

# Can vitamin supplements help school children in healing gum diseases?

<b>Submission date</b> 31/05/2025	<b>Recruitment status</b> No longer recruiting	<input type="checkbox"/> Prospectively registered <input type="checkbox"/> Protocol
<b>Registration date</b> 05/08/2025	<b>Overall study status</b> Completed	<input type="checkbox"/> Statistical analysis plan <input type="checkbox"/> Results
<b>Last Edited</b> 13/06/2025	<b>Condition category</b> Oral Health	<input type="checkbox"/> Individual participant data <input checked="" type="checkbox"/> Record updated in last year

## Plain English summary of protocol

### Background and study aims

Gum disease is very common in Pakistani children. Along with the lack of dental hygiene awareness and regular checkups, deficiencies in micronutrients like vitamin C and D are also widespread among children. This study aimed to assess whether correcting the micronutrient deficiency alongside normal dental care would improve periodontal disease progression in school-age children.

### Who can participate?

School-going children aged 4-12 years with no systemic illnesses

### What does the study involve?

First visit (baseline): each child (and a parent) answers a short questionnaire about home dental habits, demographics, and vitamin deficiency and then has a dental checkup.

#### Group allocation:

Group A (control): professional ultrasonic scaling + dental hygiene advice.

Group B (vitamin C and D deficient group): the same scaling and advice plus vitamin C & D supplements.

Follow-up visits: after 4 weeks and again after 8 weeks the dentists re-measure the Gingival Index and pocket depth. All children receive the same brushing advice at every visit.

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

Benefits: free dental scaling, personalised brushing tips, and (for Group B) free vitamin supplements that may reduce the severity of gum disease.

Risks: scaling can feel a little sensitive and vitamins can occasionally cause mild stomach upset, but no serious risks are expected. The university ethics board has stated that there is no disadvantage or risk for participants and families may leave the study at any time.

### Where is the study run from?

Dental examinations take place in selected primary schools in Lahore and at the University Dental Hospital, University College of Medicine & Dentistry (UCMD), The University of Lahore (Pakistan).

When is the study starting and how long is it expected to run for?  
September 2021 to February 2024

Who is funding the study?  
Investigator initiated and funded

Who is the main contact?  
Dr Arooj ul Hassan, arooj.ulhassan@ucd.uol.edu.pk, aroojch678@hotmail.com

## Contact information

### Type(s)

Public, Scientific, Principal investigator

### Contact name

Dr Arooj Ul Hassan

### Contact details

227-A, Military accounts  
College Road  
Lahore  
Pakistan  
54000  
+92 (0)3444420953  
aroorj.ulhassan@ucd.uol.edu.pk

## Additional identifiers

### Protocol serial number

00001

## Study information

### Scientific Title

Effectiveness of Vitamin C and Vitamin D supplements in the treatment of periodontal diseases in school-going children

### Acronym

Eff-Vit-Per-Kids

### Study objectives

Appropriate supplementation with Vitamin C and Vitamin D improves periodontal health in school-going children by reducing inflammation, enhancing immune response, and promoting tissue healing.

### Ethics approval required

Old ethics approval format

### Ethics approval(s)

Approved 17/01/2019, Institutional Review Board, Faculty of Allied Health Sciences, The University of Lahore, 1-Km, Defence Road Campus, Off Bhobatian Chowk, Lahore, 54000, Pakistan, +924235322501-12, info@uol.edu.pk, ref: IRB-UOL-FAHS/83511/2019

## **Study design**

Non-randomized study

## **Primary study design**

Interventional

## **Study type(s)**

Screening, Treatment

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

Periodontal disease

## **Interventions**

Cross-sectional phase 1 for baseline assessment followed by interventional phase 2 with modified RCT protocol among two groups (Group A with non-deficient children and group B with deficient children) to allow for intervention to only be given to children who were deficient, blinding done by switching of examiners between baseline assessment, intervention and follow-up examination.

First visit (baseline): each child (and a parent) answers a short questionnaire about home dental habits, demographics, and vitamin deficiency and then has a dental checkup.

Group allocation:

Group A (control): professional ultrasonic scaling + dental hygiene advice.

Group B (vitamin C and D deficient group): the same scaling and advice plus vitamin C and D supplements.

Follow-up visits: after 4 weeks and again after 8 weeks the dentists re-measure the Gingival Index and pocket depth. All children receive the same brushing advice at every visit.

## **Intervention Type**

Supplement

## **Primary outcome(s)**

Gingival health measured using the Silness-Loe Gingival Index (GI) at baseline, 4 and 8 weeks

## **Key secondary outcome(s)**

Probing depth measured using a Williams probe on a periodontal chart at baseline, 4 and 8 weeks

## **Completion date**

05/02/2024

## **Eligibility**

### **Key inclusion criteria**

1. School-going children
2. No systemic diseases

3. Not taking antibiotic therapy

4. 4-12 years of age

**Participant type(s)**

Learner/student

**Healthy volunteers allowed**

No

**Age group**

Child

**Lower age limit**

4 years

**Upper age limit**

12 years

**Sex**

All

**Total final enrolment**

200

**Key exclusion criteria**

1. Participants with systemic disease like diabetes or otherwise immunocompromised
2. Participants taking antibiotics

**Date of first enrolment**

01/10/2021

**Date of final enrolment**

03/11/2021

## **Locations**

**Countries of recruitment**

Pakistan

**Study participating centre**

University Dental Hospital, The University of Lahore

University Dental Hospital, Sultan Town

Lahore

Pakistan

54000

## **Sponsor information**

**Organisation**

University of Lahore

**ROR**

<https://ror.org/051jrjw38>

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

Other

**Funder Name**

Investigator initiated and funded

**Results and Publications****Individual participant data (IPD) sharing plan**

The datasets generated during and/or analysed during the current study will be available upon request from Dr Arooj ul Hassan ([aroojch678@hotmail.com](mailto:aroojch678@hotmail.com))

**IPD sharing plan summary**

Available on request