

LEMBAR
HASIL PENILAIAN SEJAWAT SEBIDANG ATAU PEER REVIEW
KARYA ILMIAH: PROCEEDING

Judul Artikel Ilmiah : **Pesticide Exposure and the Level of Reverse Triiodothyronine on School Children in Brebes District—Indonesia**

Nama semua penulis : Budiyono, Suhartono, Apoina Kartini, Soeharyo Hadisaputro, Tjokorda G. D. Pambayun

Status Pengusul (coret yang tidak perlu) : ~~Penulis Utama~~ **Penulis Anggota**

Status Proceeding:

) Nama Proceeding/ Seminar : **International Conference on Public Health for Tropical and Coastal Development**

) Edisi (bulan, tahun) : 15-17 Oktober 2016

) ISSN/ ISBN : ISSN: 1936-6612 (Print): EISSN: 1936-7317 (Online)

) DOI : <https://doi.org/10.1166/asl.2017.9157>

) Alamat WEB Proceeding : <http://www.aspbs.com/science.htm>

Dipresentasikan secara Oral dan dimuat dalam prosiding yang dipublikasikan (beri tanda V yang sesuai)

Seminar Internasional Terindeks Scimago SJR dan Scopus
 Internasional Terindeks pada SCOPUS, IEEE Elrplore, SPIEi
 Internasional
 Nasional

Dipresentasikan dengan Poster dan dimuat dalam prosiding yang dipublikasikan (beri tanda V yang sesuai)

Seminar Internasional
 Nasional

Dipresentasikan tapi tidak dimuat dalam prosiding yang dipublikasikan (beri tanda V yang sesuai)

Seminar Internasional
 Nasional

Hasil Penilaian Peer Review:

No	Komponen yang dinilai	Nilai Maksimal Artikel Presentasi Oral Prosiding Internasional	Nilai yang didapat artikel
a	Kelengkapan unsur isi artikel (10 %)	3	3
b	Ruang lingkup & kedalaman pembahasan (30 %)	9	8.92
c	Kecukupan dan kemutakhiran data/informasi dan metodologi (30 %)	9	8.92
d	Kelengkapan unsur dan kualitas Proceeding (30%)	9	8.96
	Nilai Total	30	29.8
	Nilai yang didapat pengusul: $29.8 \times 0.4 = 11.92/4 = 2.98$		

Catatan Penilaian artikel oleh Reviewer

a	Kelengkapan unsur isi artikel	Kelengkapan unsur sistematika jurnal ilmiah lengkap, namun pada result paragraph 1 sepertinya menyampaikan hasil penelitian sebelumnya (ada titik level) namun tidak mensitasi.
b	Ruang lingkup & kedalaman pembahasan	Hasil terkait dengan tujuan disajikan dengan baik dalam table, namun hanya table III yang disebutkan dalam narasi table, tidak diindikasikan kedalam penerbitan dan sudah menerangkan fenomena secara ilmiah.
c	Kecukupan dan kemutakhiran data/informasi dan metodologi	Informasi yang disajikan sudah mencukupi, sitasi jurnal <10 th. Metode penelitian lengkap, namun banyak hal non-teknis yang didiskripsikan dan diulang-ulang.
d	Kelengkapan unsur dan kualitas Proceeding	Unsur terbitan jurnal ilmiah lengkap dengan vol, tahun, issue, DOI grammar eror masih ditemukan, conclusion kurang tegas dalam menjawab tujuan dan kurang menggambarkan judul.

Semarang, 15 April 2020
 Reviewer 1



Prof. Dr. dr. Tri Indah Winarni, MSi.Med, PA.
 NIP 196605101997022001
 Unit kerja: Fakultas Kedokteran UNDIP

LEMBAR
HASIL PENILAIAN SEJAWAT SEBIDANG ATAU PEER REVIEW
KARYA ILMIAH: PROCEEDING

Judul Artikel Ilmiah : **Pesticide Exposure and the Level of Reverse Triiodothyronine on School Children in Brebes District—Indonesia**

Nama semua penulis : Budiyono, **Suhartono**, Apoina Kartini, Soeharyo Hadisaputro, Tjokorda G. D. Pambayun

Status Pengusul (coret yang tidak perlu) : ~~Penulis Utama~~ **Penulis Anggota**

Status Proceeding:

J Nama Proceeding/ Seminar : **International Conference on Public Health for Tropical and Coastal Development**

J Edisi (bulan, tahun) : 15-17 Oktober 2016

J ISSN/ ISBN : ISSN: 1936-6612 (Print): EISSN: 1936-7317 (Online)

J DOI : <https://doi.org/10.1166/asl.2017.9157>

J Alamat WEB Proceeding : <http://www.aspbs.com/science.htm>

Dipresentasikan secara Oral dan dimuat dalam prosiding yang dipublikasikan (beri tanda V yang sesuai)

Seminar Internasional Terindeks Scimago SJR dan Scopus
 Internasional Terindeks pada SCOPUS, IEEE Elrplore, SPIEi
 Internasional
 Nasional

Dipresentasikan dengan Poster dan dimuat dalam prosiding yang dipublikasikan (beri tanda V yang sesuai)

Seminar Internasional
 Nasional

Dipresentasikan tapi tidak dimuat dalam prosiding yang dipublikasikan (beri tanda V yang sesuai)

Seminar Internasional
 Nasional

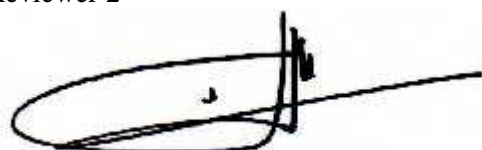
Hasil Penilaian Peer Review:

No	Komponen yang dinilai	Nilai Maksimal Artikel Presentasi Oral Prosiding Internasional	Nilai yang didapat artikel
a	Kelengkapan unsur isi artikel (10 %)	3	3
b	Ruang lingkup & kedalaman pembahasan (30 %)	9	8.2
c	Kecukupan dan kemutahiran data/informasi dan metodologi (30 %)	9	7.89
d	Kelengkapan unsur dan kualitas Proceeding (30%)	9	9.41
	Nilai Total	30	28.5
	Nilai yang didapat pengusul: $28.5 \times 0.4 = 11.4/4 = 2.85$		

Catatan Penilaian artikel oleh Reviewer

a	Kelengkapan unsur isi artikel	Unsur isi artikel sudah sesuai kaidah penulisan di jurnal yang dituju
b	Ruang lingkup & kedalaman pembahasan	Ruang lingkup sesuai dengan bidang pengusul. Penulis telah membahas hasil penelitian dengan mendalam, baik secara teori maupun dengan membandingkan hasil penelitian sejenis sebelumnya, dengan sumber referensi yang cukup banyak.
c	Kecukupan dan kemutahiran data/informasi dan metodologi	Metode penelitian dengan sangat rinci. Hasil penelitian disajikan dalam bentuk narasi dan tabel yang cukup informatif, tetapi masih belum ada keterangan uji statistik yang digunakan di bawah tabel.
d	Kelengkapan unsur dan kualitas Proceeding	Artikel diterbitkan oleh publisher yang terindeks di scopus Q4 Associate editor lebih dari 10 negara.

Semarang, 14 April 2020
 Reviewer 2



Prof. Dr. dr. Banundari Rachmawati, Sp.PK(K)
 NIP. 196006061988112002
 Unit kerja : Fakultas Kedokteran UNDIP



ICOPH-TCD 2016

International Conference on Public Health for Tropical and Coastal Development

Certificate of Appreciation

Presented to

Budiyono

has participated as

Speaker

in the

**International Conference on Public Health for Tropical
and Coastal Development (ICOPH-TCD 2016)**

October 15-17, 2016
Semarang, Indonesia



Prof. Dr. Yos Johan Utama, S.H., M.Hum
RECTOR OF DIPONEGORO UNIVERSITY



Hanifa Maher Denny, SKM, MPH, Ph.D
DEAN OF FACULTY OF PUBLIC HEALTH
DIPONEGORO UNIVERSITY

[Back to results](#) | [Previous](#) 11 of 12 [Next](#) >[Export](#) [Download](#) [Print](#) [E-mail](#) [Save to PDF](#) [Add to List](#) [More...](#) >[View at Publisher](#)Advanced Science Letters
Volume 23, Issue 4, 2017, Pages 3525-3530

Pesticide exposure and the level of reverse triiodothyronine on school children in Brebes District—Indonesia (Article)

Budiyono^a, **Suhartono^a**, Kartini, A.^a, Hadisaputro, S.^b, Pambayun, T.G.D.^b ^aFaculty of Public Health Diponegoro University, Semarang, 50275, Indonesia^bMedical Faculty, Diponegoro University, Semarang, 50275, Indonesia

Abstract

[View references \(53\)](#)

Background: School children in agriculture area in Brebes District are involved agriculture activities. Pesticide metabolites were detected in 31.25% out of 48 school children. Pesticide activated de-iodinase type 3 enzymes and produce reverse Triiodothyronine (rT3). Reverse T3 influences uptake of cellular thyroid hormone. The study aimed to describe the pesticide exposure and level of rT3 in school children. **Method:** Subjects were 84 school children who lived in agriculture area in Brebes District, Indonesia. The study used cross-sectional design. Pesticide metabolites in urine were measured by HPLC with Triple Quadrupole Tandem Mass Spectrometry detector. Serum samples were examined by ELISA method for rT3 detection. Data were analyzed using Mann-Whitney tests ($\alpha = 0.05$). **Results:** In 51.2% out of 84 subjects, three of six types of dialkyl phosphate metabolite were detected in urine. The type of pesticide metabolites were diethylthiophosphate (35.7%), dimethylthiophosphate (28.6%), and dimethyldithiophosphate (8.3%). The mean levels of diethylthiophosphate were 0.01 ± 0.019 ppm (0.001–0.1 ppm), of dimethylthiophosphate 0.015 ± 0.034 ppm (0.001–0.14 ppm), and of dimethyldithiophosphate 0.042 ± 0.013 ppm (0.026–0.064 ppm). The mean level of rT3 was 323.21 ± 193.78 pg/ml (97.22–864.56 pg/ml). All subjects had rT3 above the normal level (25–75 pg/ml). There was a significance different between the mean level of rT3 among school children who were exposed and non exposed to pesticide ($p < 0.001$). **Conclusion:** Pesticides exposures are thought to increase the activity of D3 and have an impact on increasing the levels of rT3 level in school children in the agriculture area. All subjects may indicate cellular hypothyroidism and needs to be confirmed by assessed free T3/reverse T3 ratio. © 2017 American Scientific Publishers All rights reserved.

SciVal Topic Prominence

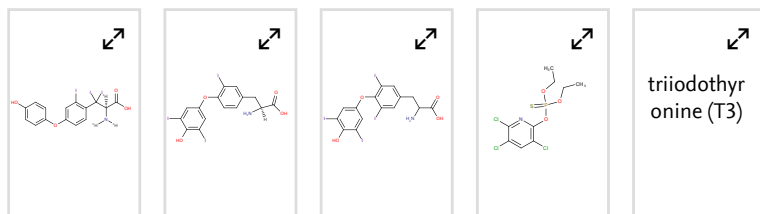
Topic: Asbestos Cement | Serpentine Asbestos | Inert Rendering

Prominence percentile: 75.191



Chemistry database information

Substances



Author keywords

Metrics [View all metrics](#) >

1 Citation in Scopus
39th percentile

0.22 Field-Weighted
Citation Impact



PlumX Metrics

Usage, Captures, Mentions,
Social Media and Citations
beyond Scopus.

Cited by 1 document

Assessment of the endocrine-disrupting effects of diethyl phosphate, a nonspecific metabolite of organophosphorus pesticides, by in vivo and in silico approaches

Yang, F.-W. , Zhao, G.-P. , Ren, F.-Z.
(2020) *Environment International*[View details of this citation](#)

Inform me when this document is cited in Scopus:

[Set citation alert >](#)[Set citation feed >](#)

Related documents

Farmworker exposure to pesticides: Methodologic issues for the collection of comparable data

Arcury, T.A. , Quandt, S.A. , Barr, D.B.
(2006) *Environmental Health Perspectives*

Exposure to pesticides among pregnant women working in agriculture | Ekspozycja na Pesticidy Kobiet w Cięży Pracujących w Rolnictwie

VOLUME 23 • NUMBER 4

APRIL 2017

www.aspbs.com/science

Advanced

SCIENCE

A Journal Dedicated to All Aspects
of Scientific Research

LETTERS

Editor-in-Chief: Dr. Hari Singh Nalwa, USA

Special Sections on

**2016 International Conference on Social Sciences and Humanities (SOSHUM 2016)
Kota Kinabalu, Sabah, Malaysia, 19–21 April 2016**

GUEST EDITORS: Mohd Shakir Bin Md. Saat, Hamzah Asyrani Bin Sulaiman,
Mohd Azlishah Bin Othman, and Nurul' Atiqah Binti Hamid

**International Conference on Public Health for Tropical and Coastal Development
Semarang, Indonesia, 15–17 October 2016**

GUEST EDITOR: Hanifa M. Denny

The Internet Data Telecommunication and Satellite 2016

Bali, Indonesia, 17–18 December, 2016

GUEST EDITOR: Ford Lumban Gaol



AMERICAN
SCIENTIFIC
PUBLISHERS

Aims and Scope
Editorial Board
Instructions for Authors
Contact Information
Subscription Information
Copyright Transfer Agreement
Indexed/Abstracted
Cover Library
Contents

Advanced Science Letters

ISSN: 1936-6612 (Print); EISSN: 1936-7317 (Online)
 Copyright © 2000-2021 American Scientific Publishers. All Rights Reserved.

EDITORIAL BOARD

EDITOR-IN-CHIEF

Professor Ahmad Umar

Department of Chemistry, College of Science and Arts
 Promising Centre for Sensors and Electronic Devices (PCSED)
 Najran University, P.O. Box: 1988, Najran 11001, Kingdom of Saudi Arabia
 Phone: +966-534-574-597
 Fax: +966-7-5442-135
 Email: advsci.asp@gmail.com

ASIAN EDITOR

Dr. Katsuhiko Ariga, PhD

Advanced Materials Laboratory
 National Institute for Materials Science
 1-1 Namiki, Tsukuba, Ibaraki 305-0044, JAPAN

ASSOCIATE EDITORS

Diederik Aerts (Quantum theory, Cognition, Evolution theory)
 Brussels Free University, [Belgium](#).

Yakir Aharonov (Physics, Quantum Physics)
 School of Physics and Astronomy, [Israel](#).

Peter C. Aichelburg (Gravitation)
 University of Vienna, [Austria](#).

Jim Al-Khalili (Foundations of Physics, Nuclear Reaction Theory)
 University of Surrey, [UK](#).

Jake Blanchard (Engineering Physics, Nuclear Engineering)
 University of Wisconsin–Madison, [USA](#).

Simon Baron-Cohen (Cognitive Neuroscience)
 University of Cambridge, UK.

Franz X. Bogner (Cognitive Achievement)
 University of Bayreuth, Germany.

John Borneman (Anthropology)
 Princeton University, USA.

John Casti (Complexity Science)
 Internationales Institut für Angewandte Systemanalyse, Austria.

Masud Chaichian (High Energy Physics, String Theory)
 University of Helsinki, Finland.

Sergey V. Chervon (Gravitation, Cosmology, Astrophysics)
 Ulyanovsk State Pedagogical University, Russia

Kevin Davey (Philosophy of Science)
 University of Chicago, Chicago, USA.

Tania Dey (Colloids/Polymers/Nanohybrids)
 Canada.

Roland Eils (Bioinformatics)
 Deutsches Krebsforschungszentrum Heidelberg, Germany.

Thomas Görnitz (Quantum theory, Cosmology)
 University of Frankfurt, Germany.

Bert Gordijn (Nanoethics, Neuroethics, Bioethics)
 Radboud University Nijmegen, The Netherlands.

Ji-Huan He (Textile Engineering, Functional Materials)
 Soochow University, Suzhou, China.

Nongyue He (Biosensors/Biomaterials)
 China.

Irving P. Herman (Materials and Solid State Physics)
 Columbia University, USA.

Dipankar Home (Foundations of Quantum Mechanics)
 Bose Institute, Kolkata, India.

Jucundus Jacobeit (Climate, Global Change Ecology)
 University of Augsburg, Germany.

Yuriy A. Knirel (Bioorganic Chemistry)
 N. D. Zelinsky Institute of Organic Chemistry, Russia.

Arthur Konnerth (Neurophysiology, Molecular Mechanisms)
 University of Munich, Germany.

G. A. Kourouklis (Physics Solid State Physics)
 Aristotle University Thessaloniki, Greece.



Peter Kramer (Genetics)
Deutsches Krebsforschungszentrum Heidelberg, Germany.

Andrew F. Laine (Biomedical Engineering)
Columbia University, USA.

Minbo Lan (Organic Functional Materials)
China.

Martha Lux-Steiner (Physics, Materials Science)
Hahn-Meitner-Institut Berlin, Germany.

Klaus Mainzer (Complex Systems, Computational Mind, Philosophy of Science)
University of Augsburg, Germany.

JoAnn E. Manson (Medicine, Cardiovascular Disease)
Harvard University, USA.

Mark P. Mattson (Neuroscience)
National Institute on Aging, Baltimore, USA.

Lucio Mayer (Astrophysics, Cosmology)
ETH Zürich, Switzerland.

Karl Menten (Radioastronomy)
Max-Planck-Institut für Radioastronomie, Germany.

Yoshiko Miura (Biomaterials/Biosensors)
Japan.

Fred M. Mueller (Solid State Physics)
Los Alamos National Laboratory, USA.

Garth Nicolson (Illness Research, Cancer Cell Biology)
The Institute for Molecular Medicine, Huntington Beach, USA.

Nina Papavasiliou (DNA Mutators, Microbial Virulence, Antiviral Defence, Adaptive Immunity, Surface Receptor Variation)
The Rockefeller University, New York, USA.

Panos Photinos (Physics)
Southern Oregon University, USA.

Zhiyong Qian (Biomedical Engineering, Biomaterials, Drug Delivery)
Sichuan University, CHINA.

Reinhard Schlickeiser (Astrophysics, Plasma Theory and Space Science)
Ruhr-Universität Bochum, Germany.

Surinder Singh (Sensors/Nanotechnology)
USA.

Suprakash Sinha Ray (Composites/Polymer Science)
South Africa.

Koen Steemers (Architecture, Environmental Building Performance)
University of Cambridge, UK.

Shinsuke Tanabe (Environmental Chemistry and Ecotoxicology)
Ehime University, Japan.

James R. Thompson (Solid State Physics)
The University of Tennessee, USA.

Uwe Ulbrich (Climat, Meteorology)
Freie Universität Berlin, Germany.

Ahmad Umar (Advanced Materials)
Najran University, Saudi Arabia.

Frans de Waal (Animal Behavior and Cognition)
Emory University, USA.

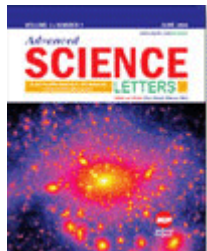
EDITORIAL BOARD

Filippo Aureli, Liverpool John Moores University, **UK**
Marcel Ausloos, Université de Liège, **Belgium**
Martin Bojowald, Pennsylvania State University, **USA**
Sougato Bose, University College, London, UK
Jacopo Buongiorno, MIT, USA
Paul Cordopatis, University of Patras, **Greece**
Maria Luisa Dalla Chiara, University of Firenze, Italy
Dionysios Demetriou Dionysiou, University of Cincinnati, USA
Simon Eidelman, Budker Institute of Nuclear Physics, Russia
Norbert Frischauf, QASAR Technologies, Vienna, Austria
Toshi Futamase, Tohoku University, Japan
Leonid Gavrilov, University of Chicago, USA
Vincent G. Harris, Northeastern University, USA
Mae-Wan Ho, Open University, UK
Keith Hutchison, University of Melbourne, Australia
David Jishivashvili, Georgian Technical University, Georgia
George Khushf, University of South Carolina, USA
Sergei Kulik, M.V.Lomonosov Moscow State University, Russia
Harald Kunstmann, Institute for Meteorology and Climate Research, Forschungszentrum Karlsruhe, Germany
Alexander Lebedev, Laboratory of Semiconductor Devices Physics, Russia
James Lindesay, Howard University, USA
Michael Lipkind, Kimron Veterinary Institute, Israel
Nigel Mason, Open University, UK
John Joe McFadden, University of Surrey, UK

 THIS PAGE IS SECURE

Advanced Science Letters

ISSN 1936-6612 (Print)



ADVANCED SCIENCE LETTERS is an international peer-reviewed journal with a very wide-ranging coverage, consolidates research activities in all areas of (1) Physical Sciences, (2) Biological Sciences, (3) Mathematical Sciences, (4) Engineering, (5) Computer and Information Sciences, and (6) Geosciences to publish original short communications, full research papers and timely brief (mini) reviews with authors photo and biography encompassing the basic and applied research and current developments in educational aspects of these scientific areas.

Publisher: American Scientific Publishers

[More about this publication?](#)

Volume 23, Number 4, April 2017



Contents



Supplementary Data

research-article

Selected Peer-Reviewed Articles from the 2016 International Conference on Social Sciences and Humanities (SOSHUM 2016), Kota Kinabalu, Sabah, Malaysia, 19–21 April 2016

pp. 2637-2638(2)

Authors: *Md. Saat, Mohd Shakir Bin; Sulaiman, Hamzah Asyrani Bin; Othman, Mohd Azlishah Bin; Hamid, Nurul' Atiqah Binti*

Design Suggestions for Building Enclosures Towards Energy-Efficient Lit Office Environments

pp. 2639-2643(5)

Authors: *Jo, Han-Sol; Han, Seung-Hoon*

Common European Framework of Reference Rating Scale: Scaling Its
Functionality Through ESL Learners' Self- and Peer Assessments

pp. 2644-2647(4)

Authors: *Idris, Mardiana; Raof, Abdul Halim Abdul*

Classification of Acute Luekemia Using HMLP Network Trained by Genetic
Algorithm

pp. 2648-2652(5)

Authors: *Harun, Nor Hazlyna; Osman, Muhammad Khusairi; Mashor, Mohd Yusoff; Hassan, Roseline*

Assessing Students' Performance: The Application of Operations
Management Performance Spreadsheet (OMPS)

pp. 2653-2657(5)

Authors: *Kader, Mohd Aidil Riduan Awang; Mustapha, Musramaini; Muhamed, Mohd Faizal Azrul Azwan; Yunus, Nor Khairunnisa Mat; Zaki, Suhanom Mohd*

Innovation Among Manufacturing Small and Medium Enterprises: A
Cross-Industry Comparison

pp. 2658-2662(5)

Author: *Mamun, Abdullah Al*

Comparative Study Between Flipped Learning and Flex Model in English
as Second Language Classroom

pp. 2663-2666(4)

Authors: *Salleh, Farah Idayu Mohd; Baharum, Harmi Izzuan; Shamsudin, Sarimah*

C Programming: Relevant Exercises for Engineering Students Using
Bloom's Taxonomy

pp. 2667-2670(4)

Author: *Rahman, Teh Faradilla Binti Abdul*

The Nexus of Capital Flows, Real Interest Rate and Stock Price
Performance: Evidence from Malaysia

pp. 2671-2675(5)

Authors: *Li, You Hui; Hwa, Goh Han; Hong, Tan Su*

Commercial Potential of University Patents Through Patent Cooperation
Treaty Application

pp. 2676-2680(5)

Authors: *Petr, Zďálek; Ruzena, Stemberkova; Pavla, Matulova; Petra, Maresova; Kamil, Kuca*

Reduction of Leprosy Disabilities Through Self-Care Group “Payung Meureuleuy”: A Case Study in Tripa Makmur Sub District, Nagan Raya Regency

pp. 3507-3510(4)

Author: *Syahputri, Veni Nella*

The Effect of Tooth Brushing Assistance on the Oral Hygiene of Blind and Deaf Students

pp. 3511-3513(3)

Authors: *Siregar, Irma; Sunarjo, Lanny; Haryani, Wiworo*

Factors Related to the Sleep Patterns Behavior of Class XI Students in MA Assalaam Surakarta

pp. 3514-3516(3)

Authors: *Mustikawati, Fahmi Ulil Azmi; Prabamurti, Priyadi Nugraha; RatihIndraswari, .*

Premarital Sex of Adolescents at Junior High School Students in Pekanbaru, Riau

pp. 3517-3520(4)

Authors: *Ismainar, Hetty; Marlina, Hastuti; Harnani, Yessi*

Heavy Metals Level and Health Effects in Industrial Area Community

pp. 3521-3524(4)

Author: *Prasasti, Corie I*

Pesticide Exposure and the Level of Reverse Triiodothyronine on School Children in Brebes District—Indonesia

pp. 3525-3530(6)

Authors: *Budiyono, .; **Suhartono**, .; Kartini, Apoina; Hadisaputro, Soeharyo; Pambayun, Tjokorda G. D*

The Correlation Study of Temperature, Humidity, Lighting and the Quantity of Ambient Air Microorganisms

pp. 3531-3533(3)

Authors: *Budiman, .; Nugraha, Susiana; Bilqis, Karina*

Analysis of Copper and Lead on Coastal Environment a Case Study of Kaliprau Coastal, Pematang

pp. 3534-3536(3)

Authors: *Arifan, Fahmi; Winarni, Sri*



Pesticide Exposure and the Level of Reverse Triiodothyronine on School Children in Brebes District—Indonesia

Budiyono^{1,*}, Suhartono¹, Apoina Kartini¹, Soeharyo Hadisaputro², and Tjokorda G. D. Pambayun²

¹Faculty of Public Health Diponegoro University, Semarang, 50275, Indonesia

²Doctoral Program of Medicine and Health, Medical Faculty, Diponegoro University, Semarang, 50275, Indonesia

Background: School children in agriculture area in Brebes District are involved agriculture activities. Pesticide metabolites were detected in 31.25% out of 48 school children. Pesticide activated de-iodinase type 3 enzymes and produce Reverse Triiodothyronine (rT3). Reverse T3 influences uptake of cellular thyroid hormone. The study aimed to describe the pesticide exposure and level of rT3 in school children. **Method:** Subjects were 84 school children who lived in agriculture area in Brebes District, Indonesia. The study used cross-sectional design. Pesticide metabolites in urine were measured by HPLC with Triple Quadrupole Tandem Mass Spectrometry detector. Serum samples were examined by ELISA method for rT3 detection. Data were analyzed using Mann-Whitney tests ($\alpha = 0.05$). **Results:** In 51.2% out of 84 subjects, three of six types of dialkyl phosphate metabolite were detected in urine. The type of pesticide metabolites were diethylthiophosphate (35.7%), dimethylthiophosphate (28.6%), and dimethyldithiophosphate (8.3%). The mean levels of diethylthiophosphate were 0.01 ± 0.019 ppm (0.001–0.1 ppm), of dimethylthiophosphate 0.015 ± 0.034 ppm (0.001–0.14 ppm), and of dimethyldithiophosphate 0.042 ± 0.013 ppm (0.026–0.064 ppm). The mean level of rT3 was 323.21 ± 193.78 pg/ml (97.22–864.56 pg/ml). All subjects had rT3 above the normal level (25–75 pg/ml). There was a significance different between the mean level of rT3 among school children who were exposed and non exposed to pesticide ($p < 0.001$). **Conclusion:** Pesticides exposures are thought to increase the activity of D3 and have an impact on increasing the levels of rT3 level in school children in the agriculture area. All subjects may indicate cellular hypothyroidism and needs to be confirmed by assessed free T3/reverse T3 ratio.

Keywords: Pesticide Exposure, Reverse T3, School Children, Agriculture Area, De-iodinase Type 3.

1. INTRODUCTION

Endocrine disrupting chemicals (EDC) are the compounds that alter the normal functioning of the endocrine system of both wildlife and humans.¹ Pesticide is one of the endocrine disruptors.^{1–3} Thyroid hormone endocrine disruptors interfere with the synthesis of thyroid hormone (T4 and T3) by inhibiting thyroid peroxidase (TPO) activity, iodine uptake, and de-iodinase activity, thyroid hormone binding to transport proteins, and thyroid hormone metabolism and excretion which all result in the alteration of thyroid hormone levels.⁴

An experimental study found out the organophosphate pesticide (chlorpyrifos) reduces thyroid hormones (T3 and T4) level in mice blood serum, significantly and results hypothyroidism.^{5,6} Chlorpyrifos causes reduction in triiodothyronine (T3) and thyroxine (T4).⁷ Pesticide exposure reduces the level of thyroid hormone (T4) 10–16% in greenhouse workers.⁸ Increases dimethyl phosphate (DMP) followed by reduced the level of the total

tri-iodothyronine (T3) serum.⁹ Overt hypothyroidism exhibit reduces free T4 estimates and increased TSH levels correlates to growth and development.^{10,11} Free T4 associates with birth weight.¹³ Furthermore, hypothyroidism also correlates to the goiter^{14,15} and development (cognitive)^{16,17} and will affect growth and present a delay in bone age of children.¹¹

Enzyme de-iodinase type 3 (D3) catalyzes the degradation of T4 converted to inactive T3 (reverse T3/rT3).^{18,19} The reverse T3 blocks the receptor of T3 and reduces the conversion T4 to active T3.¹⁹ Increase type III de-iodinase resulted in higher demand for T4 and T3.²⁰ D3 distributes in all tissues²¹ and inactivates T3 at tissue and plasma level,²² both de-iodinase type D1 and D2 in pituitary.²¹ The conversion of T4 to active T3 catalyzed by enzyme de-iodinase type 1 (D1). D3 enzyme in tissues competes with D1 enzyme and D3 enzyme will convert T4 to rT3.²³

Organophosphate pesticide exposure activates enzyme de-iodinase type 3 (D3). A study in the Goldfish revealed level of D3 enzyme in mRNA of the liver were increased 2.66 and 4.50

* Author to whom correspondence should be addressed.



Small Island Developing States, Climate Change, and Food and Nutrition Security

Lisa Schubert^{1,*}, Wendy Foley^{1,2}, Amy Savage¹, and Grace Muriuki³

¹The University of Queensland, School of Public Health, Herston Road, Herston, Queensland 4006, Australia

²Southern Queensland Centre of Excellence in Aboriginal and Torres Strait Islander Primary Health Care,
37 Wirraway Parade, Inala QLD 4077, Australia

³The University of Queensland, Global Change Institute, St Lucia Queensland 4067, [Australia](#)

Background: Climate change is a critical concern globally and small island developing states in the Pacific region are especially vulnerable to climate change-related phenomena. Pacific Islands have been identified as being amongst the countries most vulnerable to the health impacts of climate change. The purpose of this paper is to describe impacts of climate change on food and nutrition security in Pacific Island countries, the mechanisms linking climate change and nutrition, and strategies and policies to address them. *Method:* A literature review and documentary analysis was undertaken. Case materials from Pacific Island countries are used to illustrate both climate change impacts and promising strategies. *Results:* Climate change exacerbates the existing burden of malnutrition. Food and nutrition security are affected through changes in local food production and transition from traditional nutritious diets to dependence on less nutritious imported foods, undermining efforts to reduce hunger and promote nutrition. Undernutrition, in turn, weakens climate resilience and the coping strategies of vulnerable populations. Nutrition-sensitive adaptation and mitigation measures, climate-resilient and nutrition-sensitive agriculture development, improved maternal and child care and health, and both community development and food system resilience measures are proposed as means to address the impacts of climate change on food and nutrition security. *Conclusion:* Pacific Island countries should not face these challenges alone. Strengthened global, regional and community responses to organize better preparedness, adaptation and mitigation against climate change and its impact on nutrition in Pacific island countries is needed. Specific opportunities to address these issues in the Pacific will be presented.

Keywords: Climate Change, Food and Nutrition Security, Small Island Developing States, Pacific Island Countries.

1. INTRODUCTION

Climate change is a critical concern globally and small island developing states (SIDS) in the Pacific region are especially vulnerable to climate change-related phenomena.^{1,2} Increasing policy, development, scientific and public health attention is being paid to climate change risks and vulnerabilities, and to climate change-related preparedness, adaptation, and mitigation. While those most responsible for anthropogenic climate change reside in industrialized countries, Pacific Island peoples are among those most impacted from its health consequences,³ including from malnutrition and food insecurity.

The Pacific Ocean is home to 20 SIDS with diverse geography, populations, cultures and economies. Populations inhabit 2 distinct Island types: High islands (volcanic) and low islands (coral atolls) spread over three subregions of Melanesia, Micronesia and Polynesia. Land area comprises only 2% of the combined

jurisdictions of all Pacific SIDS, being dwarfed by their Exclusive Economic Zones. The total population is less than 11 million.

Traditional lifestyles in Pacific SIDS depend on subsistence livelihoods including agriculture, fishing, hunting and wild foraging, with Pacific Islander peoples having developed sophisticated management of both terrestrial and marine food production systems. Today, while subsistence activities still persist, income generation activities and trade policies have resulted in imported foods becoming readily available for many. Simultaneously, inadequate food security in Pacific Islands is worsening as a consequence of multiple factors: a decline in local availability and production of subsistence foods; a lack of income to purchase adequate alternative foods; falling food production per capita, low or absent growth in agricultural production, and inadequate support for subsistence agriculture, and increased and costly dependence on food imports.^{4,5}

Dietary patterns have shifted over the past 50 years from reliance on traditional low-fat diets, rich in root vegetables

* Author to whom correspondence should be addressed.



An Overview of the Protection of Children Rights Under Islamic Law

Azizah Mohd^{1,*}, BadruddinHj Ibrahim¹, and Alhaji Umar Alkali²

¹Ahmad Ibrahim Kulliyah of Laws, International Islamic University Malaysia, Jalan Gombak, 53100 Kuala Lumpur, Malaysia

²Faculty of Law, University of Maiduguri, Borno State, [Nigeria](#)

Islamic law outlines a comprehensive of children's rights that deserve protection. These are related to many sources of Islamic law (the Shari'ah) which include the Quran, the Sunnah, Secondary Sources e.g., 'urf and juristic discourse. Such rights include the right to lineage (nasab), right to care and custody, the right to maintenance, the right to the good name, the right to love and affection and so forth. Children's rights are also protected based on the general aim of the Shari'ah: (*maqasid al-Shari'ah*) i.e., securing benefit to all mankind and protect them from any harm. As protection of children's rights are vital but violated by many nowadays, this paper seeks to study on the protection of children's rights under Islamic law. It aims at providing a critical overview of overall principles for the protection of children's rights in Islam based on the Qur'an and Sunnah of the Prophet (PBUH). It is hoped that this research will provide a basic understanding on children rights in Islam that require attention and safeguards from all.

Keywords: Child Protection, Children Rights, Islamic Law, An Overview. 26:32

Copyright: American Scientific Publishers
Delivered by Ingenta

1. INTRODUCTION

Islam is a divine religion revealed through the messenger of God (Allah the almighty), the teaching of which is manifested through the Quran and the Sunnah of the Prophet (saw). Islam regards children as a bounty and trust from Allah the God. They are the most valuable property gifted by Allah (s.w.t.) to beautify and complement the parent's life and their family. The Quran clearly states to the effect; "Wealth and sons are allurements of the life of this world..."¹

The above verse clearly expresses that children are the source of happiness which beautify a person's life. The presence of children in a family would compliment the family. Without children, a family is not perfect and something will be lacking. Therefore, it is undeniable that children are valuable assets and everybody desire to have children in their life.

In terms of definition, a child basically refers to a person who does not reach the age of puberty.² The age of puberty may be determined through the appearance of natural symptoms in a girl or a boy as early as the age of nine. If there is no natural symptom then puberty is determined by age. The natural symptoms that indicate puberty as agreed upon by the Muslim jurists include sexual dream (in a boy), menstruation and pregnancy (in a girl). As regards age, if the natural symptoms do not appear, the majority of the Muslim jurists, including the Shafiis, the Hanbalis, Abu Yusuf and Muhammad of the Hanafis, one report attributed to

Imam Abu Hanifah and some of the Malikis are of the view that the age of puberty with respect to both a boy and a girl is upon the completion of his/her 15 years of the lunar year.²

2. PROTECTION OF CHILDREN FUNDAMENTAL RIGHTS UNDER ISLAMIC LAW

Under Islamic law, children's rights are guaranteed and protected as early as the day it is conceived, blown with soul and continues until the child is born up to the age of puberty or majority. From this time onwards, the unborn babies and children are protected with certain guaranteed rights which can be generally classified into fundamental rights, rights in family relationship and rights to be protected from any form of harm.

Protection of Children Fundamental Rights is manifested in many verses of the Quran and the hadith of the Prophet (PBUH) which include the rights to life, religion, dignity, health, identity, marriage, education, and right to live in a family environment. Under Islamic law, protection of the child's right to life begins even before the child is born. This right is manifested in several ways, such as by prohibition of abortion³ and/or any act either from the child's parents or any other person that is likely to endanger the life of the child.⁴ For example, pushing a pregnant woman, scaring her or causing harm on her which will likely affect the fetus.⁵

*Author to whom correspondence should be addressed.



AMERICAN
SCIENTIFIC
PUBLISHERS

Copyright © 2017 American Scientific Publishers
All rights reserved
Printed in the United States of America

Advanced Science Letters
Vol. 23, 3268–3272, 2017

Intellectual Science and Mathematics Program: Improving Students' Interest in Learning Science and Mathematics

Nurul Akmal Md Nasir*, Muhamad Furkan Mat Salleh, Nor Syazwani Rasid,
Mohamad Hisyam Ismail, and Nabilah Abdullah

*Science and Mathematics Education Department, Faculty of Education, Universiti Teknologi MARA Selangor,
Puncak Alam Campus, 42300 Bandar Puncak Alam, Selangor Darul Ehsan, [Malaysia](#)*

The discontinuities between students' experiences in the Science and Mathematics lessons at school with the realities, and the educators' oblivion at looking into the crucial influences of experiences outside the school have on students' beliefs, attitudes and motivations to learn have caused in the decline of students' performances and interests to learn these two subjects in schools. Considering this emerging concern, the Science and Technology Department, Faculty of Education, UiTM has introduced Intellectual Science and Mathematics Program (I-SMP) designed for primary school students to acquire Science and Mathematics, knowledge and skills differently from how learning takes place in the normal classroom. This study was carried out to determine the perception and engagement of primary school students in learning Science and Mathematics through the I-SMP. The study employed mixed approach combining the quantitative and qualitative methods. A total of 160 Standard Six students were purposely selected as respondents. A set of questionnaire was designed to gather the students' perception and motivation after they experienced the I-SMP. The quantitative data were supported by the data recorded from the observation and the informal interview during the program. The study indicates that, I-SMP is able to promote positive perceptions and improve students' attitude towards learning. The consolidation of the data gathered had proven I-SMP's capability in enhancing students' engagement in learning the two subjects. The interactive inquiry approach infused with hands-on and interesting outdoor activities succeeded in triggering students' readiness to learn made visible through their high level of engagement in learning. It is recommended that teachers who are teaching Science and Mathematics adapt this innovative and creative method towards a more effective delivery.

Keywords: Innovative Teaching and Learning, Science, Mathematics, Primary Education.

1. INTRODUCTION

Primary school students generally acquire most of their Science and Mathematics knowledge through learning experiences both in school and daily routines. Students not only learn from formal classroom settings but learning influences may also be derived from effective climate settings in the home and social environments in which it is believed that young children are innately interested in nature, the environment and how things work around them.² This suggests that students' learning and curiosity may be fulfilled beyond the classrooms; therefore, teachers should utilize this as an advantage to take lessons outside the classrooms by integrating real life experiences and environment with formal lessons. Ultimately, such move topped with effective lesson plans may enhance students' interests and encourage engagement in Science and Mathematics.

This may be achieved through the application of cooperative learning. It has been proven that hands-on activities when combined with cooperative learning approach is effective in developing young students' scientific process skills compared to the teacher-centred approach.¹ Activities such as field trips to science exhibitions or science learning centres, practical experiments, scrapbook projects are useful in triggering students' interests and in developing their skills and knowledge. Subsequently, students would develop cultured positive attitudes in learning Science through meaningful activities. The advantage of utilizing cooperative learning is that the approach requires students to communicate and cooperate in performing various activities. Interestingly, in the acquisition of mathematical knowledge, children are engage with early numeracy activities through playing with blocks or construction toys, singing counting songs, playing shapes games, and other forms of games involving quantitative reasoning either at home or school is imperative to boost

*Author to whom correspondence should be addressed.



Training and Education in Occupational Health—A Global Challenge

Norbert L. Wagner

Saw Swee Hock School of Public Health, National University of Singapore, [Singapore](#)

Background: “Occupational risks” rank only #14 globally and in low-income countries as causes of death. For working age adults (15–49 yrs) occupational risks are worldwide the #1 cause of disability with around 25 mill YLD ahead of malnutrition with 18.5 mill YLD and constitute the MAJOR contributor to early disability and loss of income for families. *Method:* We look at the Global Burden of Disease Study 2015 and its recent publications to see where “occupational risks” rank in their impact on the health of populations. *Results:* The impact of poor workplace health and safety on disability in Indonesia is dramatic. We see then that Occupational Risks are the #2 reason for disability during the adult working age, being the #1 reason for men and #3 reason for women behind high plasma glucose and malnutrition. *Conclusion:* Occupational risks have a major impact on the health of populations and the economy of a country as well as the income of families. We need to focus on teaching the important risks that have been identified: chemicals, particulates, ergonomic risks. To prevent the exposure from these risks should become a standard competency for all health professionals.

Keywords: Occupational Health, Global Burden of Disease, Teaching, Chemicals, Particulates, Ergonomics.

Copyright: American Scientific Publishers
Delivered by Ingenta

1. INTRODUCTION

Risks to health arising from workplace exposures usually do not figure prominently on the big agendas of governments or development agencies. However, when we look at the Global Burden of Disease Study 2015 and its recent publications¹ we see that “occupational risks” rank only #14 globally and in low-income countries as causes of death.

So, why should we look at occupational risks when malnutrition, alcohol and drug abuse, high BMI or dietary risks are so much more important? We will take a closer look at the importance of “occupational risks” for a nation in terms of health and economy and highlight the topics that should be central for teaching Occupational Health.

2. METHOD

Taking a closer look at the Global Burden of Disease Study 2015 (GBD) we see the pictures change when we focus on causes for disability (measured in Years Lived with Disability, YLD) and on the causes of deaths and disability arising from workplace exposures. Doing so we need to keep two things in mind

(1) The GBD only accounts for roughly 65% of all health events, deaths or disability. The other third of all health events is not included as there are no reliable data available to make better estimates.

(2) Around 70% of the workforce globally works in the informal sector. A sector that is hard to reach with any intervention, technical or educational.

3. RESULTS

Regarding the Years Lived with Disability, only malnutrition (around 54 mill YLD) and high plasma glucose (around 41 mill YLD), a proxy for Diabetes, seem globally more important than occupational risks (around 36 mill YLD).² Workplace risks rise to the #2 most important cause of disability for low-income countries (World Bank classification) even though our analysis at that point includes all human beings from 1 day of age until over 80 years of age.

Zooming in on the economically so important group of working age adults we see that Occupational risks are worldwide the #1 cause of disability with around 25 mill YLD ahead of malnutrition with 18.5 mill YLD. In other words, Occupational risks are the MAJOR contributor to early disability and loss of income for families.

When we focus on one country, Indonesia, we see how this analysis can help us focus our efforts in education and training in workplace safety and health.

In Indonesia, occupational health risks account for approximately 5 out of 100,000 deaths per year for 15–49 year old adults (see Table I), a comparatively low rate compared to the rate for high blood pressure with around 35 per 100,000.

The impact of poor workplace health and safety on disability and years of healthy life lost in Indonesia is however dramatic. We see then that Occupational Risks are the #2 reason for disability during the adult working age, being the #1 reason for men and #3 reason for women behind high plasma glucose and malnutrition.



Discourse Functions of Zero Pronouns in Tai Dam*

Itsarate Dolphen

Research Institute for Languages and Cultures of Asia, Mahidol University, Salaya, Nakhon Pathom 73170, Thailand

The aim of this study is to explore the zero pronouns in Tai Dam on the basis of a discourse approach using Systemic Functional Grammar (SFG). The objectives of this paper are as follows: (1) to explore the syntactic distribution of zero pronouns in Tai Dam, and (2) to analyze the discourse function of zero pronouns in the narrative discourses of Tai Dam. The research data used in this paper were collected from the texts of Tai Dam folktales of the people living in Petchaburi Province in central Thailand. Five folktales were analyzed for the study. The findings reveal that zero pronouns in Tai Dam can function in different ways. It has been found that zero pronouns can occur in both Theme and Rheme positions. In thematic positions, they function as unmarked topical themes. This study shows the different discourse functions of zero pronouns in terms of co-references. It has been found that there are two types of co-reference of zero pronouns in Tai dam as follows: (1) zero anaphora and (2) zero cataphora. The main discourse function of zero pronouns is to signal an active referent in narrative discourse.

Keywords: Discourse Functions, Zero Pronouns, Tai Dam, Narrative Discourse.

1. INTRODUCTION

According to Burusphat,⁵ the Tai Dam (Black Dam) is grouped into the Tai-Kadai language family. Originally, the Tai Dam speaking people settled down at Dien Bien Phu in Vietnam, and then some of them moved to Lao P. D. R. and Thailand. The Tai Dam speaking people, actually, reside in some lower parts of China such as Guangxi and Yunnan, as well as in the Tokin highlands. In 1895 of the Thonburi period, they migrated to Thailand because of the disaster of the war. In Thailand, the Tai Dam speaking people can be found in many places such as Lei, Saraburi, Supanburi, Ratchaburi, Petchaburi, Nakhon Pathom, and so on. The variable forms of Tai Dam are up to where they live. They always have different diversities because of a language contact which obviously influences to all systems of language such as speaking and writing systems. For writing system, Tai Dam has its own alphabets. We can learn Tai Dam language and culture through the documents which are either written in Tai Dam alphabets or transcribed into others such as Vietnam, which unlike Thai or Lao.¹⁴ Narratives and other written resources of the Tai dam people can be used as research data to study a system network of language.

Tai Dam is considered as one of pronoun-dropping or pro-drop languages in which certain clauses or pronouns may be omitted when they are in some sense pragmatically inferable. The phenomenon of 'pronoun-dropping' is also commonly referred to in linguistics as zero or null pronouns. A zero pronoun has

a function but does not have form in language usage. It is a subsequent null reference that refers to preceding text. In some languages, zero pronouns can appear either in the subject or the object grammatical position, such as in Japanese, Chinese and Thai. But some languages might be considered partially pronoun-drop in that they allow only the subject pronoun to be dropped. In Spanish texts zero pronouns only appear in the position of the subject. It is named as a null subject language. In a non-pro-drop language such as English, zero pronouns can also occur, but they appear less frequently, since they are used in coordinated sentences in which the zero pronouns usually refer to the subject of the clause. According to Edwards,¹⁰ in the Tai Dam texts, zero anaphora functions to signal an accessible referent that is unambiguous. Those referents can be in the subject or object position. Although many scholars have explored various aspects on Tai Dam, nobody has written about pronouns, especially discourse functions of zero pronouns based on Systemic Functional Approach.

Therefore, the aim of this study is to explore the so-called 'zero pronouns' in Tai Dam on the basis of a discourse approach of the Systemic Functional Grammar (SFG). Therefore, the objectives of this paper are as follows:

- (1) to analyze the syntactic distributions of zero pronouns in narrative discourse of the Tai Dam, and
- (2) to explore the discourse functions of zero pronouns in the Tai Dam.

The organization of this paper is divided into five sections. The first section is an introduction which briefly lays out the background of the study. The second section will present the research

*This paper is part of Ph.D. thesis entitled 'A Comparison Study of Pronouns in Narrative Discourse in Southeast Asian Languages'.