

# Change of periodontal inflammatory indicators through a 4-week weight control intervention including caloric restriction and exercise training in young Koreans

<b>Submission date</b> 27/07/2015	<b>Recruitment status</b> No longer recruiting	<input type="checkbox"/> Prospectively registered
<b>Registration date</b> 14/08/2015	<b>Overall study status</b> Completed	<input type="checkbox"/> Protocol
<b>Last Edited</b> 17/12/2020	<b>Condition category</b> Nutritional, Metabolic, Endocrine	<input type="checkbox"/> Statistical analysis plan
		<input checked="" type="checkbox"/> Results
		<input type="checkbox"/> Individual participant data

## Plain English summary of protocol

### Background and study aims

The aim of this study was to examine the effects of a 4-week weight control program on periodontal (gum) health.

### Who can participate?

Obese individuals in their twenties.

### What does the study involve?

Participants stayed in the camp under surveillance for two hours of aerobic exercise, three hours of weight training, and a low salt, low fat diet. They were not allowed to have any private foods or drinks except water. We examined their dental plaque at the start and end of the study. We made no attempt to change the participants' toothbrushing method or frequency so as not to affect gum inflammation during the study.

### What are the possible benefits and risks of participating?

Not provided at time of registration.

### Where is the study run from?

Konyang University (South Korea).

### When is the study starting and how long is it expected to run for?

September 2009 to June 2012.

### Who is funding the study?

National Research Foundation of Korea (South Korea).

### Who is the main contact?

Dr Soo-Jeong Hwang

# Contact information

## Type(s)

Scientific

## Contact name

Dr Soo-Jeong Hwang

## Contact details

Department of Dental Hygiene  
College of Medical Science  
Konyang University  
Daejeon  
Korea, South  
302-718

# Additional identifiers

# Study information

## Scientific Title

Change of MMP-8, MMP-9, and IL-1beta in gingival crevicular fluid through a 4-week weight control intervention including caloric restriction and exercise training in young Koreans

## Study objectives

Obesity control can influence periodontal inflammation through systemic and local change.

## Ethics approval required

Old ethics approval format

## Ethics approval(s)

Ethical Committee of Konyang University Hospital, KYUH 13-89, KYUH 9-25

## Study design

Pre-post study

## Primary study design

Interventional

## Study type(s)

Prevention

## Health condition(s) or problem(s) studied

Body mass index of >25

## Interventions

The subjects stayed in the camp under surveillance for two hours of aerobic exercise, three hours of weight training, and a low salt-low fat diet ( $\leq 1,300$  kcal/day). They were not allowed to have any private foods or drinks except water. We examined the dental plaque index at the

baseline and final state to serve as a proxy for the maintenance of the subjects' habitual oral health behavior. We made no attempt to change the subjects' toothbrushing method or frequency so as not to affect gingival inflammation during the program. Smoking was not prohibited to maintain the other conditions as confounding factors except weight control.

**Intervention Type**

Behavioural

**Primary outcome(s)**

MMP-8, MMP-9, and IL-1beta in gingival crevicular fluid

**Key secondary outcome(s)**

Gingival index

**Completion date**

01/06/2012

**Eligibility****Key inclusion criteria**

Obese individuals (body mass index of >25) aged 20 to 29 and 13 camp trainers of the same age

**Participant type(s)**

Healthy volunteer

**Healthy volunteers allowed**

No

**Age group**

Adult

**Sex**

All

**Total final enrolment**

41

**Key exclusion criteria**

1. Systemic disease exclusive of obesity
2. Use of steroidal or non-steroidal anti-inflammatory drugs or antibiotics in the last three months or during the program
3. Use of mouthwash in the last three months or during the program
4. Need of dental or medical treatment during the program
5. Fewer than 24 teeth
6. Sites with probing periodontal pocket depth (PD) > 3.5 mm
7. Self-directed dropout during the course of the weight-control program

**Date of first enrolment**

01/06/2011

**Date of final enrolment**

28/06/2011

**Locations****Countries of recruitment**

Korea, South

**Study participating centre****Konyang University**

Nonsan

Korea, South

320-711

**Sponsor information****Organisation**

National Research Foundation of Korea

**ROR**

<https://ror.org/013aysd81>

**Funder(s)****Funder type**

Government

**Funder Name**

National Research Foundation of Korea

**Alternative Name(s)**

, National Research Foundation (South Korea), NRF

**Funding Body Type**

Private sector organisation

**Funding Body Subtype**

Trusts, charities, foundations (both public and private)

**Location**

Korea, South

# Results and Publications

## Individual participant data (IPD) sharing plan

### IPD sharing plan summary

Available on request

### Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
<a href="#">Results article</a>	results	18/09/2015	17/12/2020	Yes	No