

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

Judul Artikel Ilmiah : **Green coconut water against the risk of contrast induced nephropathy**
 Nama semua penulis : Sudyono, Suharyo Hadisaputro, **Ari Suwondo**, Gunawan Santoso
 Status Pengusul (coret yg tidak perlu) : ~~Penulis Utama/ Penulis Utama & Korespondensi/ Penulis Korespondensi/ Penulis Anggota~~

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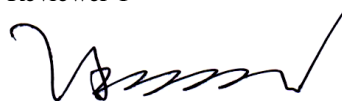
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Catatan Penilaian artikel oleh Reviewer

a	Kelengkapan unsur isi artikel	Kelengkapan isi artikel sudah sesuai dengan pedoman Pakistan Journal of Medical and Health Sciences yaitu introduction, methods, result, discussion, conclusion, references
b	Ruang lingkup & kedalaman pembahasan	Topik penelitian ini sudah sesuai dengan scope dari jurnal
c	Kecukupan dan kemutakhiran data/informasi dan metodologi	Metode penelitian cukup, dengan menggunakan cukup banyak referensi yaitu sebanyak 34 artikel
d	Kelengkapan unsur dan kualitas jurnal	Merupakan jurnal internasional bereputasi

Semarang, 15 Februari 2021
Reviewer 1



Dr. Ir. Mursid Rahardjo, M.Si
 NIP. 196608261997031002
 Unit kerja : Fakultas Kesehatan Masyarakat UNDIP
 Jabatan : Lektor Kepala

**LEMBAR
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d	Kelengkapan unsur dan kualitas jurnal (30%)	12	11
	Nilai Total	40	35
Nilai yang didapat pengusul:		$35 \times 0.4 = 14 / 3 = 4,666$	

Catatan Penilaian artikel oleh Reviewer

a	Kelengkapan unsur isi artikel	Kelengkapan isi baik dan sesuai dengan paduan dari Pakistan Journal of Medical and Health Sciences
b	Ruang lingkup & kedalaman pembahasan	Pembahasan artikel mendalam. Menggunakan referensi yang cukup banyak yaitu 34 referensi, dengan kesimpulan air kelapa muda dapat menurunkan TNF- α dan berpotensi untuk pencegahan risiko contrast induced nephropathy.
c	Kecukupan dan kemutakhiran data/informasi dan metodologi	Metode penelitian sesuai dengan tujuan penelitian dan artikel ini menggunakan referensi yang cukup yaitu 34 karya ilmiah. Dari 34 karya ilmiah yang digunakan, 32 diantaranya adalah artikel penelitian.
d	Kelengkapan unsur dan kualitas jurnal	Artikel terbit di jurnal terindex di scopus dengan SJR 0,121.

Semarang, 15 Februari 2021

Reviewer 2



Dr. dr. Suhartono, M.Kes

NIP. 196204141991031002

Unit kerja : Fakultas Kesehatan Masyarakat UNDIP

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Pakistan Journal of Medical and Health Sciences
Volume 14, Issue 4, October 2020, Pages 1837-1840

Green coconut water against the risk of contrast induced nephropathy (Article)

Sudiyono^{a,b,c} , Hadisaputro, S.^{b,c}, **Suwondo, A.**^{b,c}, Santoso, G.^{d,e}

^aDepartment of Radiology, Semarang Health Polytechnique, Pedalangan Banyumanik Semarang, Central Java, 50265, Indonesia

^bFaculty of Medicine, Universitas Diponegoro, Semarang, Indonesia

^cTembalang, Semarang, Central Java, 50275, Indonesia

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Abstract

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Aim: to prove that young green coconut water (YGCM) reduces the risk of Contrast Induced Nephropathy(CIN) through the change of Tumor Necrosis Factor- α (TNF- α). Malondialdehyde (MDA).Neutrophil gelatinase-associated lipocalin (NGAL) and renal tubular cell histopathology. Study Design: Experimental research with pre- and post-test control group design. Method: As many 30 rats were randomly divided into 5 groups (K1-K5). Green coconut water was given for 3 (three) days after Iodine Contrast Media (IoCM) induction. Samples were measured at 2. 24 and 48 hours after injection. andrats mice were terminated with anesthesia and cervical dislocation. Examination of samples using ELISA and analyzed by Linier General Model (LGM). and Fisher Exact Result: YoungGreen coconut water decreased TNF- α levels by 3.9% in K-1. 19.7% in K-2 and 2.8% in K-3. reducing MDA levels by 28.7% in K-1. 26.7 % for K-2 and 30.6% for K-3. The decreased also occurred in NGAN by 0.1% on K-1. 9.9% on K-2 and 6.8% on K-3. while the histopathological picture of renal tubular cells explained that there was no pathological change in K-1 and K-3. there is NET on K-2 and there is NIPV on K-4. Statistically. the difference in the effect of YGCM on the reduction of TNF- α . NGAL. MDA and histopathological changes between groups was not significant ($p > 0.05$). Conclusion: Young Green Coconut Water lowers TNF- α . MDA. NGAL and potentially to be used on the risk of CIN prevention. © 2020 Lahore Medical And Dental College. All rights reserved.

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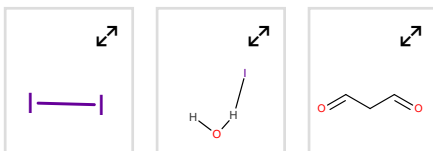
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Green coconut water Iodine contrast media Malondialdehyde Neutrophil gelatinase-associated lipocalin
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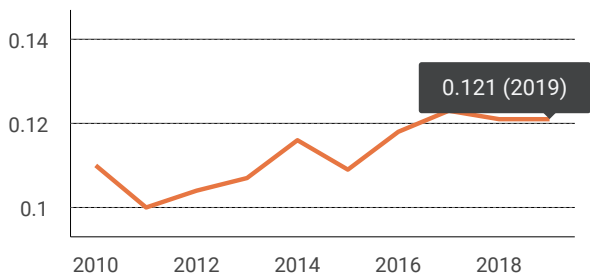


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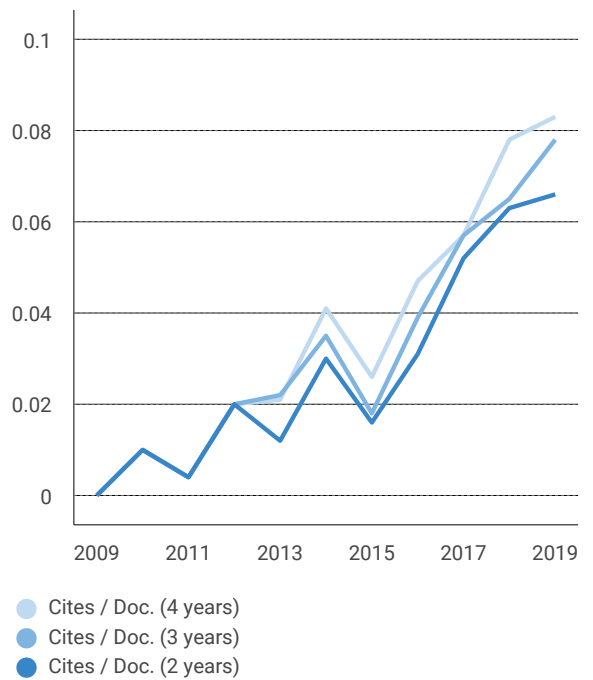
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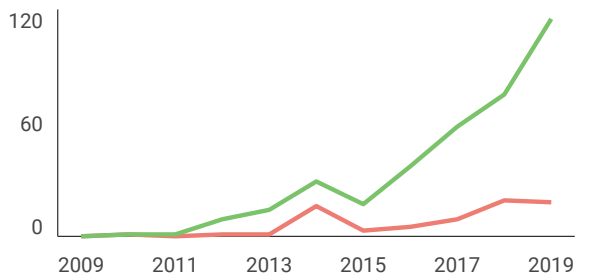
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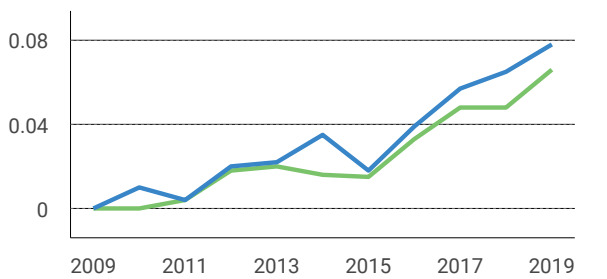
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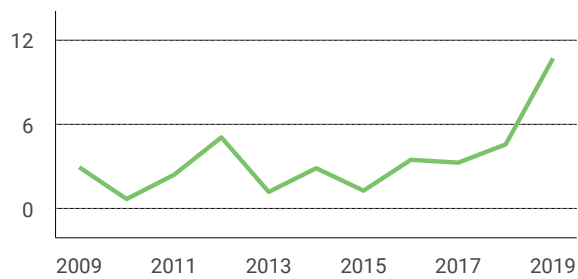
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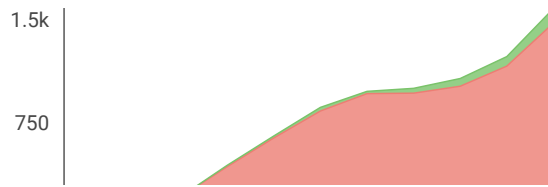
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Pakistan Journal of Medical and Health Sciences

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A Comparative Review of Data Mining Techniques for Prediction of Risk Factors of Low Birth Weight

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ABSTRACT

Background: Low Birth Weight is a serious public health issue and has major contribution in neonatal morbidity and mortality worldwide. Logistic regression (LR) has been conventionally used to predict low birth weight and identify its risk factors. However, latest data mining techniques like Artificial Neural Network (ANN) have not been used much for this purpose.

Aim: To review the predictive ability of two data mining techniques (Artificial Neural Network and Logistic Regression) for prediction of risk factors of Low Birth Weight.

Methods: All studies that compared predictive ability of ANN and LR for risk factors of LBW were searched on Google scholar, PubMed, Cochran library and web of science using BOOLEAN search strategy and 6 studies following PRISMA guidelines were included. Studies were stored on ENDNOTE version 7 and were critically analyzed. Any disagreements were handled with consensus.

Results: Studies ranged from 1999 to 2019 and all the studies were retrospective cohort. Total of 3,293 subjects were included in all 6 studies. Commonly compared statistical tests were AUC, sensitivity, specificity, negative predictive value, positive predictive value, concordance index, F-statistics, precision and recall. Almost all studies reported that ANN performed better against all these statistical tests or atleast equal in prediction of risk factors of low birth weight.

Conclusion: ANN is a reliable, powerful, and sophisticated tool for handling complex data with high accuracy. ANN can be advantageous over LR specially if considerable inter and intra-relationships of outcome with risk factors and complicated non-linear relationships exist in data.

Keywords: Data mining, Artificial Neural Network, Logistic Regression, Fetal Weight, Low Birth Weight, Pregnancy

INTRODUCTION

Birth weight in normal range is crucial for ensuring healthy delivery and lesser chances of complications after birth¹. Low Birth Weight (LBW) is a major public health issue that increases the chances of many physical as well as neurodevelopmental disorders for newborns such as mental retardation, hypothermia and hypoglycemia². According to World Health Organization (WHO), the global prevalence of LBW is 15.5% whereas, almost 96.5% LBW births occur in developing countries³. Moreover, LBW is responsible for 60% infant mortality in first year of life and LBW infants have 40% increased risk of death in first few months of their lives compared to Normal Weighted Births (NWBs)⁴.

With advancements in technology and science, the statistical tools for predicting low birth weight and its risk factors have also become more powerful and sensitive. Hospitals and healthcare centers are focusing on adding large amount of clinical data for beneficial analysis that can lead to huge contribution in health sector⁵. Recently, data mining approaches have become quite prevalent for managing the enormous amount of data and extract valuable patterns, knowledge, and predict the status of a particular disease or outcome in patients⁶. Moreover, the data mining techniques have an important role in treating complex interactions of patients with their disease, treatment options and other conditions⁷.

There are two main objectives fulfilled by data mining, one presentation and the other prediction. Different techniques of data mining constitute one or both parts of these depending upon the situation and spectrum of data.⁸ The major tasks involved in this process include summarization, association, stratification or classification, clustering, and trend analysis. A number of techniques serve this purpose in healthcare such as regression analysis, decision tree, Artificial Neural Network (ANNs), and Support Vector Machine (SVM)⁵. Regression analysis is considered as one of the very first techniques being used for prediction of desired outcomes for many years. Now, even with advent of new applications, regression analysis is still used mostly as a gold standard to compare its effectiveness and predictive accuracy with these relatively newer data mining techniques^{9,10}.

The use of these data mining techniques is relatively commoner in some healthcare problems in general such as cancer and very few maternal and child health issues in particular such as preterm birth and neonatal mortality but for LBW, the studies using these data mining techniques are very limited¹¹. Although few comparisons of ANN with logistic regression have reported ANN to better or at-least not worse than logistic, the consensus on the better technique for predictive accuracy of risk factors has not been established so far. Therefore, this methodological synthesis compares and reviews the predictive accuracy of logistic regression and ANN for determination of risk factors

Oral Biofilm: Insight into Pathogenesis and Management Strategies

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ABSTRACT

There are hundreds of microorganisms in the oral cavity found in the form of planktonic cells or embedded in biofilms. Oral biofilm consists of a diverse community of microorganisms embedded in an extracellular polysaccharide matrix. The biofilm that forms on the teeth' hard or soft tissues is the leading cause of tooth decay, tooth pulp, and gum disease, developing a unique attachment as a dynamic process influenced by the medium's growth substratum and cell surface. Increased knowledge of biofilm processes can lead to novel, efficient biofilm management control strategies and improved patient management. The present review focuses on the development of oral biofilms and provides information about microorganisms contributing to the formation of oral biofilm.

Keywords: Biofilm, Oral microbes, Dental caries, Dental plaque, Oral health, Pathogenesis, Oral microbial management

INTRODUCTION

Biofilms were first discovered in the 17th century by Leeuwenhoek, who observed the microorganism's presence in his oral cavity¹. Biofilms are considered organized aggregates of microbes that live together inside a complex matrix produced extracellularly. Biofilm is irreversibly attached to a surface, non-living or living, and can be removed only through rinsing². In most cases, biofilms are pathogenic. In hospital environments, bacterial biofilms become the leading cause of nosocomial infections. A multistep, complex process leads to biofilm formation, which usually begins with microbes' attachment to a living or non-living surface and forming a micro-colony³. Most biofilms consist of a population of various microorganisms embedded in an exopolysaccharide matrix⁴. In the mouth, polymicrobial biofilms can be formed on different surfaces, including mucosal surfaces, teeth, implants, and other dental materials. These biofilms can cause various complications and oral diseases^{5, 6}.

Microbial Biofilms and Oral Diseases

Oral cavity microbial biofilms mostly contain microbes that can alter their mode of survival from non-pathogenic to pathogenic. Some oral pathogens can cause oral diseases, such as dental caries (tooth decay) and periodontitis (tooth loss). Oral biofilms are complex 3-D structures comprised of multi-species microorganisms attached to an inhabitable substrate. The formation of biofilms on oral surfaces is the major source of various infectious diseases in different fields of dentistry⁷. Dental plaque is a multi-species biofilm in the oral cavity that can lead to illnesses, such as tooth decay and tooth loss⁸. Tooth decay is one of the most widespread oral diseases caused by oral biofilm, which occurs due to intricate interactions between various oral microorganisms.

Biofilm Development

Oral infections are caused by various factors that influence the type and population of microbes that can thrive in the oral cavity. These factors primarily include the active relationships and exchange of materials between microorganisms, host diet, and the host immune system,

influencing the microbial colonization of oral surfaces and the formation of harmful biofilms⁹. When a free-living microbe attaches itself to a surface, other organisms can join the microbe to develop a dynamic multi-organism biofilm. Every organism has a unique attachment mode to the substrate, including pili, flagella, proteins, and polysaccharide adhesins¹⁰.

Biofilms formation can occur on biotic as well as abiotic surfaces. This flexibility renders the therapy and removal of biofilms quite difficult⁸. The attachment of microbes to any surface is the crucial step for forming a biofilm, and once attachment begins, the bacteria have two possibilities. The environmental conditions determine whether the microbes can proceed to the development of biofilm by adhering to the substrate, or they can return to the free-living stage. For the organisms that enter a biofilm, development stops when the dispersion phase starts; this phase includes the sloughing off the bacterial cells from the biofilm and causing infection in the host¹¹.

Structure of Oral Biofilm

The extracellular polymeric substance (EPS) is a vital component of all biofilms as this complex holds the biofilm together and protects the internal microbes from the external environment. Research shows that the extracellular matrix offers adhesion, protection, stabilization, and nutrients to the biofilm community. About 91% of the biofilm matrix is comprised of water. It is an important part of the biofilm matrix as water helps with the diffusion of nutrients in the biofilm¹². The study shows that the biofilm's microbial content is around 5%, 2% is protein and nucleic acids, and the EPS matrix is about 2%. The matrix composition differs among biofilms and depends on the bacterial populations and the environmental conditions¹¹.

Microbial Interaction

Microbes' attachment to a surface and stabilization of the initial colonization leads to microbial cell division initiation. This multiplication of microbial cells is triggered by the certain cell signaling mechanism in the EPS. The division of the initial population leads to the formation of different types of micro-communities⁶. These new microbial groups