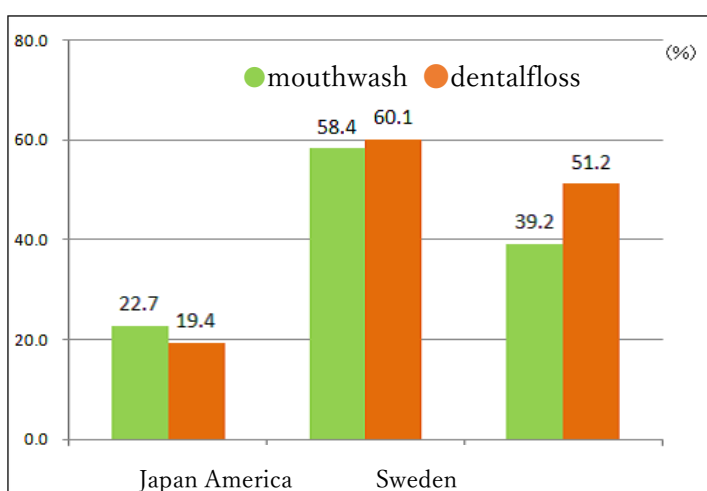
Almost such disease is caused by circulation of bacteria, For example, heart disease like “Myocardial infarction”. It is said that these are likely to happen for “Thrombus” made by bacteria. Besides this, gum disease is related to “Pneumonia” due to aspiration, “Diabetes”, “Rheumatoid arthritis” and various disease. The illness displayed here is only a part. So we should not make light of gum disease.



### 3.FW's results

The place of our field work was Dental Hygienist Institute of Iwate. In the field work, we learned four things mainly. They were about how to brush the teeth, drinks which dissolve the teeth, new common sense of overseas and primary care hygienist.

The graph shows the difference of attitude toward the oral care between Japanese and Westerners. From this graph, you can see that in America and Sweden, floss is spread widely. However, Japanese people tend not to use floss so much. Floss is recommended by dentists. So we should use it more!



### 4.Experiments (Motive and Method)& Results

#### ( 1 )Experiment1

A member of Dental Hygienist Institute of Iwate said that we should brush our teeth with 200 grams of power.

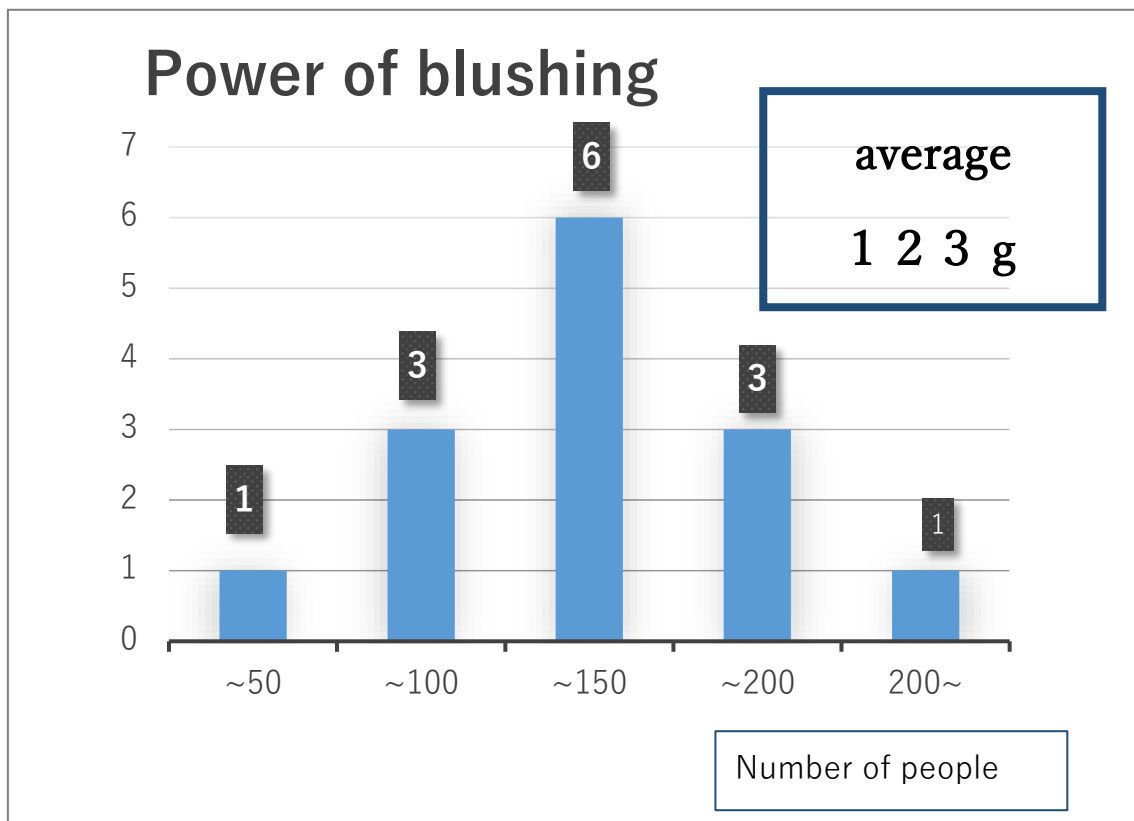
We carried out an experiment in order to search brushing power of our school students. First, scrubbing a scale with always brushing power. Second, recording this power.

#### Result1

Average of power of brushing is 123 grams.

#### consideration

Brushing power of our school students is not strong enough to brush their teeth.



\*Graph1

## (2) Experiment2

We thought that we should search how to care our oral condition easily. We found a book written by Teruyama Youko. It was “Dokudashi-Ugai”. “Dokudashi-Ugai” means detox gargle. The way to do “Dokudashi-Ugai” is having water hit our teeth.

We carried out experiments in order to search the condition of mouth of our high school students and to research effectiveness of “Dokudashi-Ugai”. We gathered people. First, People blushed. Second, people did “Dokudashi-Ugai” the other day. After that, we colored their teeth. And we took pictures to record this experiment

### Reslut2

The results are shown in the graph2.

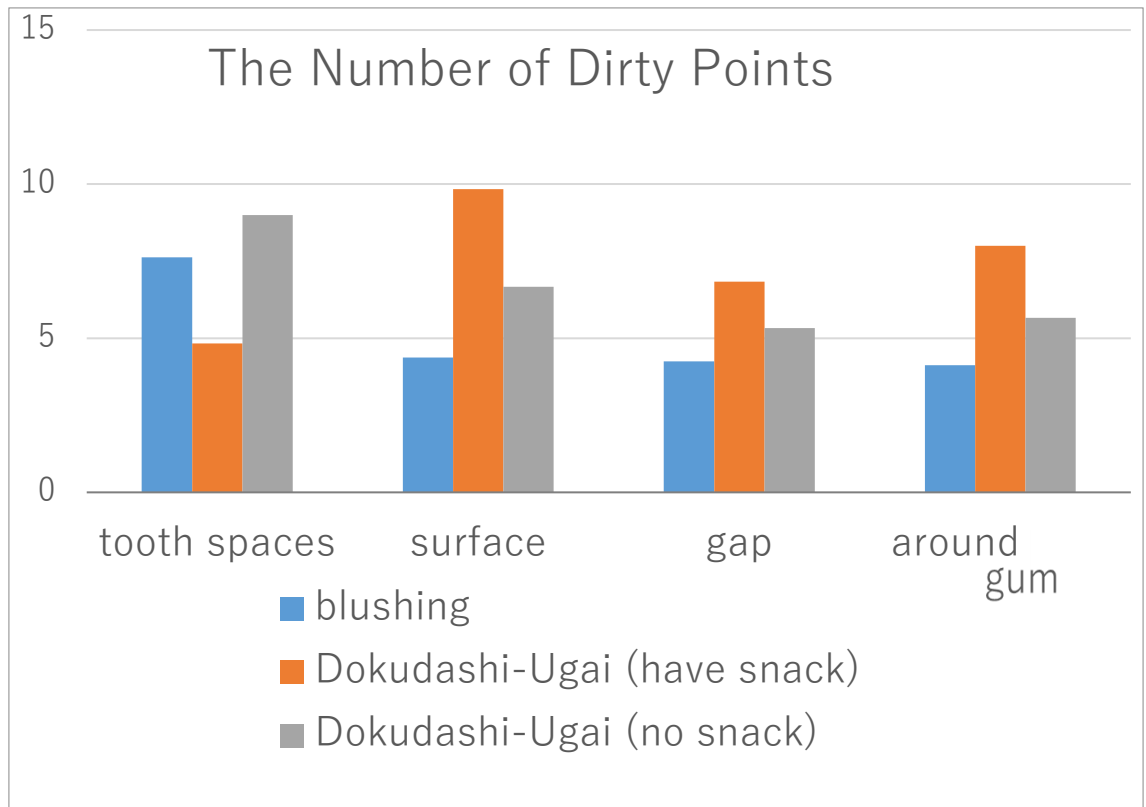
According to blue graph(blushing), tooth space is dirtier than the other parts.

The blue graph(blushing) is shorter than gray graph (“Dokudashi-Ugai” no snack).

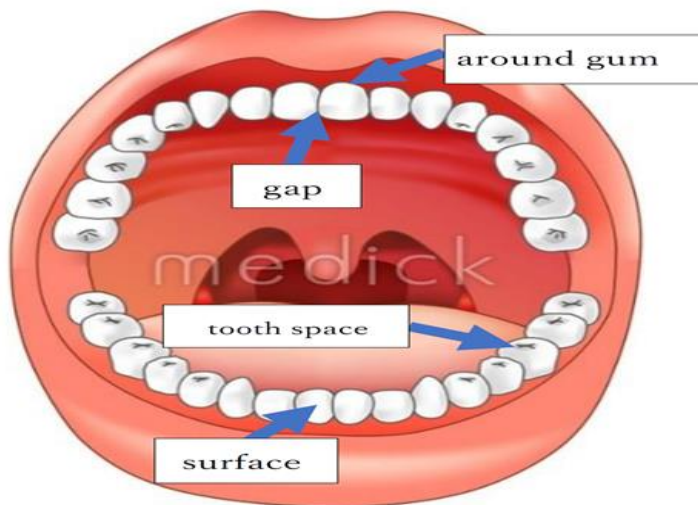
So it is clear that effectiveness of “Dokudashi-ugai” is inferior than that of blushing. The gray graph (“Dokudashi-Ugai” no snack) is tend to be shorter than the orange graph (“Dokudashi-Ugai” have snack).

consideration2

In brushing, tooth spaces are dirtier than the other parts. Brushing is still better than “Dokudashi-Ugai”. No snacking is better than the time we snacked something on the point of good oral condition.



\*graph2



### (3) Experiment3

According to the previous experiment, we noticed that we would skills up “Dokudashi-Ugai” if we continue it. So we carried out the third experiment. The content of this experiment is repeating Experiment2.

#### Result3

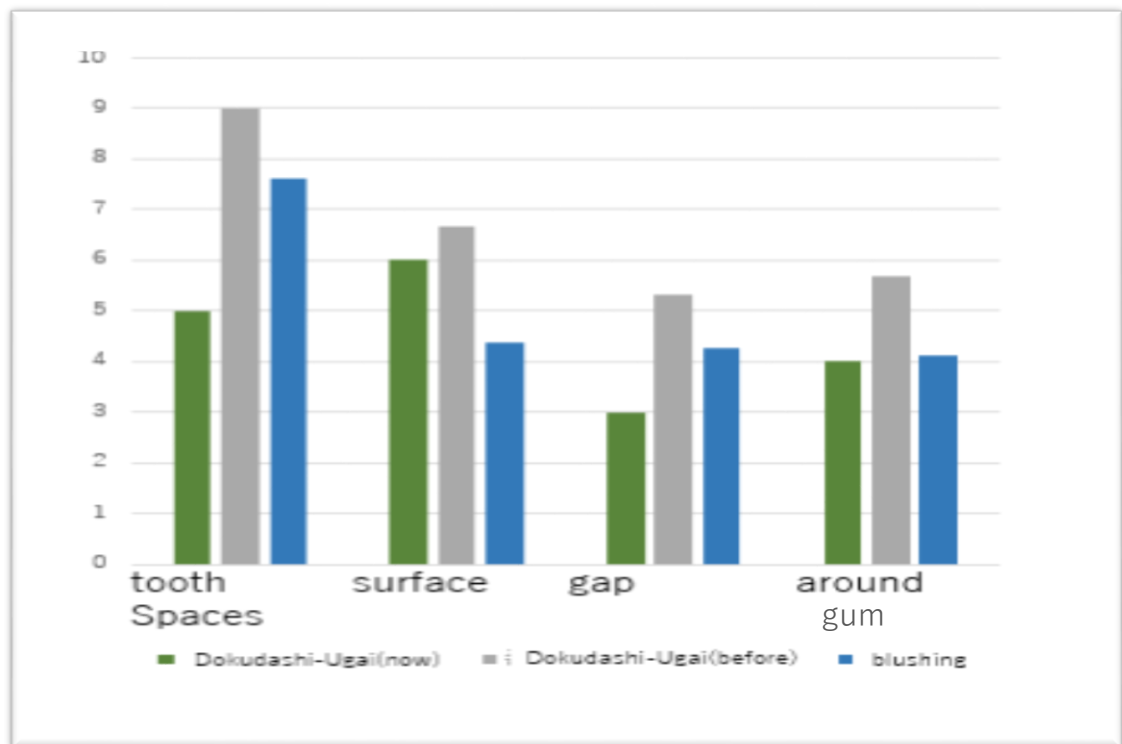
The results are shown in the graph.

The green graph (“Dokudashi-Ugai” after) is shorter than gray graph (“Dokudashi-Ugai” before).

Compared with Experiment2, the effectiveness of “Dokudashi-Ugai” got close to blushing.

#### Consideration3

According to the third experiment, our Dokudashi-Ugai’s skill improved . And we found that Dokudashi-ugai has the same effect like that of blushing. Therefore, it is valid to do "Dokudashi-Ugai" after eating even if we don’t have the time to blush our teeth.



## 6 .Suggestion

We suggest five points.

“Dokudashi-Ugai” has good effect as well as blushing.

To pay attention to hollow of teeth.

To blush your teeth closely

After meal, to do “Dokudashi-Ugai” or blush.

To use “Floss”

## 7 .Acknowledgement

Fumiko Hareyama and others.

They belong to Japan Dental Hygienists Association.

## 7. References

1. The Japanese Respiratory  
[http://www.jrs.or.jp/modules/citizen/index.php?content\\_id=11](http://www.jrs.or.jp/modules/citizen/index.php?content_id=11)
2. Japan Dental Hygienists Association [https://www.jdha.or.jp/pdf/periodo\\_rheumatism.pdf](https://www.jdha.or.jp/pdf/periodo_rheumatism.pdf)
3. Diabetes and Metabolism Information Center  
<http://dmic.ncgm.go.jp/general/about-dm/070/040/01.html>
4. Japan Academy of Dental Human Dock <http://www.jddock.net/kankei.html>
5. The Japanese Society of Periodontology <http://www.perio.jp/qa/cause/>
6. The Japanese Academy of Clinical Periodontology <http://www.jacp.net/periodo/about/>
7. AFK Sistema <http://systema.lion.co.jp/shishubyo/about/genin.htm>
8. SUNSTAR <http://jp.sunstar.com/useful/gumdisease/>
9. Lion <https://www.lion-dent-health.or.jp/basic/basic5.htm>
10. e-Health Net <https://www.e-healthnet.mhlw.go.jp/information/teeth/h-03-001.html>
11. Oita Dental Association <http://www.oita-dental-a.or.jp/qa/qa02.html>
12. BML [www.bml.co.jp/business/related/dentallabo.html](http://www.bml.co.jp/business/related/dentallabo.html)
13. Periodontal disease pathogens Vampire of Dentistry, Pgbacterium's story  
[http://www.nashikai.or.jp/hm/koushin/2013/mes\\_201305.pdf](http://www.nashikai.or.jp/hm/koushin/2013/mes_201305.pdf)
14. Asako Miura and others "The Assessment of Oral Hygiene with the ATP Detection Test; A Comparative Study of Tooth Brushing-Related Diurnal Variation Using the Salivary ATP Swab Test"  

(Fukushima Medical University School  
of Nursing' book No.18 2016)
15. Study Group periodontal disease prevention [www.8020.ne.jp](http://www.8020.ne.jp)
16. Kyuichi Kamoi and others 「Effects of Periodontal Pocket Irrigation with a Green Tea Extract on Clinical Signs and Subgingival Bacterial Flora in Periodontitis Patients」  

(Itoen,LTD. Central Research  
Institute , Department of Periodontology, School of Dentistry at Tokyo, The Nippon Dental  
University)
17. Yuko Teruyama 「Dentist came up with Dokudashi-Ugai」 April 2017