Department of Environmental Health
Faculty of Public Health
Hasanuddin University

4TH INTERNATIONAL CONFERENCE on ENVIROMENTALRISK and PUBLIC HEALTH (ICER-PH 2022)

"Environmental Health Challenge in Pandemic on Global Maritime"

Monday – Tuesday,
29 – 30 August, 2022

A Virtual Conference

CONFERENCE BOOK

The 4th International Conference on Environmental Riskd and Public Health (ICER-PH 2022)

“Environmental Health Challenge in Pandemic on Global Maritime”

A Virtual Conference

August 29-30, 2022

Organized by:

Environmental Health Department, Faculty of Public Health, Hasanuddin University, Makassar, Indonesia

Scientific Committee:

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Organized by
Environmental Health Department, Faculty of Public Health
Hasanuddin University, Makassar, Indonesia

08.00 -08.30 **Registration**

08.30 -09.00 **Opening Session**

Master of Ceremony
By Tenti Fajrah Ihsany MJ., SKM

Welcoming Speech
By Professor Sukri Palutturi, SKM., M.Kes., M.Sc.Ph.D
Dean of Public Health Faculty, Hasanuddin University

Welcome Speech
By Professor Dr. Ir. Jamaluddin Jompa, M.Sc.
Rector of Hasanuddin University

09.00 -10.00 **Plenary Session I**
By Ruslan, S.KM., MPH
Moderator

Keynote Speaker I
"Multy Routes Exposure of Potentially Toxic Elements with the Health and Environment Risks Estimation"
By Prof. Anwar Mallongi, S.KM., M.Sc., Ph.D.
Department of Environmental Health - Hasanuddin University, Indonesia

Keynote Speaker II
"Exposure Science – Understanding Exposures in Occupational and Environmental Health"
By Dr. Len Turczynowich
Senior Public Health Scientist & Risk Assessor Adelaide
Exposure Science and Health - Adelaide University, Australia

Keynote Speaker III
"The Current Global Challenges and Future Sustainability

Opportunities Aftermath Covid-19"

By Prof. Dr. Wesam Al Madhoun
Fonder Global Ambassadors of Sustainability - Gaza University, Palestine

10.00-10.20 **Discussion and Conferment Certificate**

10.20 -12.45 **Lunch and Pray**

12.45-13.00 **Registration of Room Paper Presentation (Main Room)**

13.00-14.10 Oral Presentation (Room 1-5)

(**Room 1**) **(7 *minutes presentation 3 minutes Q&A)***

Moderator

By Dr. Nurzakiah, SKM, MKM / Shahidul Islam

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By Basri Basri, Andi Tilka Muftiah Ridjal

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By Rizal Irfandi, Indah Raya, Ahyar Ahmad, Ahmad Fudholi, et. al

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By Nur Rahmah, Agus Bintara Birawida

O.Presentation1.4: Effectiveness of Moringa Seed Coagulant, Combination of Pumice Filter and Mangrove Activated Carbon In Brackish Water Treatment in Barrang Caddi Island, Makassar City
By Muhammad Aidil Fitrah, Agus Bintara Birawida

O.Presentation1.5: Type 2 Diabetes Mellitus: Factors Affecting Random Blood Glucose Level in Patients
By Sri Wijayanti Wulandari, Haris Setiawan, Nurul Putrie Utami, Irsa Dwi Agnesia, Meyta Wulandari

O.Presentation1.6: The Effects of Aircraft Noise on Increased Levels of Cortisol, CD4, IgG Decrease, And Health Complaints On A Ground Handling Worker
By Muhammad Z Adha, Riris Andriati, Fenita Purnama Sari Indah, Rita D. Pratiwi, Nurwulan A Ismaya, Andiyan

O.Presentation1.7: Overview Between Frequency of Washing Gallons With Brush Machine on Amiu Microplastics

By Amaludin Amaludin, Muh. Fajaruddin Natsir, And Basir Basir

O.Presentation1.8: Pro and Contra Sand Mining by Type of Fishing Gears
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Moderator

By Arif Anwar, SKM., M.Kes

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By Mardiana Mardiana, Rusdiana, Lia Kurniasari

O.Presentation2.2: Comparison Of Nurses' Exhaustion During Pandemic And The New Normal Era In South Sulawesi Hospital
By Irwandy, Andi Indahwaty Sidin, Adelia U Ady Mangilep, Ummu Kalsum, Indah Nur Insani

O.Presentation2.3: Evaluation of Fogging Effectiveness Based on Time and Location of DHF Cases (Study in Sleman Regency Using Data 2008-2013)
By Tri Wulandari Kesetyaningsih, Kusbaryanto Kusbaryanto, Bambang Sulistyo, Noviyanti Listyaningrum

O.Presentation2.4: What are The Mental Health Issues of Postpartum Mothers During The Covid-19 Pandemic? A Scoping Review
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O.Presentation2.5: Microencapsulation of Microalgae Chlorella vulgaris as a Source of Omega-3 Using Maltodextrin as a Coating in Fortification of Bagea Sago Traditional Cookies
By Febriyanti Pratiwi, Indah Raya, Hasnah Natsir

O.Presentation2.6: Factors Related to Infectious Waste Management at Household Level During Pandemic Covid-19 in Makassar
By Andi Susilawaty, Uswatun Hasanah, Andi Ulfiah Batari, Emmy Bujawaty, Syarfaini

O.Presentation2.7: How to Develop a Model of High Reliability Organization, Patient Safety Culture, and Safety Culture Maturity? A Systematic Review
By Sri Andayani, Syahrir A. Pasinringi, Fridawaty Rivai, Yahya Thamrin

O.Presentation2.8: To enhace the community empowerment model in the aisle community; a management intervention model
By Sukri Palutturi, Lalu Muhammad Saleh, Muhammat

Rachmat, St. Rosmanelly, Achmad Mawardi Shabir, Muhammad Rafli Aidillah, Arni Rizqiani Rusydi, M. Nabil Sakti Pahruddin

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Moderator

By Mahfuddin Yusbud, SKM., M.KM

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By Hasanuddin Ishak Ishak

O.Presentation3.2: The Environmental and Behavioral Factors and The Dengue Hemorrhagic Fever Incidence in Rantepao and Tallunglipu, North Toraja Regency, Indonesia
By Hasanuddin Ishak Ishak

O.Presentation3.3: Bioacumulation of Nickel (Ni) And Chromium (Cr) Heavy Metals in Feather Shellfish (Anadara Antiquata) in The Coastal Waters Of Kendari Bay
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O.Presentation3.4: Physical Environment Characteristics With The Existence Of Aedes Larvae At Daughter Ummul Mukminin Boarding School
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O.Presentation3.5: Cation Exchange Capacity (CEC) of Clay Kutai and Escherichia Coli Reduction
By Blego Sedionoto

O.Presentation3.6: The Equation Modeling of Environmental Risk Factors for The Existence of Aedes Aegypti Larvae
By Nurul Hidayah, Anita Herawati, A. Rasyid Ridha Ramadhan

O.Presentation3.7: The Correlation Between Environmental Hygiene Habits and Body Mass Index of Healthy People
By Swanny T. Widyaatmadja, Young-Duk Kim, Kyeong-Hwa Byun

(**Room 4**) **(7 *minutes presentation 3 minutes Q&A)***

Moderator

By Dr. Syamsuar Manyullei, SKM., M.Kes., M.Sc.Ph / Ardalif Lulhaq Musbir, SKM

O.Presentation4.1: The Effect of Bagea Containing Sea Urchin Gonad on The Pregnancy Outcomes

By La Banudi, Nurmiaty Nurmiaty

O.Presentation4.2: Effect of Consumption of Baruasa Enriched With Sea Urchin Gonads and Moringa Leaf Flour on The Nutritional Status of Nursing Mothers in Coastal Areas of Soropia Subdistrict
By Purnomo Leksono, La Banudi, Muhammad Anasiru

O.Presentation4.3: E-Siskamling to go to Smart Village; planning and design
By Saffana, Hermanto

O.Presentation4.4: Constructs For Employee Engagement: A Literature Review
By Nur Arifah, Indahwaty Sidin, Syahrir A. Pasinringi, Suriah

O.Presentation4.5: Dunaliella Salina Microencapsulation Using Combination of Maltodextrin and Arabic Gum and Its Application as Omega-3 Source for Bagea Sago Cookies
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O.Presentation4.6: Microencapsulation of Microalgae Chlorella vulgaris as a Source of Omega-3 Using Maltodextrin as a Coating in Fortification of Bagea Sago Traditional Cookies
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Moderator

By Dr. Hasnawati Amqam, SKM., M.Sc. / Moch. Al Anugerah Agus, SKM

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By Muhammad Arinal Surgama Yusuf, Wahyudin Wahyudi, and Nima Meilani

O.Presentation5.2: Analysis of Health Risks and Health Impact on Cyanide (CN) Pollutants Exposure: A literature review
By Anwar Mallongi, Andi Agus Mumang

O.Presentation5.3: The Review of Environmental Health Risks Analysis of Lead Contaminants (Pb) Exposure and Its Epidemiological Impact on Health
By Anwar Mallongi, Andi Agus Mumang

O.Presentation5.4: The Relationship Between Weight Gain and Anemia in The Third Trimester of Pregnant Women
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O.Presentation5.6: Utilization of Phytoplanktone Chlorella Vulgaris Rich in Docosahexaenoic Acid (DHA), Eicosapentaenoic Acid (EPA) and Protein For Fortification of Salt Consumption
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14.20-15.10 **Reward Announcement and Closing Ceremony by MC**

Conference Program

4nd International Conference on Environmental Riskd and Public Health (ICER-PH 2022)
"Environmental Health Challenge in Pandemic on Global Maritime"
Day2 : Tuesday 30th August 2022 A Virtual Conference

Organized by
Environmental Health Department, Faculty of Public Health
Hasanuddin University, Makassar, Indonesia

08.00 -08.30 **Registration**

08.30 -09.00 **Opening Session**

Master of Ceremony
By Tenti Fajrah Ihsany MJ., SKM

09.00 -10.00 **Plenary Session II**
By Rahma, SKM, M.Sc (PHC)
Moderator

Keynote Speaker I
"How Can We Solve Environmental Issues as Wicked Problems Related SDGs"
By Prof. Masayuki Sakakibara, Ph.D.
Research Institute for Humanity and Nature / Ehime University - Japan

Keynote Speaker II
"Endocrine disrupting chemicals: Exposure and Human Health Effects (Southeast Asia Perspective)"
By Prof. Kraichat T.,BS., M.Sc., Ph.D.
Department of Social and Environmental Medicine Unit of Environmental Health and Social Impact Assessment - Mahidol University

Keynote Speaker III
"Impact of Air Pollution Exposure During Pandemic Covid-19"
By Prof. Budi H., S.KM., M.ScPH, Ph.D
Research centre for climate change - University of Indonesia

09.50-12.45 **Discussion and Conferment Certificate**

10.20 -12.45 **Lunch and Pray**

12.45-13.00 **Registration of Room Paper Presentation (Main Room)**

13.00-14.10 Oral Presentation and Poster Presentation (Room 1-5)

(Room 1) **(7 *minutes presentation 3 minutes Q&A)***

Moderator

By Mahfuddin Yusbud, SKM., M.KM / Laksmi Trisasmita, S.Gz.,MKM

O.Presentation1.1: Health Belief Model in The Prevention of Type-2 Diabetes Mellitus in Fertile Age Couple
By Achmad Lukman Hakim, Agustina Sari

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O.Presentation1.6: Microplastics In Fish and Shellfish and Implications on Human Health at Takalar and Jeneponto Regency South Sulawesi, Indonesia
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O.Presentation1.7: Risk Assessment of Nitrogen Dioxide Exposure in Palu City in 2021
By Pitriani, Adisti Pratiwi Abbas, Wahyu Chandra Pradana, Dinda Sania, Anak Agung Krysna W, Bertin Ayu Wandira, Riri Suwahyuni Wahid

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By Dewi Rokhmah, Agistha Winasis, Jumanto, Agus Sulistinah, Khoiron

(**Room 2**) **(7 *minutes presentation 3 minutes Q&A)***

Moderator

By Dr. Nurzakiah, SKM, MKM /Ardalif Lulhaq Musbir, SKM

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O.Presentation2.2: The Effect Of Pumpkin Seed Biscuits On Zinc Status , Body Weight And Muac During Pregnancy : A Randomised Controlled Trial In Pregnant Women
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O.Presentation2.3: Study Of Potential Of Inhaled Microplastics By Laundry Workers In Bandung
By Amira Nadira, Katharina Oginawati

O.Presentation2.4: Long-Term Projections Of Climate Change Bangga Watershed, Sigi Regency, Central Sulawesi
By Abdul Wahid, Abdul Munif, Andi Safarsi, Taufik Palenga, Riri Suwahyuni Wahid

O.Presentation2.5: Hematological parameters of the immune system in smoking and non-smoking fishing communities with wet cupping therapy
By Indriono Hadi, Lilin Rosyanti, Akhmad Akhmad, Alfi Yakub

O.Presentation2.6: Work Posture Analysis and Factors Associated With Complaints of Musculoskeletal Disorders (Msds) on Barbers in Tanjungpinang City
By Muhammad Yusuf Mf, Risman Kurnia, Mutia Diansafitri

O.Presentation2.7: Knowledge, Attitude, and Role of Health Officers in Health Promotion of Pregnant Women
By Yusriani, Muhammad Khidri Alwi

O.Presentation2.8: Indicators Development of Hospital Efficiency Measurement: DEA Application Using Stepwise Modelling Approach
By Irwandy, Amal Chalik Sjaaf, Anhari Achadi, Mardiati

Nadjib, Dumilah Ayuningtyas, Purnawan Junadi, Besral, Supriyantoro

(Room 3) **(7 *minutes presentation 3 minutes Q&A)***

Moderator

By Arif Anwar, SKM., M.Kes / Moch. Al Anugerah Agus, SKM

O.Presentation3.1: The Role Of Job Demand-Resources As A Double-Edged Sword On Nurses In South Sulawesi During The Covid-19 Pandemic
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O.Presentation3.5: Systematic Literature Review of Microplastics in Bottled Drinking Water in Indonesia
By Rahmi Amir, Magfirah Nurul Islamiah, Ayu Dwi Putri

O.Presentation3.6: Nurses Performances at Government and Private Hospital in Makassar
By Noer Bahry Noor, Adelia U. Ady Mangilep, Rini Anggraeni

O.Presentation3.7: Tooth Loss-Induced and Cognitive Impairment are Risk Factors For Fall in Rural Community-Dwelling Older Adults: A Cross-Sectional Study
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Moderator

By Basir, S.KM., M. Sc / Putri Karini Dewar, SKM

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By Rini Anggraeni, Syahrir A. Pasinringi, Fridawaty Rivai

O.Presentation4.4: Midwives' Experiences of Caring for Women Who Experience Perinatal Mental Health and Well-Being: A Mixed-Methods Systematic Review
By Rizka Adela Fatsena

O.Presentation4.5: Dentification of The Sars-Cov-2 Virus and Analysis of The Environmental Sanitation Hygiene in The Isolation Room of The Covid-19 Referral Hospital
By Rian Saputra Ridian, Rostika Flora, Mohammad Zulkarnain, Nur Alam Fajar

O.Presentation4.6: The Effect of The Concentration From Pineaple Peel Solution (Ananas Comusus L.Merr) to Shelf Life of Wet Noodle
By Zulya Erda, Sylvia Mandaka Putri Nasution, Weni Enjelina

O.Presentation4.7: Meteorological variability and Its Lag Time Effects on Dengue Incidence in Makassar City: A Random Forest Approach
By Ruslan La Ane, Siti Chaerani Fatimah Apdin, Muh. Fajaruddin Natsir

O.Presentation4.8: Resilience of Nurses in Inpatient Unit of Hasanuddin University Hospital During Covid-19 Pandemic
By Nurmala Sari, Hapsah Hapsah, Priska Anggelina Wong

(**Room 5**) **(7 *minutes presentation 3 minutes Q&A)***

Moderator

By Amaludin, SKM

P.Presentation5.1:	Effect of the Physical Conditions of the House on Acute Respiratory Infection in Coastal Areas of Sangaji Urban Village By Sakriani Sakriani, Ummi Kalsum Supardi
P.Presentation5.2:	The Concentration of Particulate Matter (Pm2,5 And Pm10) and Nitrogen Dioxide (No2) in The Gas Station Area in Ternate By Purnama Sidebang, Purwiningsih Dwi Wahyu
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P.Presentation5.4:	- By Dwi Wahyu Purwiningsih
14.20-15.10	**Reward Announcement and Closing Ceremony by MC**

WELCOME SPEECH

Conference Chair

Dr. Agus Bintara Birawida, S.Kel. M.Kes.
Environmental Health Department, Faculty of Public Health, Hasanuddin University, Makassar

Dr. Agus Bintara Birawida, S.Kel. M.Kes.

Good Morning Ladies and Gentlemen

Welcome to Makassar, South Sulawesi, Indonesia

It's my pleasure to welcome the participants from different cities and countries came to this Opening of the International Conference. We will be here to exchange experience and work together from 29 and 30 August 2022 on the exciting field of Environmental Risks and Public Health (ICER-PH2022).

This is the fourth of a new series of annual academic conferences exploring how Environmental can effect Human health could be utilized in teaching, learning, and educational Process. For many years, the Faculty of Public health has been organizing conferences in a the area of public health and environmental risks with some co organizer such as Persakmi, EHSA and some industries that have a similar program.

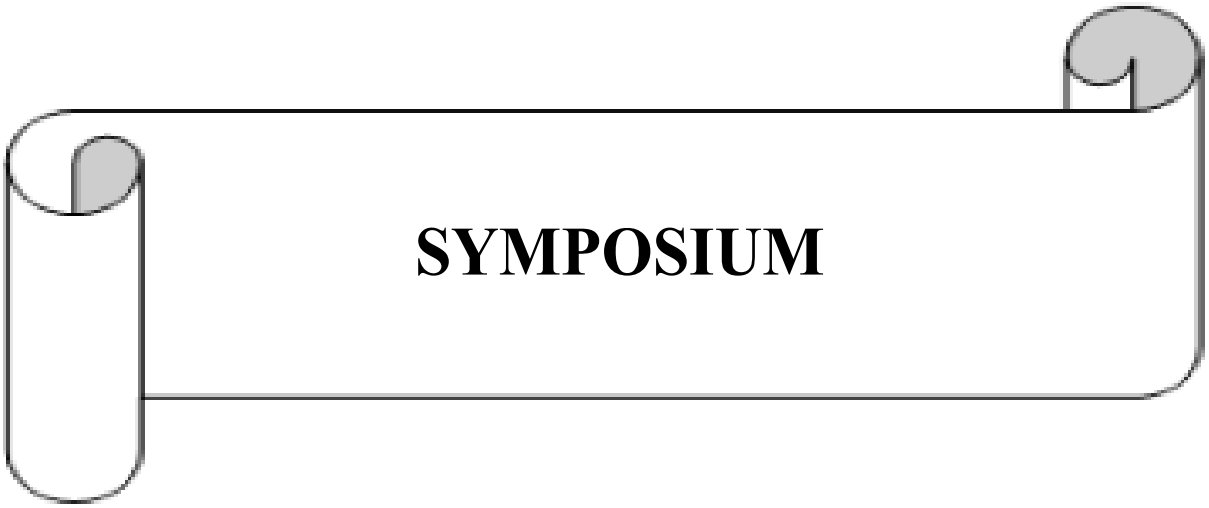
I am delighted to see that many institutions have again organized a new series of annual conferences that capitalize on our strengths and have built on our common commitment to promoting effective use model and method of calculating the environmental risks and the potential impact to human. At this conference adopt a timely theme "Environmental Challenges and Global Health Impact".

If we take a look at the ICER-PH Conference Programe, we will find that this Conference is

going to be busy and productive. I would like to take this opportunity to thank the ICER-PH 2022 Conference Organizing Committee for their smart and diligent work. I would also like to thank participants, especially those of you coming from abroad and from other provinces, for joining us and sharing your valuable experience and ideas. It is essential to bring together experts in the field of technology in education so that we can realize together the potential of model environmental risk and Effect to the human health education.

In closing, I hope that all of you will enjoy the Conference, and I wish our visitors from abroad and different provinces will have a very pleasant stay in our Makassar city.

Thank you.



SYMPOSIUM

Symposium Topic I	**Multi Routes Exposures of Potentially Toxic Elements with the Health and Ecological Risks Assessment**

Professor Anwar Mallongi, SKM. MSc.Ph.D
Environmental Health Department, Faculty of Public Health, Hasanuddin University, Makassar

Professor Anwar Mallongi, SKM. MSc.Ph.D

Anwar Mallongi, SKM., MSc., Ph.D born in Pare-pare, South Sulawesi on August 16, 1974. He finished his Bachelor of Public Health at the Faculty of Public Health, Department of Environmental Health, Universitas Hasanuddin in 1998, and became a lecturer in the same department since 1999 until today. The Master's program Urban Environmental field graduated in 2004 at Wageningen University Research Centre Joint Program with IHS Erasmus Rotterdam, The Netherlands. He finished his Ph.D program Sanitary Engineering, Environmental Technology at the Faculty of Public Health Mahidol University, Thailand, 2014.

While the Reference Book that has been written in the last five years is: Pencemaram dari Industri dan analisys Risiko Ekologi (ISBN: 786232361874), Penilaian risiko Mikroba, bahan Kimia dan Ekologi Terhadap status Kesehatan (ISBN: 786232361867), Polutan Penyebab Pemanasan Global Dan Analysis Risiko (ISBN: 978-602-1107), Penyakit akibat ekpose kontaminan (ISBN: 9786025775765), Dinamika Pollutan dan Analisis Risiko Lingkungan (ISBN: 978-602-5411-45-8), Bahaya Pencemaran Limbah dari beragam Aktifitas (ISBN: 976-60205775-13-0), Dampak Limbah Cairdari Aktifitas Institusi dan Industri (ISBN: 978-602-5411-10-6), Current Issue Ilmu Kesehatan dan Lingkungan (ISBN: 978-602-6934-51-2), Bahan Pencemar Toxic di Udaradan Upaya Pencegahannya (ISBN: 978-602-1384-96-1), Pengelolaan

Limbah Padat Perkotaan (ISBN: 978-602-1384-41-1), and Teknik Penyehatan Lingkungan (ISBN: 978-602-1384-11-4).

Scientific experience abroad include "Workshop for Energy Saving in Spain in 2004", EAP and IELTS training in New Zealand in 2004-2005. Presenter "Asia Pacific Academic Consortium for Public Health (APACPH) Vietnam 2008, Bali Colombo Sri Lanka in 2010 and 2012. Furthermore Percentage International ITMAR in Turkey and Etar in Bali. 2015. "Training Water and Environmental Law, UNESCO-IHE, the Institute for Water Education" NETHERLANDS 2016; International Conference ICEOH Malaysia, and IENC Khoen Kaen, Thailand.

Besides lecturer in the Department of Environmental Health PHPS UNHAS, the authors also today active international published papers of various environmental research results indexed in SCOPUS and Thomson ISI, among others; Assessment of Mercury Accumulation in Dry Deposition, Surface Soil and Rice Grain Gold Mine in Luwuk, Central Sulawesi (Research Journal of Applied Sciences (RJAS -SCOPUS)); Assessing the risks of Mercury Contamination in terrestrial systems at artisanal Buladu Gold Mine in Gorontalo Province (Advance in Environmental Biology (AEB – ISI Thomson); Mercury Emissions from Artisanal Buladu Gold Mine and Its bioaccumulation in Rice Grains Gorontalo Province, Indonesia (Advance Materials Research (AMR – SCOPUS) Mercury Distribution and its Potential Environmental and Health Risks in Aquatic Habitat at Artisanal Buladu Gold Mine in Gorontalo Province, Indonesia (Pakistan Journal of Nutrition (PJN – SCOPUS). And The Effect of Zinc Saliva On The Toddlers' Nutritional Status (JIDMR- Scopus).

Symposium Topic II	**Exposure science – understanding exposures in occupational and environmental health**

Dr. Len Turczynowich
Senior Research Fellow (P/T), University of Adelaide Director, HealthRisk Services Pty Ltd

Dr. Len Turczynowich

Len has worked in the field of public health, toxicology, and human health risk assessment for over 30 years, with 20 years in the SA Department of Health (Environmental Health Branch) and the balance in international environmental consulting firms and more recently at the University of Adelaide. He has worked across a diverse range of public health areas including asthma and risk factors; site contamination including development of national Health-based Investigation Levels (HILs) (1990-2003); assessment and mitigation of environmental and occupational exposures associated with industrial facilities, processes and mining operations and toxicological assessments for policy development and regulatory review. As part of the assessments, he has been extensively involved in large scale community exposures, assessments, and risk communication, including Streaky Bay Area School (Aldrin, 1987-1997); Port Pirie Lead Program (1986-2006); site contamination at Hindmarsh (1987-1994); cadmium contamination at West Lakes and site contamination at Birkenhead (2003-2004).

He completed the health risk assessment for the new Royal Adelaide Hospital site (2010-2015) which was part of a multi-billion-dollar development. In collaboration with Dr Neville Robinson (CSIRO, Flinders University) Len developed an Australian non-steady state vapour intrusion model, originally published in 2001 and has extended this work with continuing research. In recent years he has been an expert witness in several cases involving human exposures to

hazardous substances and contributed to peer-review of large scale PFAS and vapour intrusion investigations. In 2018 Len was part of the Adelaide University team that commenced the review of the Workplace Exposure Standards (WES) for Safe Work Australia.

Len is a Member of the Royal Australian Chemical Institute (RACI) (Chartered Chemist); the Australasian College of Toxicology and Risk Assessment (ACTRA) and the Clean Air Society of Australia and New Zealand (CASANZ) and has been involved on various committees and training exercises with these associations. He has also contributed to training and presentations on toxicology and risk assessment to meetings of the Australian Contaminated Land Consultants' Association (ACLCA) and the Australian Land and Groundwater Association (ALGA) and CASANZ.

He has provided technical public health and policy advice across government, research sectors and industry, nationally and internationally with extensive contacts throughout these sectors. Len currently undertakes research and teaching as a part-time Senior Research Fellow and at Adelaide Exposure Science and Health, School of Public Health, University of Adelaide. He is also Founder and Director of HealthRisk Services Pty Ltd, a consulting service across exposure science, public health toxicology and human health risk assessment.

Qualifications and training

- PhD (Med, Public Health), University of Adelaide, South Australia, 2018
- Master of Public Health, University of Adelaide, South Australia, 2001
- Occupational Hygiene, National Institute of Occupational Health and Safety, University of Sydney, 1990
- Bachelor of Applied Science Chemistry and Microbiology, South Australian Institute of Technology, South Australia, 1986
- Science Technician's Certificate, South Australian Institute of Technology, South Australia, 1981
- Chartered Chemist (CChem), Royal Australian Chemical Institute

Professional Memberships

- RoyalAustralianChemicalInstitute (RACI)
- Clean Air Society of Australia and New Zealand (CASANZ)
- Australasian College of Toxicology and Risk Assessment (ACTRA)
- Australian Land and Ground Water Association (ALGA)
- International Society of Exposure Science (ISES)

Symposium Topic III	**The Current Global Challenges and Future Sustainability Opportunities Aftermath Covid-19**

Professor Dr. Wesam Al Madhoun
Founder-Global Ambassadors of Sustainability Dean of Engineering Faculty, Gaza University, Palestine.

Prof. Dr. Wesam Al Madhoun

Prof. Dr. Wesam Al Madhoun is a Global Climate and Sustainability Leader, he is the founder of a global initiative "Global Ambassadors of Sustainability " which has more than 13000 members from 130 countries. Dr Al Madhoun holds A fellowship on Sustainable Cities at Massachusetts Institute of Technology (MIT), a Postdoctoral Fellowship at Malaysia Japan International Institute of Technology (MJIIT) and a PhD of Environmental Engineering from Universiti Sains Malaysia. He has 17 years of working experience (teaching, training, research and consultancy), where he had assignments in Brunei, Canada, India, Indonesia, Malaysia, Palestine, South Korea and USA and He was a Research Professor at University of Seoul, a visiting scholar at University of Windsor and he was a guest speaker at Harvard University,MITandIIT.

Prof. Dr. Wesam Al Madhoun conducted several international training programs on Sustainable Development, Climate Change, Air Pollution and Environmental Assessment. He also was appointed as a consultant for projects funded by USAID, UNICEF and UNEP. In terms of publications, he has more than 55 papers published at international peer reviewed journals and international conferences. He is the Co Founder of Middle East SDG's Academy and Dean of

Dean of Graduate Studies and Research at Gaza University.

Symposium Topic IV	How can we solve environmental issues as wicked problems related SDGs

Professor Masayuki Sakakibara, Ph.D.
Research Institute for Humanity and Nature / Ehime University - Japan

Professor Masayuki Sakakibara, Ph.D.

Professor Masayuki Sakakibara, Ph.D.born in Hokkaido, Japan on October 30, 1959. He finished his Bachelor at Hokkaido University School of Science in 1982. The Master Course of Graduate School of Science in 2084 at Hokkaido University. He finished his Doctor Course of Graduate School of Science at Hokkaido University, 1987.

Working experience include Research Fellow of the Japan Society for the Promotion of Science in April 1988 – July 1988, Assistant professor of Department of Earth Sciences, Faculty of Science, Ehime University in Aug. 1988 – Oct. 1993, Associate Professor of Department of Earth Sciences, Faculty of Science, Ehime University in November 1993 – March 2005, Professor of Department of Earth Sciences, Faculty of Science, Ehime University in April 2005 – March 2006, Professor of Graduate School of Science and Engineering, Ehime University in April 2006, Director of Asia-Africa Center, Institute for International Relations in April 2013－October 2019, Director SUIJI (Six-University Initiative Japan Indonesia)Promotion Office in April 2015－October 2019, Vice Dean of Faculty of Collaborative Regional Innovation in April 2016－March 2017, Special Aide to the President of Ehime University in April 2018－September 2019 and Professor of RIHN ini June 2018 until today.

Symposium Topic V	Endocrine disrupting chemicals: exposure and human health effects (Southeast Asia Perspective)

Professor Kraichart T., BS., M.Sc., Ph.D.
Associate Professor, Department of Social and Environmental Medicine, Faculty of Tropical Medicine. Mahidol University, Thailand.

Professor Kraichart T., BS., M.Sc., Ph.D.

Professor Kraichart T., BS., M.Sc., Ph.D. is an Associate Professor working at the Faculty of Tropical Medicine, has experienced for 25 years in many natural resources and environmental health in Thailand and neighbouring countries. The experienced works are Environmental Health, Environmental Impact Assessment., Computer application for Environmental Management, Environmental Health Impact Assessment, Climate change and health impact, Environmental Management System, Occupational Health and Safety Management System and Environmental Planning. In addition, He has experience in advising student in many universities in Thailand for graduate levels (Master, and Doctoral students) and providing special lectures in various topics in many universities both Thai and abroad universities. He has experience in the investigation of environmental health/sanitation among migrants who are living in Thailand in different areas particularly along the border line of Thailand and its vicinities supported by IOM, chemicals usage and health risk among farmers in some provinces of Thailand funded by WHO, health risk from reused/recycled water funded by JICA, GHG(Green House Gas) inventory from Industrial Process sectors in Thailand supported by ONEP (Office of Natural Resources, Policy and Planning) Thailand and UNDP, BUR2 and BUR3, TNC and FNC report working team

summitted to UNFCCC, Environmental Health Indicator associated with the climate change and GREEN community supported by Department of Health, Ministry of Public Health, Transforming of Climate Change Master Plan to local implementation supported by ONEP and GIZ, and others. He has experience in Air quality dispersion model, Noise modelling and Hazard Modelling in various EHIA projects in Thailand and neighbouring countries.

In the past five years (2017-2021), He published 46 peer reviewed journal articles (a 12 published in 2022), received 10 grants and presented my research in international conference as a keynote and invited speaker, and has been invited as consultant for various ministries in Thailand. He had conducted the international conference, symposium, international training and workshops on climate change, air pollution and health impact assessment.

He is a member of the International Society of Exposure Science (ISES), an elected committee for COUNCIL OF SCIENCE AND TECHNOLOGY PROFESSIONALS, Thailand, a Sub-committee for committee on the Environment and Natural Disaster Group under Thai senate.

He finished his Bachelor at Statistics, The Master of Science at Technology of Environmental Management, He finished his Doctor of Philosophy at Environmental engineering and Post graduate in Occupational Health and Safety in the Workplaces.

Symposium Topic VI	Impact of Air Pollution Exposure During Pandemic Covid-19

Professor Dr. Budi Haryanto, SKM, MSPH, MSc, FCR
Research centre for climate change - University of Indonesia.

Professor Dr. Budi Haryanto, SKM, MSPH, MSc, FCR

Dr. Budi Haryanto received his Ph.D. in epidemiology at the Faculty of Public Health, the University of Indonesia, two master degrees in Environmental Health and Epidemiology from the University of Indonesia and the University of California at Los Angeles respectively, and two bachelor degrees in Environmental Health and Sanitation Technology. Dr. Budi Haryanto, MSPH, MSc is an Associate professor and former chair of the Department of Environmental Health – Faculty of Public Health and Head of Research Division of the Research Center for Climate Change University of Indonesia. Dr. Haryanto has participated in numerous environmental epidemiology studies. In addition to research on health effects in children of air pollution, including lead, PM 2.5, nano-particles, and biological exposures. Dr. Budi Haryanto is a Board Director of the Pacific Basin Consortium on Environment and Health, Vice president of the Indonesian Clean Emission Partnerships, Head Division of Environmental Health Sciences Development and Working Group Chairman for Climate Change and Human Health at the Indonesian Public Health Association, and a member of numerous international and national professional societies and organizations, including the International Society of Environmental Epidemiology (ISEE), Clean Air Initiative in Asian Cities (CAI), Indonesian

Environmental Health Association, and Indonesian Epidemiological Network (IEN). Most recently he has actively contributed to the studies and development of policy and action plan of health adaptation to climate change.

Training experience include Course on Diploma of Epidemiology and Applied Statistics, Department of Community and Family Medicine, Centre for Clinical Trials and Epidemiological Research, School of Continuing Studies, The Chinese University of Hong Kong, Hong Kong in 1995, Course on Environmental Health Epidemiology, School of Public Health, Mahidol University, Bangkok, Thailand in 1995, Graduate Summer Course in Epidemiology (6 academic credits), The Johns Hopkins University, Baltimore-Maryland, USA in 1996, Technical Symposium on Hospital Sanitation, Curtin University of Technology, Perth, Australia in 1996, Country Course on Statistics for National Human Development Reports, the United Nations Statistical Institute for Asia and the Pacific and the BPS Indonesia, Jakarta, Indonesia in 2001, Training on Automatic Identification and Data Capture, The Center for Automatic ID, School of Engineering - Ohio University, Ohio, USA in 2001, Training on Clear Air in Asia Web-network Management for Country Coordinator. Asian Development Bank. Manila – Philippines in 2003, International Workshop on Urbanization, Transport System, and Health in Asia, the Australian National University, Canberra, Australia in 2003, Workshop on Air Quality Monitoring: Quality Assurance and Quality Control, Asian Institute of Technology, Thailand in 2004, Workshop on Time-series Analysis for Air Pollution Exposure and Mortality, Health Effects Institute USA, New Delhi – India in 2004, Workshop in 2010, Workshop on Air Quality and Greenhouse Gases, International Institute for Applied Systems Analysis (IIASA), Austria in 2014, Workshop on Air Pollution Estimation, Toyota Clean Air Project, Nagoya, Japan in 2014 and WHO Regional training on 'Advancing health-climate action through improved vulnerability and adaptation assessment and planning' in 2021.

1. IDENTIFICATION OF RISK FACTOR HYPERTENSION AT TAROWANG VILLAGE, TAKALAR REGENCY

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ABSTRACT

Background

The prevalence of hypertension is increasing in the world and in Indonesia. This study aimed to identify risk factor of hypertension in Tarowang village, Takalar Regency.

Methods

This research was conducted with a cross sectional study design with total sample 126 people. All variables taken by interview and input in Kobo collection application. Data were analyzed using the chi-square statistical test.

Results

The results showed that prevalence of hypertension was 18,97%. The average age of respondents was 42,38 years and most of respondents was women (75,86%). The variables with significant relation with hypertension were age group and nutritional status (0,004 and 0,021, respectively). Consumption of vegetables and fruit, although not showed a significant relationship, the proportion of hypertension was still higher in respondents who did not eat vegetables and fruit every day.

Conclusions

Age and nutritional status were the risk factor hypertension in Taworang village, Takalar Regency. Attention from related institution were needed to reduce prevalence of hypertension and prevent this from nutritional aspect.

Keywords: Mass balance, amalgamation, dry deposit

3. RESILIENCE OF NURSES IN INPATIENT UNIT OF HASANUDDIN UNIVERSITY HOSPITAL DURING COVID-19 PANDEMIC

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ABSTRACT

Background

Since WHO declared Covid-19 pandemic, all health workers face an incredible turbulence, one of them is nurses. Nurse is an 24 hours frontliner that took care to the patient, so that makes nurse become a health worker with the biggest burnout rate than the others health worker in the hospital. Nurses has been exposed with virus with lack of safety equipments, and also face moral pressure.This study aims to measure level of resilience on nurses in inpatient room who has experienced Covid-19 pandemic in Hasanuddin University Hospital.

Methods

This study is crosssectional study. The sample of this research are nurses. Sampling method that used is total sampling method .We conduct desriptive analysis to measure level of nursing resilience in inpatient room using online questionnaire. We categorized the level of resilience into low, moderate, and high resilience. The data is analyzed using SPSS 25.

Results

Most nurses already have a high level of resilience to face of Covid-19. Even though 85% of nurses have provided covid services and have been confirmed positive for COVID, they have a high level of resilience. The result show that 91,96% of nurses has high resilience and 8.04% has moderate resilience.

Conclusions

Although the level of nurse resilience is high, strengthening supporting programs for nurses's mental health, especially during and post pandemic, is very important to maintain nurse

resilience.

Keywords: Resilience, Inpatient Nurse, Hospital, Covid-19

5. HOW TO DEVELOP A MODEL OF HIGH RELIABILITY ORGANIZATION, PATIENT SAFETY CULTURE, AND SAFETY CULTURE MATURITY?A SYSTEMATIC REVIEW

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ABSTRACT

Objective

This literature review aims to identify and describe organizations with high reliability, patient safety culture, and a mature safety culture.

Methods

This literature review uses the Preferred Reporting Items for Systematic Review and Meta-Analyses (PRISMA) method. Sources of literature in this study are online database journals in English in PDF format from Scopus, PubMed, Science Direct, Proquest, National Library, and Google Scholar. The time of publication of references in the literature review is 2015-2022. Keyword search for selection process Article term is "Organization" OR "Reliability Organization" OR "High Reliability Organization" OR "HRO's" OR "Safety" OR "Patient Safety" OR "Patient safety incident" OR "safety climate" OR "Safety Culture" OR "Patient Safety Culture" OR "PSC" OR Maturity Safety Culture" OR Maturity and Safety Culture Model" OR "SCM" OR "Hospital" OR "Health Care".

Results

the issue of high-reliability organizational literacy has dimensions of leadership, a safety-focused culture, and a system of continuous learning and improvement. The evolving dimensions of patient safety culture described according to the HSoPSC of the AHRQ are error communication, communication, receipt and exchange of information, hospital management support for patient safety, organizational learning and improvement, patient safety incident reporting, response to errors, staffing and speed. work, supervisors, managers, or clinical leaders support patient safety, and the work team. The dimensions of safety culture

maturity according to MaPSaf are: commitment to overall continuous improvement, priority is given to safety, system faults and individual responsibility, incident reporting and best practices, incident evaluation and best practices, learning and making changes, communication of safety issues, personal management and safety issues, staff education and training, and teamwork. The level of safety culture is in the range of pathological, reactive, calculative or bureaucratic, proactive, and generative.

Conclusions

The theoretical and methodological considerations for further research are to make the development of high-reliability organizational models and to identify and describe the influence of high-reliability organizations on patient safety culture and safety culture. For this reason, the results of the study need to be recorded in the policy notes as recommendations for patient safety.

Keywords:high reliability organization, patient safety culture, and safety culture maturity

7. ANALYSIS OF THE RELATIONSHIP BETWEEN MICROPLASTICS ON RICE AND STUDENTS' FECES WHO LIVED AT HOUSEHOLD AREA OF UNIVERSITAS HASANUDDIN MAKASSAR 2022

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ABSTRACT

Background

Microplastics have been found in various foods and beverages that are consumed in daily life. The presence of microplastics in the human food chain has reached the body and caused various health problems. Rice is a mandatory food that is always consumed by students. This study aims to analyze the relationship between microplastics found in rice and microplastics in the feces of students who consume rice.

Methods

The cross-sectional study was conducted from May 2022 – July 2022. 15 respondents were included using the purposive sampling method. The data processing is carried out in the stages of preparation, identification, and analysis.

Results

Based on the results of this study, in all samples of rice and feces found microplastic fragments, lines, and foam with polymer types of polyethylene, high-density polyethylene, and low-density polyethylene. A non-significant relationship was found between microplastic in rice and the amount of microplastic present in the feces. Bivariate analysis showed the Spearman test with a 2-tailed sig P value of 0.45 or ($p > 0.05$).

Conclusions

The results suggest that microplastic in rice is not related to microplastics found in feces, so a wider study is needed in analyzing microplastics in
food that enters the human body.

Keywords: Microplastic, Rice, Feces, Polyethylene, Student

9. TO ENHACETHE COMMUNITY EMPOWERMENT MODEL IN THE AISLE COMMUNITY; A MANAGEMENT INTERVENTION MODEL

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Hasanuddin University Departement of Administration and Health Policy[1], Hasanuddin University Departement of Occupational Health and Safety[2], Hasanuddin University Departement of Health Promotion and Behavioral Sciences[3], Universitas Sulawesi Barat Departement of Health Adminstration[4], ITKES Wiyata Husada Samarinda Departement of Health Adminstration[5], Universitas Muslim Indonesia Departement of Administration and Health Policy[6], Hasanuddin UniversityDepartement of Epidemiology[7]

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ABSTRACT

Background

The Healthy Cities movement in Indonesia has been carried out for a long time, although officially and systematically effective since the issuance of the Joint Regulation between the Ministry of Home Affairs and the Ministry of Health in 2005. The hallway is one of the elements that should be considered in realizing healthy cities because the problems are very complex, including cleanliness, awareness, and inadequate infrastructure. The involvement of various community groups down to the lower level is still not maximized in some areas. A proper Lorong community empowerment model is needed. This study aims to find a model of empowering the alley community in realizing a healthy city of Makassar.

Methods

In this study, the design used was descriptive qualitative.

Results

Based on the results of interviews from 15 informants with various agencies, it was found that the condition of the alley community in Makassar City varies, some have knowledge related to how to protect the environment but do not implement it and some have no knowledge at all regarding environmental hygiene issues. Healthy hallways should be able to provide a sense

of security and comfort to the people who live in these hallways, not only free from garbage and having proper infrastructure, but also economically, socially, and educationally prosperous. The informal approach through the door to door method is one of the keys in empowering the hallway community. The challenge in realizing a healthy hallway is the low level of education and public awareness regarding environmental health and inadequate infrastructure in the hallway. A healthy hallway is an alley that is free from garbage and the people have good education related to health, and have Family Medicinal Plants (Toga). To realize a healthy hallway, cross-sectoral collaboration is needed by all existing SKPDs.

Keywords: Healthy aisle, Empowerment, Community

11. PHYSICAL ACTIVITY AND DEPRESSION RATES IN ADOLESCENTS DURING THE COVID-19 PANDEMIC

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ABSTRACT

Background

The COVID-19 pandemic had many negative impacts on daily life, one of them is impacts on mental health, especially for adolescents. This research aimed to determine the relationship between physical activity and depression rates in adolescents during the COVID-19 pandemic.

Methods

This research used a cross sectional design. The population was 697 students of S1 Public Health Study Program, FKM UMKT. The number of samples was 84 using Stratified random sampling technique. The instrument used IPAQ and CES-D. Statistical test using Spearman rank with 95% confidence degree ($\alpha = 0.05$).

Results

Based on the results of statistical tests, it was found that p value = 0.006 <0.05, means that there was a significant relationship between physical activity and depression rates in adolescents during the COVID-19 pandemic.

Conclusion

This research was expected to be used as material for further studies and as additional information to increase the activities carried out to avoid poor health, including mental health.

Keywords: Physical activity, depression rates, adolescent.

13. DETERMINANTS OF WORK STRESS ON NURSES IN THE INPATIENT SECTION OF LASINRANG HOSPITAL PINRANG REGENCY IN 2022

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ABSTRACT

Background

Work stress is one of the main concerns for occupational health and safety for workers. One of them is nursing staff who have a high risk of experiencing work stress. The number of duties and responsibilities that nurses receive so that it becomes a trigger for stress in the workplace.

Methods

This type of research uses an analytical observational research method with a cross sectional study approach using a probability sampling technique with a proportional stratified random sampling technique. The sample in this study was 107 respondents. Data collection was done by distributing Stress Diagnostic Survey, NASA-TLXand oximeter tools. To describe the characteristics of the respondents, univariate and bivariate analysis were used, carried out by the chi square test and the fisher test.

Results

The result of the analysis show that is a relationship between marital status and work stress with p value = 0,017 (p < 0,05), there is no relationship between physical workload and work stress with p value = 0,295 (p > 0,05), there is a relationship between mental workload and stress kerja with p value = 0,002 (p < 0,05), there is no relationship between working perioed and work stress with p value = 0,422 (p > 0,05), there is a relationship between work shift and work stress with p value = 0,022 (p < 0,05)

Conclusions

From the results of this study, it is recommended for the hospital to hold activities that support stress management for nurses on a regular basis, nurses are expected to conduct time management training so that they are able to manage time between obligations at home and

work responsibilities, holding activities such as outbound management training to reduce stress levels and the need for additional nursing staff in each work unit on the night shift.

Keywords: Stress, Physical Workload, Mental Workload

15. FACTORS RELATED TO INFECTIOUS WASTE MANAGEMENT AT HOUSEHOLD LEVEL DURING PANDEMIC COVID 19 IN MAKASSAR

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ABSTRACT

Background

The global Covid19 pandemic has drastically impact to increasingly the amount of domestic and medical waste. The issue of infectious waste is also a new problem besides the Covid19 itself because of the waste has the potential to become infectious that can transmit the Covid19 virus if not handled properly. This study aims to determine what factors are related to the management of household Covid19 waste and to find out how to manage Covid-19 hazardous waste at the household level in Makassar City.

Methods

This study uses an analytical approach using cross sectional design. The population in this study were all households in Makassar City with a total sample is 466 household. Data collected with hybrid technique both survey offline and online by google form from October, 2021 to January, 2022.

Results

The most infectious waste produced daily by households in Makassar City were masks and tissues, following by gloves, handkerchiefs, disposable cloths, and Personal Protection Equipment. Furthermore, the management of Covid19 hazardous waste (sorting, disinfection, storage, labeling, and collection) by households in Makassar City is in the poor category (97%). The results of the study show that there is a relationship between the history of Covid19 with storage process (p value 0.035) and labeling (p value 0.03), but there is no relationship with the sorting (p value 0.316), disinfection(p value 0.321) and collection(p value 0.325) process of Covid-19 waste management at household. Also, there is no relationship between the level of welfare (0.506) and access to information about the management of Covid-19

waste (p value 0.059) with Covid-19 waste management at household level.

Conclusions

The community should improves the way of managing Covid-19 hazardous waste, but another important thing is also be balanced with adequate facilities and infrastructure from the government and the provision of massive information related to the management of Covid-19 hazardous waste in the household.

Keywords: Covid19, Hazardous waste, Household waste management

17. METEOROLOGICAL VARIABILITY AND ITS LAG TIME EFFECTS ON DENGUE INCIDENCE IN MAKASSAR CITY: A RANDOM FOREST APPROACH

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ABSTRACT

Background

Dengue Hemorrhagic Fever (DHF) is an infectious disease caused by dengue virus and transmitted by female Aedes aegypty mosquito bites. Dynamic physical environmental factors such as climate change can affect the breeding of dengue vector mosquitoes.The study aimed to determine the relationship of meteorological factors such as air temperature, rainfall, rainydays, humidity, duration of sunshine and the time lag of each of these meteorological factors with the incidence of dengue feverin Makassar City.

Methods

Secondary data in the form of monthly aggregated data of dengue incidence and meteorological observation data over five years (2017-2021) were used in this study. Pearson correlation test between meteorological variables and the incidence of dengue fever using three scenarios of lag time, which are without lag time (Lag0), a lag time of 1 month before (Lag1), and a lag time of 2 months before (Lag2).A random forest regression analysis was applied for dengue incidence prediction modeling.

Results

All climatic variables consists of air temperature, rainfall, rainy days, humidity and duration of sunshine at Lag time of 2 months before (Lag2) on the average had significant correlation with the incidence of DFH at the "medium" level of relationship strength (r= 0.35 – 0.51).A random forest regression analysis showed that three predictors wereconsidered above the 20% threshold of variable importance for dengue incidence prediction model, namely: Lag2 of rainy days, Lag2 of rainfall, and Lag2 of humidity based on both %IncMSE and IncNodePurity (RMSE=44.89325 ; MAE= 30.75033)

Conclusions

Utilization of lag time formeteorological variables combined with random forest approach can be used as an early warning system, especially for the occurrence of dengue fever. Such information will be very useful in formulating strategies for preventing and controlling infectious diseases, especially those that are closely related to climatic factors.

Keywords: Meteorological, Lag time, Dengue, Random forest

19. SYSTEMATIC LITERATURE REVIEW OF MICROPLASTICS IN BOTTLED DRINKING WATER IN INDONESIA

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ABSTRACT

Background

Microplastics are particles that are in every Bottled Drinking Water (AMDK) in Indonesia that have a negative impact on the body if they accumulate in the body. The purpose of this study was to determine the content of microplastics in Indonesia, the factors that influence them and the impact on the human body.

Methods

This study uses a qualitative method with a systematic literature review approach by reviewing 8 journals that have been screened using the prism method according to the inclusion criteria with a data base derived from science direct, pubmed and google scholar and thevos viewer application.

Results

The results of the study showed that in bottled water, the concentration of microplastics was 7,043 - 8,339 particles/L with small sizes in the range of 1-10 m and large ones in the range of 10-5000 m, where the dominant form of microplastics was fiber and fragments, mostly white with The dominant composition is polypropylene (PP), polyethylene (PE), and polyethyleneterephthalate (PET) polymers. Factors that affect microplastics in bottled drinking water are water sources, production processes, exposure to sunlight and repeated use of bottles. Microplastics can cause hormonal imbalances, risk of heart disease and infertility, digestive disorders, and growthinhibition.

Conclusions

Ways to reduce MP particles in AMDK are traditional filtering of rawwater, electro

coagulation, magneticextraction and membrane separation.

Keywords: Microplastics; Bottled drinking water; influencing factors; impact.

21. SPATIAL DYNAMIC MODELING OF DETERGENT DISTRIBUTION IN WELL WATER AND THEIR IMPACT ON COMMUNITY HEALTH IN SMALL ISLAND

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ABSTRACT

Background

Domestic activities of coastal and island communities are factors that affect the quality and quantity of groundwater availability, including the use of detergents. Chemicals used in detergents can have a negative impact, both on public health and the environment. The dynamic spatial model is a solution to overcome the problem of detergent contamination. The purpose of this study is to build a dynamic model of the distribution of detergent pollutants in well water and their impact on public health in small islands.

Methods

This research is an observational research using spatial analysis approach with kriging interpolation method and dynamic modeling with stock flow. Simple random sampling (simple random sampling).

Results

The results of the spatial modeling show that the patternthe distribution of contamination is higher in the east to the center of the island. The dynamic modeling results show that the detergent concentration distribution pattern in well water with the lowest concentration is 0.0 mg/l and the highest is 0.16389 mg/l. The pessimistic scenario experienced the highest increase of 0.21 mg/l, while the optimistic scenario experienced the highest increase of 0.03 mg/l. An optimistic scenario is built with 75% off-island laundry activities and IPAL management.

Conclusions

Based on the results of the analysis, laundry activities and WWTP management must be

considered in order to minimize detergent contamination on small islands.

Keywords: Dynamic modeling, Spatial analysis, Detergent, Well water,Small Island

23. KNOWLEDGE, ATTITUDE, AND ROLE OF HEALTH OFFICERS IN HEALTH PROMOTION OF PREGNANT WOMEN

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ABSTRACT

Background

Health promotion for pregnant women is very important in an effort to reduce the problem of maternal mortality to encourage all pregnant women to cultivate a culture of healthy living behavior so that they are willing and able to change unhealthy habits. The purpose of this study was to determine the relationship between knowledge, attitudes, and roles of health workers with health promotion for pregnant women in the South Bontonompo District, Gowa Regency.

Methods

This type of research used a cross-sectional design. The total population is 304 people. To calculate the sample size using the Slovin formula so that the number of samples is 265 pregnant women. Data analysis using univariate analysis and bivariate analysis using chi-square test.

Results

The results of the Chi-Square test showed that knowledge obtained p-value = 0.047, attitude obtained p-value = 0.035, and the role of health workers obtained p-value = 0.019. So that the variables of knowledge, attitudes, and roles of health workers are related to the promotion of the health of pregnant women.

Conclusions

There is a relationship between knowledge, attitudes, and the role of health workers in relation to the promotion of the health of pregnant women. It is expected that pregnant women can increase their knowledge, and change attitudes regarding health promotion by increasing literacy, paying attention to, and recording health counseling materials carried out by health

workers so that they can be maximized in the success of pregnant women's health programs. Health workers can maintain their good role in providing health education, moreover, and are not bored witheducating the public so that their level of knowledge is not only known but can be at a higher level.

Keywords: Health promotion, pregnant women, knowledge, attitudes, health workers

25. RISK ASSESSMENT OF NITROGEN DIOXIDEEXPOSURE IN PALU CITY IN 2021

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ABSTRACT

Background

Global Alliance on Health and Pollution (GAHP) research in 2019 reveal that Indonesia became the fourth largest contributor to air pollution deaths, 232.9 thousand deaths have been linked to air pollution. This study aims to analyze the risk of nitrogen dioxide exposure in Palu city in 2021.The research method uses Environmental Health Risk Analysis.

Methods

The study carried out in fourth location,point 1 on Teuku Umar street, point 2 on Inpres street, point 3 at gas stations 74,942.07 Dewi Sartika Street, and point 4 at gas stations 74,942.09 I Gusti Ngurah Rai street.

Results

The samples at point 1 (60 respondent) and point 2 (91 respondent) were drawn by purposive sampling and the number of samples was calculated using the slovin formula, the respondent both in this point work as street vendors. The sample at point 3 and 4 were carried out for a total sampling of 9 respondents and 14 respondents, they work as gas station operators.NO_2 levels measured refers to SNI 19-7119.9-2005 regarding roadside air quality sampling monitoring.Laboratory analyzes showed, concentration of NO_2at the study site was 10,455 g/Nm^3; 11.166 g/Nm^3; 9.02 g/Nm^3 and 8.91 g/Nm^3, these values still meet the quality standards according to the Government Regulation Republic of Indonesia number 22 in 2021, which is 200 g/Nm^3.

Conclusions

The riskquotient (RQ) < 1 of all respondents, this means that there is no risk of health problems

due to NO_2exposed in Palu City especially at the points measured.

Keywords: Air Pollution, Environmental Health Risk Analysis, NO_2, RQ

27. SHARIA HOSPITAL SERVICES ON COMMUNITY PERCEPTION IN SOUTH SULAWESI

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ABSTRACT

Background

The presence of a sharia hospital in the midst of the Indonesian population, who are predominantly Muslim, can complement the community's need for medicines and services in hospitals by emphasizing sharia values. Services in sharia hospitals are carried out with the formulation of an approach that uses Maqashid Sharia . The application of maqashid sharia in hospitals is manifested in 5 points: maintenance of the religion (hifdzun-din), the soul (hifdzun-nafs), the mind (hifdzul-aql), the offspring (hifdzun-nasl),and the property (hifdzul-mal).This paper aims to conduct an initial survey to find several aspects related to Sharia Hospitals

Methods

The research data was taken using an electronic questionnaire for 3 days. The data were analyzed descriptively. The results of the answers consists of 142 respondents.

Results

The statement about if sharia services are applied to hospital services illustrates that 41.0% of respondents agree and 55.5% strongly agree. Respondents' answers to the statement of willingness to use sharia hospitals amounted to 44.5% of respondents agreed and 52.5% stated strongly agree.

Conclusions

It was concluded that the community agreed to sharia services provided by hospitals in South Sulawesi, and health services in accordance with Islamic sharia were needed by the

community to ensure safety and comfort both physically and mentally for patients when taking treatment at the sharia hospital.

Keywords: Health Services, Sharia Hospital, Consumer Behavior

29. CONSTRUCTS FOR EMPLOYEE ENGAGEMENT: A LITERATURE REVIEW

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ABSTRACT

Background

The term of employee engagement has been used largely in human capital management as the key to motivate and to retain employees to gain higher productivity and organizational performance. Although it has gained concern from practitioners as well as academician,lots of writers used their own approach in understanding the concept of employee engagement. Some used psychological approach, while others offered reconceptualization of employee engagement which was covered by organizational variables and behavioral sciences. The objective of this study was to identify the constructs of employee engagement. It would drive further research on the conceptual framework of employee engagement in a more multiple-holisticperspectives.

Methods

The study used narrative analysis. Systematic search was done through Pubmed, Medline, Science direct, Google scholar, Elsevier, PLOS one, Proquest, Taylor and Francis, Nature, and Sage. The searching keywords are systematic review, literature review, employee engagement and health care, employee engagement and hospital, construct of employee engagement, employee engagement dimension, approach and model.

Results

The literature review resulted a classification of the constructs based on writer, year of study, methodology, category of antecedent/ causes/ reinforcing,dimensions and consequences.

Initially, the number of constructs identified was 92 constructs. However, after a similarity and duplication screening, the study identified 89 constructs from 16 journals.

Conclusions

The literature review concluded that there were 89 constructs that can be used in developing a conceptual framework of employee engagement.

Keywords:employee engagement, constructs, literature review

31. PHYSICAL ENVIRONMENT CHARACTERISTICS WITH THE EXISTENCE OF AEDES LARVAE AT DAUGHTER UMMUL MUKMININ BOARDING SCHOOL

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ABSTRACT

Background

DengueHemorrhagic Fever (DHF) isan infectious disease caused by the bite of an infected *Aedes* mosquito from one of four dengue viruses and still a health problem. The research aimed to know characteristics of the physical environment with the existence of *Aedes* larvae atDaughter Puteri Ummul MukmininBoarding School.

Methods

Using descriptive research type with exhaustive sampling as sampling technique. The research instrument using observation sheet with univariate analysis technique by SPSS.This study was done on Juni 2022 at Daughter Ummul Mukminin Boarding School.

Results

The resultshows that 33 containers were found, containers were negative larvae93.9%and 6.1% containers were positive with*Ae. Aegypti*spesies,100% the basic material of containers is plastic. Containers with TPA category 72.7%, also 81.8% containers were found indoors.

Conclusions

The larvae free dormitory program be should continued and if possible the frequency should be added to. Toilets that are rarely used and in dark conditions are still considered because can be potential place to be *Aedes* breeding place.

Keywords: DFH, container, larvae, *Aedes*

33. EFFECTIVENESS OF MORINGA SEED COAGULANT, COMBINATION OF PUMICE FILTER AND MANGROVE ACTIVATED CARBON IN BRACKISH WATER TREATMENT IN BARRANG CADDI ISLAND MAKASSAR CITY

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ABSTRACT

Background

Indonesia is an archipelagic country consisting of small islands with a narrow area which causes limited groundwater reserves due to the interruption of seawater to the mainland which causes brackish or salt water, if used continuously will have a bad impact on public health.

Methods

The method used is a one-group pretest-posttest design experiment, to see the effectiveness of the brackish water treatment method using Moringa seeds as a coagulant, pumice filter, and activated carbon (mangrove wood) as a filter medium. well water in BarrangCaddi Island, Makassar City.

Results

The results showed that the treatment of brackish water using Moringa seed coagulant combination of pumice filtration and mangrove activated carbon was effective in reducing Total Dissolved Solid, Turbidity, and Chloride levels.

Conclusions

Treatment of brackish water using a combination method of Moringa seed coagulant, pumice stone, and activated carbon of mangrove wood is more effective.

Keywords: Brackish Water; Moringa Oleifera; Activated Carbon, Filtration; Coagulant

35. WHAT ARE THE MENTAL HEALTH ISSUES OF POSTPARTUM MOTHERS DURING THE COVID-19 PANDEMIC? A SCOPING REVIEW

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ABSTRACT

Background: Mental health of postpartum mothers had a significant role in mothers well being, and child's growth and development. This issue is worsened during a pandemic when social restrictions are regulated in many countries, resulting in perceived stress, baby blues, postpartum depression, and other mental health issues for postpartum mothers who are already vulnerable. This study has the purpose to explore the mental health condition of postpartum mothers during the covid-19 pandemic.

Method: The design of this research is a scoping review using a prism-ScR checklist, with a PEOs framework, using 4 databases from Pubmed, Willey, Proquest, and ScienceDirect, with inclusion criteria being original English articles that can be accessed in the full text during 2020-2022. Article selection using Prisma Flowchart and critical appraisal using the Joanna Briggs Institute (JBI) critical appraisal tool.

Result: We obtained 13 articles from 308 articles that are relevant to the research objectives. The research consists of qualitative research, cross-sectional studies, and longitudinal study. There are 4 themes included in the mapping result, which are; the type of mental health issues suffered by pregnant mothers during pandemic, risk, and predicting factors, the experience of postpartum mothers, and the impact of mother's mental health issues.

Conclusion: During the pandemic, most mothers suffered from stress, anxiety, and depression after childbirth. Isolating experience, social restriction, and crisis are influencing factors of postpartum mental health issues. In addition, negative birth outcomes and infant growth and development of mothers with mental health issues, are also reported. It is recommended to help pregnant and postpartum women to create a personal plan for early support for their

mental health needs and create an accessible mental health provider including the health care workers and health care facilities.

Keywords: postpartum mothers, mental health, covid-19, depression

37. THE RELATIONSHIP BETWEEN WEIGHT GAIN AND ANEMIAIN THE THIRD TRIMESTER OF PREGNANT WOMEN

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ABSTRACT

Background

Anemia during pregnancy is a blood disorder that occurs in pregnant women when hemoglobin (Hb) in the body is less than 11 gr/dl in the 1st and 3rd trimesters, and less than 10.5 gr/dl in the 2nd trimester. One of the factors causing anemia in pregnant women is nutritional status. The nutritional status of pregnant women can be measured by the mother's weight gain before pregnancy and during pregnancy. The purpose of this study was to determine the relationship between weight gain and the incidence of anemia in pregnant women in the third trimester in Sangkrah Surakarta Health Center area in 2022.

Method

This study used the cross-sectional method. The population in this study was pregnant women in the third trimester which were 88 people in Sangkrah Health Center area. The sampling technique in this study was total sampling. Thedata analysis used in this study was Chi-Square Statistical tests.

Result

The results showed that most respondents with abnormal weight gain experienced anemia as many as 33 pregnant women (37.5%). The results of the Chi-square test analysis had ρ-value of $0.025 < \alpha$ (0.05).

Conclusion

There is a relationship between weight gain and the incidence of anemia in pregnant women in the third trimester in Sangkrah Surakarta Health Center area. It is recommended that the

community can play an active role in preventing anemia for pregnant women by paying attention to the nutritional needs of pregnant women based on the ideal weight gain to achieve a good nutritional status of pregnant women.

Keyword: Pregnant Women; Anemia; Gestational Weight Gain; Nutritional Status

39. THE EFFECT OF THE CONCENTRATION FROM PINEAPLE PEEL SOLUTION (Ananas Comusus L.Merr) TO SHELF LIFE OF WET NOODLE

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ABSTRACT

Background

One of the SDGs targets by 2030 is to reduce food waste to maximaze the value of agricultural land and ensure that natural resources are used sustainably. This is the basis for utilizing pineapple peel waste which has potential as an antimicrobial which is expected to be a natural preservative for wet noodles. The purpose of this study in to determine the effect of consentration from pineapple peel solution on the shelf life of wet noodle.

Methods

The research design was an experiment using the posttest only control grup design. The consentrations of pineapple peel used were 5%,10% and 15%. The parameters measured are physical properties produced (color, smell and texture) and the shelf life. The data obtained were analyzed by univariat and bivariate.

Results

The result showed that the higher the concentration used, the yellowish wet noodles, the distinctive aroma of wheat flour and the chewy texture. The higher the concentration, the longer the shelf life of wet noodles; at a concentration of 5% has a shelf life of 26 hours; 10% has a shelft life 31 hours and 15% has shelf life for 39 hours. The result of the One Way Anova test showed the value of sig 0,003 < 0,05; there is an effect of giving a concentration of pineapple peel solution to the shelf life of wet noodle.

Conclusions

The conclusion on this research is the effect on the concentration of pineapple skin on the shelf life of wet noodle.

Keywords: Wet Noodle,Pineapple Skin, Shelf Life

41. DYNAMICS OF ENVIRONMENTAL CHANGE ANDAFFECTING FACTORSIN THE MALILI LAKE COMPLEX, SOUTH SULAWESI

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ABSTRACT

Background

The exploitation of the Malili Lake Complex in South Sulawesi as a natural resource that is not accompanied by wisdom has caused various major problems, such as damage to natural resources, loss of resources and the emergence of various wastes, which result in a decrease in the quality of the environment.The aim of this research are: examine in depth the dynamics of the quality of the aquatic environment and influence factors in the Malili Lake Complex, South Sulawesi.

Methods

This research was conducted during June – August 2021 at the Malili Lake Complex (Lake Matano, Lake Towuti and Lake Mahalona) South Sulawesi. The location selection was done deliberately with the consideration that this area has abundant potential for natural resources, exotic natural scenery, and the diverse socio-economic life of the local community.Testing of environmental parameters measured in the field using a tool, namely the Water Quality Checker. Parameter measurements carried out in the field during June 2021 by taking six observation stations, namely: Salonsa Beach, Impian Beach, Malili River, Karebbe River, Sorowako Pier and Timampu Pier. The use of this measuring instrument is very important to see the water quality at the six observation stations. The six observation stations are still in one stream from Lake Matano, Mahalona and Lake Towuti.

Results

The study was conducted by testing a sample of 11 parameters, including: temperature, Total Dissolve Solid (TDS), degree of acidity (Ph), Dissolved Oxygen (DO), Biochemical Oxygen Demand (BOD), Chemichal Oxygen Demand (COD), Nitrate (NO3), Phosphate (PO4), Condencity (Condensity), Turbidity (Turbidity), and Ammonia (NH3-N) at six observation stations namely: Salonsa Beach, Dream Beach, Malili River, Karebbe River, Sorowako Pier and Timampu Pier.

Conclusions

Based on the research that has been done, it can be concluded that in general the condition of the waters in has been polluted by the presence of domestic and industrial waste and the activities of the people who live in the vicinity.

Keywords: exploitation, parameter,water quality, lake

43. WORK POSTURE ANALYSIS AND FACTORS ASSOCIATED WITH COMPLAINTS OF MUSCULOSKELETAL DISORDERS (MSDs) ON BARBERS IN TANJUNGPINANG CITY

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ABSTRACT

Background

One of the SDGs goals is a healthy and prosperous life, which by 2030 is targeted to reduce one third of premature deaths caused by non-communicable diseases, through prevention and treatment, including complaints of Musculoskeletal Disorders (MSDs) on barbers.This study aimed to analyze work posture and to find out factors associated with MSDs complaints onbarbers inTanjungpinangCity, Riau Islands Province.

Methods

This researchwas an analytical descriptive study,with across-sectional approachthrough questionnaires, interviews, and measurements in the field.Analysis of work posture used Rapid Entire Body Assessment (REBA), while complaint of MSDs was measured by using Nordic Body Map (NBM).

Results

The results revealed that the frequency distribution of work postures on barbers had a low risk (22%) and a moderate risk (78%). The frequency distribution of individual factors on barbers was dominated by age 35 years (53%), years of service >3 years (77%), normal body mass index (43%), and barbers were mostly smokers (68%) and liked to exercise (64%); The frequency distribution of the MSDs complaints on barbers was highest at the moderate level(82%). There was a relationship between work posture variables (p-value 0.042) and years of service (p-value 0.010) and MSDs complaints.

Conclusions

Work posture and years of serviceon barbers had an important role towards complaints of MSDs. The less ergonomic the barbers' work posture is, the riskier it is to experience MSDs. The same thing also happens that MSDs complaints occur frequently with the barber's working period of more than 3 years.

Keywords: Ergonomics, occupational health and safety, work posture, MSDs, barber

45. MICROPLASTICS IN FISH AND SHELLFISH AND IMPLICATIONS ON HUMAN HEALTH AT TAKALAR AND JENEPONTO REGENCY SOUTH SULAWESI, INDONESIA

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ABSTACT

Background

This investigationof microplastics in many fish and shellfish species is of concern because they may affect human health. Previous studies have shown that microplastics ingested by fish and shellfish species can cause adverse effects on the organisms themselves.

Methods

This raises potential health risks to higher trophic levels of organisms, including humans.

Results

In this review, we discussed the findings in the last two years concerning microplastics in various fish and shellfish species, especially focusing on microplastic translocation and accumulation within body tissues of organisms. Based on these findings, we discussed the potential health threats posed by microplastics to fish and shellfish and humans. Microplastics are continuously increasing in various environments.

Conclusions

Thus, it is urgent to conduct an accurate estimation of microplastics intake by humans through fish and shellfish consumption and determine the human health of microplastics and their associated contaminants to human bodies.

Keyword: microplastic, fish and shellfish, Human Health

47. CHARACTERISTICS OF A CULTURE OF INNOVATION TO IMPROVE THE VALUE PROPOSITION OF HOSPITAL SERVICE PERFORMANCE: A SYSTEMATIC REVIEW

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ABSTRACT

Background

The culture of innovation as leveraging the value proposition is widespread in the hospital sector.Meanwhile, the value proposition is not certainly proven in improving the performance of RS services better.The review aimed to analyze the characteristics of the innovation culture that can increase the value proposition of service performance in the Hospital.

Methods

This research uses a systematic review method with a narrative analysis approach. Systematic search through the proquest and google scholar databases. Search keywords use boolean"characterization and cultural innovation and improve value proposition and hospital service".Inclusion criteria including: (1) quantitative and qualitative research types and other research relevant to the purpose of the review; (2) published between 2008-2021; (3) the article is in English and full-text.

Results

Identified 20 articles with varied subject characteristics. The synthesis results show that the value proposition that improves service performance is found in the scope of point-of-care testing, PPE innovation, cancermanagement, mobile health (mHealth) and cybersecurity

equipment, prosthetic tool innovation, in medical laboratories and operating robotic equipment as well as in the pharmaceutical and vaccine businesses.

Conclusions

The character of the culture of innovation to improve the value proposition of hospital service performance is found to be very diverse, which focuses on all stakeholders involved in it, benefiting clinicians, patients, hospital management, service provider services through a value proposition that promises to be realized for the development of better health services in the future.

Keywords: Value Proposition, culture of innovation, hospital performance

49. THE EQUATION MODELING OF ENVIRONMENTAL RISK FACTORS FOR THE EXISTENCE OF Aedes aegypti LARVAE

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ABSTRACT

Background

The presence of *Aedes aegypti* larvae is one indicator of the Dengue Fever risk. One of the factors that can affect its existence is environmental factors like the characteristics of water reservoirs for breeding places (type of water source, availability of its cover, color, and location). In addition, the water parameters of the breeding place can also affect. They are salinity, dissolved oxygen (DO), temperature, and pH. This study aims to determine the risk equation model for the presence of larvae based on environmental factors.

Methods

This type of research is observational analytic with a cross-sectional design. The number of samples was 86 houses taken by simple random sampling. Data were analyzed using Continuity Correction and Logistics Regression tests. The quality of the equation model for discrimination using the Receiver Operating Curve (ROC) method and the calibration test using the Hosmer and Lameshow method.

Results

Environmental factors that significantly affect the presence of *Ae. aegypti* were the color of the water reservoir (0.000), the availability of the cover (0.002), and the type of water source (0.000). Factors that had no significant effect were salinity (0.056), DO (0.669), temperature (0.223), pH (0.156), and location (0.930). The dominant environmental factor influencing the presence of larvae was the type of water source (OR=16,777) after being controlled by color (OR=14,448) and the presence of cover (OR=8.022). The equation model was y = -4.676 + 2.820 (type of water source) + 2.671 (color) + 2.082 (cover availability). The p-value of

Hosmer and Lameshow Test was 0.649 (>0.05). The Area under the Curve (AUC) was 94.5%.

Conclusions

The equation model obtained has a good calibration and has sufficient discrimination.

Keywords:*Aedes aegypti*,dengue fever, environmental factors, equation model

51. OVERVIEW BETWEEN FREQUENCY OF WASHING GALLONS WITH BRUSH MACHINE ON AMIU MICROPLASTICS

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ABSTRACT

Background

Microplastics are generally defined as pieces of plastic with a size of <5 mm. Refill drinking water (AMIU) on Gallons is closely related to microplastic content, and this is because PET-based gallons have a high risk of producing microplastics during the brush washing process.

Methods

The type of research used is analytic observational with a quasi-experimental study design, determining the location of the experiment and taking AMIU samples based on the provisions of the 2004 Minister of Industry and Trade concerning the Technical Guidelines for refill drinking water depot (Damiu). The sample in this study was refilled drinking water from gallon depots that had previously been washed using a brush machine. Gallon washing will start with washing one time, 50 times, and 100 times, where these three washing variations will be repeated three times (3 replications) to get valid results from an experimental study.

Results

Based on the inspection of 9 samples, all of them were positive for microplastics. The number of microplastics obtained ranged from 2-12 items/L, the shape of the particles found in the form of lines/fibre and fragments, and the size of the microplastic particles found ranged from 0.064 – 1.944 mm. The calculation results of the average value of the abundance of microplastic washing one time, 50 times and 100 times, respectively, namely 5.33, 8.33, and 5 items/L.

Conclusions

The decreasing trend of the average abundance at 100 washes indicates that the frequency of gallon washing does not affect the number of microplastics in refill drinking water samples.

The use of single-use gallons is recommended to avoid the risk of microplastic consumption from refilled gallons.

Keywords: Microplastics, PET, Damiu, Gallon

53. PHYSICAL ACTIVITY WITH NUTRITIONAL STATUS OF ADOLESCENT GIRLS AT SMAN 10 SAMARINDA

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ABSTRACT

Background

Nutritional problems are one of the problems that often occur in adolescence. Direct or indirect factors can influence abnormal nutrition. One of the factors that will indirectly affect the nutritional status of adolescents is physical activity. This research aimed to determine the relationship between physical activity and nutritional status in the adolescent group.

Methods

This research was an analytic observational study using a cross-sectional design. The population was 767 students of SMAN 10 Samarinda. The sample size was 84 people selected using Stratified Random Sampling. Research instruments using standard instruments include measuring nutritional status using anthropometry and measuring physical activity using the IPAQ Questionnaire (International Physical Activity Questionnaire). The statistical test used was the Spearmen test with a significance level of 5%.

Results

The research results on the relationship between physical activity and nutritional status had a p-value of 0.023 <0.05. It means that there was a significant relationship between physical activity and nutritional status in adolescents at SMAN 10 Samarinda. The correlation coefficient was +0.243 with the interpretation that the strength of the relationship between the two variables was very weak and unidirectional. If there was an increase in physical activity, it would be accompanied by an increase (improvement) in the nutritional status of adolescents.

Conclusions

It is expected that the research results can be used as material for evaluation and consideration for policies in the field of promotive - preventive to improve the health status of adolescent

groups, especially concerning adolescent nutrition.

Keywords:*Physical Activity, Nutritional Status, Adolescent*

55. DENTIFICATION OF THE SARS-COV-2 VIRUS AND ANALYSIS OF THE ENVIRONMENTAL SANITATION HYGIENE IN THE ISOLATION ROOM OF THE COVID-19 REFERRAL HOSPITAL

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ABSTRACT

Background

SARS is a type of virus that is dangerous to humans, the first SARS occurred in 2003, and SARS-Cov.2 appeared in 2019. The world is facing a COVID-19 pandemic that originated in the city of Wuhan, China in December 2019, has now spread throughout the world, including Indonesia. Several types of spread are known, especially the source of transmission from the confirmed Covid-19 patients, through coughing, sneezing, talking at close range in a confined space environment, the virus can also be transmitted through aerosols. The latest findings in this study showed positive results on air and environmental surfaces in the isolation room of RNAF Hospital of Palembang.

Method

The sampling used the SKC PCXR8 tool, the flow rate at the pump was 3-5 LPM, the total sampling took 10 hours with a capacity of 5000 ml/minute samples in the air, while on the surface of the environment it used the swab method.

Results

The results of this study showed positive for the SARS-Cov.2 virus in the RNAF type A and type B rooms in the air as well as on the environmental surface of the ward wall and door handles. Meanwhile, the RITN room type showed negative results both in the air and

environmental surface swabs or met the requirements.

Conclusion

In this study, the SARS-Cov-2 virus in the air was already detected, especially in the isolation rooms with limited capacity; we should undertake the social distancing, especially in limited rooms. Even though the status of the world has now changed from the pandemic to endemic, we still always maintain the health protocols that have been set.

Keywords: SARS-Cov-2, Covid-19, Public Health, Environment, Isolation Room, Aerosol, Swab

57. THE CONCENTRATION OF PARTICULATE MATTER (PM2,5 AND PM10) AND NITROGEN DIOXIDE (NO2) IN THE GAS STATION AREA IN TERNATE

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ABSTRACT

Background

Air pollution is an environmental problem with various mechanisms that will interfere with public health, including the work of Public Fuel Filling Stations (SPBU). The location of gas stations is generally near the highway, number of motorized vehicles that come out to refuel will increase the risk of health problems for workers due to exposure to air pollution in the gas station environment. This study aims to determine the concentration of Particulate Matter 2.5μm and 10μm and Nitrogen Dioxide (NO_2) in the gas station area in Ternate City.

Methods

The measurements were carried out at three gas station locations. Particulate matterconcentrations were measured using a particulate counter, and NO_2 concentrations were measured using an impinger and examined using a spectrophotometer using the Griess Saltzman method.

Results

The results of the analysis show that the average concentration of $PM_{2.5}$ at the Soa-sio gas stations (1,583μg/m^3) and Kalumata (1,660μg/m^3) has exceeded the quality standard value set by the government (55μg/m^3). The Maliaro gas station is still below the quality standard (52μg/m^3). The average concentration of PM_{10} in Soa-sio gas stations (144μg/m^3) and Kalumata (177.5μg/m^3) has exceeded the quality standard (75μg/m^3) meanwhile Maliaro gas stations is still below the quality standard (5.8μg/m^3). NO_2 measurements at the three locations showed that the average measurement results for 1 hour had not exceeded the quality standard (200μg/m^3). The highest concentrations found at the Maliaro (137.7μg/m^3), Soa-Sio

($111\mu g/m^3$), and Kalumata ($109.6\mu g/m^3$) gas stations.

Conclusions

The air quality at the two gas stations has exceeded the threshold value and is not safe for workers in the long term. It is necessary to use personal protection efforts from exposure to pollutants.

Keywords: Particulate matter, nitrogen dioxide, pollutants, gas stations

59. THE CORRELATION BETWEEN ENVIRONMENTAL HYGIENE HABITS AND BODY MASS INDEX OF HEALTHY PEOPLE

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ABSTRACT

Background

We investigated to find out the BMI of healthy people and the relation to their health environmental habits. We surveyed walking travelers' participants who had hiking experiences in South Korea. We also analyzed the BMI classification by hand hygiene habits, shoe washing and garbage disposal maintaining for scattered data points or distribution BMI features.

Methods

The survey was conducted through an online questionnaire. The subjects included 569 adult participants, males and females aged 20 years and older, who had a lot of hiking experience. Box plot visualization and EXCEL p-value cross-section test were used for analysis.

Results

The results revealed that almost 48.5% of all participants handwash before meals. Statistically, it showed a significant relationship between normal calcified BMI and washing hands before eating (p-val:0.001) and before eating snacks (p-val:0.000). The distribution of participants who were in BMI classification of overweight (BMI 24.9~29.9) in a group that had habits of washing hands before meals when traveling showed 10% lower. The lower the number of cleaning frequencies, increasing the higher BMI. However, the impact on shoe care (washing) and waste care was negligible.

Conclusions

The result shows that good habits in the environment, especially hand washing, influence the BMI. This indicates that certainty about health and some health environmental habits also

affect health.

Keywords:walking travelers', BMI, hygiene habits, hand hygiene

61. MIDWIVES' EXPERIENCES OF CARING FOR WOMEN WHO EXPERIENCE PERINATAL MENTAL HEALTH AND WELL-BEING: A MIXED-METHODS SYSTEMATIC REVIEW

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ABSTRACT

Background

Transitioning to motherhood is a major life event for any woman and while it is a joyful experience for the majority, 10%–20% of women will experience a Perinatal Mental Health (PMH). PMH is an important for the well-being of the mother and child, so the consideration must be given to care provision for effective support and care of women in the perinatal period. Providing psychological support to mothers by midwives is acknowledged internationally. The study aimed to synthesise primary research on midwives' experiences of caring for women who experience perinatal mental health and well-being.

Methods

This was a mixed-methods systematic review, incorporating qualitative and quantitative studies. A literature search was implemented across three databases (ProQuest, Pubmed and ScienceDirect) from the year 2017 to 2022. where the population of interest were midwives and the outcomes were their perceived role in the management of women who experience PMH. The methodological quality of studies was assessed using the relevant CASP (Critical Appraisal Skills Programmes) and the synthesis method used modification PEOS. Data extraction, quality assessment and thematic analysis were conducted using PRISMA-P guidelines.

Results

2926 records were returned, with 10 articles meeting inclusion criteria. Participants included midwives. Two main themes arose: Perinatal Mental Health, discussing emotional well-being. The themes convey the midwife's awareness, recognition and perceptions of perinatal mental

health and well-being. How midwives discuss and assess the observational skills they use, and what they perceive as the barriers and facilitators to discussing woman who experience PMH and well-being were all identified.

Conclusions

The findings indicate midwives require continuous development that address knowledge, attitudes to PMH, communication and assessment skills. Care pathways for assessing and identifying Perinatal Mental Health issues should be available in all maternity services. More support for midwives is required to debrief, which would assist them in supporting women's emotional well-being.

Keywords:midwives, perinatal mental health, women, well-being

63. WORKPLACE SPIRITUALITY AND NURSES PERFORMANCES AT HAJI HOSPITAL MAKASSAR

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ABSTACT

Background

The problem is the low performance of nurses at the Haji Hospital of Makassar City in 2020 which has not met the 2010 PPNI standard (Indonesian National Nurses Association) which is 82.8% while based on the idealization standard of PPNI, which is 100% , so researchers need to examine the performance of nurses at the hospital. Workplace Spirituality gives employees the ability to be able to interpret their work in order to create organizational commitment in each employee. There are 3 dimensions in spirituality in the workplace, namely meaningful of work, sense of community, and alignment with organizational values.

Methods

The type of research used is quantitative research with a cross sectional research design with a sample of 128 nurses in Haji Hospitals obtained through sampling techniques with survey techniques using questionnaires. The test used was the Chi-Square test.

Results

The results of this study indicate that there is a significant relationship between meaningful of work, sense of community, and alignment with organizational values on the performance of nurses as indicated by the significance value of the results of data analysis.

Conclusion

The conclusion of this study is that there is a relationship between the three dimensions of workplace spirituality, namely meaningful of work, sense of community, and alignment with organizational values on the performance of nurses in the inpatient installation of the Haji Makassar Regional General Hospital.

Keywords : nurses performances, workplace spirituality, hospital, WPS

65. HEALTH RISK ASSESSMENT OF MICROPASTICS IN SPERMONDE ISLANDS OF SOUTH SULAWESI

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ABSTRACT

Background

Estimated that the release of plastic into Indonesian sea will increase in 2017 to 2025 from 620,000 to 780,000 tons per year. The Spermonde Islands are a group of islands whose waters are influenced by the passage of the Pacific Ocean water mass to the Indian Ocean. It which cover the southern part of Takalar, Makassar, Pangkep, and the northern part of Barru are generally used as fishing areas for the surrounding community.The population of South Sulawesi consumes protein from fish/shrimp/squid/shellfish which is higher than the national figure of 13.77 grams/person/day. Conduct a review of the study of microplastics in the sea of the Spermonde Archipelago and the health risks it poses

Methods

The literature sources were obtained from the Google Scholar database with the search keyword "Microplastics in South Sulawesi". The selected article is a research article with a publication year 2018-2022.

Result

Microplastics have been found in sediments, seawater, green mussels, anchovies, rabbit fish, biddy fish, milkfish and sea urchins.The highest microplastics in sediment and water were 195 ± 66.98 particles/kg dry weight and 6920 ± 3411 particles/m^3, respectively.Green mussels (*Perna viridis*) and *Mactra sp.* shells contained 0.7160-3.629 particles/gram with Polyethylene terephalate being the most dominant polymer. Anchovy contains 95 ± 2.65 particles/head, with HDPE, PS and PA polymer types.Rabbit Fish *Siganus canaliculatus* has

the highest microplastic content of 0.80 particles/head. Milkfish has been contaminated with plastic with an average of 3.5±2.87 particles/head. While in sea urchins found 23.70 ± 2.99 particles/head.

Conclusions

Microplastics are found in various aquatic components in the Spermonde Islands but health risk assessments are still not widely carried out. Research is needed to identify types of polymers and microplastic contaminants to assess the health risks of residents in the Spermonde Islands

Key words: Microplastics, Spermonde Island, Health Risk.

67. TOOTH LOSS-INDUCED AND COGNITIVE IMPAIRMENT ARE RISK FACTORS FOR FALL IN RURAL COMMUNITY-DWELLING OLDER ADULTS: A CROSS-SECTIONAL STUDY

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ABSTRACT

Background

Fall is a common problem in older adults. Previous studies showed that tooth loss was associated with cognitive impairment and fall risk. However, these factors were separately reported and data among rural community-dwelling older adults were sparse. This study was aimed to investigate socioeconomic and dental factors affecting cognitive functions and to unravel association between cognitive functions and fall risk in older adults living in rural areas.

Methods

Two-hundred thirty-one rural community-dwelling older adults (aged from 60-74 years old) participating in this cross-sectional study were purposively recruited from the Dental Service Unit.Dental examinations were performed by a dentist using the community periodontal index of treatment needs form. The decayed, missing and filled tooth index of World Health Organization was employed for detection of tooth loss. Cognitive functions and fall risk were assessed with the Mini Mental State Examination and the Morse fall scale, respectively.

Results

Socioeconomic data showed that 17.7% of the participants were educated in secondary school or higher and 38.1%, had > 16 tooth loss. The age, activities of daily living, and number of tooth loss significantly predicted an impaired cognitive function at $P < .05$ (odds ratios were

2.649, 4.898, and 4.292, respectively). Chi-square analysis showed that the cognitive function was significantly associated with the fall risk at $P < .001$.

Conclusions

In conclusion, the tooth loss-induced cognitive impairment was associated with fall risk in the rural community-dwelling older adults. Further health policy improvement for this group of population should be implemented.

Keywords: Tooth loss, older persons, cognitive impairment, fall risk, rural area

69. WATER DISTRIBUTION SYSTEM LEAKAGE CONTROL BY DISTRICT METER AREA (DMA) MANAGEMENT: A CASE STUDY IN DMA PILAR MAS

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ABSTRACT

Backgound

Perumda Air MinumTirtaRaharjaKabupaten Bandung has a Non Revenue Water (NRW) level in 2021 of 27.20% with 4 regions and 35 District Meter Areas (DMA). One of the DMAs with the most considerable NRW level is Pilar Mas DMA, with an NRW rate of 71.98% in 2021. The active control of water loss is one of the actions to remove water. A very effective method is needed in the search for water loss. One method that is quite well known is the Step test, which is a technique to find the location or area with the most significant amount of air loss in the DMA (Hou, 2018). The high level of NRW requires further research. This discussion aims to obtain further analysis to reduce the level of NRW in DMA Pilar Mas Perumda Air MinumTirtaRaharjaKabupaten Bandung using the step test method.

Methods

The research method is done by analyzing primary data and secondary data. Primary data in the form of a step test was carried out on Pilar Mas DMA with the number of connections 124 house connections with ten valves. Secondary data in the form of NRW level data on DMA Pilar Mas and schematic data from DMA Pilar Mas.

Results

Based on the step test results, when closing the valve, there are areas with a high leakage category in valve path 5 with a value of 0.0217 l/sec per house connection and valve 9 with a value of 0.0260 l/sec per house connection. Classification of high leakage at valve with dQ 0.13 l/s after valve 5 is closed. Valve 5 consists of 6 active house connections with average water consumption of 1.67 m3/month per house connection. High leakage classification on the valve with dQ 0.26 l/s after valve 9 is closed. Valve 9 itself consists of 10 active house

connections with average water consumption of 1.8 m3/month per house connection.

Conclusions

The need for water is increasing every year. Perumda Air MinumTirtaRaharjaKabupaten Bandung has an NRW level of 27.20% and at DMA Pilar Mas it is 71.98% in 2021. One of the steps in reducing the NRW level is active leak control, namely, leak detection as an effort to estimate the range of leak positions using the Leak Correlation and water leak pinpointing method.

Keywords: Water losses, NRW, DMA, Step test, valve

71. UTILIZATION OF PLASTIC CUPS IN PAVING BLOCKS

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ABSTRACT

Background

Plastic waste has become to a major challenge globally, which is concerned in middle-income countries. Physically, plastic waste has found as a big proportion of kg/m^{2}University. This study aimed to reduce plastic cup waste (Polypropene) in the Mahasarakham university, as there were not commonly go to the recycle stream.

Methods

Experimental research method explored the potential of blinding plastic cup waste as the material for paving blocks by combining 3 different sizes of plastic cup with Portland cement, sand and grid stone.One-wayANOVA were applied for comparing the significant level at p-value 0.05.

Results

The results revealed that the water absorption of these plastic cup sizes: 0.5, 1.0 and 1.5 square centimeter for making blocks were 3.411, 2.685 and 2.792, respectively. The efficiency of water absorption of these three different sizes of plastic cup were not different at the p-value less than 0.05. When comparing the strength of the paving blocks, there were 256.77, 280.48 and 216.59 kg/m^2, respectively. Also, there were no different of these 3 different sizes of the plastic cup with the significant level at p-value less than 0.05 at the 95% confidence level.

Conclusions

These combined paving blocks have not met the standard (350 kg/m^2). But they can apply for pedestrian or suitable for cycling lanes.

Keywords: Single use plastic, plastic cup, recycling, paving block

73. PNEUMONIA DISEASE IN CHILDRENAT "GRILL CULTURE": A SYSTEMATIC REVIEW

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ABSTRACT

Background

Pneumonia is one of the conditions that can be developed from COVID-19 infection. Pneumonia part of Acute Respiratory Infections (ARI) in children under five is a major problem in children's health in developing countries. ARI disease is the first cause of death in children under five years of age and the incidence is mostly in children under 5 years. The number of deaths nearly 1.9 million children die each year, an estimated 20% occur in India. In Indonesia, the prevalence of pneumonia in NTT province is 1.6% and most cases are in the 12-23 month age group (Riskesdas, 2018). ARI under-five mortality in Indonesia has increased from 18.2% to 38.8% . The highest number of cases of ARI from 10 diseases in NTT province in 2015 was 359,315 (BPS NTT, 2015). Community acquired pneumonia (CAP) exhibits mortality rates, between 20% and 50% in severe cases. Biomarkers are useful tools for searching for antibiotic therapy modifications and for CAP diagnosis, prognosis and follow-up treatment. These photo thorax also aid in identifying the low-risk patients who can be treated in outpatient environments. Reducing unnecessary hospitalizations decreases treatment costs and patient discomfort. The postpartum period is a critical stage where changes in women occur, which have an impact on the physical, psychological and social levels. Postpartum care with traditional medicine is important information in health care for the integrative between beliefs and practices recommended in contemporary care practices.

Methods

The study selection process, following the PRISMA (Preferred Reporting Items for

Systematic Reviews and Meta-Analyses).Searching in PubMed, Scinapse.Science Direct, Elsevier, WHO.Keyword :pneumonia disease, children, grill culture

Results

Many studies of photo torax of infection have taken advantage of changes in diagnostic parameters over serial timepoints. The studies was confined to a single timepoint based on our previous data, the desire to provide results well before bronchoalveolar lavage fluid culture results were available to clinicians. Discomfort during the postpartum is very common in a woman's life but the effect of this discomfort on a woman's quality of life has been studied. Discomfort and problems that often occur in women in the postpartum and their quality of life

Conclusions

Photo torax guided associated pneumonia did not reduce antibiotic use in centres that had committed to following test recommendations. Process evaluation suggested that lack of adoption of the technology and clinician behavior had a greater influence on trial outcomes than did test performance.

Keywords:pneumonia disease, children, grill culture

75. THE ROLE OF JOB DEMAND-RESOURCES AS A DOUBLE-EDGEDSWORDON NURSES IN SOUTH SULAWESI DURING THE COVID-19 PANDEMIC

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ABSTRACT

Background

Job demand-resources as a moderating relationship between Work Engagement and Exhausted nurses. Job demand-resources not only have positive implications, but can also have negative implications for the welfare of nurses through work fatigue experienced during the Covid-19 pandemic. The purpose of this study was to determine the positive and negative implications of Job Demand-Resources during the Covid-19 Pandemic on nurses in South Sulawesi.

Methods

This study involved 250 nurses in South Sulawesi Province, Indonesia. Data were analyzed using Compare Means between Job Demand and Job Resources to Work Engagement and Exhausted.

Results

The results show that job demand-resources are related to job burnout and job engagement. Nurses with a low level of Job Demand (22.7), a highlevel of Job Resources (48.0), and a highlevel of Job Crafting (55.32) willresult in good Work Engagement (35.8) and low

exhaustion. (19,30). Job Demand whichis high compared to Job Resources will result in Exhausted which has a negative impacton nurses. Meanwhile, nurses' job demand is in line with high job resources, which will result in work engagement which has a positive impacton nurses. Increasing job demands should be in line with the accumulation of resources. Nurses try to reduce the effects of a spects of job demands that can in crease work fatigue to maintain their well-being.

Conclusions

Therefore, hospital management must be able to support nurses to be able to make changes that reduce their exposure to job demands and accumulate resources, so that nurses' welfare will increase over time during this Covid-19 pandemic.

Keywords: Job Demands-Resources; Work Engagement; Exhausted; Nurses; Covid-19

77. COMPARISON OF NURSES' EXHAUSTION DURING PANDEMIC AND THE NEW NORMAL ERA IN SOUTH SULAWESI HOSPITAL

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ABSTRACT

Background

The coronavirus pandemic had a significant impact on the mental health of health workers on the front lines. The majority of health workers experience anxiety or stress during the COVID-19 pandemic. The purpose of this study was to compare the exhaustion condition of nurses in South Sulawesi during the pandemic and the new normal era.

Methods

This research is a quantitative study with a cross-sectional study approach involving 200 nurses in teaching hospitals, private hospitals, and government hospitals that provide Covid-19 services in South Sulawesi, Indonesia. This research was conducted in 2021 and 2022. Data were analyzed using Compare Means.

Results

The results showed that during the pandemic nurses had high exhaustioncompared to after the new normal era. The highest exhaustion condition was experienced by nurses in government hospitals and the lowest by nurses working in teaching hospitals.

Conclusions

This study concludes that the exhausted condition is more dominantly felt by nurses during

the covid pandemic situation and nurses in government hospitals have a high level of exhaustion compared to other hospitals.

Keywords: Exhausted, Pandemic, New Normal era, Nurse, Hospital

79. LONG-TERM PROJECTIONS OF CLIMATE CHANGE BANGGA WATERSHED, SIGI REGENCY, CENTRAL SULAWESI

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ABSTRACT

Background

Climate change with extreme rain is one of the most crucial environmental issues discussed in Indonesia and worldwide. Scientific studies showed that coal combustion, wood, oil, and gas increased closely to 20% since the beginning of the industrial revolution. The condition affected an elevate in air temperature in all areas of Indonesia. At a lower rate than the subtropics, the southern regions of Indonesia experience a decrease in rainfall, while they escalate in the northern parts. Those backgrounds are allegedly to be the cause of flooding in the Bangga watershed due to climate change and extreme rain.

Methods

This study aims to identify climate change that occurs in the Bangga watershed by studying the characteristics of the largest daily rainfall, monthly, and annual averages based on the Mann-Kendall analysis. The study was conducted by collecting rainfall data and watershed maps for later use in determining the maximum daily, monthly, and annual average rainfall by using Makesens 1.0 software. The rain data used is from the rain station of the Bangga watershed (upstream) with 28 years of observation starting from 1993 to 2020.

Results

The results showed Daily Maximum climate change that occurs is a downward trend but not significant (Negative but Not Significant, NNS). Monthly average, there is a downward trend in climate change but some are significant (Negative but Yes Significant, NYS) and some are not significant (Negative but Not Significant, NNS). Annually, climate change has a downward but significant trend (Negative but Significant, NYS).

Conclusions

In a conclusion an indication of climate change in the Bangga watershed by an increase in rainfall and extreme rain amount 157.10 mm/day in July 2017.

Keywords: Climate Change, Extreme Rainfall, Makesens, Bangga Watershed

81. STUDY OF POTENTIAL OF INHALED MICROPLASTICS BY LAUNDRY WORKERS IN BANDUNG

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ABSTRACT

Background

The issue of microplastics is currently emerging worldwide as a contaminant that has attracted the attention of the research community and society. Microplastics come from a variety of sources including synthetic fibers, industrial processes, household dust, and surface damage to plastics.Clothes dryers in laundry produce greater microplastic emissions compared to liquid waste from laundry. Microplastics may pose a risk to human health through inhalation exposure and ingestion. Microplastic fibers have also been identified in the human lung and examined in a simulated respiration model operated in an indoor environment.

Methods

Microplastics were collected by using Hi Flow Personal Sampler to obtain microplastics that are respirable (less than 2,5 µm). After sampling for 4 hours, filters were observed by using Stereo Microscope to identify the type of microplastics and its length. Microplastics were analyzed using Fourier Transform Infrared (FTIR).

Results

The results revealed that there is a potential of inhaled microplastics. The results of microscopic observations show that there are 8,055±6,598 particles/m³ microplastics found in the exposed group and 5,333±3,559 particles/m³ microplastics were found in the controlled group. Analysis using FTIR shows that samples contained plastic polymer. The most frequent types of polymer that were found are polyester and polyethylene-terephthalate (PET).

Conclusions

This study shows that there is a potential of microplastics to be inhaled by workers in laundry. Workers are exposed by microplastics every day within their work shift. There are a lot of studies that microplastics have a risk to human health.

Keywords: Microplastic, Exposure, Inhalation, Laundry, FTIR.

83. THE EFFECT OF PUMPKIN SEED BISCUITS ON ZINC STATUS , BODY WEIGHT AND MUAC DURING PREGNANCY : A RANDOMISED CONTROLLED TRIAL IN PREGNANT WOMEN

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ABSTRACT

Background

Current research tried to figureout how pumpkin seed biscuits affect pregnant women concerning their nutrition status and serum zinc levels. The method employed was a double-blind, randomized experimental research involving pre-and post-test control groups.

Methods

The inclusion criteria of the participants involved were pregnant women aged 20-35 years old who wereat their first and second trimesters of pregnancy and parity one to three and singleton pregnancy.Meanwhile, the exclusion criteria of the participants were pregnant women suffering from severe complications.

Results

There were 89 pregnant women further gathered in this study, but only 66 of them met the criteria and ided into 2 groups.In this case, one group received the pumpkin seed biscuit intervention, while the other received placebo biscuits. The intervention was conducted for 90 days where the pregnant women were provided with 4 biscuits for daily consumption. The nutritional status parameter of pregnant women involved in the current research was assessed, including body weight, Mid-UpperArmCircumference (MUAC), and serum zinc levels. In this case, the average serum zinc level obtained was 48.75 g/dL from 60 pregnant women. Furthermore, a significant increase occurred in nutritional status for each group, marked by body weight gain and increased mid-upper arm circumference. However, no significant difference emerged between the pumpkin seed biscuit group and the placebo biscuit group with p=0.914 and p=0.916, respectively.A significant increase in zinc levels was observed in

both groups. In this case, changes in zinc levelsbetween the two groups were significantly different (13.72±1.84 vs 9.81±11.81, p=0.007).

Conclusion

Giving pumpkin seed biscuits contribute to weight gain and increasesthe mid-upper arm circumference the pregnant women which in turn improves their nutritional status and serum zinc.

Keywords*:* Pregnancy, Zinc, Body Weight, MUAC, Pumpkin Seeds.

85. HEALTH RISK ANALYSIS OF COAL DUST EXPOSURE IN OPEN MINING SYSTEMS TO ON DECREASING LUNG FUNCTION OF WORKERS (CASE STUDY: MINING SERVICE CONTRACTOR PT. X, KUTAI KARTANEGARA, EAST KALIMANTAN)

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ABSTRACT

Background

Mining activities can cause health problems, coal dust is one of the main sources of health hazards for coal workers. Ineffective control of exposure to coal dust can endanger the health of workers and reduce workers' lung function.

Methods

This study uses a scientific approach to health risk analysis to see how big the risk level of workers to exposure to inhaled coal dust at PT. X, with a sample of 30 respondents in the exposed group and 10 respondents in the control group. A sampling of inhaled dust on workers using a personal dust sampler and measurement of crystalline silica in coal dust was carried out according to the NIOSH 7500 method using X-Ray Diffraction (XRD), while to see the effect of exposure that resulted in decreased lung function of workers, used spirometry and analyzed thorax photo.

Results

The results showed that the concentration value of dust containing crystalline silica for 8 working hours was 13 people or 43.33% of the exposed group respondents exceeding the NAV of Permenaker No. 5 of 2018 and ACGIH 2021, Based on the Reference Dose (RfD) value of dust containing crystalline silica in the group exposed to real-time calculations there are no respondents who have an HI value > 1, but if the Hazard Index (HI) assessment is

carried out throughout up to 30 years in the future there is an increase of 50% of respondents have an HI value> 1.

Conclusions

The relationship between the addition of a dose of coal dust intake to the body's response in the form of a decrease in the value of lung function cannot be proven. Measurement of lung function using a spirometer in adults is influenced by many factors such as smoking habits which are dominant enough to affect the results of spirometry measurements.

Keywords: Coal dust, Crystalline Silica, inhalation, risk analysis, decreased lung function

87. ENVIRONMENTAL AND SOCIAL FACTORS SUITABLE FOR ECOLOGICAL NICHE OF LEPTOSPIROSIS

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ABSTRACT

Background

Leptospirosis is one of the neglected diseases based on dynamic environment, both the natural environment, built and social. From an environmental science perspective, the linkages between leptospirosis and current issues of environmental and social dynamics are becoming increasingly important to understand. The purpose of this study was to describe environmental and social factors that suitable as leptospirosis' ecological niche in Demak and Boyolali.

Methods

This study have been done by ecological niche modelling, observation, in depth interview, Focus Group Discussion and also used a literature review method with information sources from previous studies of leptospirosis, and related studies.

Results

Demakwas the area that had the highest possible distribution of leptospirosis compared to Boyolali (values close to 1). Overall, the prediction of the probability of leptospirosis in Boyolali, in 2018 and 2030-2040 was fairly even in all sub-districts. Modeling the ecological

niche in Demak showed that natural environmental factors are sufficient dominantly contributed to the spread of leptospirosis. In Boyolali, the biggest contributing factor overall was the built environment, namely land use. Environmental observation over time period May-December 2019 showed that community behavioral factors generally related with leptospirosis' control in Boyolali was a little better than Demak. Based on the analysis of social networks, there were actors who are interconnected and play a role in controlling leptospirosis in both places.Demak and Boyolali showed differences in the potential of local wisdom that existed in society.

Conclusions

The twostudy sites had different environmental features that support the ecological niche of leptospirosis. These can be used as a supporting factors for consideration in determining the most appropriate and successful control efforts in each location.

Keywords:environmental factors, social factors, ecological niche, leptospirosis, control efforts

89. DESCRIPTION OF NURSES' ORGANIZATIONAL CITIZENSHIP BEHAVIOR BASED ON TRIBE IN SOUTH SULAWESI HOSPITAL DURING PANDEMIC

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ABSTRACT

Background

The Covid pandemic has challenged how hospitals can manage human capital well. Problems that occur during a pandemic require a catalyst such as Organizational Citizenship Behavior, namely cooperative behavior, mutual assistance, and proper body language from staff that can facilitate the process in difficult times. Cultural differences make the level of organizational citizenship behavior can be different. The purpose of this study was to find out the description of Organizational Citizenship Behavior in nurses based on ethnicity at the South Sulawesi Hospital during the pandemic.

Methods

This type of research is descriptive research with a quantitative approach. The sample in this study was 500 respondents who were selected by simple random sampling at five hospitals in South Sulawesi which were considered to reflect the Bugis, Makassar, Mandar, and Toraja tribes. This research was conducted in June-August 2021. The collected data were analyzed using SPSS univariately.

Results

The results showed that the level of Organizational Citizenship Behavior of nurses was Bugis (99.4%), Makassar (98.1%), Toraja (97.3%), and Mandar (98.6%). The OCB variables in nurses are altruism (98.6%), conscientiousness (97.2%), sportsmanship (94.8%), courtesy

(98.2%) and civic virtue (99.4%).

Conclusions

The level of Organizational Citizenship Behavior of nurses from the Bugis, Makassar, Mandar, and Toraja tribes in this study was relatively high during the pandemic situation.

Keywords:OCB, Tribe, Culture, Nurse, Pandemic

91. RISK ANALYSIS OF MICROPLASTIC (POLYSTYRENE) EXPOSURE THROUGH CONSUMPTION OF BLOOD SHELLFISH (ANADARAGRANOSA) IN COMMUNITIES IN THE COASTAL AREA OF PAO VILLAGE, TAROWANG DISTRICT, JENEPONTO REGENCY

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ABSTACT

Background

Plastic waste is a type of waste that is difficult to decompose, it takes a long time to decompose naturally. Indonesia is a maritime country so that animal protein from the sea is a contributor. This makes them vulnerable to being exposed to microplastics in marine biota, especially as filter feeders which, if consumed continuously for a long time, can accumulate in the human body.

Method

This type of research is a descriptive analysis with an Environmental Health Risk Analysis (ARKL) approach, namely research using questionnaires, interviews, laboratory tests and calculations using the ARKL formula, to determine the level of public health risk based on the concentration of risk agents, intake rate, exposure frequency, exposure exposure. , and body weight. The population in this study were mussels and the people of Pao Village, Tarowang District, Jeneponto Regency.

Results

The sample in this study was blood clams (anadaragranosa) in the coastal area of Pao Village, Tarowang District, Jeneponto Regency. Furthermore, the number of samples was determined using purposive sampling technique with inclusion criteria being respondents with an adult age (20 - 55 years) and consuming blood clams (anadara granosa) 3-5 times a week.

Keywords: ARKL. Blood clams, coast

93. THE EFFECT OF NUTRITION EDUCATION ON KNOWLEDGE AND COMPLIANCE WITH TAKING DRUGS IN DIABETES MELLITUS OUTPATIENT AT PUBLIC HEALTH CENTER OF BIRU, BONE REGENCY

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ABSTRACT

Background

Diabetes Mellitus (DM) is a degenerative disease that shows an increasing prevalence. DM patients require adherence in treatment, so that their condition does not worsen. One of the efforts to improve medication adherence is to conduct nutrition education..This study wanted to see the effect of nutrition education on knowledge and adherence to taking medication in DM outpatient

Methods

This study uses a quasi-experimental design with one group pre-test and post-test design. The study population was all DM cases at the Public Health Center of Biru, as many as 526 cases. Sampling was done by purposive sampling so that 49 respondents were selected. To see the difference in knowledge and adherence to taking medication before and after education, the McNemar test was used

Results

This study found that nutrition education was effective in increasing knowledge (p=0.000) and medication adherence (p=0.000) in respondents

Conclusions

Nutrition education is effective to increase knowledge and adherence to treatment in DM patients. Nutrition education can be chosen as one of the effective efforts in handling DM patients

Keywords:education, nutrition, knowledge, compliance, Diabetes Mellitus

95. HEALTH BELIEF MODEL IN THE PREVENTION OF TYPE-2 DIABETES MELLITUS IN FERTILE AGE COUPLE

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ABSTRACT

Background

Fertile age couple who contracted diabetes mellitus, their offspring have risk factors for developing diabetes later in life. The purpose of this study was to determine the effect of the health belief model on the prevention of type 2 diabetes mellitus in fertile age couple.

Methods

The type of research was quantitative and the research design was cross sectional. The research sample wasfertile age couple who are in the area of Depok City, West Java as many as 138 respondents. Data analysis used a structural equation modeling approach with the partial least squares method.

Results

The results showed that there was a perceived effect on the prevention of type-2 diabetes mellitus with a t-statistic of 13.331880, there was an effect of self-efficacy on the prevention of type-2 diabetes mellitus with a t-statistic of 2.221879, there was an effect of cues to action on the prevention of type-2 diabetes mellitus with a t-statistic of 2.482949, and the perceived indicator that has the most influence on the prevention of type-2 diabetes mellitus was barriers with a t-statistic of 180.528565. Based on the value of R^2, the magnitude of the effect of perceived, self-efficacy, and cues to action on the prevention of type-2 diabetes mellitus was 89.52%. From the Q^2 value, the model in this study has a relevant predictive value, where the model used can explain the information contained in the research data by 89.52%.

Conclusions

There was an effect of health belief model on the prevention of type 2 diabetes mellitus in fertile age couple. Another dominant variable that influences the prevention of type 2 diabetes

mellitus in fertile age couplewas perceived and on indicators of barriers.

Keywords: Cues to Action, Diabetes Mellitus, Health Belief, Perceived, Self Efficacy

97. ASSESSMENT OF COVID-19 RISKS RELATED TO BEHAVIOR AND BODY RESISTANCE IN THE REMOTE AREA: CASE STUDY IN JENEPONTO

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ABSTRACT

Background

Corona Virus Diseases (COVID-19) that emerged at the end of 2019 began threatening the health and lives of millions of people, that in high infections, it has possibility to cause severe respiratory diseases and impact government rules, public health systems as well as community behavior and body resistance. This study aimed to assess COVID-19 risks related to behavior and body resistance in the remote area of Jeneponto Regency.

Methods

The study was conducted in Bontoramba Sub-district from November to December, 2020. A cross sectional study design was employed with survey descriptive method and stratified random sampling was utilized to select 183 study participants. The data were collected using both Google Form and paper questionnaires through face-to-face survey.

Results

The results revealed that most respondents had moderate risk in in-home behavior toward COVID-19 in the access of handwashing facility and/or hand sanitizer in door side (54.10%), but they performed appropriate behavior when arriving at home to directly wash hands (79.23%). Otherwise, for outdoor behavior, they have moderate risk in daily public transportation use (92.90%) and outdoor activity (80.87%) but they regularly wear mask in outdoor activities especially when gathering with many people (75.41%). In addition, body resistance risks depicted that most respondents had moderate risks that in lack of sleep and vitamin C and/or E consumption (36.07%). However, only a few people whose age were over 60 years old (3.28%) and had medical history or comorbidity (3.28%).

Conclusions

Most respondents in Bontoramba performed moderate risks in handwashing access before entering home, daily transportation use and lack of sleep and multivitamin consumption. Therefore, the stakeholder and/or government should provide adequate resource and training on COVID-19 to promote adoption of protective behavior and body response.

Keywords: Risk assessment, COVID-19, behavior, body resistance

99. RELATIONSHIP OF KNOWLEDGE, ATTITUDE, AND BEHAVIOROF THE COVID-19 PANDEMIC WITH HEALTH LITERACY IN THE COMMUNITY OF THE ARGOPURO MOUNTAIN SLOPE JEMBER REGENCY

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ABSTRACT

Background

The Corona virus has shaken humanity in almost all corners of the world and the increase in the number of cases is happening quite quickly and has spread between countries and even between cities in Indonesia. Mountain communities which incidentally are grouped, homogeneous, and rarely exposed to the environment outside the mountains are very vulnerable to news about new things such as COVID-19 and are often eaten by hoaxes. The purpose of this study was to determine the relationship between knowledge, attitudes, and behavior with the health literacy of the COVID-19 pandemic in the community on the slopes of Mount Argopuro, Suci Village, Panti District, Jember Regency.

Methods

This study used quantitative methods. This type of research was a survey with a cross sectional approach design. The research was conducted on people living around the mountains around the community scattered in the Suci village, Panti sub-district. The sampling technique used non-probability sampling with accidental sampling. The number of participants was 50 people. The data analysis used univariate and bivariate analysis using the Sperman's test with SPSS 22 software.

Results

The distribution of the frequency of knowledge of respondents was mostly had high

knowledge of Covid-19 as many as 26 people (52%) some others had moderate and low knowledge of 14 each people (28%) and 10 people (20%).Frequency distribution of respondents' behavior showed that most of the respondents had sufficient health behavior in dealing with Covid-19as many as 28 people (56%) and a small proportion have a relatively good attitude in the face of the Covid-19 pandemic, as many as 19 people (38%) and only 3 people (6%) who had poor behavior in dealing with Covid-19.Respondents' behavior in preventing Covid-19 was mostly the behavior of wearing masks when leaving the house as many as 48 people (96%) and washing hands with soap as many as 46 people (92%).As for the behavior that needed to be avoided and should not be done by the respondent, the number was still high, namely the behavior of gathering in a crowd of 30 people (60%) and using and going to public facilities as many as 34 people (16%).Relationship of Respondents' Knowledge, Attitudes, and Behaviors with Health Literacy regarding Covid-19 was showed from the results of statistical tests on knowledge and skills Health Literacy showed the value of $p = 0.001$ (<0.05) which means that there was a significant relationship meaning between knowledge and Health Literacy.Statistical test results between Attitude and Health Literacy showed the value of $p = 0.011$ (<0.05) which showed that there was a significant relationship between attitude and Health Literacy.Likewise with the results of statistical tests between Behavior and Health Literacy showed p value = 0.001 (<0.05) which showed there was a meaningful relationship between attitudes and Health Literacy.

Conclusions

The result of this research showed that knowledge, attitudes and behaviors were related to Health Literacy on health regarding Covid-19, because the majority of respondents had sufficient Health Literacy regarding Covid-19 in the community on the slopes of the Argopuro Mountains in Suci Village, Panti District, Jember Regency. There was a statistically significant relationship between knowledge, attitudes, and behavior with the health literacy of the hill community in the Suci, Panti area regarding Covid-19.

Keywords: Covid-19, Knowledge, Attitude, Behavior, Health literacy, Community of The Argopuro Mountain Slope

101. FORMS OF VIOLENCE AGAINST NEGATIVE SELF-ESTEEM ON FEMALE VICTIMS

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ABSTRACT

Background

One of the consequences of violence experienced by female victims is negative self-esteem. Violence has three forms, physical, sexual, and psychological. This study aims to determine the relationship between forms of violence and negative self-esteem on female victims in Makassar City.

Methods

This study uses quantitative methods. The subjects in this study were 350 women who had experienced physical, sexual, or psychological violence. The measuring instrument used in this study is the scale of violence with a reliability value of 0.945 and the Rosenberg Self-esteem Scale (RSES) with a reliability value of 0.874. Data analysis used non-parametric statistical analysis using the Spearman Rho test.

Results

The results of this study indicate that there is a positive relationship between physical, sexual, and psychological forms of violence with negative self-esteem in female victims in the city of Makassar who are the subject (forms of violence: r = 0.299 and p = 0.000; physical: r = 0.128, p = 0.016; sexual: r = 0.227, p = 0.000; psychological: r = 0.302, p = 0.000).

Conclusions

This means that the more frequent physical, sexual, and psychological violence is experienced, the higher the negative self-esteem of female victims. The form of violence that has the greatest influence on negative self-esteem is psychological violence (r=0,302). The implications of the results of this study are expected to be information for women who are victims and agencies handling victims of violence to help improve the self-esteem of victims after getting violence.

Keywords: Form of violence, female victim, negative self-esteem.

103. THE REVIEW OF ENVIRONMENTAL HEALTH RISKS ANALYSIS OF LEAD CONTAMINANTS (Pb) EXPOSURE AND ITS EPIDEMIOLOGICAL IMPACT ON HEALTH

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ABSTRACT

Background

Lead (Pb) is a metal poisonous that large used worldwide and can cause widespread pollution and health problems. Today, Lead is significantly considered a serious threat because it can poison the air, get into the lungs, circulate in the blood, and cause long-side effects. Pb has been identified as metal poisonous with height concentration and its widespread use reported can damage the environment and lead to a serious epidemiological problem to global health.

Methods

Materials for this literature review are collected from the official websites (i.e., ScienceDirect, Google Scholar, Ministry of Health Republic of Indonesia, and WHO) using the keywords: "lead (Pb) exposure", "analysis of risk", and "health effect of lead (Pb) exposure".

Results

Of the 5 studies, Pb can expose to the body through digestion or food consumption. Based on the environmental health risk analysis results of each study, two studies are reported to have serious risks of Pb contaminant. First, in research in 5 selected agricultural areas in Pakistan by Rehman et al., HRI values exceed the limit safe (>1) reported for a number of vegetables. Second, Hasmi and Mallongi in Youtefa Bay Jayapura also found that the average RQ of 75 respondents who consumed fish was 6.03. The other studies also epidemiologically reported the impact of Pb exposure and its association with health risks.

Conclusions

Based on the environmental health risk analysis results of each study, two studies are reported

to have serious risks of Pb contaminant. This review recommends serious attention to Pb exposure and its consequence on human health.

Keywords:lead (Pb) exposure; analysis of risk; health effect of lead (Pb) exposure

105. ANALYSIS OF HEALTH RISKS AND HEALTH IMPACT ON CYANIDE (CN) POLLUTANTS EXPOSURE: A LITERATURE REVIEW

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ABSTRACT

Background

Cyanide is a very deadly toxic substance. Cyanide has been known for thousands of years. Acute exposure to cyanide can be fatal and sustained exposure with low concentrations possibly affects organs that are sensitive to hypoxia levels such as the central nervous system, cardiovascular system, and lungs. The purpose of this systematic review is to determine the analysis of health risks and the health impact of cyanide (CN) pollutants exposure.

Methods

The method used was literature review or literature search. The literature was both national and international using Google Scholar and Research Gate databases.

Results

The potential of cyanide exposure and its negative effects on human health that are caused by various aspects such as food, water, and the workplace can be determined by the health risks analysis.

Conclusions

Risk management needs to be carried out as an effort to control the impact of exposure by reducing cyanide (CN) concentrations such as reducing consumption levels and limiting the duration of exposure.

Keywords: Cyanide (CN) exposure; analysis of risk; health effect of Cyanide (CN) exposure

107. NURSES PERFORMANCES AT GOVERNMENT AND PRIVATE HOSPITAL IN MAKASSAR

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ABSTACT

Background

In today's era of free competition, skilled, expert, professional and high-achieving human resources are the desire of all organizations, both private and government. The target to be achieved with the existence of quality human resources is work productivity or a good performance. Today's community demands for quality health services and meet service standards have become a reference for health workers, including nurses. Along with efforts to improve quality both in private hospitals and in government hospitals, attention is needed to improve the performance of nurses in carrying out their duties and responsibilities.

Method

The type of research used is quantitative research with a cross sectional research design with a sample of 77 nurses in private hospitals and 128 nurses in government hospitals obtained through sampling techniques with survey techniques using questionnaires. This research was conducted at the Government and Private Hospital in Makassar. The test used was the Chi-Square test.

Results

The results of this study indicate that there is a different thing from nurses performance at private and government hospitals as indicated by the significance value of the results of data analysis.

Conclusion

There are differences in the results of the study from the two hospitals studied. It can be concluded that both public and private hospitals have their respective advantages and disadvantages.

Keywords : nurses performances, government, private, and hospital

109. DUNALIELLASALINA MICROEN CAPSULATION USING COMBINATION OF MALTODEXTRIN AND ARABIC GUM AND ITS APPLICATION AS OMEGA-3 SOURCE FOR BAGEA SAGO COOKIES

DUNALIELLASALINA MICROEN CAPSULATION USING COMBINATION OF MALTODEXTRIN AND ARABIC GUM AND ITS APPLICATION AS OMEGA-3 SOURCE FOR BAGEA SAGO COOKIES DUNALIELLASALINA MICROEN CAPSULATION USING COMBINATION OF MALTODEXTRIN AND ARABIC GUM AND ITS APPLICATION AS OMEGA-3 SOURCE FOR BAGEA SAGO COOKIES

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ABSTRACT

Background

This study aims to microencapsulate *Dunaliellasalina* in various formulas and to determine the wellcoatedmicrocapsule formula, that will be chosen as fortification material to produce bagea sago cookies formulas. The produced cookies formulas will be compared based on the sensory acceptability to determine the preferred cookies formula. Then the preferred cookies will be analyzed by its omega-3 fatty acid content and nutritional compositions that will be compared with control cookies.

Methods

This research was conducted by producing *Dunaliellasalina*microcapsules with combined wall materials namely maltodextrin and arabic gum, into five various ratio of concentration by using spray drying method. The formed microcapsule formulas will be analyzed by using Scanning Electron Microscope (SEM),based on their morphology to determine the well coated microcapsule that will be used to produce bagea sago cookies. There are one control and three cookies formulas with various addition ofmicrocapsules will be produced. These formulas

will be tested on sensory evaluation to determine the best preferred cookies. The preferred cookies will be analyzed on omega-3 fatty acid (DHA/EPA content) and its nutritional compositionsthat will be compared with the control.

Results

The research found that F3 is the well coated microcapsule formula and could be used as fortification material for bagea sago cookies. D1 cookies (10% microcapsule) is the most preferred formula between the three produced formula. The nutritional composition of D1 showed an increase on its DHA/EPA, moisture, protein, ash, fat and crude fiber content as well as total energy but decreased on carbohydrate content compared by the control.

Conclusions

F3 is the well coated microcapsuleformula and the addition of thismicrocapsule affected the sensory evaluation and nutritional composition of the produced bagea sago cookies.

Keywords: Bagea sago cookies, *Dunaliellasalina*, microencapsulation, omega-3

111. EFFECT OF CONSUMPTION OF BARUASA ENRICHED WITH SEA URCHIN GONADS AND MORINGA LEAF FLOUR ON THE NUTRITIONAL STATUS OF NURSING MOTHERS IN COASTAL AREAS OF SOROPIA SUBDISTRICT

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ABSTRACT

Background

Implementation of Supplementary feeding program With stages that are in accordance with the needs of nursing mothers. The main hope of the baby is to get adequate quality and quantityof nutrition because the mother is being breastfed. Theadditional assistance given is not appropriate, becomesineffective in an effort to improve nutritional status and cause nutritional problems in the mother and baby.

Methods

The purpose of the study: analyzing the consumptionof new consumptionenriched by seaurchin gonads and Moringa leafflour against thenutritional status of nursing mothers inSoropiaSubdistrict. This type of research is experimental research with quasi-experimental design. The research was carried out in the working area of the Soropia Health Center and theworking area of the Lalonggasumeeto Health Center.

Results

The research isfrom June to December 2021. Analysis data usesuji paired test and Anova. In this study there is an effect of giving baruasa enriched sea urchin gonads and Moringa leaf flour on the weight gain of nursing mothers (pv = 0.000), LILA nursing mothers (pv = 0.000), Hb levels of nursing mothers (pv = 0.000). There is a difference in weight gain in nursing mothers given baruasa enriched sea urchin gonads and moringa leaf flour (pv = 0.000),LILA

in nursingmothers (pv= 0.000). There is a difference in the hb levels of nursing mothers given baruasa enriched sea urchin gonads and moringa leaf flour (pv = 0.012). The conclusion that newpemberasa enriched sea urchin gonads and moringa leaf flour can improve nutritional status in nursing mothers. There is a difference in weight gain, the size of LILA, in mothers given just in comparison given biscuits and consequents. There was no difference in Hb levels in nursing mothers given recently compared to given biscuits and control.

Conclusions

On the nutrition improvement progremer to use baruasa enriched sea urchin gonads and Moringa leaf flour as one of the additional feeding interventions for improving nutritional status in nursing mothers.

Keywords: Baruasa, sea urchingonads, Moringa leaves, Nursing mothers

113. THE EFFECT OF BAGEA CONTAINING SEA URCHIN GONAD ON THE PREGNANCY OUTCOMES

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ABSTRACT

Background

The purpose of this study is to determine the effect of *bagea* added with sea urchin gonads (*Diadema Setosum*) on pregnant women of the Bajo Tribe during the second trimester.

Methods

There is a difference in the birth weight of infants who received *bagea* or biscuit interventions during the second trimester in pregnant women from the Bajo Tribe (pv = 0.000).

Results

There was no difference in the length of the baby's birth when pregnant women from the Bajo Tribe received the *bagea* and biscuit intervention (pv=0.176). There was no difference in head circumference between infants who received *bagea* or biscuit interventions during the second trimester of pregnancy (pv = 0.439). There was no difference in the chest circumference of infants who received *bagea* or biscuit interventions during the second trimester for pregnant women of the Bajo Tribe (pv = 0.380).

Conclusions

Numerous recommendations are made in this study: for health workers, specifically nutrition improvement programmers, *bagea* should be used as a supplementary feeding to improve nutritional status (weight gain, improvement of upper arm circumference and increase in hemoglobin levels).

Keywords: *Bagea*, Sea urchin, pregnancyoutcomes

115. THE ENVIRONMENTAL AND BEHAVIORAL FACTORSAND THE DENGUE HEMORRHAGIC FEVER INCIDENCE IN RANTEPAOANDTALLUNGLIPU, NORTH TORAJA REGENCY, INDONESIA

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ABSTRACT

Background

Dengue Hemorrhagic Fever (DHF) in North Toraja District is a recurring health problem every year and has a significant increase. This study aimed to analyze the environmental and behavioral factors in relation to the incident of DHF.

Methods

The research used analytical survey design with the cross sectional study approach. The total samples of 360 respondents were chosen using the cluster random sampling technique. The research location was in the subdistricts of Rantepao and Tallunglipu. The primary data were collected through interviews and the direct fielf measurement. The data were then analyzed using the chi square test and the multiple logistic regression test, and was processed using the Excel program, IBM SPSS version 20 and ArcMap SIG 10.3.

Results

The result indicated that the lighting (p = 0,000), the population density (p = 0.457), the presence of larvae (p = 0,000), the execution of 3M (p = 0,000), the use of anti-mosquito drug (p = 0,878), the use of mosquito net (p = 0.051) and hanging clothes (p = 0.663).

Conclusion

It could be concluded that the environmental factors related to the incident of DHF in the sub-district of Rantepao and Tallunglipu, North Toraja Regency, werethe lighting and the presence of larvae, while the behavioral factors which had the correlation with the incident of DHF was execution of 3M.

Keywords: DHF, environment, behavior, Toraja (mountainous area)

117. IMPLEMENTATION OF CIRCULAR ECONOMY AND INTEGRATED WASTE MANAGEMENT FOR COMMUNITY HEALTH. SYSTEMATIC REVIEW

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ABSTRACT

Background

Depletion of resources and increase in waste generation per capita, if not processed, transported, stored, or disposed of inadequately, poses a threat to human health and the environment (water, air, and soil). The circular economy model is a key factor in promoting sustainable development. Reuse and recycle by reducing the use of materials, the consumption of primary resources, and the production of waste in society. Improper waste management is considered to have a healthy relationship related to vector-borne diseases.. This study aims to analyze the relationship between the application of a circular economy and integrated waste management for public health.

Methods

he literature review technique used is the Prefered Reporting Item Systematic Review and Meta-Analysis (PRISMA) design. They searched and filtered articles using the help of POP 8 search applications and Rayyan. The selected articles are all related to implementing a circular economy, waste management, and infectious diseases published in online databases from various sources, namely (Scopus, Scinderect, Pubmed, and Springlink) for 2013-2022 using a mixed-method research design (quantitative and qualitative). Based on 4955 articles found, 30 articles met the criteria.

Results

The literature review results suggest that the circular economy concept is the latest model of integrated waste management in a community.The cross-sectoral approach to waste management and public health emphasizes that people living around waste management are vulnerable to vector-borne diseases (like fever and chikungunya). Recycling/resource

recovery activities through waste management policies likely support implementing a circular economy, especially for low- and middle-income countries. With the introduction of a new collection system. An integrated approach to the recovery of national circular economic resources in the long term.

Conclusions

Emphasis on environmentally friendly work processes based on waste management to reduce waste generation and overcome problems related to environmental change. The proposed circular economy model is recommended to develop large cities for safer and new jobs and encourage ongoing activities.

Keywords:circular economy, waste management, public health.

119. CATION EXCHANGE CAPACITY (CEC) OF CLAY KUTAI ANDESCHERICHIA COLIREDUCTION

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ABSTRACT

Background

Increasing frequency of flood and un-treatment domestic water waste potential risk factors contamination of pathogen microorganism on the drainage in the city area. In the study would be explored the effective clay Kutai for *Escherichia coli/E. Coli* reducing

Methods

In this research was used Most Probable Number (MPN) was for *Escherichia coli/E. Coli* diagnosing, with the third stage of the technique is the presumptive test, confirmed test, and completed test on control formula and experimental formulas to add clay Kutai and white cement in the samples.

Results

The highest effective formula was clay Kutai with white cement addition, the composition of the formula is 3:1 (7.5 g clay Kutai and 2.5 g white cement. The CEC (Capacity exchange of cations) 16.95 Meq/100gr and clay content 55.9%, the formula has the high reduction of *E. coli*, in control 9,2 X 104 *E. coli* dan 150 E. coli after the experiment, with the degree of effectively 99.82%.

Conclusions

Using Clay Kutai with high clay content and high CEC for reducing *E. coli* in water waste with to adding white cement in the formula have increased bacteria reduction.

Keywords:*Escherichia coli*, Cation Exchange capacity, Clay Kutai

121. BIOACUMULATION OF NICKEL (NI) AND CHROMIUM (CR) HEAVY METALS IN FEATHER SHELLFISH (ANADARAANTIQUATA) IN THE COASTAL WATERS OF KENDARI BAY

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ABSTRAK

Background

The main problem faced in the waters of Kendari Bay at this time is the declining quality of the environment in these waters. Deteriorating water quality will cause changes in environmental quality that will affect living things in the vicinity. River pollution is caused by various human activities including organic waste, industrial waste, and domestic waste, which contains chemicals such as heavy metals. Communities around the waters of Kendari Bay often consume fish and shellfish originating from Kendari Bay. The high content of heavy metals in the waters is a threat to marine life and has an impact on health.

Methods

This type of research is an experimental laboratory with a *one-shot case study design.*

Result

The metal content of Nickel (Ni) in the feather clam species (*Anadaraantiquata*) originating from Kendari Bay using the wet destruction method by Atomic Absorption Spectrophotometry (AAS), namely: Eye Area 0.0038 mg/L, Bungkutoko Area 0.0038 mg/L L, Abeli Region 0.0180 mg/L, and Kambu Area 0.0076 mg/L. Meanwhile, the metal content of Chromium (Cr) in the feather clam species (*Anadaraantiquata*) originating from Kendari

Bay using the wet destruction method by Atomic Absorption Spectrophotometry (AAS) are: Eye Area 0.0036 mg/L, Bungkutoko Area 0.0009 mg/L , Abeli Region 0.0022 mg/L, and Kambu Area 0.0013 mg/L. Overall levels of nickel and chromium heavy metals in Kendari Bay are relatively low and are still in accordance with the NAV set by the government, in this case KMNLH (2004) for the benefit of marine life, which is 0.05 ppm. These data provide an indication that the input of heavy metals, both from mining and natural decay of metallic minerals, has not affected fluctuations in heavy metal levels.

Conclusions

However, it must still be wary of contamination of biota in the ocean. Because over time the contamination of Ni and Cr metals will increase and are toxic to marine biota.

Keywords: Nickel (Ni), Cromium (Cr), Shellfish, Kendari Bay.

123. RESISTANCE TEST OFAEDES AEGYPTI TO MALATHION FROM MAKASSAR, INDONESIA

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ABSTRACT

Background

The high of dengue haemorragic fever in Makassar can influenced by resistance status of *Aedes aegypti* to malathion which is always used on fogging. This study aimed to determine the resistance status of *Aedes aegypti* in Makassar.

Methods

The Study used true experiment method. Samples are *Aedes aegypti* F1female aged 3-7 days obtained through breedingmosquitoes byusing ovitrapcollecting from high endemic areas (Paccerakkang), and low endemic area (TamalanreaIndah) Makassar. Samples are 480, tested at three concentrations, namely 4%, 4.5%, and 5% to 3x replications. Data were analyzed by ANOVA, Duncan and regression using SPSS and were analyzed by probitusing Minitab a to view LC_{50}, LC_{90} LC_{95} and LC_{99} and LT_{50}, LT_{90} LT_{95} and LT_{99}

Results

The results showed that LD50, LD90, LD95 and LD99 in high endemic area respectively 3.8%, 4.3%, 4.5%, and 4.9%; in low endemic areas: 3.5%, 3.9%, 4% and 4.1%. LT50, LT90, LT95 and LT99 in a concentration of 4% in highly endemic area respectively: -510.6; 2119.2; 2865 and 4263.6, in low endemic area: -684; 1023.6; 1508.4 and 2416.2; at a concentration of 4.5% in high endemic areas: 721.95; 1039.42; 1538.74; and 2475.38; in low endemic area: 2.38; 40.84; 51.75; and 72.2; at a concentration of 5% in high endemic area: 5.72; 46.49; 58.04; and 79.72; in low endemic area: -1.02; 29.72; 38.43; and 54.78.

Conclusions

Aedes aegypti in highendemic areas, were tolerant at concentrations of 4% and 4.5%, susceptible at 5%, in low endemic area, tolerant at concentrations of 4% and susceptible at

4.5% and 5%.

Keywords: Resistance Test, Malathion,*Aedes aegypti*, Dengue endemic area, Makassar

125. EVALUATION OF FOGGING EFFECTIVENESS BASED ON TIME AND LOCATION OF DHF CASES (STUDY IN SLEMAN REGENCY USING DATA 2008-2013)

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ABSTRACT

Background

Dengue fever is a viral infection that is transmitted through the bite of the Aedes mosquito. Until now, dengue fever is still a public health problem in the world, including in Indonesia. The increase in dengue cases is closely related to the presence of mosquito vectors. Prevention of dengue outbreaks is by fogging focus. Until now there is no method to evaluate the effectiveness of focal fogging, but many suspect that fogging focus is less effective because the incidence of DHF tends to increase over several decades. This study aims to find a method to evaluate the effectiveness of fogging with a spatial-temporal approach.

Methods

This is anobservationalstudy using data on the incidence of DHF along with the date of illness, coordinates of DHF patients, and the date of fogging obtained from the District Health Office. Processing data using ArcMap 10.1. Determination of the time limit and extent of protective fogging is based on the provision thatif in the buffer area within a radius of 200 meters there is more than one case of DHF on days 4-21 after the patient has a fever, then fogging is declared ineffective.

Results

The results showed that from 2008-2013 there were 1,070 cases of DHF in Sleman Regency, and there were 54 (5.05%) cases of DHF caused by ineffective fogging. It was concluded that by using the spatial-temporal approach, it was seen that 5.05% of DHF cases in 2008-2013 in Sleman Regency were due to ineffective fogging.

Conclusions

By using a spatial and time approach, can be seen that 5.05% of DHF cases in Sleman Regency originate from ineffective fogging.

Keywords:evaluation of fogging, dengue, preventing outbreaks, spatio-temporal methods

127. UTILIZATION OF Phytoplanktone Chlorella vulgaris RICH IN DOCOSAHEXAENOIC ACID (DHA), EICOSAPENTAENOIC ACID (EPA) AND PROTEIN FOR FORTIFICATION OF SALT CONSUMPTION

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ABSTRACT

Background

The problem of malnutrition in Indonesia is still one of the main health problems, malnutrition is caused by the lack of fulfillment of nutritional needs, several nutrients that play an important role in child growth and development are Omega 3, Omega 6, and protein. Microalgae *Chlorella vulgaris* is one of the main commodities capable of producing omega 3 and 6 as well as protein.

Methods

In this study, 6 variants of salt formula were used which had been purified by the recrystallization method, namely salt without the addition of Chlorella vulgaris (control) and salt with the addition of *Chlorella vulgaris* 1, 1,5; 2; 2.5; and 3 grams, then 0.3 grams of maltodextrin was added which was appropriate to coat the active substance of microalgae, then analyzed for NaCl, magnesium, calcium levels, proximate levels, and Scanning Electron Microscopy (SEM) analysis and organoleptic tests.

Results

Based on the results of research on salt purification with the recrystallization method, it has complied with SNI 4435:2017 for consumption salt and. The results of the proximate analysis showed that the selected product containing high nutrition was fortified salt *Chlorella vulgaris* with the addition of 3 grams of phytoplankton, the protein, fat, and water levels obtained were 0.43%, 0.31%, and 3.26% respectively. DHA-EPA levels were 2.1 mg/g and 7.48 mg/g, respectively. Meanwhile, for organoleptic testing, the average rating in terms of color, taste, aroma and texture was 3.84; 3.56; 3.38; 3.69. And the results of Scanning Electron

Microscopy (SEM) show a well-coated formula, namely formula 3.

Conclusions

The results of the proximate analysis showed that the selected product containing high nutrition was formula 3

Keywords:*Chlorella vulgaris*, Salt consumption, Fortification, Protein, DHA and EPA.

129. MICROENCAPSULATION OF MICROALGAE CHLORELLA VULGARIS AS A SOURCE OF OMEGA-3 USING MALTODEXTRIN AS A COATING IN FORTIFICATION OF BAGEA SAGO TRADITIONAL COOKIES

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ABSTRACT

Background

The problem of malnutrition in children under five is the main problem in Indonesia. One of the nutrients needed by children under five is omega-3. Omega-3 can be obtained from food sources that contain omega-3, such as microalgae. Microalgae, especially *Chlorella vulgaris*, contain omega-3 and high nutrients. Omega-3, especially DHA and EPA contained in *Chlorella vulgaris* were easily oxidized, so it needed to be encapsulated to protect the quality of omega-3. This study aimed to determine the content of DHA and EPA in the microalgae *Chlorella vulgaris* and to formulate the microcapsules of *Chlorella vulgaris* using freeze drying method with the addition of maltodextrin.

Methods

In this study, 3 formulas of bagea sago cookies fortified with *Chlorella vulgaris* microcapsules and 1 control were used. The results of the produced cookies were then analyzed for the content of DHA and EPA, proximate, and organoleptic tests.

Results

The results showed that the DHA levels of Bagea sago cookies in control; C1; C2; and C3 respectively were 4.705 mg/g; 12.555 mg/g; 18.055 mg/g; and 30.705 mg/g. The EPA levels of Bagea sago cookies in control; C1; C2; and C3 respectively were 15.18 mg/g; 31.78 mg/g;51.88 mg/g; and 93.58 mg/g.

Conclusions

Based on the results of the analysis quality of bagea sago cookies, it shows that bagea sago cookies fortified with *Chlorella vulgaris* microcapsules contain better nutrients than control

bagea sago cookies and generally meet the quality requirements of cookies based on SNI 2973:2018.

Keywords:C. vulgaris; Freezedrying; Microencapsulation; Omega-3.

131. HEMATOLOGICAL PARAMETERS OF THE IMMUNE SYSTEM IN SMOKING AND NON-SMOKING FISHING COMMUNITIES WITH WET CUPPING THERAPY

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ABSTRACT

Background

Complementary therapy is a therapeutic therapy to improve people's health status by preventing and treating disease and improving health.

To determine the effect of complementary wet cupping therapy on changes in immune system hematological parameters in smoking and non-smoking fishing communities.

Methods

The research design used a Quasi-Experimental design with a pre-post test design. The number of samples was 60 fishermen aged 20-50 years, which were divided into two groups, namely (1) group A: 30 smoking fishermen who were given wet cupping therapy, (2) group B: 30 non-smoker fishermen were also given wet cupping therapy. This research took place at the Coastal Health Center of Lalonggasumeeto. using the Paired Samples Test statistical test and the Wilcokson test, this study has ethical approval No. LB.02.01/4/2021, from the health ethics commission, Health Polytechnic of the Ministry of Health Kendari

Results

There was a change after being given wet cupping therapy, the value of hematological parameters related to immunity in smoking fishermen, namely WBC, neutrophils, and lymphocytes with significant values ($P<0.05$), while in non-smoking fishermen after wet cupping therapy, the values of hematological parameters related with immunity, significant values ($P < 0.05$) were found in WBC, HB, neutrophils, lymphocytes, basofil, neutrophils, and eosinophils.

Conclusion

Complementary wet cupping therapy is beneficial and recommended to improve the health

and endurance of coastal communities, fishermen who smoke and fishermen who do not smoke.

Keywords: Fishermen, Smoking, Wet cupping therapy, hematology, immunity.

133. INDICATORS DEVELOPMENT OF HOSPITAL EFFICIENCY MEASUREMENT: DEA APPLICATION USING STEPWISE MODELLING APPROACH

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ABSTRACT

Background

Establishing specific indicators to evaluate hospitals' efficiency is essential because there is a vast and increasing amount of public resources dedicated to a public hospital. The purpose of this paper is to produce a set of indicators to measure hospital efficiency levels.

Methods

This study used a cross-sectional design using quantitative and qualitative approaches. The population was all General public hospitals in South Sulawesi Province, Indonesia. The samples of the study were 25 hospitals. The analysis unit was the annual performance of the hospital for four years (2014-2107). The researchers used the Delphi interview method to develop hospital efficiency indicators. The Indicator Sensitivity Test used stepwise modelling through a backward approach using the Data Envelopment Analysis (DEA).

Results

This study found ten valid indicators to measure hospital efficiency performance. The indicator consisted of input indicators: Building Area, Total Assets, Total Operational Costs, and Total Pharmacy Cost. In contrast, the output indicators were Number of Patients, Total Laboratory Test, Total Surgery Procedure, Total Operational Income of Hospital, Av-LOS and TOI.

Conclusions

All indicators produced in this study are valid indicators that researchers, hospital managers,

or decision-makers can measure Indonesia's hospital efficiency level.

Keywords: Data Envelopment Analysis, Healthcare, Quality, Indonesia

135. THE EFFECTS OF AIRCRAFT NOISE ON INCREASED LEVELS OF CORTISOL, CD4, IgG DECREASE, AND HEALTH COMPLAINTS ON A GROUND HANDLING WORKER

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ABSTRACT

Background

An aircraft noise exposure can lead to non-auditory effects such as job stress.Increased cortisol in the blood characterizes it. Increased cortisol is an immunosuppressive effect.

Methods

The objectives of this research were to analyze the effects of aircraft noise levels on increased cortisol, decreased CD4 and IgG, and health complaints among ground handling workers. The research methods were analytical observational with a cross-sectional study. The respondents of this research were 24 respondents. Aircraft noise levels were measured using a Sound Level Meter brand Svantex type 917. Serum cortisol and IgG were analyzed using the Elisa method. Whereas CD4 in blood was analyzed using Flow Cytometry.

Results

Results showed that the noise level in the apron area in Juanda Airport exceeded NAB noisy workplace was 87.8 dBA, while the noise level in the check-in room is under NAB noisy workplace was 62.2 dBA. Aircraft noise and long working hours increase cortisol levels (linear regression; p-value≤0.001 and p-value≤0.001). Aircraft noise decreased IgG (independent sample t-test; p-value=0.04). Moreover, aircraft noise affected nervous system complaints and hematology complaints (logistic regression; p-value≤0.001 and p-value=0.04).

Conclusions

The conclusions of this research were aircraft noise and long working hours affected cortisol levels. Aircraft noise can reduce IgG and cause some health complaints, such as nervous system complaints and hematology complaints.

Keywords: Noise, Cortisol, CD4, IgG, Health Complaints

137. TYPE 2 DIABETES MELLITUS: FACTORS AFFECTING RANDOM BLOOD GLUCOSE LEVEL IN PATIENTS

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ABSTRACT

Background

Diabetes mellitusis a metabolic disorder characterized by hyperglycemiadue to abnormalities in insulin secretion, insulin action, orboth. The highprevalence of Type 2 Diabetes Mellitus (T2DM) in Indonesia (2%) and the low level of public awareness of the early detection of diabetes mellitus became the basis forthis study.

Methods

This research was conducted to determine herelationship between several factors in T2DM patient swhich might affect their random blood glucose level. The research was an observational study conducted by analyz in gone thousand (1000) medical records of T2DM patients from the year 2019 to the year 2021 at the PKU Muhammadiyah Gamping Hospital, Yogyakarta. A purposive sampling technique was implemented to determine the samples and the collected data were further processed by univariate, chi-square, and binary logistics analysis.

Results

The univariate analysis showed that 56.3% of patients had highblood sugar levels (>200 mg/dL) and 46.9% were normal (<200 mg/dL)l; 40.7% were obeseand 59.3% were normal; 9.7% had diabeticfootulcersand 90.3% did not; 66.9% of patients consumed generic drugs and 33.1% consumed patent drugs. Furthermore, the statistics results showed a significant relationship between randomb lood glucose level sand BMI (p = 0.012; OR = 1.36; 95% CI = 1.05 – 1.76); diabeticulcers (p = 0.008; OR = 1.40; 95% CI = 0.93 –2.1); and types of

antidiabetic drugsused for treatment (p = 0.027; OR = 0.69; 95% CI = 0.52 – 0.90).

Conclusions

The results indicate that two factors contribute to the high random blood glucose level in T2DM patients: the BMI and the type sof antidiabetic drugs used for treatment. We also found that extremely high random blood glucose levels were strongly associated with diabetic footulcers in this population.

Keywords: Type 2 Diabetes Mellitus, diabetic foot ulcers, random blood glucose

139. UNIT COST MODELING OF HEALTH SERVICES IN THE ISLAND COMMUNITY

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ABSTRACT

Background

Until now, health problems in the islands are still common. Knowing the health needs of the community is important to understand, especially by policymakers and providers of health care programs, especially if there is a gap between the health needs of the community and priority programs/actions were taken by policymakers.This literature review aims to see "How to use the Unit Cost PHC Budget in the Islands to realize a Healthy Island using PRISMA protocol with a systematic flowchart.

Methods

This literature study was conducted to review the results of Scopus indexed publications using electronic databases including ProQuest, PubMed, Scinapse, and Thesis/Dissertation Publications. The research inclusion criteria were used to focus on budgeting for public health facilities in the Islands between 2016 and 2021.

Results

As many as 364 articles were read in full text and analyzed,then grouped by research objectives, then peer-reviewed. Articles selected for screening. Furthermore, 11 articles were selected that were considered eligible to examine the problems in this literature review. From the results of the review, it was found that the health needs of the community are important to be understood, especially by policymakers and providers of health care programs, especially if there is a gap between the health needs of the community and priority programs taken by policymakers. Cost efficiency is an absolute requirement for health services to survive and achieve the expected goals. The high activity or activity in health services requires no small amount of money. These costs must be properly recorded, classified, analyzed, and reported by applicable financial standards.

Conclusions

Cost accounting is a tool that can be used to overcome these problems. More than that, from a management perspective can be used as a means of making strategic and technical decisions.

Keywords: Unit Cost, Health Services, Islands

141. ANTICANCER POTENTIAL of Cu(II)PROLINE-DITHIOCARBAMATE COMPLEX: DESIGN, SYNTHESIS, SPECTROSCOPY,MOLECULAR DOCKING, MOLECULAR DYNAMIC ADMET, and C IN-VITRO STUDIES

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ABSTRACT

Background

Breast cancer continues to be a major health issue for women all over the world. Cancer medications like cisplatin, which are widely used, still have negative side effects. The novel complex was created as a potential anticancer medication candidate that is both effective and safe, with few side effects.

Methods

The Cu(II) complex using the prolinedithiocarbamate ligands was synthesized in situ. The Cu(II) complexes were characterized by UV-Vis spectroscopy, FT-IR, determination of melting point, conductivity, and HOMO-LUMO were studied. Computational NMR spectrum analysis was performed. The interaction of Cu(II)prolineditiocarbamate complex with cancer cell target protein (MCF-7) was confirmed by molecular docking and moleculardynamic. Pharmacokinetics/ADMET properties were also carried out on the complex.

Results

The results of the cytotoxic complex test against cancer cells (MCF-7) undergoing apoptosis with an IC50 value of 13.64 µg/mL showed high anticancer activity in MCF-7 cancer cells.The in-vivo data for Cu(II)prolineditiocarbamate complex was predicted using the Protox online tool with an LD50 value of 2500 mg/kg, and belongs to the toxicity class 5 GHS, which means the compound has a low acute toxicity effect.

Conclusions

Cu(II)prolineditiocarbamate complex could pave the way for the development of essential metal-based chemotherapy for the treatment of breast cancer.

Keywords: Cu(II), Dithiocarbamate, In-vitro experimental, In-vivo predicted, ADMET

143. EFFECT OF THE PHYSICAL CONDITIONS OF THE HOUSE ON ACUTE RESPIRATORY INFECTION IN COASTAL AREAS OF SANGAJI URBAN VILLAGE

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ABSTRACT

Background

Respiratory Infection (ARI) is included in the ten biggest diseases every year in almost all health centers. In certain age groups, ARI can be a cause of death. Environmental factors, especially the physical environment of the houses, can be the determinant of ARI disease. The purpose was to determine the exposure of the physical home environment to the incidence of ARI.

Methods

The study was undertaken in the Coastal Area of Sangaji Urban Village, Ternate City. The number of samples in this study was 76 respondents. Methods to collect the data were observation, interview, and measurement to determine the exposure of the physical home environment to the incidence of ARI. The Chi-square test is to determine the relationship between the variables studied. This research is an observational study with a case-control study design.

Results

The results showed that there was no relationship between lighting (p-value = 1,000), floor (p-value = 0.381), and humidity (0.185) with the incidence of ARI. On the other hand, ventilation had a statistically significant relationship with ARI (p-value=0.037).

Conclusions

Most of the respondents' house condition variables did not meet the requirements. Of the five variables, the ventilation variable has a relationship with ARI. Therefore, in this study, it is recommended to examine the factors of housing conditions and the impact on health problems, especially house-based disease.

Keywords: Acute Respiratory Infection (ARI), house, environment