



5th



Global Network Initiative for BioDental Education and Research

Hiroshima University Faculty of Dentistry

5th Hiroshima Conference on Education and Science in Dentistry



Proceedings of 5th Hiroshima Conference on Education and Science in Dentistry
October 12-13, 2013, in Hiroshima, Japan

Hiroshima University Faculty of Dentistry

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Antioxidant effect of *Nigella sativa* extract in various concentration with DPPH free radical scavenging assay

S. Kurnia¹, R. Safitri² and E.M. Setiawatie¹

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BACKGROUND : The gingival epithelium comprise the epithelial tissue that covers the external surface of the gingiva especially junctional epithelium as well as barrier for the bacterial invasion and periodontopathogen products. Gingival epithelium as the first barrier in the periodontology disease progression. One of nature products is *Nigella sativa*, which common as medicinal plants. *Nigella sativa* is an aromatic plant belonging to the family Ranunculaceae. Several biological activities have been reported in *Nigella sativa* seeds, including antioxidant.

PURPOSE : In this context we tried to estimate the antioxidant activity of various concentration prepared from *Nigella sativa* extract with free DPPH radical scavenging activity.

EXPERIMENTAL METHODS : *Nigella sativa* extract during manufacture from 2500 gram powder of *Nigella sativa* added with 6000 ml ethanol 80%. *Nigella sativa* extracts were made in some concentrations 0,5%, 1%, 2%, 3%, 4%, 5%, 6%, 7%, 8%, 9%, dan 10%. Samples were added into buffer solution and 0,5 ml DPPH solution. UV spec-

trophotometer can measure the intensity of absorption and convert according the formula. The radical scavenging assay was conducted as described by Mansouri et al. The DPPH solution was prepared by dissolving 2.5 mg DPPH in 100 ml of methanol. 25µl of extract or standard antioxidant (quercetin, BHT) were added to 975µL of DPPH solution. The mixture was shaken vigorously and incubated for 30 min in the dark at room temperature and the decreases in the absorbance values were measured at 517 nm. The percentage of DPPH scavenging activity was calculated using the following equation.

RESULTS : These findings suggest that *Nigella sativa* extract concentration 0,5% - 2% has shown anti oxidant effect more than 50% and *Nigella sativa* extract above 3% concentration has shown anti oxidant effect 100%.

CONCLUSION : *Nigella sativa* extract above 3% concentration has more anti oxidant. Based on this research, *nigella sativa* extract as addition in the periodontal therapy.



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17 September 2013

Yth. Rektor
Universitas Airlangga
Surabaya

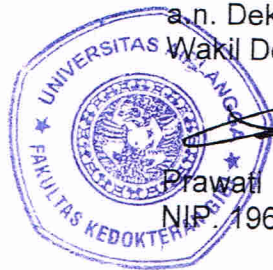
Dengan ini kami beritahukan bahwa staf pengajar Fakultas Kedokteran Gigi Universitas Airlangga tersebut dibawah ini :

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mohon ijin tidak masuk kerja pada tanggal 12 s.d. 13 Oktober 2013 keperluan untuk menjadi pembicara pada seminar **5th Hiroshima Conference on Education and Science in Dentistry** di Hiroshima, Jepang (copy undangan terlampir).

Pada prinsipnya kami dapat memberikan ijin, untuk itu mohon perkenan Rektor memberikan ijin kepada yang bersangkutan.

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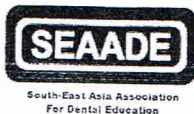
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2. Yang bersangkutan
pada FKG Unair

Member of :





August 28, 2013

**5th Hiroshima Conference on Education and Science in Dentistry
Poster Abstract Acceptance Letter**

Dr. Ernie Maduratna Setiawati
Faculty of Dentistry
Airlangga University
Indonesia

Dear Dr. Ernie Maduratna Setiawati;

The organizing committee of the Hiroshima Conference on Education and Science in Dentistry is pleased to inform you that your abstract has been accepted for poster presentation during the 5th Hiroshima Conference to be held on 12-13, October in Hiroshima, Japan.

We believe the conference will be of great benefit for you, since the world's outstanding investigators will be present. You will have an excellent opportunity to exchange current knowledge on education and science in dentistry. For further information, please check 5th Hiroshima Conference updates at our websites.

We look forward to your participation at the meeting and seeing you in October.

Sincerely yours,

Motoyuki Sugai, DDS., PhD.

President of the Organizing Committee
5th Hiroshima Conference on Education
and Science in Dentistry
Dean, Faculty of Dentistry,
Hiroshima University



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Untuk menjadi pembicara pada seminar **5th Hiroshima Conference on Education and Science in Dentistry** pada tanggal 12 s.d. 13 Oktober 2013 di Hiroshima Jepang.

Demikian Surat Tugas ini dibuat untuk dilaksanakan dengan sebaik-baiknya.

Surabaya, 17 September 2013

a.n Dekan
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