

**LEMBAR**  
**HASIL PENILAIAN SEJAWAT SEBIDANG ATAU PEER REVIEW**  
**KARYA ILMIAH: JURNAL ILMIAH**

Lamp C....

Judul Artikel Ilmiah : **Awareness Program of Pesticides Used among Farmers using Difficulty-Usefulness Pyramid (A Suggestion for Health Laws and Policies Regarding the Use of Pesticides)**

Nama semua penulis : Ilyas Ibrahim, Ketut Sudiana, H J Mukono, **Suhartono**, Heru Santoso Wahito Nugroho

Status Pengusul (coret yg tidak perlu) : ~~Penulis Utama/ Penulis Utama & Korespondensi/ Penulis Korespondensi/ Penulis Anggota~~

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Terindex di : Scimagojr Q4 SJR 2019 =0,138

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	Nilai Total	<b>30</b>	23
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a	Kelengkapan unsur isi artikel	Struktur artikel cukup baik, acknowledgment tidak ada. Isi sesuai dengan subtitle
b	Ruang lingkup & kedalaman pembahasan	Riset yang dilakukan untuk melihat memahami elemen yang penting dalam pemakaian pestisida. pembahasan sangat singkat, karena data yang didapat juga minimalis. Sitasi hanya 9, 6 adalah jurnal. Sitasi pada discussion (<<<) sangat minimalis
c	Kecukupan dan kemutakhiran data/informasi dan metodologi	Merupakan penelitian dengan metode yang sangat mirip dengan <b>Determination of Priority Elements of Vigilance in the Use of Pesticides based on Difficulty and Usefulness (A Supporting Study for Law and Policy in Health)</b> yang diterbitkan Indian Journal of Forensic Medicine & Toxicology Volume-14, Issue-1 April-June
d	Kelengkapan unsur dan kualitas jurnal	Merupakan jurnal terindex scopus Q4 dengan SJR 0,138 menerbitkan hampir 400 paper/ 1900 halaman per issue.

Semarang, 4 Desember 2020

Reviewer 1



Prof. Dr. dr. Tri Indah Winarni, MSi.Med, PA.

NIP 196605101997022001

Unit kerja: Fakultas Kedokteran UNDIP

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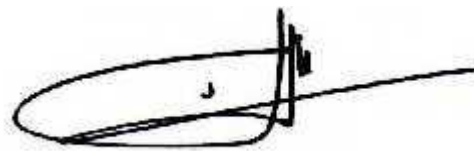
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d	Kelengkapan unsur dan kualitas jurnal (30%)	9	8
	Nilai Total	<b>30</b>	24
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a	Kelengkapan unsur isi artikel	Artikel telah memenuhi kaidah penulisan jurnal yang dituju yaitu Abstract, introduction, method, findings, discusstion, conclusion, references
b	Ruang lingkup & kedalaman pembahasan	Pembahasan artikel cukup baik dan mendalam meskipun hanya menggunakan 9 karya ilmiah sebagai referensi. Dari seluruh referensi yang digunakan terdapat 2 referensi kurang update (terbit melebihi 10 tahun terakhir)
c	Kecukupan dan kemutakhiran data/informasi dan metodologi	Metode penelitian yang digunakan sudah sesuai dengan tujuan penelitian dan pemaparan data penelitian jelas dan informative sehingga mudah dipahami pembaca
d	Kelengkapan unsur dan kualitas jurnal	Artikel ini diterbitkan di jurnal internasional bereputasi yang terindeks di ScimagoJR, EMBASE SJR 2019 yaitu 0,138

Semarang, 10 Desember 2020  
Reviewer 2



Prof. Dr. dr. Banundari Rachmawati, Sp.PK(K)  
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Indian Journal of Forensic Medicine and Toxicology  
Volume 14, Issue 3, July-September 2020, Pages 1910-1915

## Awareness program of pesticides used among farmers using difficulty-usefulness pyramid (A suggestion for health laws and policies regarding the use of pesticides) (Article)

Ibrahim, I.<sup>a,b</sup>, Sudiana, I.K.<sup>c</sup>, Mukono, H.J.<sup>d</sup>, **Suhartono<sup>e</sup>**, Nugroho, H.S.W.<sup>f</sup>

<sup>a</sup>Faculty of Public Health, Universitas Airlangga, Indonesia

<sup>b</sup>Faculty of Health Science, Universitas Bumi Hijrah, Tidore, Indonesia

<sup>c</sup>Department of Pathological Anatomy, Faculty of Medicine, Universitas Airlangga, Indonesia

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### Abstract

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Pesticides are toxic chemical substances that are used in agriculture to control plant pests. Excessive use of pesticides and uncontrolled can cause negative effects among farmers, such as vomiting, diarrhea, dyspnea, blurred vision, paresthesia, slurred speech, and chest pain. The prevention effort through health education was used to prevent the risk behavior of farmer, however, it still found obstacles. There are many elements need to be improved and it must be selected which element that significant and priority to change risk behavior among farmers. This study had selected the elements based on Difficulty-Usefulness Pyramid (DUP). The sample was 100 respondents who knew about pesticides in Indonesia. Personal protective equipment (PPE), storage of pesticides, procedure for using pesticides, use of pesticide doses, duration and frequency of spraying pesticides, cleaning the equipment, spraying pesticides based on the wind direction, time of pesticide spraying were selected elements in this study. Difficulty and usefulness were indicators to determine the priority of attributes. Attribute scale (1 to 10) was used based on the level of importance in each attribute. Google form questionnaire was used to collect the data. Each element was measured by: (1) difficulty and usefulness; (2) the mean score of difficulty and the mean score of usefulness; (3) range (from mean score of difficulty to mean score of usefulness). Then the range was sorted starting from the smallest and presented in the form of a pyramid. The pyramid showed that the priority elements were use of pesticide doses, procedures for using pesticides, personal protective equipment (PPE), cleaning the equipment, time spraying pesticides, duration and frequency of spraying pesticides, storage of pesticides, spraying pesticide based on the wind direction. © 2020, Indian Journal of Forensic Medicine and Toxicology. All rights reserved.

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# Awareness Program of Pesticides Used among Farmers using Difficulty-Usefulness Pyramid (A Suggestion for Health Laws and Policies Regarding the Use of Pesticides)

Ilyas Ibrahim<sup>1</sup>, I Ketut Sudiana<sup>2</sup>, H. J. Mukono<sup>3</sup>, **Suhartono<sup>4</sup>**, Heru Santoso Wahito Nugroho<sup>5</sup>

<sup>1</sup>Doctoral Student, Faculty of Public Health, Universitas Airlangga / Lecturer, Faculty of Health Science, Universitas Bumi Hijrah Tidore, <sup>2</sup>Professor, Department of Pathological Anatomy, Faculty of Medicine, Universitas Airlangga <sup>3</sup>Professor, Faculty of Public Health, Universitas Airlangga, <sup>4</sup>Associate Professor, Faculty of Public Health, Universitas Diponegoro, <sup>5</sup>Associate Professor, Poltekkes Kemenkes Surabaya

## Abstract

Pesticides are toxic chemical substances that are used in agriculture to control plant pests. Excessive use of pesticides and uncontrolled can cause negative effects among farmers, such as vomiting, diarrhea, dyspnea, blurred vision, paresthesia, slurred speech, and chest pain. The prevention effort through health education was used to prevent the risk behavior of farmer, however, it still found obstacles. There are many elements need to be improved and it must be selected which element that significant and priority to change risk behavior among farmers. This study had selected the elements based on Difficulty-Usefulness Pyramid (DUP). The sample was 100 respondents who knew about pesticides in Indonesia. Personal protective equipment (PPE), storage of pesticides, procedure for using pesticides, use of pesticide doses, duration and frequency of spraying pesticides, cleaning the equipment, spraying pesticides based on the wind direction, time of pesticide spraying were selected elements in this study. Difficulty and usefulness were indicators to determine the priority of attributes. Attribute scale (1 to 10) was used based on the level of importance in each attribute. Google form questionnaire was used to collect the data. Each element was measured by: (1) difficulty and usefulness; (2) the mean score of difficulty and the mean score of usefulness; (3) range (from mean score of difficulty to mean score of usefulness). Then the range was sorted starting from the smallest and presented in the form of a pyramid. The pyramid showed that the priority elements were use of pesticide doses, procedures for using pesticides, personal protective equipment (PPE), cleaning the equipment, time spraying pesticides, duration and frequency of spraying pesticides, storage of pesticides, spraying pesticide based on the wind direction.

**Keywords:** *Difficulty-Usefulness Pyramid; awareness; chemical pesticides*

## Introduction

Pesticides are all chemicals substances to control plant pests such as insects, rodents, nematodes, weeds, viruses, bacteria and microorganisms.<sup>(1)</sup> Pesticides can increase agricultural product, but it also harm the environment and human health. Excessive use of pesticides and uncontrolled can cause negative effect

among farmers. The negative effects of pesticide exposure were vomiting, diarrhea, dyspnea, blurred vision, paresthesia, slurred speech, and chest pain.<sup>(2)</sup> Pesticide exposure also depends on the amount of pesticide dose, duration of exposure and exposure modification factors such as the use of personal protective equipment (PPE).<sup>(3)</sup>

Pesticide exposure is caused by improper management of pesticides, low levels of knowledge about the dangers of pesticides, not paying attention to safety regulation.<sup>(4)</sup> The Thai Department of Occupational Health reports that farmers' blood tests show an increase in pesticide exposure in the previous year (16% to 18%).

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# Occurrence of Emerging Pollutants in Skudai River in Johor Bahru Region of Malaysia

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## Abstract

Increase in landuse development and human activities have significant influence on the occurrence of emerging pollutants (EPs) in water bodies such as rivers. As rivers are the main source of water supply in Malaysia, a study was conducted to determine the occurrence of EPs in one of the drinking water sources, namely Skudai River. Samples were collected five times at eight sampling points from the upstream up to the water intake of the river. Sample pre-treatment was performed by solid-phase extraction (SPE), whereas the analyses of the EPs were performed by Liquid Chromatography-Mass Spectrometry (LCMS-MS QTOF). Results showed that about 50 compounds were detected and fall into categories as pharmaceuticals, Personal Care Products (PCPs), and Endocrine Disrupting Chemical (EDC). The most prevalent (75-100%) compounds detected were of these categories, whereas the least (less than 40%) were mainly pharmaceuticals. The concentration of styrene, a health-hazards EPs ranged from 45.11 to 203.48 µg/L with increasing trend towards downstream of the river. Based on the landuse data of Skudai River Basin, the study concluded that human activity, landuse, and environmental factors could possibly contribute to the presence of the EPs in the river.

**Keywords:** *pharmaceutical, personal care products, styrene, endocrine disrupting chemical, Skudai River*

## Introduction

Emerging pollutants (EPs) are defined as synthetic or naturally occurring compounds that are not often monitored but have the potential to enter the environment causing known or suspected adverse ecological and human health effects <sup>(1-3)</sup>. They are categorized into more than 20 classes based on their origin. The most important classes are pharmaceuticals, personal care products (PCPs), pesticides, by-products of disinfection, wood preservative and industrial based chemicals <sup>(3,4)</sup>.

Emerging pollutants have been detected in surface water, groundwater, treated water and in effluent of wastewater treatment plants (WWTPs) <sup>(5)</sup>. Several countries including UK, US, and Japan had reported the presence of PPCPs in concentrations ranging from ng/L to µg/L in WWTPs <sup>(6)</sup>. In addition, EPs are also released from diffuse sources through atmospheric deposition or from crop and animal production <sup>(3,7,8)</sup>.

One of the main concerns with regards to EPs is their ability to alter the normal function of endocrine systems and give adverse effect in animals and human. These EPs, known as Endocrine Disrupting Chemicals (EDCs), act by blocking, mimicking, development disorders and alter function systems of hormones in animals and human body <sup>(9-11)</sup>.

Skudai River is an important river in the district of Johor Bahru as it is one of the sources of water supply in the area. The river originates from oil palm plantation and flows through several townships and industrial areas before it reaches the water intake point. As the river is exposed through various landuse and human activities, the river is anticipated to receive different types of pollutant including EPs. Being the source of water supply, it is of our interest to investigate the impact of the landuse and human activities on the occurrence of the EPs in the Skudai River. This paper reports the findings of the study on EPs conducted over a one-year period

# Dating of Long Bone Fracture Healing among Egyptian Pediatrics by Radiography (X-Ray)

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## Abstract

**Background:** Estimating the timing of skeletal injury accurately is of great importance in forensic cases and has a significant bearing on the judicial process (related to abused children). This work aimed to assess dating of long bone healing in fractures occurring to children aged from 1 to 18 years through using plain radiography (X-Ray) which can determine 6 features of fracture healing process that are especially important in alleged cases of child abuse. The most commonly affected ages were “1-6” years presenting 68%. Males were the majority of cases (56%). The illustrated data of each feature of healing (6 features of fracture healing) form a prototype timetable of fracture healing. These data suggest that fractures with soft-tissue swelling alone are **acute fracture** (< 1 week old). Fractures with periosteal reaction alone are likely to be **recent fracture** (between 8 days and 3 weeks old). Once Remodelling, bridging & hard callus fractures detected then **old fracture** is expected (more than 6 weeks old).

**Key words:** dating, long bone, fracture healing, X-ray.

## Background

One of the biggest challenging areas of pediatric medicine is what relating to child abuse. Child abuse includes wide variations of injuries and assaults which includes social, emotional and sexual in addition to physical matters. Therefore, the diagnosis of a child as being suffer from an event of abuse has important social, civil and criminal implications<sup>1</sup>. Child mortality and morbidity are a significantly outcome from exposure of those children to maltreatment and abuse<sup>2</sup>.

To investigate children who have suffered potential abuse, the investigation must be multi-disciplinary and involve healthcare and social professionals, physicians with appropriate medical subspecialties and paediatricians. Radiology supplies a relatively small but important role to the investigation of visceral and

skeletal injuries<sup>3</sup>.

## Methodology

The study represents collaborative research between Forensic Medicine and Clinical Toxicology Department and Diagnostic & Interventional Radiology Department, Faculty of Medicine, Cairo University, Egypt.

### Study design and setting

This study is a prospective, cross-sectional study that was conducted on injured paediatrics, of known injury timing in the period between January 2017 to January 2018.

### Study population

For this study one hundred patients of both sex aged 1- 18 years were selected during the study period and subdivided into 3 main groups, group 1: 68 children (1 to 6 years), group 2: 22 young (< 6 to > 12 years) and group 3: 10 young from (< 12 to 18 years). Potential participants who had Unknown time of fracture, Fractures need to be treated with internal fixation, Patients with co-existent

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# Evaluation of Oxidative Stress and Antioxidants in Iraqi Patients with Hydatid Disease

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## Abstract

Antioxidants and oxidative stress status are clinically important in the detection of many diseases. In order to estimate the role of oxidative stress in hydatid disease pathogenesis, the antioxidant levels and oxidative stress status were examined in the patients of hydatid cysts. Thirty patients having active hydatid cyst of *Echinococcus granulosus*, previously diagnosed by X-ray, were adopted as patients' group. Additionally, 25 healthy individuals who did not have hydatid infection or any other parasitic infection constituted the control group. Antioxidant status and oxidative stress levels were determined using biochemical tests including plasma Malondialdehyde (MDA) level, and erythrocyte Catalase (CAT), Glutathione Peroxidase (GSH-Px), Superoxide Dismutase (SOD), Glutathione-S-Transferase (GST) activity, in addition to erythrocyte Glutathione concentration GSH-conc. The statistical evaluation of plasma MDA levels showed significantly higher levels in hydatid patients than in healthy controls, while erythrocyte SOD, GSH-Px, CAT, GST and GSH levels were significantly declined in hydatid patients compared to the control which can be used as diagnostic markers in the laboratory diagnosis of the disease. To conclude, hydatid patients show elevated oxidative stress status, and therefore, the antioxidant therapy should be considered in addition to the routine medicines in this group of patients.

**Keywords:** Hydatid disease, *Echinococcus granulosus*, Antioxidant, Oxidative stress.

## Introduction

Hydatid disease, or cystic echinococcosis (CE), is an endemic cosmopolitan zoonosis. It is developed from an infection with the larval stage of the tapeworm *Echinococcus granulosus*. The disease is transmitted to human by oral intake of parasite eggs expelled in the dogs' feces, the main definitive host, which can result in single or multiple hydatid cysts<sup>(1-3)</sup>. The liver and lungs are noticeably most affected organs; however, the brain, kidneys, spleen, heart as well as bones can also be infected via lymphatic and hematogenous routes<sup>(4,5)</sup>. Indeed, earlier diagnosis leads to a highly successful rate of treatment, yet, it is difficult to be diagnosed clinically due to the variable signs and symptoms, which correlate with the infected organs. However, successful diagnosis requires a combination of different techniques including physical examination, imaging and serological investigations<sup>(2,6-8)</sup>.

Free reactive oxygen radicals such as nitric oxide (NO), hydrogen peroxide H<sub>2</sub>O<sub>2</sub> and hydroxyl as well as superoxide radicals are strongly reactive molecules

which are produced during the normal metabolism or after exposition to ecological pro-oxidants. Overproduction of free radicals causes a serious chain reaction which can destroy the lipids, nucleic acid, proteins and other cellular compounds<sup>(9)</sup>. The body fights the excessive free radicals via its antioxidant defence system, which comprised of antioxidant enzymes such as catalase (CAT), superoxide dismutase (SOD), glutathione peroxidase (GSH-Px) and by nutritional antioxidants for instant vitamins E and C and also ceruloplasmin<sup>(10)</sup>. However, oxidants and antioxidants level in healthy individuals are at a good balance.

The oxidant and antioxidants balance will be disrupted in the prolonged exposure to *E. granulosus* antigens due to the continuous immune reactions of the parasite products with oxygen radicals during the parasitic infection, which increases the oxidant stress and ultimately leads to oxidative damage, which in turn has an impact in the complications of the disease as in various other diseases<sup>(11)</sup>.

Cells containing antioxidant functions have a great